

UNIVERSITY OF CAPECOAST

STATE OF GARMENT PRODUCTION UNDER AGOA IN THE FREEZONE  
AREAS OF GHANA

ROSEMARY QUARCOO

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BY

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Faculty of Education, University of Cape Coast, in partial fulfilment of the  
requirements for the award of Master of Philosophy Degree in Home Economics.

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## DECLARATION

### Candidate's Declaration

*I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this University or elsewhere.*

Candidate's Signature: ..... Date.....

Name: Rosemary Quarcoo

### Supervisors' Declaration

*We hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.*

Principal Supervisor's Signature ..... Date.....

Name: Miss Modesta Efua Gavor

Co- Supervisor's Signature ..... Date.....

Name: Mrs. Doreen Tetteh- Cofie

## **ABSTRACT**

The general objective of the study was to look at the state of garment production under AGOA in the freezone areas of Ghana. The study was conducted using 116 workers from four garment producing industries in Accra and Tema. Questionnaires and interview schedules were developed and used to collect data from the sampled workers. Statistical techniques such as means and percentages were used to analyse the data collected.

The industries are in a way benefiting from the AGOA objectives but not as was stated. There is a difference between current production capacity of the industries and actual production capacity of the Industries. The industries and workforce have major challenges such as lack of motivation, inadequate facilities and amenities, lack of finance, insufficient managerial ability.

The following recommendations, among others, were made: 1. The production managers and quality control units in the industries in Ghana should organize workshops and training for workers of the industries to educate them on garment producing techniques, garment performance, good fishing practices etc using technical men in the area. 2. The Ghana Trades Union should monitor the industries and make sure the workers are duly paid for what they work for and on time. 3. The Government should help the industries financially or help them assess loans or the US credit facilities that will enable them acquire modern equipments and pay their workers well. Also this will enable them run the industries swiftly

## **ACKNOWLEDGEMENTS**

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I am also extremely indebted to my husband, Mr. Albert Achegilugu of Pioneer Food Cannary, for his financial, moral and material support throughout my course. Miss Dora Neina of College of Agriculture Legon, I say a big thank you for your assistance during the data collection. I will also not forget Prof Y.A. Ankomah of I.E.P.A., U.C.C for his moral support and encouragement throughout this work. This acknowledgement will also be incomplete without mention of the Staff and Management of the Garment Producing Industries under AGOA in the Freezone areas of Ghana for their cooperation during the data collection process. I am also very much indebted to Mr. Amu Manaseh of the Department of VOTEC, U.C.C for his advice and assistance in the analysis of the data.

Finally, I am deeply indebted to my parents, Mr J.C. Quarcoo and Miss Christiana Amoaku, for their sacrifices and toils without which I would have been nobody. Mum and Dad, God bless you.

## **DEDICATION**

To my dear parents, Mr. J.C. Quarcoo and Miss Christiana Amoaku, my  
Husband Mr. Achegilugu and my children Rosemond and Richmond .

## TABLE OF CONTENTS

	Page
DECLARATION	ii
ABSTRACT	iii
ACKNOWLEDGEMENTS	iv
DEDICATIONS	v
LIST OF TABLES	ix
LIST OF FIGURES	x
CHAPTER	
ONE INTRODUCTION	1
Background to the Study	1
Statement of the Problem	7
Purpose of the Study	8
Research Questions	9
Significance of the Study	9
Delimitations of the Study	10
Limitation of the Study	10
TWO REVIEW OF RELATED LITERATURE	11
Conceptual Base of the Study	12
History of Clothing Production	15
Prehistoric Development	16
Ancient Development	16
Renaissance and Early Modern Period	17

Industrial Revolution and Modern Times	19
New Directions	21
An Overview of Ghana’s Clothing and Textiles Industry	22
The Structure of the Textile and Clothing Sector	29
Good Practice in the Clothing Industry	30
Displaying Line Sample and Pattern in Sewing Line	31
Using Educational Posters	39
Emergency Plans and Equipment	32
Establishing and Running a Proper Canteen	33
Machine Maintenance	34
Fabric Laying Techniques	35
Fabric Storage	35
Fire Safety	36
Good Lighting	37
Introduction Training Kit	38
Well Ironing Workstation	39
Machine Safety: Safety Guards`   `	40
Materials Handling in the Production Line	40
Provision of Personal Protective Equipment	41
Safety in the Clothing Industry	41
Rules for Maximum Productivity in the clothing industry	43
Sufficient Management Ability	44
Suitable Supervisor Character	44



Sufficient Breakdown of Operations	44
Forward Flow of Operations in Sequence	44
Sufficient Operators to Operations	44
Workflow in Bundles of Sufficient Size	45
Minimum Bundle Handling Time	45
Separate Work in Progress Reservoirs	45
Precise Control on Work in Progress Reservoirs	45
Within Limits, Maximum Economic Mechanisation and Workplace Engineering	46
Meaningful Targets for All	46
Measurements of Actual Output against Target	46
Vigorous Action to Cure Low Performances	46
Sufficient Financial Rewards for Motivation	46
Sufficient Float Operators	47
The Production Process in the clothing industry	47
Design and Development	47
Sourcing	48
Costing	48
Preproduction	49
Production	49
Distribution	50
Promotion and Sales	50
African Growth and Opportunity Act (AGOA)	50

History	50
Country Eligibility	53
Eligible Sub- Saharan Countries	54
The Act’s GSP Provisions	54
Wearing Apparel Rules of Origin	55
Ghana and AGOA	59
Reports on some other Countries under AGOA’s wearing Apparel	
Rule	60
Lesotho	60
Mauritius	60
South Africa	62
Botswana	63
Kenya	64
AGOA’s Successes, Challenges and Way forward	65
Successes	65
Challenges	67
Way Forward	68
Equipment for Garment Production	69
Measuring Tools	69
Marking Tools	70
Cutting Tools and Equipment	71
Pinning and Sewing Tools and Equipment	74
Turning Tools	78

Pressing Tools and Equipment	78
Ghana Freezones Board	80
The Ghana Freezones Programme	80
Procedure for Establishment of Freezone	81
Incentives	83
Business Environment	84
Presidential Special Initiative on Garment	85
Summary	86
THREE METHODOLOGY	87
Research Design	87
Population	87
Sample and Sampling Technique	88
Instruments	89
Data Collection Procedure	92
Data Analysis	93
FOUR RESULTS AND DISCUSSION	97
Demographic Characteristics of Respondents	97
To what Extent have the Objectives of AGOA been Achieved?	99
What is the Difference between Actual Production Capacity of Industries and Current Production?	106
What Benefits do the Industries Derived under AGOA?	107
What are the Challenges Faced by the Garment Producing Industries within the Freezone?	111

	What Strategies have been put in Place for Improving upon the Operations of the Garment Industries under AGOA in the Freezone?	114
FIVE	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	116
	Summary	116
	Findings	117
	Conclusions	119
	Recommendations	120
	Suggestions for Further Studies	120
	REFERENCES	121
	APPENDICES	
	A Questionnaire for Management Staff	126
	B Questionnaire for Workforce	132
	C Interview Schedule for Workforce	137

## LIST OF TABLES

Table	Page
1 Position of Workforce	98
2 Employee Capacity	99
3 Number of workers trained per annum	100
4 Availability of Machinery	100
5 Workforce response on the extent to which the Objectives of AGOA have been Achieved	101
6 Production Capacity of the Industries	106
7 Benefits AGOA (management)	108
8 Benefits of AGOA (workforce)	109

## LIST OF FIGURES

Figure	Page
1. Conceptual framework on the effects of rules for maximum productivity, effective machinery and the production process on productivity and AGOA	12



## **CHAPTER ONE**

### **INTRODUCTION**

#### **Background to the Study**

The history of textiles from which garment is made is an integral part of the history of civilization. The legendary fig tree of the Garden of Eden was supplanted by textile body coverings and textiles assumed a place in the home. Early civilization possessed both ingenuity and a desire to enhance appearance and environment. People were also using clothing to express their status in society, protect the body against the hazards of the weather and harmful creatures. These factors among others contributed over the centuries to the development of complicated fabrics and ultimately to enormous technological expansion (Joseph, 1985). Until the mid-seventeenth century, the interesting and talented people of King Lewis XIV's court were the arbiters of taste and making Paris the fashion capital of the world hence encouraging the growth of the textile industry in Lyons and other French cities which supply the court with silk fabrics, ribbons and laces (Frings, 1987).

A great advancement occurred when the arts of spinning and weaving were discovered in the Neolithic times and by the beginning of the Bronze Age, woven fabrics such as linen, silk and wool were in common use. In the ancient world, squares of fabric direct from the loom were draped around the body and held in position by girdles, ornamental brooches and clasps. The first garments which were cut to fit the body and limbs through the provision of



sleeves and legs appeared during the Minoan civilization (3000–1400 BC) (Cooklin, 1999).

In ancient times, clothing or garments were made by hand. Basic seams were entirely made by hand and shape was engineered by means of many intricate seams. All clothes were not only made by hand but also custom made. The first civilian clothing factory dates from 1825. During these times, the fabric was cut and sent to seamstresses who sew it by hand in their houses (Stamper, Sharp & Donnell, 1988).

The apparel industries have been developing in many centuries. Clothing styles were evident in ancient Greek and Roman times. Fashion started in Europe during the Renaissance period in the 1500s. Textiles and clothing changed very slowly until the Industrial Revolution in England in the late 1700. The Industrial Revolution caused a switch from handmade garments to mass produced ready to wear garments. Three major developments contributed to the overall change. First, the introduction of mechanized textiles mills, secondly, the techniques in mass distribution, advertising and retail selling were developed and refined and thirdly the invention of the sewing machine (Wolfe, 1989).

Democratization of fashion begun with the sewing machine which turned an art into an industry. The sewing machine was developed by Walter Hurt an American in 1832 but failed to patent it hence Elias Howe who patented this in 1846 is usually credited with the invention (Frings, 1987). The invention of the sewing machine brought about mass production of clothing or garments.

Throughout the early years of the development of the apparel industry, cottage labour, that is work done by workers in their homes, continued to be

the norm. In 1914, the Amalgamated Clothing Workers Union was formed to represent men's clothing. Women's ready-to-wear industry did not develop to any great extent until 1900s. By the 1920's styles in women's clothing had changed from the pre-war structured dress to the "flapper" look of the 20's. With this simplification of fashion, mass production began in full swing. By the end of the decade, approximately 3,500 dress manufacturers had joined the industry. In less than 50 years, the garment industry had blossomed from a meager beginning to a million dollar industry (Stamper, et al, 1988).

According to Joseph (1985), the textile and garments industry is one of the largest in the world. As one learns about the various aspects of textiles and garment production, it is apparent that it plays a major role in the economy (Corbman, 1983). It is said that, textiles and clothing contribute to employment in developed countries, particularly in regions where alternative jobs may be difficult to find. In the European Union, for example, the sector is dominated by small and medium-sized enterprises concentrated in a number of regions that are highly dependent on this sector. Textiles and clothing are also said to be among the sectors where developing countries have the most to gain from multilateral trade liberalization (Commission of the European Communities, 2003). The garment industry is one of the largest and fast growing industries. The clothing industry is labor-intensive and it offers entry-level jobs for unskilled labor in developed as well as developing countries. Job creation in the sector has been particularly strong for women in poor countries, who previously had no income opportunities other than the household or the informal sector. Moreover, it is a sector where relatively modern technology can be adopted even in poor countries at relatively low investment costs.

These technological features of the industry have made it suitable as the first rank on the industrialization ladder in poor countries, some of which have experienced a very high output growth rate in the sector (e.g. Bangladesh, Sri Lanka, Viet Nam and Mauritius) These characteristics, however, have also made it a footloose industry (Nordas, 2003). It has become an economic force to reckon with and employs a lot of people. It is in light of this among others that the government of Ghana has set up the Gold Coast Garment as training centre.

Jauch and Traub-Merz (2006), stated that nearly two decades after independence the textile sub sector was the major key play in Ghana. This industrial sector contributed significantly to employment and growth in the economy. However, the sub sector which was once the leader in Ghana's industrial sector has undergone a considerable decline over the years. A few companies managed to survive operating at 5% installed capacity since 1995. Some of the reasons for the decline were low demand for local textile products, influence of second hand clothing and lack of competitiveness of local textiles against imported textiles due to their high cost resulting from high cost of production. The importance of export to the economy of a nation need not be overemphasized. For a developing economy such as Ghana's which has been over-reliant on a few selected products notably cocoa, timber and minerals of which world prices continues to fall over the years, the need to diversify the country's export base has become imperative. The establishment of the Export Promotion Division of the Ministry of Trade in 1965 to offer advice and assistance to Ghanaian business enterprises on export procedures and regulations among other things is an indication of the government's

awareness of the importance of the export sector of the development of the nation.

In July 1995, the Ghanaian Parliament enacted the country's Freezone Act which created one of the most attractive packages or incentives for hassle free business operation for exporting firms. The Ghana Freezone schemes is an integrated programme to promote processing and manufacturing of goods through the establishment of export processing zones (EPZ) and encourage the development of commercial and service activities at seaport and airport area (Ghana Freezones Board, 1995).

The Free zone act allows qualified companies, investors and industries to produce any type of goods and services except the hazardous ones. The act allows for production, manufacturing and services including financial services.

The act exempts producers, manufacturers and service providers under the act from taxes of imports into freezone areas. Exemption from taxes on profile for 10 years and up to 30% of the annual production can be sold in the national customs zone (Ghana Freezones Board, 1995).

Garment producing companies also qualified under the freezone Act but it was the inception of African Growth and Opportunity Act (AGOA) that has brought many apparel producing companies into the freezone enterprise. On 18<sup>th</sup> of May 2000, the US congress approved a legislation known as the Africa Growth and Opportunity Act. The purpose was to assist the economies of sub-Saharan Africa and to improve economic relations between the U.S. and the region by providing jobs, giving technical assistance and providing credit facilities to them. Thirty Eight countries are eligible under the Act. (Wikimedia Foundation Inc., 2006).

Clothing is one of the necessities of life hence AGOA expanded market access for textile and apparel goods in the U.S.A. for eligible countries. This is AGOA II which is part of the Trade Act of 2002 which President Bush signed into law on August 6, 2002. After the passage of the AGOA Act in 2000, Ghana was one of the first to receive U.S. approval of its textile visa system and accordingly benefited from the unprecedented U.S.A African trade relationship on the 20<sup>th</sup> of March 2002 (U.S Bureau of Public Affairs, 2005).

To benefit from this provision and to continue to enjoy the apparel provisions, there are some conditions to fulfill which is known as AGOA'S 'Wearing Apparel' Rules of Origin: In order for countries to be eligible for apparel benefits, they must have in place an effective visa system to prevent illegal trans-shipment and use of counterfeit documentation, as well as effective enforcement and verification procedures.

Initially, AGOA was set to expire in 2008 but the AGOA Acceleration Act of 2004 "AGOA III" extended the legislation to 2015. The Acts apparel special provision was also to expire in 2007 but the Africa Investment Incentive Act of 2006 (signed by President Bush on December 20, 2006) amended the textile and apparel portions of the African Growth and Opportunity Act (AGOA) and is referred to as "AGOA IV". AGOA IV provides duty-free and quota-free treatment for eligible apparel articles made in qualifying sub-Saharan African countries through 2015 (U.S State Department, 2007).

Ghana has benefited from the initiative and still enjoys the extension of this advantage for another eight years during which time the U.S.A market can be accessed easily on a duty free status. The textile and garment industry has

therefore become an attractive investment area. Ghana has therefore maximized this advantage by creating a 178 acre Textile and Garment village located within the Tema export processing zone but is this enough?

Ghana has so many garment producing industries but at the moment only a few of them are assessing the AGOA opportunity. Even eight of the industries that started initially, three have dropped out and among the nine in both Tema and Accra currently, two of the industries were equipped only in August 2008. Ghana became eligible since March 2002. It is long enough to have many garment producing industries assessing this opportunity but too short for some to drop out already and even those operating are operating under capacity. Apparel is said to have been one of AGOA's biggest successes but it is reported that African countries are facing more competition since the end of the world wide quota's (U.S Department of commerce, 2007). In a related development, Casely- Hayford (2007), reported that, textile apparel exports in Ghana under AGOA fell 11% to \$1.3 billion in 2006.

### **Statement of the Problem**

The Government of Ghana came out with an Export Action Programme for Garments and Textiles in 2001 as part of the President's Special Initiative (PSI) on accelerated export development. This initiative is expected to benefit from the favourable market opportunity of AGOA thus maximizing this advantage. A briefing document on this initiative stated that, the project will involve three levels of production platforms namely, large scale manufacturing firms, medium size manufacturing companies and merchant exporters. According to the Corporate Council on Africa (2003), Mr. Alan Kyeremanteng the former head of the PSI stated that, the large scale

manufacturing firms were expected to be 10 in all employing 10,000 Ghanaians over a four year period. The medium sized ones were expected to be 25 employing 12,500 Ghanaians within the same period and 20 merchant exporters are expected to work with 1000 small scale producers of garments thence employing 10,000 Ghanaians within the same period.

Ghana became eligible to AGOA's apparel provision since 2002 and continues to enjoy the opportunity. The above aim of the PSI should have been achieved by 2005 but was this dream realized? Currently, there are only few garment industries accessing this opportunity and even some of those who started it, have dropped out. Among the nine industries in Accra and Tema, two had their machines installed in August 2008 though they were supposed to have started production under the Act in 2007. 2002 till now seems enough to have more garment industries producing under the Act in order to help AGOA and the Government of Ghana achieve its main objective and the same time too short a time for three industries to drop out.

### **Purpose of the Study**

The main purpose of the study was to assess the state of garment production in the freezone areas of Ghana. Specifically, the objectives of the study were to:

1. Describe the extent to which the objectives of AGOA have been achieved in the garment industry.
2. Find out the benefits the factories are enjoying under AGOA and within the freezone.
3. Find the difference in the production capacities of the garment industries.
4. Evaluate the challenges faced by the garment producing industries

5. Evaluate the strategies that are in place for improving upon the operations of garment producing industries under the freezone enterprises.

### **Research Questions**

The research sought to answer the following questions.

1. To what extent have the objectives of AGOA been achieved by Ghanaian garment industries under the Freezone?
2. What benefits do these garment industries derive for being under AGOA?
3. Is there a difference in the production capacities of the factories?
4. What are the challenges faced by the garment producing industries within the Freezone?
5. What strategies have been put in place for improving upon the operation of garment producing industries under AGOA for that matter the freezone Act?

### **Significance of the Study**

The results of the study brought to light the problems associated with garment production in general and also in the freezone areas of Ghana. It also helped to identify some problems in the process of importation and exportation and general problems faced by garment producing industries under AGOA in the freezone areas of Ghana. The strategies for improving upon the operations of the garment industries enumerated by the respondents will enable government and other organizations find solutions to their problems in order to help Ghana make maximum use of the AGOA provision.

The results of the study will also add to existing knowledge in Clothing and Textiles in order to improve upon the discipline to help produce efficient and effective individuals who will use their expertise to help in the garment



producing industries in order to help Ghana maintain its eligibility to AGOA's Apparel Provision.

The results of the study will also stimulate further study or research in the area.

### **Delimitation of the Study**

There are several garment producing industries in Ghana but this study focused on those that are operating under the Freezone Act. The apparel industries under the Freezone are all over the country but the study focused on only those operating under AGOA in Accra (Adjabeng) and Tema (Garment village) which are all in the Greater Accra region of Ghana.

### **Limitation of the Study**

Some of the questionnaires were not returned by the respondents and this is likely to affect the representativeness of the sample. There was a language barrier when I tried interviewing some of the workers who are expatriates so some information would have been withheld. Some sensitive issues such as the salaries of the workforce were withheld by some of the respondents (workforce) since interview was used during the data collection process.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

This chapter looks at other studies that are closely related to the study.

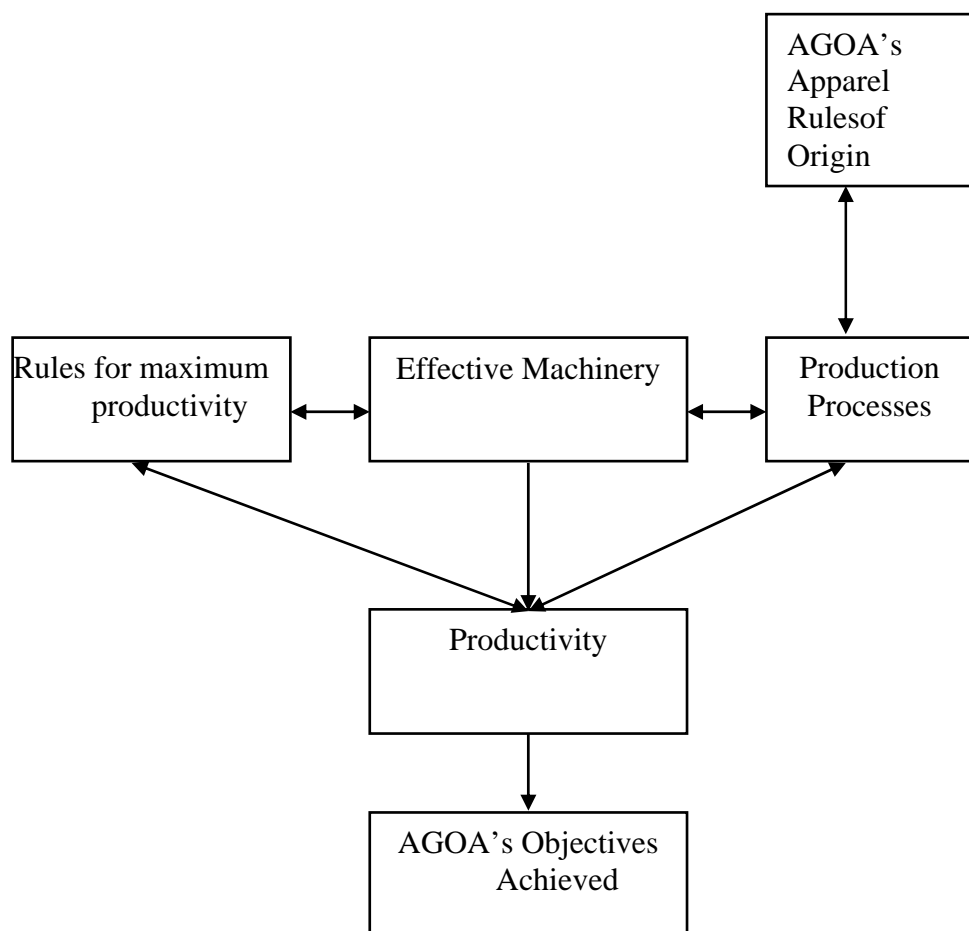
It relates the study to the larger ongoing dialogue in literature about the topic and it also provides a framework for establishing the importance of the study as well as a benchmark for comparing the results of the study with other findings. The conceptual base of the study was also looked at.

The chapter consists of the following sub headings:

1. Conceptual framework
2. History of Clothing Production
3. An Overview of Ghana's Clothing and Textiles Industry
4. The Structure of the Textile and Clothing Sector
5. Good Practices in the Garment Industry
6. Safety in the Garment Industry
7. Equipment and Tools used in garment production.
8. Rules for maximum productivity.
9. Production processes in garment production.
10. AGOA (History, eligibility, features of AGOA'S Wearing apparel provision, AGOA and Ghana).
11. Reports on some other African countries under AGOA'S Wearing
12. AGOA's Successes, challenges and Way Forward.
13. The Ghana Freezone Act

### Conceptual Base of the Study

Figure 1 shows how rules for maximum productivity, effective machinery and the apparel production process affect each other and how they bring about productivity. Production can help to achieve AGOA's objectives. It also shows how AGOA's apparel rule of origin affects the main stages of production.



**Figure 1.** Conceptual framework on the effects of rules for maximum productivity, effective machinery and the production process on productivity and AGOA. (Adapted and modified from Brown and Rice (2001) production process.)

According to Johnson-Hill (1978), when a system of monetary rewards is in place to reward operators who work at a motivated pace throughout the day, it helps achieve maximum productivity. The operators use machinery for production however, as mentioned by Derwin, Kinchen and Peters (1979), the efficiency of an apparel industry is largely increased by high quality equipments which are planned for specific purposes to meet the industry's needs. If well chosen, a few but quality equipment will be enough to serve most needs in each specialized category. A few but efficient machinery will therefore help in smooth production.

Every industry goes through a process to come out with an item and this applies to the apparel industry. According to Brown and Rice (2001), apparel industries go through seven processes, namely, design and development, sourcing, costing, preproduction, production, distribution and promotion and sales. In going through some of these processes, there are laid down conditions, specifications, or special rules for apparel or garment that must be adhered to by lesser developed AGOA countries of which Ghana is part.

For sourcing stage, there are rules such as sub-Saharan countries may use non U.S fabric but the apparel must be wholly assembled in their countries. According to Brown and Rice (2001), sourcing is used to refer both to the process of selecting raw materials, or components and the process of contracting or choosing contractors to perform the production work. With the above specification, the industries will only contract workers here in Ghana for production else their product will not be eligible to qualify for duty and quota free treatment in the U.S. market.

Other specifications include (a) an apparel article is eligible for benefits even if the article contains bindings or trimmings of foreign origin, if the value of such bindings and trimmings does not exceed 25 % of the cost of the components of the assembled article (b) articles containing certain interlinings of foreign origin are eligible for benefits if the value of the interlinings (and any findings and trimmings) does not exceed 25 % of the cost of the components of the assembled article (c) non-AGOA produced collars, cuffs, drawstrings, padding/shoulder pads, waistbands, belts attached to garments, straps with elastic, and elbow patches for all import categories to be eligible (d) apparel products assembled in sub-Saharan Africa which would otherwise be considered eligible for AGOA benefits but for the presence of some fibers or yarns not wholly formed in the United States or the beneficiary sub-Saharan African country will still be eligible for benefits as long as the total weight of all such fibers and yarns is not more than 10% of the total weight of the article affects the production process (U.S Bureau of Public Affairs, 2005). The above affect the designing stage, sourcing, production, distribution and evaluation stages since apparels will have to be designed such that they do not include findings and trimmings which does not exceed 25% of the total cost of components of the assembled articles.

The production stage is also affected since care must be taken during production by using the right materials in correct quantities in order not to exceed the necessary specifications. During the distribution stage, audit and inspection takes place therefore the specifications are taken into consideration. The article is evaluated and later the industry evaluates how their products

faired on the U.S. market in order to see where they defaulted and where they were successful in order to maximize profit.

The stages of production affect each other. When an article is poorly designed, it affects sourcing in terms of procuring raw materials and this will affect the production stage because, the raw materials will be for production. This in turn affects marketing where the goods may be rejected and this will affect productivity in terms of making profit. These may even lead to the industry being disqualified or Ghana being disqualified as a beneficiary to the AGOA's wearing apparel provision. However if every stage is done to suit the special rules for apparel, then the industry will continue in business, employments will be created, and Ghana will continue to be a beneficiary to AGOA's wearing apparel provisions which will help the nation as a whole maximize profit. When one goes through all these steps accordingly, it helps to achieve maximum productivity and AGOA's objectives will also be achieved.

### **History of Clothing Production**

The history of textiles from which garment is made is an integral part of the history of civilization. The legendary fig tree of the Garden of Eden was supplanted by textile body covering and textiles assumed a place in the home (Joseph, 1985). Climate, natural resources, historical changes in religion, culture and political history are some of the factors that exert influence on clothing. For example, most people of ancient Egypt wore few clothes because of the hot climate and leaves and skins of animals were used by our forefathers to cover themselves (Microsoft Corporation, 2007).

## **Prehistoric Developments**

As cited by the Microsoft Corporation (2007), the range of materials used for clothing in early prehistoric times was small. Until about 10,000 years ago, people used animal skins for clothing. Single skins were worn as capes thrown around the shoulders and two skins fastened together at the shoulder to make a simple garment.

Genetic analysis suggests that, the human body louse which lives in clothing may have diverged from some 107, 000 years ago, evidence that, humans began wearing clothing around this time. Sewing needles have been dated to around 40,000 years ago. The earliest definite example of needles originates from the Solitarian culture which existed in France from 19, 000 BCE to 15,000 BCE (Wikimedia Foundation Inc., 2006).

The earliest evidence of weaving comes from impressions of textiles, and basketry, and nets on little pieces of hard clay dating from 27, 000 years ago and found in the Czech Republic. At slightly later date (25, 000 years) the Venus Figurines were depicted with clothing. Those from Western Europe were adorned with basket hats or caps, belts worn at the waist and a strap of cloth that wrapped around the body above the breast. Eastern European Figurines also wore belts hanged low on the hips and sometimes string skirts (Barber, 1992).

## **Ancient Developments**

A great advancement in textiles occurred when the arts of spinning and weaving were discovered in the Neolithic times and by the beginning of the Bronze Age (Cooklin, 1999). The first actual textile as opposed to skins sewn together was probably felt. The earliest woven textiles of the Near East are

fabrics used to wrap the dead excavated at a Neolithic site at Catalhoyuk in Anatolia dated to 6000BC. The cultivation of domesticated wild flax probably an import from the Levant is documented as early as 6000BC but Ancient Egypt evidence exists for the production of linen cloth in the Neolithic Period, 5500BC. For animal fibers, the breeding of sheep with a woolly fleece rather than hair occurs much later around 3000BC in the near East.

Spinning techniques at this time included the drop spindle, hand to hand spindling, rolling on the thigh and yarns were also spliced. Arts depict Egyptian men in linen kilts and women in narrow dresses with various forms of shirts and jackets often of sheer pleated fabric. The earliest production of silk in Ancient China was found at the sites of Yangshao culture in Xia, Shanxi between 5000 and 3000BC. Chinese clothing around 1600BC-1046BC consisted of a 'yi', a narrow cuffed knee length tunic tied with a sash and a narrow ankle length skirt called shang worn with a bixi (a length of fabric reached the knee). In Ancient Japan, earliest evidence of weaving is associated with the Yayoi period from 300 BC to 250 BC (Elisseef, 2001).

Ancient Greek clothing consisted of lengths of wool or linen generally rectangular and secured at the shoulder with documented pins called fibulae and belted with a sash. The Toga is associated with Ancient Rome until it was replaced by the tunica or long chi ton for both sexes

### **Renaissance and Early Modern Period**

In ancient times clothing on garment were being made by hand. Basic seams were entirely made by hand and shape was engineered by means of many intricate seams. The clothes were custom made (Frings, 1987). Clothing in the 12th and 13<sup>th</sup> Century remained very simple for both men and women



and quite uniform in Europe. The 13<sup>th</sup> century saw Great progress in the dyeing and working of wool which was the most important material for outer wear. The crusader's returning from the Levant brought knowledge of its fine textiles including light silks to Western Europe (Donald, 1987).

According to Wolfe (1989), fashion started in the Renaissance period in Europe in the 15<sup>th</sup> century. As prosperity grew in the 15<sup>th</sup> century the urban middle classes including skilled workers began to wear complex clothes. By the end of the 16<sup>th</sup> century, the clothing of countries such as German states and Scandinavia had developed in different directions than that of England, France and Italy although they all absorbed the sobering and formal influence of Spanish dress after the mid 1520s. By the time of the 17<sup>th</sup> century, a sharp distinction could be seen between the sober fashions favored by Protestants in England and the Netherlands. Cultural and costume historians agree that, the 17<sup>th</sup> century made the emergence of recognizable fashion in Europe. Western fashion changed from this century onwards at a pace quite unknown to other civilizations whether ancient or contemporary (Wikimedia Foundation Inc., 2006).

According to Frings (1987), men and women's clothes and fashion had equal amounts of decoration until the 18<sup>th</sup> century. Fabrics were also cut and sent to seamstresses who sew them by hand. The first Civilian clothing factory according to Stamper et al. (1988) dates from 1825. The draped garments and straight seams of previous centuries were also replaced by curved seams hence the beginning of tailoring which allows clothing to fit more closely (Microsoft Corporation, 2007).

## **Industrial Revolution and Modern Times**

According to Wolfe (1989), Textiles and Clothing changed very slowly until the industrial revolution in England in the late 1700s. The industrial revolution caused a switch from handmade garments to mass produced ready to wear garments. Three major developments contributed to the overall change. First, mechanized textiles mills were introduced. Second, the technique in mass distribution, advertising and retail selling were well developed and refined. Thirdly, the invention of the sewing machine.

It is stated by the Microsoft Corporation (2007) that, during the industrial revolution, production was mechanized with machines powered by waterwheels and steam engines. Sewing machines emerged in the 19<sup>th</sup> century and synthetic fibers such as nylon were invented during the 20<sup>th</sup> century. The clothing and textile manufacture expanded as an industry so that, such unions as the Amalgamated Clothing Workers and Textiles workers of America were formed in the early 20<sup>th</sup> century. There were changes in types and styles of clothing worn by humans within the 20<sup>th</sup> century.

According to the Microsoft Corporation (2007), by the late 20<sup>th</sup> century, commercially woven cloth and synthetic dye had largely replaced the hand woven cloth and vegetable dyes. In this same century, traditional clothing began to give way to different styles that combined both cultural and Western styles throughout the world. Frings, (1987) also states that, democratization of fashion begun with the sewing machine which formed an art into an industry. This brought about mass production of clothing and garments.

Stamper et al; (1988) on the other hand mentioned that, the apparel industry is relatively new only about 150 years old and until the 1800's, that

stores featured both ready to wear and custom made apparel, cottage labour i.e. work done by workers in their homes was the norm. They also pointed out that, the first recorded civilian clothing dates from 1825. They stated that, two events occurred in the middle of the nineteenth century which brought major changes in the apparel industry namely the invention and adoption of the sewing machine and the Civil war. By the end of the century, men's ready to wear industry was well established but the women's ready to wear industry did not develop to any great extent until the 1900's.

The above events have made it increasingly possible to produce cloth apparel quickly and inexpensively and have made the wearing apparel industry blossom from meager beginning to a multimillion dollar industry hence has become an economic force to reckon with.

According to Brown and Rice (2001), the apparel industry is relatively new with most of its growth in the nineteenth and twentieth centuries. They cited Kidwell and Christ-man, 1975) that, two main factors in the late 1800's contributed to the eventual acceptance of ready-made apparel. First, the demand for the middle class increased as a result of industrialization and they wanted clothing to show off their status. Secondly, the response to this demand by custom tailors who made ready made apparel in their spare time.

Brown and Rice (2001) also stated that, the civil war brought an improvement into apparel production. There was the need for uniforms for the soldiers hence their measurements were taken and compiled and used to develop a sizing system which helped to mass produce the uniforms rather than custom made.

Traditional tailoring method, were also simplified to produce reasonably priced ready-to-wear clothes. The above paved way for mass manufacturing of clothing for the general public. The men's ready-to-wear industry however produced everything from work clothes to formal wear by 1860 but the women's industry made slower progress due to their complicated styles until the simple skirt and shirt-waist style became popular in women clothing in the 1890's. They further stated that, today, the modern apparel industry is a global structure of firms, all intent on providing ready-to-wear, to consumers around the world.

### **New Directions**

According to the Microsoft Corporation (2007), the Industrial Revolution in Europe made clothes to be produced quickly and inexpensively and this made way for fashionable clothing styles to spread rapidly among the upper, middle and the working classes in the West. As communication improved, clothing styles spread to other parts of the world and this meant traditional clothing styles of Africa, Asia, and the Americas were largely replaced by European styles. As national economies grow increasingly international, clothing styles have also grown global however, different cultures have modified these European styles with local values and lifestyles. Example, religious beliefs have influenced clothing that women wear in public. For instance, in Iran a woman may wear blue jeans and a T-shirt at home but will cover it with an enveloping robe called chador when she goes outside. For ethnic and national pride, many people also enjoy wearing their traditional clothes during special occasions and holidays.

Today's standard wardrobe includes a large number of engendered garments (neither for men nor women). The above is an outline of the history of clothing and clothing production from prehistoric era till date.

### **An Overview of Ghana's Clothing and Textiles Industry**

Ghana enjoys a long tradition of custom made clothing. The dry savannah climate in the Northern regions of the country is ideal for the cultivation of cotton which is the primary materials used by mills, weavers, batik tie and dye manufacturers in the country. Traditional apparel styles associated with Ghana include the *kaba* (fitted top), *slit* (fitted long skirt), *boubou* (loose, embroidered garment), *kaftan*, and *fugu*. Contemporary designers also manufacture western-style trouser suits, skirts, shirts, coats and jackets, often incorporating indigenous African designs.

Ghanaian apparel is produced from local wax, batik, tie-dye and screen printed fabrics as well as imported cottons, linens, and silks. Artisans in the Ashanti, Northern, and Volta regions produce internationally renowned hand woven ceremonial Kente cloth and batakari material.

The industry is supported by 21 National Vocational Training Institutes throughout the country. These institutes provide basic practical and theoretical training in tailoring and dressmaking. There are also a growing number of private fashion design institutes and internationally acclaimed designers that teach the latest techniques to aspiring clothing designers. Design techniques include pattern drafting, multiple layer cutting, and high volume construction and finishing methods. In addition to the training institutes, the Ghana National Tailors and Dressmakers Association (GNTDA) maintains offices in all ten regional capitals. It has a membership of 48,000 tailors and dressmakers

each of whom works with 10– 12 apprentices. It is estimated that the industry employs between 600,000 – 1,000,000 people, including the members and employees of both the GNTDA and the Ghana Association of Fashion Designers, as well as the many independent. It is estimated that almost 90 percent of the cotton apparel produced in Ghana is sold locally..

Apart from the custom-made clothing Ghanaians are accustomed to, there is significant demand for ready-to-wear apparel made with cotton-linen mixes, cotton-synthetic mixes, lycra, viscose, rayon, polyester-cotton mixes, and denim. There is also a large import market for used clothing in Ghana, with value estimated at US \$180 to 200 million annually. Imports of new clothing arrive mainly from China, Thailand, Indonesia, Hong Kong, India, Pakistan, and Bangladesh.

Ghana's afro-centric apparel exports are presently undertaken on a relatively small scale. Available data shows Ghanaian exports of cotton garments, jersey pullovers, knitted and crocheted cardigans, women's and girl's suits, and men's and boy's shirts totaling US\$2,674,160 in 1999. Major buyers who have sourced afro-centric apparel from Ghana include Pier One Imports, Cost Plus, marmaxx, jc

Ghanaian apparel exports have also received a boost from preferential trading agreements. Under the GSP Multi-Fiber agreements of textile quotas, Ghana enjoys duty free manufactured exports to European Union markets until 2005. In addition, the US recently passed the African Growth and Opportunities Act (AGOA), under which Ghana is one of 34 sub-Saharan countries

The researcher cannot talk about the clothing or apparel industry without talking about the textile industry that feeds the apparel industries. According to Nuruddeen (2010), Ghana is one of the West African countries with a vibrant textile industry, is gradually joining the league of other nations in the sub-region with collapsed textile and garment manufacturing sub- sector. From over 40 textile firms that employed more than 25,000 people in the last two decades, the country now has only four textile factories employing less than 4,000 Ghanaians.

The country, according to Ghana's Revenue Agencies Governing Board (RAGB), is losing about 300 billion Ghanaian old Cedis in potential revenue annually through smuggling of textile materials. Like the situation in Nigeria, Ghana's once thriving textile market is now flooded with the Chinese sub-standard textile products, thereby surging the country's unemployment index. According to Jauch and Traub-Merz (2006), the Ghana's textile industry employed some 25,000 workers which accounted for 27 percent of total manufacturing employment in 1977. By 1995, however, employment within the sub-sector had dwindled to a mere 7,000; declining further to 5,000 by 2000.

Investments within the textile industry are mainly by local firms. Out of the 40 textile and garment industries within Accra-Tema, findings revealed that that only five percent were involved in joint ventures with foreign investors. The remaining 95 percent were locally owned. The situation seems to further deteriorate as employment index continues to nosedive. As at March 2005, the four major textile companies in Ghana employed a total of 2,961 persons. Whereas, by mid 1970s, findings revealed,

about 16 large and four medium sized textile companies had been established in Ghana; while the garment industry also had some 138 medium and large-scale garment manufacturing companies. Like the industry's fate in Nigeria, inconsistent government policies over the years, according to experts, have contributed largely to the continuous decline in the sub-sector. Currently, the four major companies that survived the turbulence in the sub-sector are the Ghana Textile Manufacturing Company (GTMC), Akosombo Textile Limited (ATL), Ghana Textile Product (GTP), and Printex; with GTP maintaining the lead in the industry, the report indicated.

According to Nuruddeen (2010), Sunday Trust's investigations revealed that with the exception of the Akosombo Textiles Limited (ATL), other textile companies have all shut down their spinning and weaving departments due to cheap imports from abroad, particularly China. Consequently, hundreds of workers employed in those sections, which was also the labour force in the industry, were sacked.

This complaint was echoed by the General Secretary of Ghana's Textiles, Garment and Leather Employees Union (TEGLEU), Comrade Abraham Koomson when he spoke to Sunday Trust in Accra.

The union leader said that "GTMC realised that it is better to import the processed cotton from China, which is cheaper than employing people to process the cotton. This made them do away with spinning and weaving departments, thereby sacking more than 3,000 workers." The Ghana Textile Printing (GTP), he said, "used to have a spinning and weaving department called Yeboa Textile Limited. But they had to dispose of the spinning and weaving departments in 2005. The GTP is also into printing



only. They don't spin, they don't weave. They import the processed cotton from Nigeria, China and Holland which is cheaper. They are situated in Tema and it employs about 600 workers against the over 2,700 it used to have.

The union scribe said that the Printex, which was formerly known as Sprintex, was hitherto, into spinning, weaving and printing. They are also facing the same challenges and the government was not coming to their aid. So, they had to scrap the spinning and weaving departments. Now they employ about 600 workers and they import all their fabrics from China.

Comrade Koomson added that the Akosombo Textile Limited (ATL) is the only fully integrated textile factory in Ghana. They have spinning, weaving and printing departments. They employ about 1500 workers currently. It is also facing serious challenges. He explained that, what the surviving textile companies are doing now "is to simply import the processed cotton, colour it and print it. That is all. And they were making it. The fact is that, as a private person the essence of business is to make profit not to create jobs for people. The responsibility of creating jobs lies with government. If government is not coming to your aid, why would you spend money to create jobs for people that you are not supported to cater for?

The Ghanaian textile industry is mainly concerned with the production of fabrics for use by the garment industry and also for the export market. The sub-sector is pre-dominantly cotton-based, though the production of man-made fibres is also undertaken on a small scale. The main cotton-based textile products include: African prints (wax, java, fancy, bed sheets and school uniforms) and household fabrics (curtain materials, kitchen napkins, diapers and towels). These products form the thrust of the industry.

On the other hand, the main products of the man-made fibres (synthetics) and their blends include uniforms, knitted blouses, socks, among others. These products are mainly made from polyester, acryl and other synthetics. There are also a number of small firms which hand-print their own designs onto bleached cotton fabrics, also known as tie and dye or batik cloth. Not only that, the sub-sector is famous for the production of the traditional textiles such as Kente cloth (traditional woven fabric), Adinkra cloth (traditional hand printed fabric) and other types of woven fabrics used for various purposes such as smock making etc.

According to Nuruddeen (2010), the country's total industry output peaked at 129 million yards in 1977 with a capacity utilisation rate of about 60 percent. GTP maintained the lead in the industry with an annual production of 30.7 million yards. This was followed by GTMC, ATL, and Printex with production levels of 15 million, 13 million and 6 million yards, respectively. Unfortunately, total industry output declined from its 1970 level to 46 million yards in 1995 but recovered to 65 million yards in 2005. As at March 2005; GTP was producing nine million yards, ATL 18 million yards, GTMC 2.24 million yards and Printex 9.84 million yards. A total annual output of 39.04 million yards was produced by the industry as at March 2005, which translated to an average of 49.4 percent of initially installed capacity of the four firms. Thus, output had declined from 65 million yards; in 2000 to 39 million yards in 2005.

Ghana's textile industry imports a lot of its raw materials for its operations and also finished goods. These imports of raw materials are mainly from the Netherlands, China, India, the US, the EU, Nigeria, Thailand, among others.

The country's textile imports includes dye stuffs and chemicals, calico, khaki fabric, prints and finished textiles and garments of various kind like new dresses, bed sheets. It also used textile goods like blankets, clothing, curtains, accessories, like zippers, fasteners etc.

Machinery, equipment and spare parts are also imported for use in the sub-sector. Whereas, raw material imports such as cotton are complementary to local production, imported African prints from Nigeria, Côte d'Ivoire and South-East Asia seems to crowd out local production. These finished products often bear the patent designs, logo and trademarks of local textile industries, which are sold on the local market at a very cheap price. Comrade Koomson told Sunday Trust that the Chinese imitate our original designs. There are certain designs that are very dear to the people of Ghana which the local industries depend on, which the Chinese imitate. Also, the Chinese pirates even the names of the indigenous companies in their products. For instance, you can easily come across a China fabric with a GTP, Printex or ATL name and logo. They have gone to the extent of even destroying the market for the local textile firms by mass producing of inferior goods. They don't use the appropriate chemicals on the fabric; that is why after washing it once it fade.

According to Nuruddeen (2010), Statistics from the Ghana's Ministry of Trade and Industry indicated that in 1992, the country imported 35 million US dollars worth of fabrics and garments. This figure rose to 57 million US dollars in 1998. By the first half of 1999, 42 million US dollars worth of fabrics and garments were imported. It was estimated also that at the end of the first quarter of 2005, imported textile prints accounted for 48 percent of total textile prints in the Ghanaian market. Sunday Trust findings revealed that

the local market is facing stiff competition from finished imported textile prints such as calico, grey baft, furnishing materials usually from Côte d'Ivoire, Nigeria, China, and most recently from India and Pakistan.

The government should therefore come to the aid of our clothing and textiles industries in order to keep them in business

### **The Structure of the Textile and Clothing Sector**

The clothing sector is a labour-intensive, low wage industry and a dynamic, innovative sector, depending on which market segments one focuses upon. In the high-quality fashion market, the industry is advantage of characterized by modern technology, relatively well-paid workers and designers and a high degree of flexibility. The competitive firms in this market segment is related to the ability to produce designs that capture tastes and preferences, and even better influence such tastes and preferences in addition to cost effectiveness. The core functions of firms servicing this market segment are largely located in developed countries and often in limited geographical areas or clusters within these countries. The Emilia-Romagna district in the so called Third Italy is one of the most prominent and prosperous textile and clothing clusters in the world, while Italy is the second largest exporter of both textiles and clothing when intra-EU trade is included. However, this market segment has also seen a significant amount of relocation of production and outsourcing to lower-cost producers, often in geographical proximity to the major market (Navaretti et al., 2001).

The other major market segment is mass production of lower-quality and or standard products such as t-shirts, uniforms, white underwear etc. Manufacturers for this market segment are largely found in developing

countries, often in export processing zones and/or under outward processing agreements with major importers. They employ mainly female workers semi-skilled and unskilled and outsourcing to household production is quite common in the low end of the market. In the low to middle priced market, the role of the retailer has become increasingly prominent in the organization of the supply chain. The retail market has become more concentrated, leaving more market power to multinational retailers. These have market power not only in the consumer market, but perhaps more importantly they have considerable buying power. In addition, high-volume discount chains have developed their own brands and source their clothing directly from the suppliers, whether foreign or local.

According to Gereffi (2001), retailers accounted for half of total garment imports in the European Union in the mid-1990s, a trend that probably has continued during the second half of the 1990s. Consumers spend a smaller share of their income on clothing than in the past, although consumers shop more frequently and buy a larger number of clothing items than before. The response from producers to the challenge of slow growth in total demand is to build on consumers' love of variety and provide new fashions and a broad variety of sizes, colours, designs etc. at a frequent rate.

### **Good Practices in the Garment Industry**

Establishing good practices can significantly improve working conditions, increase workplace safety and raise productivity. The following are some efficient, simple and easy to implement practices.

## **Displaying line Sample and Pattern in Sewing Line**

Finished products should always meet the buyer's quality and design specifications. One way to achieve this is to display a sample of the finished product on the production line. This helps workers to see what the finished product should look like and to understand what the design, dimensions and quality of the finished product need to be.

### **Guidelines for displaying line sample and pattern in sewing line.**

(a) Display both a line sample and the buyer's sample for reference.

This helps workers (and buyers) to see what the end product will be.

(b) Display the pattern in the production line. The pattern should include all product dimensions.

(c) Put two or three samples at each station on the production line and denote what part of the pattern each employee is working on.

When we practice the above, it reduces the risk of mistakes, helps workers to see exactly what the finished product should look like which helps ensure consistent quality and production. It makes it easy for workers and supervisors to check measurements, helps when supervisors introduce new product lines and workers better understand how their job relates to the finished product and are thus better motivated.

## **Using Educational Posters**

Displaying educational posters is a powerful way to educate workers. It is very effective because they are easy to make, deliver a consistent message and use pictures which are strong form of communication targeting a specific behavior. Examples of posters that can be used in the garment factories include posters to address specific problems or concerns. For example, posters

can remind workers to dispose of fabric in rubbish bins or how to use proper lifting postures, posters to change (or reinforce) desired behaviours using local examples.

Posters should be displayed where they will be useful and are easy to see. Posters relating to specific jobs should be near relevant workstations. Posters relating to general factory behaviours should be located in more centralized areas and note that, posters work best when they are part of a more comprehensive training program that includes training, information sessions, exercises, etc.

### **Emergency Plans and Equipment**

Emergency tools are required and important for all factories including garment factories. Garment factories that care about the health and safety of their workers invest money on emergency equipments to ensure the safety of workers. Crucial emergency elements are alarms, evacuation plans, emergency lights, and gathering areas.

#### **Good practices for equipping emergency fire prevention equipment.**

- (a) Have people practice emergency evacuation procedures regularly.
- (b) Post evacuation plans so workers understand where to exit in case of emergencies
- (c) Install an alarm system, including bells, smoke detectors and fire extinguishers. Ensure there are sufficient numbers, and check them regularly to ensure that they work properly
- (d) Install back up battery powered emergency lights in case of power outages.
- (e) Make sure that every floor or large room has at least two exits, ensure that these remain unlocked at all times, and make sure they are labeled.

- (f) Make sure that there is sufficient lighting and signage so workers are able to reach exits quickly.
- (g) Designate safe gathering areas outside the factory to check and verify that all workers have been safely evacuated from factory buildings in an emergency situation.

When the above are done, it reduces workers' fear of workplace accidents, promotes the image of a safe garment factory to buyers and other stakeholders and can increase workers' productivity.

### **Establishing and Running a Proper Canteen**

A balanced diet plays a very important role in improving employees health and boosting productivity that is why it is important to maintain a good canteen which will in turn contribute to a productive work environment. For this reason, factories are investing in the area of canteens to ensure that, productivity level remain high throughout the work day. An ILO study on workers in developing countries found that food of poor quality (e.g iron deficient) causes a productivity loss of \$ five billion per annum in South East Asia, while providing a good meal can lead to productivity enhancement of 20%.

#### **Guidance for establishing and running a proper canteen.**

- (a) Include an area where workers can prepare drinks or heat up food from home.
- (b) Food provided by the canteen should be nutritious and satisfying.

This way, energy that has been spent during productive work can be replenished.



(c) Ensure that the canteen, dishes, and silverware are all cleaned hygienically. For example, use hot water and dish soap to clean dishes and silverware after use.

(d) Provide healthy and nutritious food such as fruits, vegetables, proteins, and grains.

(e) Provide a comfortable and well-ventilated canteen that provides workers a place to relax after they have finished eating.

Appropriate employee nourishment improves employee morale, increases productivity, and prevents diseases. Centralized provision of food in a canteen during overtime work saves time and enhances productivity, as well as a well-functioning canteen facilitates workers to enjoy a leisurely meal in their work place and increases morale.

### **Machine Maintenance**

Good machine maintenance is an investment in productivity. Well-maintained machines are more reliable, safer and last longer. Basic maintenance skills

#### **Basic skills for machine maintenance.**

(a) Clean machines as often as possible to reduce the risk of dust damaging machinery. Using a vacuum is recommended so that dirt can be removed.

(b) Regularly clean or replace the sewing machine's vacuum filter.

(c) Cover machines during lunch breaks and when they are not in use.

(d) Post maintenance information and maintenance schedules directly onto machines.

Practicing the above will help reduce maintenance costs, reduce risk of machine breakdown, improve productivity, enable a safer working

environment, and making machine covers reduces maintenance costs of machines.

### **Fabric Laying Techniques**

High quality and efficient garment manufacturing starts with a good fabric laying technique. Simple steps can lead to significant cost savings for the factory and improve the quality of the finished product. Poor or incorrect fabric laying techniques can lead to higher cost, slower production and inferior product quality.

#### **Guidelines for fabric laying.**

- (a) When laying fabric, make sure that the distance from the edge of the fabric to the marker is 2 cm in order to minimize waste
- (b) Each fabric has its own maximum lay depth. Design and display a fabric depth chart to inform workers about lay depth. Small samples of the fabric can be stapled to the chart in addition to the description so workers can clearly identify the fabric.
- (c) When laying check patterned fabrics, using pin strips ensures straight checked lines.
- (d) Use adjustable clamps to keep fabric from moving during the fabric cutting process.

The above helps to improve upon quality of work, improves productivity, increases cutting accuracy and reduces errors and waste.

### **Fabric Storage**

The quality of a finished garment depends on the quality of fabric used. Fabric should be kept in good condition and be consistent in appearance. A

good storage system keeps the fabric in an ideal environment and tracks details of the fabric used in production.

**Good practices for fabric store.**

- (a) Always store fabric on a rack or shelf and never on the floor.
- (b) Identify and store the fabric by roll, width, batch, style, lot and color.
- (c) Use a bin card system to update the stock balance.
- (d) Store the fabric lying down, not standing up.
- (e) Keep a record of which fabric rolls were used in the production of garments so that quality problems can be identified easily.
- (f) Have rolling carts available for moving fabric between storage and production.

When the above is done, costs are reduced because fabric is less likely to be damaged; helps to prevent possible loss of costly material, garments are produced from the same fabric batch, which ensures consistency of colour and fabric quality. It also increases productivity by reducing the amount of time needed to look for fabric, makes it easier to do a stock-take, factory floor is kept clear, reducing risk of accidents and increasing work space.

**Fire Safety**

Fire safety is important because, it can save money and lives. The best fire safety practices prevent fires by reducing the risk of fire. Training workers is a very cost effective way to improve fire safety, because it teaches workers how to prevent fires from starting and what to do in case of an emergency. Make sure that there is enough fire safety equipment and that it is checked regularly

**Guidelines for fire safety in the factory.**

- (a) Suitable types of fire extinguishers and fire hoses must be available.

Some fires (e.g. electrical fires) require special types of extinguishers.

Common types of extinguishers are dry chemical, halon, and CO<sub>2</sub>.

(b) Place extinguishers and hoses where the risk of fire is greatest.

(c) Denote the location of fire extinguishers and fire hoses by marking the floor below and painting the nearest wall or pillar red and/or placing signs above head height. These signs also mean that nothing is allowed to obstruct access.

(d) Install back-up lighting and water supplies in case the electricity or water mains are affected by fire.

(e) Install fire alarms in the factory.

(f) Ensure that electrical circuits are enclosed, insulated, earthed, properly fused, and not overloaded.

(g) Keep combustible material away from hot surfaces and open flames.

Fire prevention saves money by protecting property and lives, minimizes fire hazards and risks, ensures safer workplace environment, helps to show that the company cares about the welfare of its workers and may reduce insurance costs.

### **Good Lighting**

Proper lighting conditions are critical for good productivity. An ILO study confirms that, many employers have found that lighting improvements have improved productivity by 10 percent, and reduced errors by 30 percent. Conversely, poor lighting can cause eye strain, fatigue and headache.

#### **Guidelines for good lighting.**

(a) Make full use of natural lighting through windows or skylights.

This reduces electricity bills and improves the work environment.

- (b) Workstations that need more light should be moved closer to windows.
- (c) Use a combination of natural and artificial light and adjust lighting to the task-related types of work
- (d) Interior color affects how much illumination is needed. Ensure that ceilings are as close to white as possible. Use pale colors on walls.
- (e) Use local lighting (needle lights) when necessary for some types of fabric, thread or seams at the needle point.
- (f) Re-orient the workstations to maximize use of available light.

The above helps to improved quality and higher productivity, decreased fatigue and work-related illnesses like eye strain and headaches and improved health condition of the workers leads to a decrease in absenteeism.

### **Induction Training Kit**

It is crucial that all new employees are properly oriented to their new working environment and understand their rights and responsibilities. This can ultimately help to reduce potential industrial disputes, improve understanding and communication between management and workers and promote higher productivity for the enterprise.

#### **Guidelines for induction training.**

- (a) Management can use the Better Work training materials to support their own induction process to educate new workers on their rights and responsibilities when they are newly employed in the factory.
- (b) HR managers should hold induction sessions regularly to ensure that new workers are properly inducted and aware of their workplace rights and responsibilities.

(c) Enterprise HR managers/trainers with induction responsibilities should participate in Better Work training sessions so that they clearly understand how to use the materials.

It helps workers better understand their rights and responsibilities, build mutual understanding between management and workers, helps to build trust and good workplace cooperation and helps to reduce industrial dispute, leading to higher productivity.

### **Well Ironing Workstation**

A well-designed workstation is crucial to productive and efficient work. Even minor changes in workstation design can make a big difference to productivity, health and safety.

#### **Guidelines for ironing workstations.**

(a) Attach an elastic spring to the iron to reduce worker fatigue and improve productivity.

(b) Provide an 'ironing pad' which the iron can rest on when it is not in use.

This protects the surface and will keep the iron clean.

(c) Provide a 'fatigue mat' to workers who iron in the standing position and this will help to reduce fatigue and improve productivity.

(d) Provide a foot platform so that shorter workers may iron at a comfortable height.

The above will help increase productivity, improve garment quality, reduce absenteeism due to sickness and demonstrate that the factory cares about the health and welfare of its employees.

## **Machine Safety: Safety Guards**

Machines in garment factories need to have safety guards in order to prevent serious injuries to workers. In particular, make sure that sewing machines have needle and belt guards installed.

### **Guidelines for machine guarding.**

- (a) Make sure that all machines have appropriate safety guards installed
- (b) Make improvised guards for any machines which do not come with guards.
- (c) Needle guards must be well maintained and replaced regularly to deter workers from removing them.
- (d) Regularly provide workers with training on machine handling and good safety practices.

The above will help reduce accidents and associated costs, increase productivity because fewer accidents means increased production time, enhances awareness of workplace safety, may improve work satisfaction and workplace performance, and Workers understand that the employer cares about their safety, and are then more motivated.

## **Materials Handling in the Production Line**

A more efficient workplace is more profitable. Introducing tools or systems which make the production line more efficient is often very cost effective. Simple measures which improve the efficiency of the production line include using wheel carts and hanging-rails.

### **Guide for handling materials in production lines.**

- (a) Use line pick-up trays to feed garment bundles into the production line.
- (b) Use movable wheel carts to transport materials to the workstation

(c) Use hanging-rails on wheels to prevent crumpling of ready-to-deliver products and make transportation of finished items safer.

It helps to reduce the amount of time spent on materials handling, improves product quality and reduces the amount of storage space needed for finished goods and materials.

### **Provision of Personal Protective Equipment**

Personal Protective Equipment (PPE) needs to be provided to workers by the factory. The type of PPE needed varies depending on the hazards of the work being performed. PPE should be used only as a last resort; after all other measures to improve safety have been taken.

#### **Good practices for the provision and use of PPE.**

(a) Provide chainmail (metal mesh) gloves to workers using cutting equipment to protect them from finger injuries, and make sure that gloves are available for left-handed workers.

(b) Provide adequate dust masks to workers (e.g. cutters) to protect them from breathing in chemical dust.

(c) Old or worn out PPE does not protect workers: Make sure that PPE is in good condition and always replace it when needed or after manufacturer's recommended period of use expires.

When the above is done, it reduces risk of accident and illness, minimises future medical cost, and gives a safer working environment.

### **Safety in the Clothing Industry**

Garment manufacturing, like other industrial processes, can be hazardous work. It is important for employers and workers to be aware of the hazards



associated with garment manufacturing and take precautions to guard against work-related illnesses and injuries.

There are many different types of machinery used in the garment industry. Some are used to knit and weave; sew or cut patterns and cloth; some press or steam; and others transport garment pieces on the factory floor. But before any work begins on a piece of machinery, the operator should be trained in its proper operation and all safety precautions to follow. Workers should be trained to know that any machinery with exposed moving parts should be properly guarded. And they need to understand how important it is that guards be kept in place to prevent accidental activation, pinch points, and amputation.

As cutting tools and knitting or sewing needles can pose cut and puncture hazards, workers should be instructed to follow basic safety precautions while working with sharp and cutting instruments. Precautions include: using sharp tools that are in good repair; carrying and storing sharp tools properly; and always cutting away from the eyes and body. Workers need to stay alert when working with sharp objects and make sure needles are properly guarded.

Chemicals also play a part in garment manufacturing. Dyes, enzymes, solvents, and other chemicals are used to create different fabric finishes and durability. So, proper ventilation, respiratory protection, and other personal protective equipment are important to protect workers during chemical processing. The same safety steps should be taken for workers who handle the finished material and may be exposed to excess chemicals and off-gassing. Workers should know where and how to access Material Safety Data Sheets (MSDS) on the chemicals used in their workplace.

Because much of garment work involves close viewing of the garment, eye protection is critical. Garment workers can avoid eye injuries by using proper shields on high speed sewing machinery or safety glasses where appropriate. Also, adequate task lighting at individual work stations can prevent eye strain.

Some garment manufacturing equipment can be very loud, so proper hearing protection may be necessary. Because a garment factory uses many heated processes, it is important for workers to avoid heat stress by labeling and guarding hot surfaces and drinking plenty of water during their shift. Proper ventilation can help to reduce ambient temperatures and ensure worker comfort.

Many tasks in garment manufacturing require repetitive motions. To prevent ergonomic injuries workers should be encouraged to rotate tasks or take frequent, short breaks to stretch and relax muscles. Work stations should allow enough space for the task, have appropriate working height, and provide proper seating. Manufacturing tools and machinery should incorporate ergonomic design principles and should not require an excessive amount of force to operate.

With proper training and instruction, machine guarding, personal protective equipment, and ergonomically designed work systems, garment workers can manufacture products in safe and healthy workplaces.

### **Rules for Maximum Productivity in the Clothing Industry**

Johnson-Hill (1978) noted that, there are some factors which affect productivity in the sewing room and he referred to them as rules. He outlined 15 rules.

### **Sufficient Management Ability**

The production manager must have exceptional qualities of strength of character, ability to give attention to details, enthusiasm and motivation to succeed, and patience with his staff. According to Johnson-Hill (1978), a production manager without the above qualities will not achieve his goal no matter the technical ability.

### **Suitable Supervisor Character**

The supervisors must have the same qualities as the managers mentioned above but as the degree of style changes in a sewing room, from staple to high style, so must the emphasis be more on knowledge of construction and ability to train.

### **Sufficient breakdown of operations**

There must be a sufficient breakdown of operations to facilitate the rapid development of operator skills

### **Forward flow of operations in sequence**

The sequence of operations must progressively move forward despite the difference in paths followed by the parts of the garment. When certain operations are omitted on some styles, any retracing of steps will have a detrimental effect on the performance of the nit.

### **Sufficient operators to operation**

The ratio of operators to operations should be as high as possible and not less than two. On one hand, whenever the number of operators to operations is high, the loss due to balancing is low on the other hand; the greater the number of operators to an operation, the greater will be the retraining loss on each style.

### **Workflow in Bundles of Sufficient Size**

The work should always be moved from operation to operation in bundles rather than in singles. The number of garments in a bundle should be the number that can be handled effectively.

### **Minimum Bundle Handling Time**

A clamp system which brings the bundle to the needle, is more preferable to the conventional tied bundles in order to minimize handling time Johnson-Hill (1978).

### **Separate Work-in-Progress Reservoirs for every Operation**

The bundles of work awaiting each operation must be housed in reservoirs separate from the operators themselves. The reservoirs may take form of boxes, racks, overhead rails for clamps or clearly defined racking tied bundles etc.

### **Precise Control on Work-in-Progress Reservoirs**

The way the amount of work-in-progress is stored in reservoirs is of key importance to maximizing productivity. The reservoirs have two main functions. Firstly, each one acts as a buffer of work-in-progress between two out-of-balance operations to enable the second operation to work at its own best speed and not at the speed of previous operation. Secondly, each reservoir provides an easy-to-read barometer of the degree of out-of-balance of the two operations which feed into and take out of the reservoir. By this, the line supervisor will be able to see which operators will run out of work before it is too late.

### **Within Limits, Maximum Economic Mechanisation and Workplace Engineering**

Maximum economic mechanical and engineering should be painstakingly applied. Each operation should be minutely analysed and total attention given to elimination of the cycle time for each operation as much possible.

### **Meaningful Targets for All**

All operators should be given a meaningful target of output which will take account of her particular skill at her operation. These meaningful target are important enough under staple and semi-staple conditions but becomes essential in style and high style conditions when operators are continuously experiencing training on style after style.

### **Measurement of Actual Output against Target**

All operators will perform better if their actual output is compared with their target. An efficient production floor will therefore have a routine system of picking up this information several times throughout the day.

### **Vigorous Action to Cure Low Performances**

Managers and supervisors must take vigorous action to improve all unsatisfactory performances throughout each working day. The managers and supervisors must make full use of their qualities of attention to detail and strength of character to enable them succeed.

### **Sufficient Financial Rewards for Motivation**

A system of monetary rewards should be in place to reward operators who work at motivated pace throughout the day and those who do well against their target in order to achieve maximum productivity.

### **Sufficient Float (Utility) Operators**

The production manager must separate a few number of experienced operators in order to stand in for absentees at any time. All operators on book should not be assigned to operations. The operators should have quality standards and the ability to switch frequently between operations.

## **The Production Process in the Clothing Industry**

### **Design and Development**

According to Bianchi (2003), this stage is aimed at the creation of clothing samples. It involves five phases namely, design creation phase, the prototyping and creation of the base model and preparing for the launch of production with the definition of guidelines for the sizes and the pattern placing uses.

Brown and Rice (2001) also states five phases under this stage namely line development, preliminary line approval, fabric and finding research and development, first patterns and prototype garments.

**Line development.** This involves the creation of design concepts and colour story that reflect the general ideas suggested by the development plan for the season. Inspiration is taken from fabrics, the arts, history, current events, watching people, supplies and vendors or from any where a creative unacceptable idea can be gotten.

**Preliminary line approval.** Lines must be finalized before any sewing is done in order to be as close to the market as possible. The lines are sketched on line presentation boards and presented to a group of decision maker. The line is then finalized by the upper management at a presentation meeting.

**Fabric and Findings Research and Development.** Manufacturers seek out the right fabric and finding for the styles they plan to produce. The fabric or finding is then sent for experimentation and testing and if the fabric pass the testing, they are used in prototype garments to see how they look when ‘made up’.

**Making First Patterns.** Some styles are selected to be made into garments. Patternmakers convert these designs into first patterns. The patternmaker develops a pattern piece for each part of the garment, making the necessary change in the company’s basic pattern/sloper.

**Construction of Prototype Garments.** Prototype garments are the experimental garments made from the first patterns. These are used by costing engineers to accurately determine if the garment can be profitably produced at its price point. It helps the manufacturer to develop production cost estimates and it provides a three dimensional on-site reference example which accompany written specification sent to production locations either in-house or outhouse.

### **Sourcing**

This is the process of selecting raw materials on component and the process of contracting or choosing contractors to perform the production work (Brown & Rice, 2001).

### **Costing**

This is the process of estimating and determining the total cost of producing a garment and this includes cost or materials, labor, transportation as well as the general expenses of operating the business. This involves

precosting and production costing. According to Brown and Rice (2001), the main factor affecting the cost of a garment is the quality and quantity of fabric.

### **Preproduction**

This is a stage of apparel manufacturing that involves many activities which are conducted simultaneously. It is an exciting but confusing time hence some company's have analysts who track the styles to make sure no steps are left out. Some use technology for this function and develop computer systems to monitor and track production. This stage includes fabric, findings and wet-process testing and approval, sewing preproduction garments, making production patterns grading, finalizing sourcing decisions, maker making, other label approval, and line finalization.

### **Production**

According to Brown and Rice (2001), the actual production process begins when the fabric and findings arrive. Bianchi (2003) however notes that, the purchase of fabrics by the garment makers generally takes place after they have received the distributor's order to produce the line or items.

This stage includes arrival of the production fabric and findings, spreading, cutting, subcontracting of preassembly sundry operations, sewing sample garments, assembly of production garments, wet processing, subcontracting of post assembly sundry operators, pressing, finishing and final audit. They noted that, computer is increasingly being used in mass production but the apparel industry remains labor intensive.

Bianchi (2003) notes that, the above steps in the production stage largely depends on the type of product, the fabrics and the market segments in which the principal company operates.



## **Distribution**

This is the processing of orders that are sent to production, managing inventory, packing shipments and scheduling carriers that will deliver products by completion dates. This includes shipping, distribution centre and inspection and distribution to retailers (Brown & Rice, 2001).

Bianchi (2003) stated that, “this is the final stage of production and this involves the return of finished products to the warehouse, where they are checked, packed, stored and dispatched to the final customers”.

## **Promotion and Sales**

According to Brown and Rice (2001), this is the final stage in the Apparel production cycle. It includes advertising and other processes such as display at retail stores, personal selling, initial sales, recorders when possible and gathering of point of sale (POS) information.

## **African Growth and Opportunity Act (AGOA)**

### **History**

On 18<sup>th</sup> of May 2000, the US congress approved a legislation known as the AGOA. The purpose was to assist the economies of sub-Saharan Africa and to improve economic relations between the U.S. and the region by providing jobs, giving technical assistance and providing credit facilities to them. Thirty Eight countries are eligible under the Act (Wikimedia Foundation Inc, 2006). Regarding the sense in which the Act benefits African countries, Nouve and Staatz (2003) mentioned that, the Act reinforces African reform efforts, provides improved access to U.S. credit and technical expertise, and establishes a high-level dialogue on trade and investment in the form of a U.S.-Africa Trade and Economic Forum.

Clothing is one of the necessities of life hence AGOA expanded market access for textile and apparel goods in the U.S.A. for eligible countries. The apparel benefit was to take effect October 1, 2000, but beneficiary countries must first have an effective visa system in place to prevent illegal transshipment and use of counterfeit documentation. They must also institute enforcement and verification procedures. Details were disseminated to African governments following a cable instruction to all U.S. embassies in Sub-Saharan Africa on September 21, 2000. Countries must also be beneficiary developing countries under the U.S. Generalized System of Preferences (GSP), which includes 45 Sub-Saharan African countries.

AGOA II is part of the Trade Act of 2002 which President Bush signed into law on August 6, 2002. The need for AGOA II legislation was developed in part to improve upon and clarify some of the specific provisions that were not addressed in the original AGOA legislation (or AGOA I). After the passage of the AGOA Act in 2000, Ghana was one of the first to receive U.S. Approval of its textile visa system and accordingly benefited from the unprecedented U.S.A African trade relationship on the 20<sup>th</sup> of March 2002.

Initially, AGOA was set to expire in 2008 but the AGOA Acceleration Act of 2004 “AGOA III” extended the legislation to 2015 By modifying certain provisions of the African Growth and Opportunity Act (AGOA), the AGOA Acceleration Act of 2004 (AGOA III), signed by President Bush on July 12, 2004 extends preferential access for imports from beneficiary Sub Saharan African countries until September 30, 2015; extends third country fabric provision for three years, from September 2004 until September 2007; including a phase down in year three. The cap would remain at the full current

level available in years one and two. In the third year, the cap would be phased down by 50 percent and provides additional Congressional guidance to the administration on how to administer the textile provisions of the bill. It also expands current eligibility to allow non-AGOA produced collars, cuffs, drawstrings, padding/shoulder pads, waistbands, belts attached to garments, straps with elastic, and elbow patches for all import categories to be eligible. Also included is the continued use of fabric from AGOA countries that also become free trade partners with the United States, increases the De Minimis Rule from its current level of seven percent to 10 percent. This rule states that apparel products assembled in Sub-Saharan Africa which would otherwise be considered eligible for AGOA benefits but for the presence of some fibers or yarns not wholly formed in the United States or the beneficiary Sub-Saharan African country will still be eligible for benefits as long as the total weight of all such fibers and yarns is not more than a certain percent (currently seven percent) of the total weight of the article.

It also includes findings and statements of policy about the benefits of AGOA to Africa and supporting various Sub-Saharan Africans efforts such as reducing poverty, promoting peace, attracting investment and trade, and fighting HIV-AIDS, provides a Sense of the Congress that Africans should support WTO negotiations and trade liberalization, expands the current "folklore" AGOA coverage to include certain machine-made ethnic printed fabric made in Sub-Saharan Africa or the United States encourages bilateral investment agreements, directs the Administration to implement an interagency trade advisory committee, encourages the development of infrastructure projects that increase trade capacity through the ecotourism

industry, directs the President to assign personnel for the purpose of providing agricultural technical assistance to select AGOA countries and advising them on improvements in their sanitary and phyto sanitary standards to help them meet U.S. requirements, promotes investment in infrastructure projects that support the development of land transport, roads, railways, ports, the expansion of modern information and communication technologies, and agriculture and facilitates increased coordination between customs services at ports and airports in the United States and Sub-Saharan countries to reduce time in transit and increase efficiency and safety procedures (U.S Bureau of Public Affairs, 2005a).

The Acts apparel special provision was also to expire in 2007 but the Africa Investment Incentive Act of 2006 (signed by President Bush on December 20, 2006) amends the textile and apparel portions of the African Growth and Opportunity Act (AGOA) and is referred to as "AGOA IV". AGOA IV provides duty-free and quota-free treatment for eligible apparel articles made in qualifying sub-Saharan African countries through 2015 (U.S State Department, 2007).

### **Country Eligibility**

The President may designate Sub-Saharan African countries as eligible to receive the benefits of the Act if they are making progress in such areas as: establishment of market-based economies; development of political pluralism and the rule of law; elimination of barriers to U.S. trade and investment; protection of intellectual property; efforts to combat corruption; policies to reduce poverty, increase availability of health care and educational opportunities; protection of human rights and worker rights, and elimination of

certain practices of child labor. In order for countries to be eligible for apparel benefits, they must have in place an effective visa system to prevent illegal trans-shipment and use of counterfeit documentation, as well as effective enforcement and verification procedures (U.S Bureau of Public Affairs, 2005c).

### **AGOA Eligible Sub Saharan Countries**

Angola; Benin; Botswana; Burkina Faso; Cameroon; Cape Verde; Chad; Republic of Congo; Democratic Republic of Congo; Djibouti; Ethiopia; Gabon; The Gambia; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Madagascar; Malawi; Mali; Mauritania; Mauritius; Mozambique; Namibia; Niger; Nigeria; Rwanda; Sao Tome and Principe; Senegal; Seychelles; Sierra Leone; South Africa; Swaziland; Tanzania; Uganda; Zambia (U.S Bureau of Public Affairs, 2005b).

### **The Act's GSP Provisions**

AGOA authorizes the President to provide duty free treatment under GSP for any article, after the U.S. Trade Representative (USTR) and the U.S. International Trade Commission (USITC) have determined that the article is not import sensitive when imported from African countries. On December 21, 2000, the President extended duty-free treatment under GSP to AGOA eligible countries for more than 1,800 tariff line items in addition to the standard GSP list of approximately 4,600 items available to non-AGOA GSP beneficiary countries. The additional GSP line items which include such previously excluded items as footwear, luggage, handbags, watches, and flatware were implemented after an extensive process of public comment and review. Sub-Saharan African GSP beneficiary countries are also exempted from

competitive need limitations. In order for any Sub-Saharan African country to receive the liberalized GSP benefits it must first be GSP eligible under the existing criteria of that law. GSP is extended for Sub-Saharan African beneficiary countries until September 30, 2015 (U.S Bureau of Public Affairs, 2005b).

**Features AGOA’S Wearing Apparel’ Rules of Origin.**

In order for countries to be eligible for apparel benefits, they must have in place an effective visa system to prevent illegal trans-shipment and use of counterfeit documentation, as well as effective enforcement and verification procedures (U.S Bureau of Public Affairs, 2005a).

Qualifying articles include: apparel made of U.S. yarns and fabrics; apparel made of Sub-Saharan African (regional) yarns and fabrics, subject to a cap until 2015; apparel made in a designated lesser-developed country of third-country yarns and fabrics, subject to a cap; apparel made of yarns and fabrics not produced in commercial quantities in the United States; certain cashmere and merino wool sweaters; and eligible hand loomed, handmade, or folklore articles; and ethnic fabrics. Under a Special Rule for lesser-developed beneficiary countries, those with a per capita GNP under \$1,500 in 1998, will enjoy an additional preference in the form of duty-free/quota-free access for apparel made from fabric originating anywhere in the world. The Special Rule is in effect until September 30, 2007 and is subject to a cap.

An apparel article is eligible for benefits even if the article contains bindings or trimmings of foreign origin, if the value of such bindings and trimmings does not exceed 25% of the cost of the components of the assembled article. Examples of findings and trimmings include sewing thread,

hooks and eyes, snaps, buttons, "bow buds," decorative lace trim, elastic strips, and zippers. Elastic strips are considered findings or trimmings only if they are each less than 1 inch in width and used in the production of brassieres.

Articles containing certain interlinings of foreign origin are eligible for benefits if the value of the interlinings (and any findings and trimmings) does not exceed 25% of the cost of the components of the assembled article. The interlinings permitted include only a chest type plate, a "hymo" piece, or "sleeve header," made of woven or weft-inserted warp knit construction and of coarse animal hair or man-made filaments. This benefit will terminate if the President determines such interlinings are made in the United States. AGOA II designates Botswana and Namibia as lesser-developed beneficiary countries (U.S Bureau of Public Affairs, 2005b).

Apparel products assembled in sub-Saharan Africa which would otherwise be considered eligible for AGOA benefits but for the presence of some fibers or yarns not wholly formed in the United States or the beneficiary sub-Saharan African country will still be eligible for benefits as long as the total weight of all such fibers and yarns is not more than 10 percent of the total weight of the article. AGOA III increased this percentage from seven percent this is known as the De Minimis Rule.

AGOA III expanded product eligibility to allow non-AGOA produced collars, cuffs, drawstrings, padding/shoulder pads, waistbands, belts attached to garments, straps with elastic, and elbow patches for all import categories to be eligible (U.S Bureau of Public Affairs, 2005a). This treatment continues under AGOA IV.

It is noted that, the Committee for the Implementation of Textile Agreements (CITA), an interagency group chaired by the Commerce Department's Deputy Assistant Secretary for Textiles and Apparel, has the authority to implement certain provisions of AGOA's textile and apparel benefits. These provisions include: (1) Determination of the annual cap on imports of apparel that is assembled in beneficiary countries from fabric formed in beneficiary countries from yarn originating either in the United States or in beneficiary countries. Through September 30, 2012, the statute permits lesser-developed beneficiary countries to obtain preferential treatment for apparel assembled in beneficiary countries regardless of the origin of the fabric, (2) Determination that yarn or fabric cannot be supplied by the U.S. industry in commercial quantities in a timely manner, and to extend preferential treatment to eligible apparel from such yarn or fabric (commercial availability), (3) Determination of eligible hand loomed, handmade, or folklore articles and ethnic printed fabrics, (4) A "tariff snapback" in the event that a surge in imports of eligible articles causes serious damage or threat thereof to domestic industry, (5) Determination of whether U.S. manufacturers produce interlinings in the United States in commercial quantities, thereby rendering articles containing foreign interlinings ineligible for benefits under AGOA; and (6) Determination of whether exporters have engaged in illegal transshipment and denial of benefits to such exporters for a period of five years (U. S State Department, 2007).

Stevens and Kennan (2004), states that, origin rules are necessary as long as importing states maintain country-specific differences in their treatment of goods, but they may form a barrier to trade. This can occur if they are



deliberately designed with protectionist intent; or if they have the unintended consequence of denying preferential access to favoured countries.

The legitimate aim of origin rules is to ensure that the country benefiting from a trade agreement is the one that policy-makers intended. If the aim is to assist African exporters to get a foothold in a market, then the rules should be designed to discourage highly competitive Asian exporters sending almost fully finished goods to the African country, re-boxing them and exporting them to the preference-giver with the aid of the reduced tariff.

A supplementary aim, which builds upon this one, is that origin rules may be intended to foster industrial development within the preference-receiving country. This could happen if a preference is commercially valuable but becomes available only if additional stages of manufacturing are undertaken in the preference-recipient. This might encourage foreign companies that wish to take advantage of the preference to invest sufficient resources in the preference-recipient to allow the additional processing to be undertaken.

The counter-argument is that origin rules risk having not these desirable effects but the entirely malign one of making it impossible, in practice, for a notional preference that exists on paper to be translated into reality. If the work that has to be undertaken to fulfill the requirement of 'substantial transformation' is beyond the capacity of the preference-receiving country to undertake (at least cost effectively), then it will never be able to meet the origin rules. It will either not export the item or will do so only by supplying a good that is uncompetitive because of the high cost of obtaining 'originating' inputs. In either case, no trade will result from the preference agreement.

## **Ghana and AGOA**

On 18<sup>th</sup> May 2000, the US congress approved a legislation known as the Africa Growth and Opportunity Act. The purpose was to assist the economies of sub-Saharan Africa and to improve economic relations between the U.S. and the region by providing jobs, giving technical assistance and providing credit facilities to them. Thirty Eight countries are eligible under the Act (Wikimedia Foundation Inc, 2006).

Clothing is one of the necessities of life hence AGOA expanded market access for textile and apparel goods in the U.S.A. for eligible countries. This is AGOA II which is part of the Trade Act of 2002 which President Bush signed into law on August 6, 2002. After the passage of the AGOA Act in 2000, Ghana was one of the first to receive U.S. Approval of its textile visa system and accordingly benefited from the unprecedented U.S.A African trade relationship on the 20<sup>th</sup> of March 2002 (U.S Bureau of Public Affairs, 2005).

Ghana has benefited from the initiative and still enjoys the extension of the AGOA benefit till 2015 during which time the U.S.A market can be accessed easily on a duty free status. The textile and garment industry has therefore become an interactive investment area. Ghana has therefore maximized this advantage by creating a 178 acre Textile and Garment village located within the Tema export processing zone, Adjabeng apparel producing industries and other garment producers who are pursuing this opportunity. According to Agyemang-Duah (2003), at full operational capacity, the Garment City was to employ 70,000 people directly and 20,000 people indirectly.

## **Reports on Some other African Countries under AGOA's Wearing Apparel Rule**

### **Lesotho**

Lesotho provides the most clear-cut case that rules of origin have impeded exports. Stevens and Kennan, (2004) stated that, with the enactment of AGOA the flow of foreign investment into Lesotho to produce for the US market increased substantially. Many of the established companies undertook substantial expansion, whilst new ones moved in. Lesotho is now the largest supplier to the USA from SSA and accounts for less than 1% of US imports of apparel. This ranks it as the 33rd supplier in terms of value (Integrated Framework, 2003).

Lesotho has done far better than most other least developed countries in attracting FDI and is unique among African Lesser Developed Countries (LDCs) in attracting predominantly export-oriented investment (UNCTAD, 2003). Ownership and management of the garment industry is now dominated by South East Asians, who control around 90% of the factories and employ 97% of the labour (Salm, 2002). All of the major South Africa-based Lesotho garment factories have now either closed (or are being closed) or have been sold to Asian companies.

### **Mauritius**

According to Stevens and Kennan (2004), there were disputes, for example, with US Customs over whether or not the quality of wool used in up-market Mauritian sweaters met the classification of 100% extra-fine merino wool. Sweaters knit to shape from cashmere or merino were covered by AGOA I even if the fibre was non-originating. The dispute was over whether

the fibre in the Mauritian exports met the technical requirements. Because the fibres are in short supply, global sourcing is permitted even for countries that are not classified as 'lesser developed'. AGOA II clarified the terminology. Also AGOA I excluded knit-to-shape sweaters (other than cashmere or merino), but these are now covered since AGOA II.

Mauritius's position in the US supply chain is different from that of the lesser developed countries. Exports have tended either to use locally produced fabric (which does not compete on price with the Asian cloth used by the lesser developed countries, so must compete on quality) or to be up-market knitwear using fibres that are in short supply (cashmere, silk, 100% extra-fine merino wool). For this reason, the clarification in AGOA II had a significant effect. Mauritius had exports of clothing to the EU exceeding €1 mn in 2002 in no fewer than 38 items. On all these it receives a significant preference. Under AGOA, the USA also now provides significant preferences for clothing. With South Africa, Mauritius is the only clothing exporter not to receive the AGOA derogation to the rules of origin allowing global sourcing of inputs.

The gap in Mauritius's diverse clothing sector between the up-market end (which is holding its own) and the down-market segments (which are declining) is becoming wider. A similar trend is evident in relation to knitwear exports to USA.

There was no substantial difference in the level of exports to USA before and after the introduction of AGOA until 2003. AGOA I was a bit of a flop for Mauritius; things only started to happen with AGOA II. Partly this was because AGOA I came into force halfway through the season, and partly it

was because of ambiguities and omissions in AGOA I. US\$ 62mn worth of textile and clothing exports to the US by Mauritius between January and March 2004 show a 17% year-on-year decline. However, the proportion of AGOA-eligible exports from *this sector* has increased from US\$ 30,7mn (or 40%) to US\$ 38mn (or 61%) during this period, which may be indicative of the fact that Mauritian exporters are increasingly sourcing regionally-produced fabrics for their US-bound exports. The special rule permitting 'lesser-developed' countries the use of third country fabrics does not apply to Mauritius, and its intended phase-out in September 2004 would have been of little direct consequence to the country. However, current indications are that the flexible dispensation relating to apparel will indeed be extended by a further three years, which could see Mauritian exporters lose market share over the next year or two to other AGOA-eligible producers in the region (Eckart, 2004).

### **South Africa**

According to Stevens and Kennan (2004), this analysis of South Africa's trade concentrates on the clothing industry for three reasons. First, there is potential, on paper at least, for South Africa to provide a regional source of textile fabric that could be used by the clothing industries of the region. Second, South Africa's experience is relevant to the technical feasibility of fulfilling the EU and AGOA origin rules for clothing in what is by far and away the most developed economy of the region. In addition, trade preferences for South Africa on other products are of recent origin and still relatively limited coverage.

Possibly the key statistic from South Africa for this study is that just under half of its clothing exports to the USA do not receive AGOA preferences. This is not because of a failure by South African exporters to claim preferences to which they are entitled, but because they deliberately choose not to fulfill the rules of origin, finding it more profitable to use imported rather than domestically produced cloth/yarn and to forgo the tariff cut.

This has wider implications for the region in relation both to AGOA and to the EU. If the South African garment industry cannot use originating cloth and remain competitive, what hope is there for other African states? There is a widely held view that the South African textile industry is relatively inefficient, but it requires a considerable act of faith to believe that more efficient industries could be created in other SSA states given that even South Africa cannot reap full economies of scale and that a diversified clothing industry needs access to a range of cloth types.

### **Botswana**

Sub-Saharan apparel producers such as Caratex Botswana are enjoying the full benefit of the AGOA trade preference program. Even when it started in 1999, Caratex had big ambitions, and when AGOA went into effect, it presented an opportunity for Caratex to expand its export of knit-to-shape jerseys and sweaters to the United States and the European Union. USAID-funded Southern Africa Global Competitiveness Hub experts have guided Caratex through the AGOA certification process.

Caratex reported earnings of more than 6 million dollars in 2003 and anticipates they could reach at least 10 to 14 million dollars by 2005. As a consequence, Caratex has grown from employing 500 to around 1,300 people.

With the launch of new business attire and jeans lines, Caratex anticipates that it will employ as many as 2,600 people. Because of AGOA, a budding African company has significantly expanded its market and has moved on to global commerce stage (Office of the U.S Trade Representative, 2008).

### **Kenya**

Numerous challenges present themselves to Kenya, and sub-Saharan Africa more generally, requiring a relational analysis. Although Kenya has “risen” to third place behind Lesotho and South Africa for imports to the U.S. under AGOA, and is set to further expand this market share in the short-term, the global effects of a quota-free. However, China threatens Kenya’s AGOA gains even in this period prior to quota removal. (Multiple shipments of apparel, manufactured in China with “made in Kenya” labels, have been confiscated at the port of Mombasa awaiting shipment onto the U.S. under AGOA duty-free protection. Sixteen such containers of jeans seized in Mombasa in January 2004 were burned under tight security in July of 2004.

Under AGOA, there is nevertheless room to grow, as only a fraction of the collective African quota is yet to be met. Kenya now relies on the importation of cloth from Asia to meet its export apparel manufacturing needs – a third-county fabrics allowance that was slated to end in 2004. AGOA III extended this “quota within a quota” another three years, after which fabric must be sourced from the U.S. or AGOA-compliant countries to receive duty-free access. Current cloth production in Kenya cannot satisfy the demands for export apparel inputs, nor are other AGOA countries poised to fill this need (Manjieri, 2004).

## **AGOA Successes, Challenges, and Way Forward**

### **Successes**

The last eight years have witnessed a transformation in the U.S.-African trade and investment relationship. AGOA provides duty-free access for over 6,000 products from 40 AGOA eligible countries which has served as one of the main agents of this change. AGOA has stimulated new trading opportunities for businesses, created tens of thousands of jobs, and brought millions of dollars in much needed investment to sub-Saharan Africa. Total two way trade (exports plus imports) between the United States and sub-Saharan Africa has nearly tripled since 2001, the first full year of AGOA implementation. During this same period, AGOA and GSP imports increased more than fivefold, reaching \$44.2 billion in 2007. Non-oil AGOA imports more than doubled, from \$1.4 billion in 2001 to \$3.4 billion in 2007. U.S. imports of apparel under AGOA have more than tripled, from \$359.4 million in 2001 to \$1.1 billion in 2008 (Office of US Trade Representative, 2008).

By building on the market access provided by GSP, AGOA has opened the U.S. market to almost all goods produced in AGOA eligible countries and has helped to increase both the volume and diversity of U.S. trade with sub-Saharan Africa. By providing new market opportunities for African exports, especially of non-traditional and value-added products, AGOA has helped African firms to produce higher value products and become more competitive internationally, thereby bolstering sub-Saharan African economic growth and helping to alleviate poverty in one of the poorest regions of the world.

In 2007, of the 39 then eligible countries, 34 countries exported products to the United States under AGOA. Oil, which is sub-Saharan Africa's leading



export, has also been the leading export under AGOA, and was the main AGOA product exported by four of the top five AGOA beneficiaries (Nigeria, Angola, Chad, and Gabon). However, AGOA's primary focus has always been on export diversification and AGOA has helped to foster sizeable export increases across a wide range of non-oil products, including apparel, chemical products, footwear, machinery, electronics, toys, sportswear, fruits, nuts, and cut flowers. The number of countries exporting non-oil products has steadily increased since the enactment of AGOA in 2001, with noteworthy increases in 2007 from South Africa (one of the top five AGOA beneficiaries), Botswana, Cameroon, Ethiopia, Ghana, Madagascar, Rwanda, and Tanzania.

Other major exporters under AGOA included Kenya, Lesotho, Mauritius, Malawi, Namibia, Swaziland, and Uganda. AGOA has also been good for U.S. businesses. By providing incentives and support for African economic reforms, AGOA has helped to foster an improved business environment in many African countries, helping to create new opportunities for U.S. exports and investment. Increasingly, Africans are seeking U.S. inputs, expertise, and joint-venture partnerships. U.S. exports to sub-Saharan Africa have more than doubled since AGOA was launched, totaling over \$14.4 billion in 2007. At year-end 2006, the U.S. direct investment position rose 52 % from 2001, to \$13.8 billion.

Many of the countries that have been successful in utilizing AGOA – such as Ghana, Lesotho, and Mauritius – have undertaken concerted efforts to forge closer cooperation between government and the private sector to improve infrastructure, eliminate bureaucratic red-tape, facilitate customs processing, and build experience in producing and marketing value-added products for the

U.S. market. In addition, many African businesses that had never previously considered the U.S. market are attending trade shows and getting orders for everything from Ugandan organic cotton T-shirts to Mauritian seafood, Malian tote bags, and Ethiopian flowers.

The Administration has worked closely with African governments and businesses to help them maximize AGOA's trade benefits. It has worked diligently to craft and put in place the regulatory framework for AGOA implementation and has actively promoted the program throughout Africa. The Administration has also developed TCB programs targeted toward helping African governments and firms identify and develop the market opportunities available under AGOA. Working with Congress, the Administration has implemented three separate legislative enhancements to AGOA, passed by Congress with significant bipartisan support in 2002, 2004, and 2006.

### **Challenges**

AGOA's continued success will require intensified efforts to promote greater diversification and competitiveness of AGOA trade. The AGOA Administration continues to consult with all AGOA stakeholders, including Congress, African governments, U.S. and African private sector representatives, and civil society organizations to discuss ways to improve AGOA implementation and address the many supply-side challenges. While more African countries are taking advantage of the benefits of AGOA, there are still a few countries that have yet to export products under AGOA. In addition to increasing the number of AGOA-eligible countries taking

advantage of the program, there is also the challenge of increasing the range of products being traded.

### **Way Forward**

Through a wide range of initiatives and policies, the Administration has significantly strengthened the U.S.-sub-Saharan African trade and investment relationship and laid a strong foundation to build an even more robust relationship in the future. The AGOA Administration will continue to reinforce African efforts to deepen regional economic integration. It will also work with sub-Saharan African countries to integrate trade into economic development plans and strategies. Continued TCB assistance focused on AGOA utilization and export diversification such as the work carried out by the four Trade Hubs will be essential to AGOA's future success, and the Administration will work with Congress to secure and effectively utilize TCB funding for this purpose. To continue to grow sub-Saharan Africa's market share in the face of increased global competition, AGOA eligible countries will need to find ways to reduce high production costs, especially in areas such as electricity, telecommunications, and transport.

African governments must also make improved competitiveness a priority and work with the African private sector and civil society to develop national strategies aimed at identifying problems, developing responses to supply-side constraints, and strengthening the product sectors with the greatest trade potential ( Office of the US trade representative, 2008).

## **Equipment for Garment Production**

The efficiency of an apparel industry is largely increased by high quality equipments which are planned for specific purposes to meet the industry's needs. If well chosen, a few but quality equipments will be enough to serve most needs in each specialized category. Sewing equipment can be categorized under different heading, but for this write up, they are categorized into measuring, marking, cutting, pinning and sewing, turning and pressing tools and equipment. Tools are those that are relatively small in size and the equipments are the larger ones.

### **Measuring Tools**

**Tape measure.** This is a tape with numbers running in opposite direction on two sides with metals at the end (Craig, 1973). It is used for taking body measurements and measurements of length of fabrics. According to Derwin, Kinchen and Peters (1979), it can be made from a firm cloth which must be stiff enough to stand on edge when measuring curves.

Bane (1974) however noted that, tape measures made of fabric or cloth are limp and easy to handle but they stretch with continued use whilst the plastic ones are firm somewhat stiff but retain their original accuracy.

**Yard-Sticks or meter stick.** It is available in metal which is more expensive and wood which is relatively cheaper. It is used for drawing lines and measuring lengths in the garment industry. Bane (1974) explains that, the metal ones are thinner and provide a better edge for drawing lines and making accurate measurements whilst a wood yardstick warp and must be replaced frequently.

**L or T square.** These are used to establish right-angled corners. They are modeled as the letters L and T hence their names.

**Short Rulers.** These are essential tools that are used frequently hence must be of a convenient length. Bane (1979) suggests that, for efficiency, the worker needs both a foot length and a 6-inch ruler. They are used for purpose such as marking button holes, and computing spacing.

**Professional hem markers.** It is used for marking hems in garments. These are available in two basic types; the pin markers and the chalk marker. The garment hangs between the standard and the free arm and when the free arm is pressed in place, it holds the garment in a position to be pinned or marked with chalk.

**The French model waistline tape.** It is a device for checking the waistline measure when making waistbands, in fitting, in altering commercial-pattern waist measures and in attaching inside tape to a waistline seam.

### **Marking Tools**

**Tracing Paper.** It is placed in between the pattern and garment before tracing out pattern markings and it helps to transfer pattern markings onto the fabric. It comes in several colours. According to Derwin et al. (1979), one must use the lightest possible colour for fabrics but Craig (1973) contends that, light papers may make marks that are difficult to see. However, she cautioned that, care should be taken in using tracing paper because dark papers leave marks that may be difficult to remove.

**Tracing Wheel.** This is used for tracing markings from a pattern onto the fabric. It is efficiently used with a dressmaker's carbon. Choose one that is not wobbly but firm, smooth and sharp that will not snag the fabric. A needle

point type makes a fainter line which is desirable on thinner fabrics but is likely to tear the pattern. A wheel with serrated edge makes a good heavy line for heavy loosely woven fabrics whilst deep points are more effective on thicker fabrics. A smooth wheel is for more delicate fabric such as velvet and knits that are subject to snagging which might be damaged by other types of wheels (Derwin et al., 1979).

**Tailor's Chalk.** It is used for making marks on fabrics. We have the clay chalk and the wax chalk. Derwin et al. (1979) and Craig (1973) advises that though the wax chalk doesn't rub off easily, it melts and gives a Greece mark hence the clay chalk should rather be used.

Bane (1974) notes that, wax chalk is more effective on wools and nubby fabrics but advises that, all chalks should be used on the underside of the fabric but even if it must be used on the right side, then it should be tested on a scrap of fabric to make sure it wont leave a permanent line.

### **Cutting Tools and Equipment**

According to Stolpe (1974), the first requirement for cutting tools and equipment is a clean sharp cutting edge. We have a variety of cutting tools and equipment but for this write up I will group the tools under shears and scissors and the cutting equipments.

**Cutting Tools:** Shears and Scissors are the main cutting tools that we have and they differ in design because of their intended use.

**Shears.** These are used for initial cutting especially when there is the need to cut with long slashes for accurate lines. They are longer in length than scissors and they come with blades from five to twelve inches long but the most popular are seven and eight inches with either straight or bent handles.

Bent handle shears are easier to use and save the fabric from lifting so often during cutting. It has one ring handle for the thumb and an oblong handle for several fingers.

**Knife edge Shears.** These have sharper blades that hold a keen edge longer. They are used for cutting polyester knits and other fabrics such as supple lining fabrics, fine silks etc.

**Pinking Shears.** This is used for seam finishing which resist or delay but not prevent raveling.

**Scissors.** They are offered in a great variety of lengths (shorter than shears). They are used for more intricate cutting on shorter edges. They mostly have ring style hands for the thumb and one finger because they are used for shorter periods of time. The following are some variety of scissors we have.

**Embroidery Scissors.** These have two sharp points and ring handles in lengths of 3 ½ to 5 inches. They are used for cutting button holes.

**Sewing Scissors.** These have one sharp and one rounded blunt point. They come in lengths of 4 to 6 inches. They are used at the machine and for general purposes as well as in - progress clipping and trimming.

**Rip-stitch scissors.** These have one needle-sharp and one rounded blunt point. They are designed for ripping out stitches and are 5 inches in length.

**Light trimmer.** These have one sharp and one rounded blunt points and shear handles but the handles are not burnt. It is a multipurpose scissors which combines many of the advantages of other shears and scissors.

**Thread Clip.** These are special purpose scissors and are spring operated. They are designed for clipping threads more quickly and easily at the machine and are 4 ½ inches long.

**Paper cutting Scissors.** A lower grade quality scissors will be adequate for paper cutting since using sharper scissors for cutting paper will make the scissors blunt.

Derwin et al. (1979), Craig (1973) and Bane (1974) note that one need a few of the scissors mentioned above to do excellent and efficient work since one type of scissors can be used to perform the functions of others though that is not its main function e.g. a slight trimmer can be used by one who doesn't sew frequently for the initial cutting and sewing scissors used for clipping threads.

### **Cutting Equipment**

I have grouped the cutting equipments under knives for the purpose of this study. According to Carr and Latham (1994), the knives are used for cutting in the industries.

**Straight knife.** It is used for cutting garments in bulk but with relatively few plies. It is operated by two kinds of power. The motor power which drives the reciprocating blade; and operator power which drives the knife through the lay.

**Round knife.** This is used mainly for straight lines or lower lays of relatively few plies. They are not suitable for cutting curved lines in high lays because, the blade does not strike all the plies simultaneously at the same point.

**Band knife.** They are used when a higher standard of cutting accuracy is required than can be obtained with a straight knife. It comprises of a series of three or more pulleys powered by an electric motor with a continuously rotating steel blade mounted on them. One edge of the blade is sharpened. The



principle of operation of the is different from the straight and round knives in that, the band knife passes through a slot in the cutting table in a fixed position and the section to be cut is moved past it.

**Computer controlled cutting knives.** It has a table with a cutting surface consisting of nylon bristles which support the fabric lays but are flexible enough to permit penetration and movement of the knife blades which is supported only at the top. This is used for cutting higher lays of garments and it gives the most accurate possible cutting at higher speed and to keep the larger systems fully occupied, they are frequently used in central cutting facility that supplies a number of separate sewing factories (Carr & Latham, 1994, p.30).

### **Pinning and Sewing tools and Equipments**

Pinning and sewing equipment include pins, hand sewing needles, machine needles, thread, thimbles and sewing machine. According to Craig (1973), Bane (1974) and Derwin et al. (1979), the pins, hand sewing needles, machine needles and sewing threads are grouped as follows:

#### **Pins**

**Dressmakers pin.** A medium sized pin most commonly used for dressmaking but not the best choice. Sizes 14 and 16 are most appropriate for dressmaking uses.

**Silk pins.** A slender pin with a tapered point somewhat like a needle. Used for dressmaking and essential for sewing on delicate fabrics.

#### **Hand Sewing Needle**

Hand sewing needles are grouped according to the purpose it serve.

These are the sharps, for general sewing, crewel for embroidery and general purpose, betweens for delicate and all intricate works.

### **Machine Needles**

These are fixed in the needle clumps of the sewing machine. There is the size 14,16 and 18.They are used for sewing medium weight fabrics of usual suit and coat weight, heavy fabrics and many thicknesses as in slipcovers and upholstery fabrics respectively.

### **Sewing threads**

**Cotton thread.** This is a thread made of 100% cotton and it is usually three to six cords twisted together. The sizes ranges but sizes 40,50 and 60 are appropriate for dressmaking.

**Mercerized cotton thread.** This is a cotton thread with a finish added for luster. It is used for general purpose sewing and heavy duty sewing.

**Silk thread.** This thread is made of silk for more elasticity, higher luster and greater strength. It is used for top stitching and basting in preparation for pressing.

**Buttonhole twist.** It is made of silk and very heavy and strong. It is used for tailored buttonholes, decorative and prominent top stitching. It is only 10 yards on a spool.

**Nylon thread.** It is a strong thread that is elastic and resistant to tear and wear. Used for fabrics that is not pressed at high temperatures. It is available in transparent and dark shades

**Thimbles.** This is worn on the middle finger to prevent needles from pricking the hand in order to speed up hand sewing on fabrics. Derwin et al.

(1979) noted that, aluminum is easily punctured, plastic is cumbersome hence plated steel is more satisfactory to use for thimbles.

### **Sewing Machine**

According to Craig (1973), there are many brands and models of sewing machine covering a wide price range. However before you buy any of the machines; you must sew on it in order to choose well. She noted that if space and cost are no problems, then a good cabinet machine is more preferable to a portable one because it is more convenient to use. It will sew all types of fabrics and there is sufficient space at the sides on which to rest large items such as coats and draperies. She mentioned that, the type of sewing machine you choose and the special features it offers will depend upon the kind and amount of sewing you do.

Carr and Latham (1994), however categorized sewing machinery into the four levels with the quantity of machines in commercial use decreasing rapidly from the first level to the last. The levels start with Basic sewing machines then Simple automatics, Mechanized workplaces and Transfer lines being the fourth level.

### **Basic Sewing Machines**

These consist of several elements such as a stand, table, electric motor, a head normally offering one stitch type, a bed of various shapes and the means for the operator to control the speed of sewing, stitch density and presser foot position. A large number of additions such as work aid attachments are available to relieve the operator of some of the handling associated with sewing operations. Microprocessor systems are being applied to preset and automatically enable such things as presser foot lift, bar tack, thread trim,

fullness and number of stitches to be made. Examples of such machines include the hand sewing machine, treadle and electric machines.

### **Simple Automatics**

These are usually cam-controlled and produce only one configuration of sewing like buttonholers, button sewers, bar tack machines and label sewers.

**Buttonhole machines.** These are used for making buttonholes depending on the type of buttonhole needed on the garment. The simplest buttonholes are used on shirts, blouses and other lightweight garments and the more complex ones on tailored garments which are heavy. The size of the buttonhole, the stitch type (lock stitch on single or two-thread chain stitch) the stitch length, the stitch density, whether the buttonhole is cut before or after sewing and the presence or absence of a gimp forms the variables in buttonhole machines.

**Button sew machines.** These are used to sew buttons on garments. The variables in button sew machines are the size and shape of the button which determines the design of the button clamp, the number and disposition of the holes, the form of stitching where there are four holes this may be crossover or parallel known as and whether the button has a sewn shank or neck, the stitch type (lockstitch or single thread chain stitch) and the number of stitches.

**Bar tack machines.** They are used for closing the end of buttonholes; reinforcing the ends of pocket openings and the bottoms of flaps and sewing on belt loops. They sew a number of stitches across a point to be reinforced and then sew covering stitches over and at right angles to the first stitches. The variables are the number of tacking stitches and covering stitches.

**Label sewers.** They are used for sewing labels onto garments, but a variety of short cycle machines are available which can be used for attaching

hooks, bars, metal badges, motifs and many other decorative and functional garment parts.

### **Mechanized Workplaces**

These carry out many complex functions in addition to sewing. The operator loads the machine with garment parts to be sewn and the machine controls the rest of the handling and all of the sewing. It is used for such jobs as setting patch pocket on jeans and shirts, run stitching collars and flaps to joining long seams, making jetted pockets, sewing trousers and sequential buttonholing.

**Transfer Lines:** Garment parts are loaded and a series of machines carries out a series of operations to a section of a garment e.g. it is used to assemble a three-part jeans pocket.

### **Turning Tools**

**Stiletto.** For turning corners of lapels and collars.

**A long ball point needle.** Used for turning bias cording in a knitted fabric

**A dowel stick.** For turning belts and long ties.

### **Pressing Tools and Equipments**

#### **Iron**

There are different types of iron namely, box iron, electric iron.

**Box Iron.** It uses charcoal and is mainly used in the areas where electricity is not available. It is modeled like a box hence its name.

**Electric iron.** We have the dry iron, the steam and the steam – dry electric irons. These irons are heated by an electric element, controlled by a thermostat. According to Craig(1973), a steam- dry iron is preferable to a dry iron whilst Carr and Latham (1994), contend that, the most common type of

iron in general use nowadays is the steam iron. Craig (1973) however recommends that, distilled water should be used in the steam iron instead of tap water because staining minerals such as iron may be in the tap water which might stain the iron.

**Adjustable ironing board.** It is used mainly for pressing garments after construction and should be easy to put up and take down

**A pressing board.** This is about thirty six inches long and eight or nine inches wide and is used for pressing during construction. It is mostly placed on a table before using.

**A Sleeve board.** It is a necessity for pressing sleeve seams and blocking in the top of a sleeve (Craig, 1973).

**Steam pressers.** This is equipment for pressing large quantities of garments. It consists of a static buck and a head of complementary shape which closes onto it, thus sandwiching the garment to be pressed. It consists of a frame carrying the buck, which is generally rounded in shape for pressing a variety of garments, linkages to close the head by a scissors action, a pipe system distributing steam to head and buck, a table around the buck to aid handling of garment, a vacuum system to provide suction through the buck and foot controls for head closure and vacuum, with hand and or foot controls for steam. Some steam presses are creasing machines which fold over and press the edges of clothing components such as pockets or cuffs to prepare them for easier sewing.

**Steam air finisher.** According to Carr and Latham, the equipment is often referred to as a 'puffer', a form press or a 'dolly' press. It is used to remove accidental creases and refinish the fabric but will not form creases or mould

the garment. It is extremely useful for garments such as night dresses, tee shirts and blouses and is sometimes worth using for simple dresses.

**Steam tunnel.** It is also a garment finishing process where pressure is not applied to the garments but handling during the process is reduced .It is used for a variety of simple garments in man-made fibers and blends.

### **The Ghana Free Zones Board**

The Ghana Free Zones Board was set up by an Act of Parliament – Free Zone Act 504 (1995) to promote, facilitate, monitor and regulate investments under the free zones scheme. The Ghana Free Zones Board Secretariat manages the day-to-day activities of the Board and is manned by a professional staff that assists investors to implement their proposed investment with minimal bureaucracy. This involves the following activities:

- a. Provision of information on investment opportunities under the free zones programme
- b. The issuance of licenses to approved Free Zone Enterprises
- c. Assistance in securing other permits from related agencies
- d. Provision of ready facilities i.e. serviced land, factory shells and utilities at the Tema Export Processing Zone
- e. Assistance in securing work/residence permits for expatriate workers

### **The Ghana Free Zones Programme**

The Ghana Free Zones Programme is a government supported programme and is completely private sector driven with government providing the legal and policy framework and physical infrastructure. The aim of the programme is to promote the processing and manufacturing of goods in Ghana for export

to West Africa and the world at large through the establishment of Export Processing Zones (EPZs) and Industrial Parks.

Focus is also placed on the development of commercial and service activities at sea and air ports in Ghana. In essence therefore, the whole of Ghana is accessible to potential investors who have the opportunity to use the free zones as focal points to produce goods and services for foreign markets. Investors can obtain free zone status for their business either as single factory enterprises or within one of Ghana's designated export processing zones.

The Ghana Free Zones Programme is the perfect example of the power of partnership, combining investors' business acumen and the technical expertise of our professional team. In setting up a successful business, local support and market knowledge are essential, as well as excellent infrastructure, ease of procedure and attractive incentives.

### **Procedure for Establishment of Free Zone**

An investor who wishes to establish as a free zone developer or set up an enterprise in the Ghana Free Zones will require various licences and permits to enable him operate. The Ghana Free Zones Board provides a "one-stop approval service" to investors to assist them complete formalities for the establishment of free zone investment projects.

The formalities that should be fulfilled by the investor to enable him/her set up a Free Zone enclave or enterprise are stated as follows:

**Location of zone operations.** Free Zone enclaves and enterprises can be located anywhere in Ghana upon the approval of the Ghana Free Zones Board (GFZB).



## **Procedures/ Requirements**

- a. The Ghana Free Zones Board (GFZB) may identify or make available land for zone creation and development.
- b. An investor may lease properties or propose properties he/she already owns for the development and/or operation of a free zone.

**Developer's license.** Any investor wishing to establish as a zone developer in Ghana must obtain a Developer's License.

**Enterprise license.** Investors wishing to set up enterprises (for Manufacturing, Commercial or Service activities) must obtain the relevant Enterprise Licence.

### **Construction requirements.**

- a. Developers and enterprises must erect suitable perimeter fences and enclosures.
- b. Free Zone Enterprises must erect fences and/or enclosures, which shall be at least 2.5m high.
- c. A free zone factory building should be located at least 3m inside the enclosure.

### **Health & safety requirements.**

Free Zone Developers and Enterprises must comply with health, safety and environmental requirements of Ghana

- a. Free Zone investors should comply with: Factory, Offices and Shops Act (1970) on health, safety and other standard requirements; and environmental regulations, standards, procedures and requirements of Environmental Protection Agency.
- b. The GFZB shall register free zone developers and enterprises with:

- i. Factory Inspectorate Department
  - ii. Environmental Protection Agency
  - iii. Town and Country Planning
  - iv. Metropolitan & District Assemblies
- c. Free Zone developers and enterprises are required to permit periodic checks by the afore-mentioned bodies.

**Electricity supply.** Application may be submitted through the GFZB for power supply from the Electricity Company of Ghana. Total consumption and load requirements in Kw/hr should be indicated.

**Water supply.** Application for water supply in excess of 20,000 liters/day may be submitted through the GFZB for the approval of Ghana Water Company Limited (GWCL).

**Application for telephone, telex & telefax Services.** Application(s) may be made through the GFZB for the provision of telecommunication services from Ghana Telecommunications Company Ltd.

### **Incentives**

The extensive and generous incentives packaged in the Free Zone Act (1995) for investors interested in developing and operating free zone enclaves and single-factory free zones in Ghana include:

- a. 100% exemption from payment of direct and indirect duties and levies on all imports for production and exports from free zones;
- b. 100% exemption from payment of corporate tax for 10 years and shall not exceed 8 per cent thereafter;
- c. Total exemption from payment of withholding taxes from dividends arising out of free zone investments;

- d. Relief from double taxation for foreign investors and employees;
- e. No import licensing requirements;
- f. Minimal customs formalities;
- g. 100% ownership of shares by any investor - foreign or national - in a free zone enterprise is allowed;
- h. There are no conditions or restrictions on: repatriation of dividends or net profit; payments for foreign loan servicing; payments of fees and charges for technology transfer agreements; and remittance of proceeds from sale of any interest in a free zone investment;
- i. Free Zone investors are permitted to operate foreign currency accounts with banks in Ghana;
- j. At least 70% of annual production of goods and services of Free Zone Enterprises must be exported; consequently up to 30% of annual production of goods and services of a Free Zone Enterprise are authorized for sale in the local market
- k. Free Zone investments are guaranteed against nationalization and expropriation.

### **Business Environment**

**Access to finance.** An Export Development and Investment Fund (EDIF) has been set up by government to be disbursed on liberal terms mainly to Ghanaian export businesses. The fund is resourced by a 0.5% levy on imports and is administered by eleven designated financial institutions including the Agricultural Development Bank (ADB), CAL Bank, International Commercial Bank, National Investment Bank, Prudential Bank Limited, SG-SSB Bank Limited, STANBIC Bank and Trust Bank.

The Ghana Investment fund has also been set up as an off-shoot of the now defunct Business Assistance Fund established in 1994. This fund is expected to provide financial resources for the grant of medium and long-term credit facilities to investors by designated financial institutions.

Furthermore a Government Loan Guarantee Scheme is in the offering and will provide government guarantee for small and medium enterprises (SMEs) to enable them have access to loans. The scheme will not only solve the perennial problem of SME's inability to provide collaterals demanded by banks, but will also ensure an increased flow of capital to the private sector for innovation, technology development and adoption and development of new products and services for productivity enhancing investment activities. In addition to the above-mentioned government initiated funds, all the commercial banks have credit facilities for the various sectors of the economy (Ghana Freezones Board, 1995).

### **Presidential Special Initiative (PSI)**

The President's Special Initiative has been launched in five areas of activity. They are accelerated export development for Garment and Textiles, salt mining, cotton production, oil palm production, cassava starch production and distance learning. These initiatives are intended to spearhead the expansion and deepening of the economy; create jobs and reduce poverty (especially in the rural sector) through agribusiness and export in Ghana. It is also intended to develop a critical mass of high growth oriented internationally competitive exporting firms in the said sectors, targeting the American and European consumer markets. The special initiative is expected to benefit from the various favorable market access opportunities (quota free and duty

free/preferential duty access) available for Ghanaian manufactured garments and textiles into the European and American markets under the Lome/Cotonou Accord and the African Growth and Opportunity Act (AGOA) respectively.

### **Summary**

This chapter looked at the history of clothing and textiles which paved way for us to know how the field developed into an industry then, the rules of maximum productivity in the clothing and textiles industry. There are rules in every human setting hence the same in clothing and textiles industry in order to come out with the best products for the market. The researcher also looked at what goes on in the clothing industry thus the processes they go through to come out with excellent products and these are produced using tools and equipments hence this was also looked at.

AGOA was also looked at in detail thus (history, country eligibility, product eligibility etc) and other countries accessing the AGOA opportunity in order to see if Ghana is maximizing this opportunity to the fullest but report on other countries shows that, Ghana is lacking a little behind hence the look at other provisions made by the Ghana government which will help enhance the apparel sector thus the look at Freezone and Presidential Special Initiative on textile and garment.

## **CHAPTER THREE**

### **METHODOLOGY**

This chapter looks at the research design, population and sampling, the instrument that was used for data collection, data collection procedure and data analysis.

#### **Research Design**

The study is both quantitative and qualitative research. Descriptive research design was employed for the study. Osuala (2005), defined a descriptive research as a research which specifies the nature of a phenomenon. He explained that, descriptive research is important because it gives a picture of a situation or a population and any consideration of phenomena generally begins with a full understanding (description) of the phenomena. This he said in turn helps in making a wide range of policy decisions

The study looked at the current trends, the practices, processes, effects and attitudes in the garment production sector under AGOA and the freezone in order to ascertain the status of the project and provide understanding of the phenomenon. It is against this background that the descriptive survey design was used in order to achieve the objectives of the study.

#### **Population**

The study covered all the garment producing industries in the Freezone areas of Ghana. The accessible population is the garment producing industries in the Freezone areas at Tema and Accra in the Greater Accra region of

Ghana. There are nine garment producing industries under AGOA in Accra and Tema. There are four in the garment village located within the Export Processing Zones at Kpone, Tema; four are located at Adjabeng and one at PSI on garment at industrial area Kaneshie, Accra all in the Greater Accra region of Ghana.

### **Sample and Sampling Technique**

Four industries were selected to represent the population because they are among the eight industries which started operating at the inception of AGOA's Apparel Provision in Ghana. The four at Tema (Kpone) started earlier but two are currently not operating hence the purposive sampling method was used to select two industries out of the four in Tema. A purposive sampling technique was also employed to select two out of the four industries at Adjabeng, Accra. Purposive sampling was used because, the two have been in operation for long and one is on the verge of collapse in terms of the number of employees who were there compared to the total capacity of employees and the other is almost full to its capacity. According to Amedahe (2002), cases are purposively sampled when they are typically or particularly knowledgeable about the issues under study. These industries were therefore chosen because; the one on the verge of collapse gave me a good picture of the problems associated with the garment production sector under AGOA. On the other hand, the one producing at full capacity portrayed the strategies put in place to sustain the industries, and all the other factories helped to answer all research questions posed and created a good balance of the sample chosen.

The sample for workers was drawn from homogenous groups comprising the management and the workforce (cutters, machinists, pressers and

conveyers) hence a systematic sampling was used to put the respondents into two homogenous groups or strata. One hundred and sixteen respondents representing about 50% of the total population at the time of data collection was selected from the four industries. A non probability sample (purposive sampling) was then used for selecting each subject of the management strata and respondents in the workforce category because responses from people who have knowledge on the subject under study were to be elicited. Approximately 40% of the total workforce in each industry was selected to answer the items in both the questionnaire and interview guide for the workforce. For factory A, B, C, and D, 40, 20, 8, and 32 respondents were selected from each industry respectively. These summed up to 100 respondents for the workforce. All the managers who were ready to answer the questionnaire were used because they all hold different positions and responses were needed from all the five various designations in the management positions.

### **Instrument**

Questionnaire and interview were used to collect data for this study because, they are appropriate instruments for collecting data in the descriptive survey design. The questionnaire was used because, it is economical compared to other instruments such as observation, it can be used to cover a wide range of respondents, there is uniformity in questions, convenient and offers a greater chance of anonymity. Though the questionnaire does not offer opportunities for motivating respondents, probing into matters of concern, cannot be used on the illiterate population and non response from some of the respondents might occur, measures such as making appointments with the



respondents for the collection of the questionnaires, and making time with the respondents in order to explain issues to them when needed were put in place.

Questionnaire is also low in reliability and validity for this reason, internal validity threats such as longitudinal, location, instrumentation (testing, history, and instrument decay), subject attitudes (Hawthorne effect) may threaten the study hence techniques such as standardizing the conditions under which the study occurred, obtaining and using more information on the subjects of the study, obtaining and using more information on the details of the study were employed. The questionnaire was used for the personnel at the management level and the workforce who can read and write. It was developed to answer the research questions posed.

Interview was used to collect data on the workforce, personnel at the lower level who could not read and write. Specifically, a personal interview was conducted using an interview schedule. This is the most effective way to enlist the cooperation of respondents in a survey. It helps to establish rapport, classify questions, provide an opportunity to follow up unclear and incomplete questions, lessens the reading and writing skill of the respondents and if necessary, permits spending more time with respondents (Fraenkel & Wallen 2000). Data gathered using interviews had been found to be fairly reliable (Sidhu, 2003).

Interview on the other hand has weaknesses such as interviewer biases, high cost, covering a small sample size and offers less anonymity than the other methods but the researcher took steps such as giving elaborate training to the interviewer (research assistant) in order to minimize or control some of these weaknesses.

Two different types of questionnaires and one interview schedule were developed. The first questionnaire (Appendix A) was for the respondents at the management level. This was in four parts. The Demographic information of the respondents constituted the first part of the questionnaire. This includes age, sex, academic qualification and position at the workplace of respondents. The second part looked at the extent to which the objectives of AGOA have been achieved. For this reason, the researcher tried to find out the type of training being given to the people of the country, the type of machinery they use, their source of raw materials, the type of products being produced, the production process being used, the number of people that have been employed. The third part tried to see if there was a difference in the actual production capacity of the industries and what they are producing now.

The fourth part looked at the benefits they derive from being under AGOA and the challenges being faced. Some of the questions were close ended and some are open ended questions. This tried to elicit responses from respondents as to whether they benefit from AGOA in terms of credit facilities, ease in exportation, the problems faced during exportation, importation, marketing, funding and problems faced when dealing with the workforce among others. The fifth part looked at the strategies that are in place for improving the operations of the garment industries. This part is mainly open ended questions.

The second questionnaire (Appendix B) was for the workforce that is the personnel at the lower level. This was in four parts. The first part covered the demographic data of respondents and this includes sex, age, academic qualification and position at workplace. The second part looked at the extent to which the objectives of AGOA have been achieved. In this vane, the

researcher tried to find, out if the workforce received any training at all and if the training given can help them to set up their own fashion centers when they live the industries, the conditions of work, the machinery and if they have insurance covering them. Part three looked at the benefits and challenges faced by the workforce. This included questions which solicited for answers on operation of machines, difficulties faced when working with machines and if they are acquiring any knowledge that is helping them and will help them in case they are out of the industries. Part four looked at the strategies that they think when put in place will help to improve upon their work and help AGOA achieve its objectives and also help Ghana maximize profit.

The items in this questionnaire constituted that of the interview schedule as well. The content validity of both the questionnaire and interview schedule was determined by giving the instrument to an expert to look at the content and format of the instrument and judge whether it is appropriate or not.

### **Data Collection Procedure**

An official introductory letter was taken from the Department of Vocational and Technical Education of the University of Cape Coast to the various industries. This facilitated the administration of the instruments.

One research assistant was employed to assist in the collection of data. She was trained on the purpose of the study, questioning approach in order to encourage those she called on to respond honestly, how to establish rapport, or cordial relationship with the respondents, how to understand gestures, manners, facial expressions, procedures to contact the respondents and introduce the study, procedure for recording close ended and open ended

questions, and rules and guidelines, for handling the interpersonal aspects of the interview in order to avoid or prevent the interviewer factor.

The questionnaire was administered by the researcher and the research assistant. The interview was conducted on face to face basis with the personnel at the workforce level who could not read and write and this was also carried out by me and the research assistant. Two weeks was given to respondents within which to return the questionnaires but before then, a follow up was made by me to ensure total response from respondents. The questionnaires were serially coded and noted for easy identification. This helped me to identify those who returned the questionnaires and those who did not.

Response from the respondents was recorded during the interview using both written records and tape recording. The respondents were given prior knowledge about the recording of the conversation.

### **Data Analysis**

Descriptive statistical tools were used for analyzing data for this study since the study was a descriptive study and a descriptive research design was used.

A response bias (that is the effect of non responses on survey estimate) was determined by the use of wave analysis or a respondent/non respondent analysis. The researcher examined the returns on selected items week by week to determine if average responses changed and noticed no substantial change or difference in the responses but contacted some managers on phone to clarify some issues on the types of machinery they had, and the actual production capacity and their current production capacities.

First of all, data collected was prepared and organized by editing in order to identify and eliminate errors made by the interviewers. The answers were coded and data tabulated.

The first part of the questionnaire for both the management and workforce was the demographic data and this was analyzed using qualitative approach and frequency tables. This is because the researcher wanted to know the percentage of items in each category age, sex and academic qualification of respondents and to find out the most frequently occurring position in the workforce category and to show that the vital positions at the management level were captured.

Research question one which is “To what extent have the objectives of AGOA been achieved?” was answered using percentages, frequency distributions, measures of central tendency or location (mean), and measures of variability (standard deviation) because the study sought to find out the percentage or number of people employed, the actual magnitude of scores and to find the average on items such as favourable conditions of working environment for the workforce, are the workforce insured?, the modern machinery available at the industries, workforce access to training facility and necessary machinery needed for working, guidance during work, and the skills the workforce are acquiring that will help them set up their own businesses in case they live the industries. Research question two was analyzed using frequency table to find the difference in actual production capacity of the industries and what they are actually producing. This was done by subtracting the current production of the industries from the actual production capacities of the industries.

Research question three “what benefits do the industries derive for being under AGOA?” was analyzed using measures of central tendency or location (mean), and measures of variability (standard deviation) because the study sought to find the actual magnitude of scores and to find the average on items that AGOA promised Sub –Saharan countries that they will benefit from in case they access the AGOA opportunity such as access to US credit facility, fora on trade and investment, infrastructure, assistance from expatriates, if the workers are earning enough to be able to cater for themselves, if the workers are being equipped in order to set up their own businesses in case they leave the industries and if they can now use more modern sewing machinery. The open ended questions were analyzed using a qualitative approach.

Research question four and five were analyzed using qualitative based analysis since all the items under this section were open ended questions and sought to know the challenges being faced within the industries and strategies that are in place for improving upon the operations of the garment industries.

The respondents mentioned various challenges but these were categorized under the following headings; funding for training, protocols at CEPS, marketing (competition from China, cheap imports from China), inadequate management skills (inadequate negotiation skills, improper supervision, poor communication and inability to meet workers regularly), lack of proper motivation ( financial difficulties, no insurance policies, poor remuneration, non payment of medical bills and delays in payment of salaries,), low efficiency and infrastructures (no generators). Poor facilities and amenities (absence of a canteen and infirmary, poor transportation system and inadequate equipment or machinery).

The strategies mentioned were also categorized under the following heading; proper motivation (medical bills should be paid, they should be insured, go on leave, given a reasonable remuneration and show appreciation when they do well). Management should demonstrate sufficient management ability (communicate effectively, supervise properly, and conduct training regularly). Provision of good facility and amenities (provision of adequate modern and efficient machinery, provision of canteen, infirmary, and effective transportation system and a resting place during lunch time). Access to effective and regular credit facility and help from the government of Ghana (help in marketing apparel by putting a ban on import and cheap clothing, sourcing market for their goods, marketing the industries in order to attract investors, paying regular visits to the industries to know what is happening and also see to it that, standard rates for garments are agreed upon by both US and Ghana government in order to stop US customers from ‘bullying’ the Ghanaians).

Data on the entire research questions were represented using frequency distributions.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSION**

This study sought to assess garment production under AGOA in the freezone areas of Ghana. This chapter presents the results and discussion of the results from the data collected. The following sections are presented in this chapter:

1. Demographic characteristics of both workforce and management.
2. To what extent to have the objectives of AGOA been achieved by Ghanaian industries under the Freezone?
3. What is the difference between the actual production capacity of industry and current capacity?
4. What benefits do the industries derive under AGOA?.
5. What are the challenges faced by the garment producing industries within the freezone?
6. What strategies have been put in place for improving upon the operation of garment producing industries under AGOA and the freezone?

#### **Demographic Characteristics of Respondents**

The study identified the following demographic characteristics of the respondents: sex, age, academic, and position at workplace. Majority of the respondent at the workforce level were females with a total number of 72 and males formed the minority with a total number of 28 but this is different in the case of the management respondents where males rather formed the majority and a total number of 14 as against 2 females.



The ages of majority of the respondents ranges from 20–40 except 2% of the respondent at the workforce level who are below 20 years. Majority of the workforce are SSCE followed by BECE, NVTI, HND and DEGREE holders. At the management level, HND holders formed the majority followed by DEGREE, SSCE and GCE A and O level, and the “other academic qualifications” formed the minority.

The respondents under the workforce hold different positions such as supervisors, quality controller, cutters, stock keepers receptionist, packers, machinist and helpers.

**Table 1: Position of Workforce**

Position	Frequency	Percent
Machinist	58	58.0
Supervisor	8	8.0
Quality controller	14	14.0
Cutter	2	2.0
Stock keeper	4	4.0
Receptionist	4	4.0
Packer	6	6.0
Helper	4	4.0
<b>Total</b>	<b>100</b>	<b>100.0</b>

Table 1 shows the positions in the workforce level. This data was collected to show that the questionnaire was distributed to cover all the positions at both the workforce and management levels and to illicit responses from

respondents at all these positions. Majority of the respondents at the workforce level are machinists and cutters form the minority. General Managers, Production managers, Human resource managers and stock controllers were the respondents at the management level. Responses were elicited from four managers at each position.

The spread of the number of people at each level for the workforce is a representation of the job of a clothing factory. The main work is to sew therefore machinist form the majority.

**Research Question 1: To What Extent have the Objectives of AGOA been Achieved?**

This section of the questionnaire sought to find out the extent to which the objectives of AGOA that is poverty alleviation, giving technical assistance to beneficiary countries and provision of credit facilities to the beneficiary countries have been achieved.

**Table 2: Employee Capacity**

Factory	Employee capacity (a)	Current Number of employees (b)	Difference (a – b)	Difference in percentage%
A	350	95	255	73
B	45	45	0	0
C	750	20	730	97
D	480	80	400	83
<b>Total</b>	<b>1625</b>	<b>240</b>	<b>1385</b>	<b>85</b>

With regard to provision of jobs to alleviate poverty, table 3 shows that out of the four industries visited, only one had the actual capacity of workers the factory could take at a time but the other three factories had a relatively low number of workers. Factories which were supposed to take 350, 750, and 480

were having only 95, 20, and 80 workers respectively. There was a great difference between these numbers. Factory A is currently employing only 27% of its actual capacity, factory B, 100%, factory C, 3% and Factory D 17% and 73%, 0%, 97%, 83% has not been employed.

**Table 3: Number of Workers Trained per Anum**

Factory	Workers	Workers trained
A	95	90
B	45	11
C	20	All new recruits
D	80	10

Table 3 shows that, only a few employees were trained per anum compared to the total number of employees. The management was asked if they give training to their workers and 87.5 percent of respondents at the management level responded they were trained locally but looking at the number of employees and the number trained per anum, it is too small. This they said is due to financial constraints.

**Table 4: Availability of Machinery**

F	BSM	S.A	MWP	TL
A	160	9	0	0
B	41	7	0	0
C	299	25	0	0
D	510	15	0	0
<b>Total</b>	<b>1000</b>	<b>56</b>	<b>0</b>	<b>0</b>

Key: F=Factory B.S.M = Basic sewing machines S.A = Simple automatics  
 MWL=Mechanized work places TL= Transfer lines

Table 4 shows the number of machinery the four industries had in each category. The basic sewing machines include hand sewing machine, treadle and electric machines and for the four industries visited, they have about one thousand in this category. Fifty six simple automatics (SA) were in the four industries visited. These are usually cam-controlled producing only one configuration of sewing e.g. buttonholers, button sewers, bar tack machines and label sewers, cutters, pressers etc. None of the industries had machines in the merchandised workplaces and transfer lines category.

**Table 5: Workforce Response on the Extent to which the Objectives of AGOA have been achieved**

Goals	N	Mean	SD
Insurance policy	100	4.00	0.00
Favorable conditions of working environment	98	2.12	0.83
Modern machinery	98	1.76	1.01
Access to training facility	100	1.60	0.75
Guidance while work	100	1.58	0.83
Acquisition of skills in order to set up own business	100	1.46	0.73
Necessary machinery	100	1.24	0.59

Note: Means were calculated from a scale of 1= to a large extent, 2= to some extent, 3= to a limited extent and 4= not at all.

Table 5 shows that, respondents were unanimous on the issue of insurance policy. Looking at the mean, this shows that, all the respondents said they

were not insured. A significant number of the respondents said to some extent they have favorable conditions of working environment, modern machinery, access to credit facility and are guided while working. The means 2.12, 1.76, 1.6 and 1.58 respectively fall in the range 2.0. On the issue of whether workers are acquiring any skills which will enable them set up their business in case they leave the industries and if there are necessary machinery for a smooth production, respondents agreed to a large extent, thus their response fall in scale one. As stated by the office of US trade representative, the purpose for AGOA was to assist the economies of sub-Saharan Africa and to improve economic relations between the U.S. and the region by providing jobs, giving technical assistance and providing credit facilities to them.

#### **Alleviation of Poverty.**

One of the objectives of AGOA is to provide employment which will help alleviate poverty but with the current number of employees as compared to the actual employee capacity of the industries, it can be said that objective has not been achieved to the fullest but it is a small achievement. This is due to the financial constraints the industries are facing and inability to meet contract deadlines making it difficult to produce more in order to retain employees and also recruit more. On the other hand, according to Johnson-Hill (1978), to achieve maximum productivity, there must be sufficient operator to an operation and looking at their production capacity, it means the few workers are overworked and this can affect quality which will in turn affect marketing or may affect the country getting a visa for the wearing apparel provision the next time it will be renewed.

The apparel production industries could be one of the sections that can take on many employees to reduce unemployment and also earn the country much foreign exchange in order to help meet an objective of AGOA, on the contrary the employee numbers seem to be going down. As mentioned by Steven and Kennan (2004), Lesotho has done very well in attracting predominantly export oriented investment in the garment sector and the garment industry is said to have employed 97 percent of the labour in Lesotho. They also mentioned that Caratex Botswana has grown from employing 500 to 1,300 as at 2003. Ghana has industries that can take on many people but have only few employees. Something needs to be done about these industries in order to benefit fully from the AGOA Act. It has been indicated that, because of AGOA, a budding African company in Botswana has significantly expanded its market and has moved on to global commerce state (Office of the U.S Trade Representative, 2008).

On the other hand, the few workforce in Ghana's industries, agreed that to a large extent, they will be able to set up their own businesses in case they leave the industries meaning, though a large number of people have not been employed, the few employed said they were being equipped with the necessary skills needed for garment production. This means if new techniques of production are taught them in training sections, they will be in better position in their businesses.

#### **Technical Assistance.**

Respondents at the management position indicated they gave training to their workers but looking at the number of workers trained annually compared to the number of workers it is too small since we are in a technological world

and things keep changing, the workers must be trained in order to be abreast with time. As mentioned by Johnson-Hill (1978), in order to achieve maximum productivity, one needs more knowledge of construction when style changes from staple to high style. Despite the low level of training, 68% of the workforce mentioned that, they will be able to set up their own businesses in case they leave the factories.

Before any production company can progress, it needs tools or equipment to work with. The industries have machines they work with but they are lacking in the modern ways of garment production and this may be a factor for not being able to produce on time to meet the deadline for their customers in U.S as was mentioned. In terms of performance, there might be some flaws. Carr and Latham (1994) mentioned computer controlled cutting knives in the apparel production sector but none of the industries mentioned this and also they categorized sewing equipment into four that is Basic sewing machine, simple automatics, mechanized workplaces and transfer lines but the last two categories could not be seen in the industries. According to Dewin et al. (1979) a few but quality equipments will be enough to serve most needs in each specialized category of sewing hence the industries must endeavor to get modern and quality equipment for smooth and easy production in order to maximize profit. One of AGOA's aims is to provide technical assistance and this should include modern machinery.

The respondents at the management level mentioned that, they acquired their raw materials both locally and abroad. The countries they import the raw materials from include Turkey, China, India, Pakistan, U.K, Germany, U.S.A and Togo. Looking at AGOA's wearing apparel rule of origin which stated

that, countries that have their GNP under \$1,500. in 1998 can use raw materials from any part of the world and Ghana qualifies in this category hence I can say that, the industries have knowledge in this vane.

A few workers are trained annually. How will the others get the knowledge to help in smooth production? Stephens and Kennan (2004) stated that, most of the Lesotho garment industries were dominated by South East Asians who control the 90 percent of the factories. We have some expatriates from those areas that are here in Ghana hence we must make maximum use of them.

Though the industries have employees and they are working on machinery, they have not been insured. This situation leaves a lot to be desired. Majority of the workforce also stated that, to some extent they have favourable conditions of work. This includes their working environment. Some mentioned that, their rooms are very hot and also, they do not have regular flow of water in their lavatories and this restricts them from going there, but they need to be comfortable in order to work effectively.

A significant number of the workers mentioned they are guided while working and this is a good idea in order to take vigorous action to cure low performances as mentioned by Johnson-Hill (1978) in order to improve upon productivity.

#### **Provision of Credit Facility.**

Forty four percent of the respondents at the management level mentioned that, their factories never had access to U.S credit facility and fifty six percent said they sometimes get access to U.S credit facility hence it can be said that, to some extent, this objective of AGOA has somehow been achieved in the



apparel production sector. An industry needs funds to be able to maximize profit and this might be the reason why they don't have enough modern machinery and infrastructure in the garment producing industries under AGOA in Ghana, have few training sessions to a few employees in the whole year and also one reason why production is not at full capacity. Apart from assessing the US credit facilities, the industries can also access loans from some banks here in Ghana since they are under the freezone board therefore efforts must be made to assist these industries financially

**Research Question 2: What is the Difference between the Actual Production Capacity of Industry and Current Production?**

This section looked at the difference in production capacities of the industries, which are the actual production capacity of the industries and the capacity at which they are producing currently.

**Table 6: Production Capacity of the Industries**

Factory	Production capacity of factory (b). Dozens/m	Current production (c)	Difference (b – c)
A	10,000	1,000	9,000
B	1,800	900	900
C	5,000	4,250	750
D	9,200	8280	720

Table 6 shows the difference in production capacities of the industries. There is a big difference between the production capacities of the factories. The total production capacity of the industries has been looked at compared to the current production capacity. It has been observed that there is a difference

in the actual production capacities of the industries compared to what they are producing currently. Factories which were supposed to be producing at 10,000, 1800, 5000, and 9200 dozens per month are producing at 1000, 900, 4200 and 8280 respectively and it was observed that, the difference is large. This might be due to the low number of employees to work at faster rates and also the lack of modern machinery.

On the contrary, though the production capacities of the factories A, B, and D are relatively low, factory C produces more compared to the number of employees they have. They have only 20 employees instead of 750 and they produce 4,250 dozens per month instead of 5000 dozens per month. Looking at the number of workers, it can be said that they are overworking the employees. Johnson – Hill (1978) mentioned that, to achieve maximum productivity, there must be sufficient operators to an operation hence the above can impede maximum productivity in terms of the quality of the garments produced which may not meet international standard.

Management mentioned lack of finance as the major reason why they are producing at low capacity since they cannot pay their employees well, they find it difficult to retain them. Apart from that, they cannot acquire the sophisticated and advanced machinery which make production easier and faster due to the same reason.

### **Research Question 3: What Benefits do the Industries Derive under**

#### **AGOA?**

This section sought to look at the benefits the industries derive if any under AGOA.

**Table 7: Benefits of AGOA (Management)**

Benefits	N	Mean	SD
Access to US credit facility	9	4.17	0.98
Forums on trade and investment	7	3.43	0.79
Infrastructure	7	3.29	0.95
Expatriate assistance	7	3.00	1.63

Note: Means were calculated from a scale of 1= always, 2= very often, 3=often, 4= not often and 5= never

Majority of respondents in the management grade mentioned that they do not often have access to US credit facility. This is contrary to one of their main aim, which is of providing access to US credit facility. On the issues of whether respondents benefit from fora on trade and investment expatriate assistance and infrastructure, the respondents indicated that, they often (scale 3) do. This presupposes that, they do benefit in a way from the above but not very often nor always. On the other hand, 62.5 percent of the respondents in the management category responded they have ease in exportation of finished products. 75 percent also responded they have it easy procuring raw materials and also get tax rebates from the government. Table 7 show the benefits the management staff derived under AGOA by the industries.

**Table 8: Benefits of AGOA (Workforce)**

Benefits	N	Mean	SD
Helped to cater for myself	98	2.38	0.99
Equipped enough with necessary skills	98	2.02	0.90
Can use modern machinery	96	1.58	0.64

Note: Means were calculated from a scale of 1= strongly agree, 2= agree, 3= strongly disagree and 4= disagree

All the respondents agree that, they have benefited from the AGOA initiative. They agree that, in a way, it has helped them to cater for themselves, equipped them with the necessary skills needed to work in the garment industries and also has helped them to be able to use modern machinery. Table 8 illustrates the benefits the workforce derives for being under AGOA and it can be seen that their means range from 1.58 to 2.38 which fall in the scale of 2 (agree).

Fifty six percent of respondents in the management position mentioned that, they do not often have access to US credit facility. On the issues of forums and trade and investments, expatriate assistance and infrastructure, the respondents indicated that, they often do benefit from them with mean of 3.43, 3.29 and 3.00 which falls in the scale 3 representing often and standard deviations indicating that they benefit more in forum on trade and investment and infrastructure more than expatriate assistance. The above shows that, the industries are not fully benefiting from the AGOA act though it has been stated by Nouve and Stautz (2003) that, the act benefits African countries by reinforcing African reform efforts, providing improved access to U.S credit

and technical expertise and establishing a high level dialogue on trade and investment in the form of U.S. African trade and Economic forums also, reduction in unemployment by creating jobs. With credit, facility if the industries do not often benefit from it, it will affect their output and will not be able to produce satisfactorily since every industry needs finances in order to progress. With technical expertise, the Apparel industries in Ghana have in a way benefited but it is worthy of note that, though they said they often do benefit from infrastructure, their machinery is getting outmoded hence they need assistance in these areas in order to match up with their competing counterparts from other countries.

Some respondents in the management position also indicated that, they have it easy when exporting their finished goods, procuring raw materials and also enjoy tax rebates. This falls in line with what was stated in the free zones act that all industries under the free zone will be exempted from taxes from imports into the free zone areas (Ghana Freezones Board, 1995).

The workforce also mentioned that, in a way, they have benefited from the AGOA act in the sense that, they can get some income to cater for themselves, they have been equipped with the necessary skills needed for garment production and also they can now use some of the industries machinery.

In spite of the above benefits, the apparel industries in Ghana are not doing well as in the case of Kenya, Lesotho and Botswana as was mentioned by Stevens and Kennan (2004).

**Research Question 4: What are the Challenges Faced by the Garment  
Producing Industries within the Freezone?**

Seventy four percent of the workers mentioned they have problems or challenges and they mentioned the following challenges or problems as what they are facing. For management, they have challenges such as funding for training, protocols at CEPS, marketing (competition from China, cheap imports from China), inadequate management skills (inadequate negotiation skills, improper supervision, poor communication and inability to meet workers regularly), lack of motivation (low salary, financial difficulties), low efficiency and infrastructures (no generators).

The workforce also mentioned almost the same challenges as the management but mentioned the following in addition. Poor facilities and amenities; these include absence of a canteen and infirmary, poor transportation system and inadequate equipment or machinery. The workforce reiterated that they are not well motivated and these includes no insurance policies, poor remuneration, nonpayment of medical bills and delays in payment of salaries.

The above challenges will definitely impede productivity. Johnson-Hill (1978) mentioned that, workers must be well motivated in order to get them to work wholeheartedly. If their remuneration is good, they will definitely work hard and effectively and all things being equal this will also solve the low inefficiency mentioned by both management and workforce as their challenges.

Before any organization, factory or industry can be productive, they must have effective management machinery in place. Some of the workers

mentioned that, they are having problems because, the owners of the industries do almost all the work for instance sourcing, marketing(negotiations) etc themselves though they have no technical know-how in these areas. This is in line with what Johnson and hill said that, in order to have maximum productivity, you must have sufficient management ability, thus they must have exceptional qualities of strength of character, ability to give attention to details, enthusiasm, motivation to succeed and patience with its staff. They mentioned that, a manager without the above qualities will not achieve his goals inspite of the technical ability. It is therefore not a healthy thing for our industries to have this challenge.

They need facilities and amenities to work in a good environment and also work in order to maximize profit. There is no doubt the respondents mentioned low efficiency as a challenge. Looking at, the previous observations made, they lack modern machinery and there are no canteens at some of the industries though they are very far away from town and they do not have an infirmary. Since we are humans, there will always be events such as sickness so there must be at least a first aid facility in the industries.

Accessibility to some of the industries is very poor because, they are sited almost at the outskirts of town and if the industries have problem with their transport system, it will definitely affect productivity since the workers will not be able to come to work and even if they make it they will be late. Those at Kpone Tema for instance mentioned that, their buses break down often so they have to walk to the work place and this is a long distance from the road so something must be done about it in order to increase productivity and maximize profit.

The foregoing situation can even make the country lose its eligibility to AGOA since it was mentioned in the (Bureau of public affairs, 2005) that the US president may designate sub-Saharan African countries if they are making progress in areas such as increased availability of health care and educational opportunities, protection of human rights and worker rights, elimination of barriers to US trade and investment, protection of intellectual property and efforts to combat corruption.

Funds for training are inadequate. Since US promised to provide technical assistance and even give access to U.S credit facility hence the authorities responsible for the Apparel sector under AGOA must wake up and help the industries access these benefits from AGOA. It was mentioned in Export America (2001) that, the United States has provided an extensive technical assistance to sub-Saharan African countries and also, AGOA legislation empower Ex-Im Bank to expand its financial commitments in sub-Saharan African under its loan, guarantee and insurance programs hence it is left to Ghana to make good use of these.

The respondents mentioned protocols at CEPS as one of their challenges. It was reported in the Export America (2001) that, the U.S. customs service have conducted training seminars for officials from the sub-Saharan African countries and also sent technical teams to provide guidance on requirements for AGOA apparel benefits hence. The above challenge is therefore a shame to the country hence must be checked and stopped by authorities responsible for the Apparel sector under AGOA.



**Research Question 5: What Strategies have been Put in Place for  
Improving Upon Operations of the Garment Industries under AGOA  
in the freezone?**

This section sought to look at the strategies that the industries have put in place or when put in place, will improve upon the operations of the industries.

Ninety eight percent of the respondents are of the view that when the following things are done, the industries will become productive which will help Ghana to better benefit from the AGOA Act.

Firstly, the workforce said they must be well motivated thus their medical bills should be paid they should be insured, go on leave, should be given a reasonable remuneration and this must be done promptly and show appreciation when they do well. When this is done, people will love to work efficiently which will help in producing quality goods that would be accepted internationally in order to get good market abroad.

Secondly management should demonstrate sufficient management ability that is communicate effectively, supervise properly, and conduct training regularly. Effective communication will lead to workers understanding each other and in case orders are given, it will be taken in good faith and acted upon promptly. Regular training will also aid the workers to be abreast with the fashion world and know current trends of production which at the end will bring about maximum productivity.

Thirdly, they should provide good facility and amenities. This includes provision of adequate modern and efficient machinery. Provision of canteen, infirmary, and effective transportation system and a resting place during lunch time. We are now in a technological world where things are being done swiftly

and fast with advanced machinery. The clothing industry is also blessed with such technology hence some of these machines should be acquired and used to enable the industries produce garments of standard that can sell anywhere in the world and also produce them fast enough to meet deadlines in order to prevent their goods from being rejected due to delays.

Fourthly, the management said access to effective and regular credit facility will help them run the industries better than they are doing now.

Lastly, management is also of the view that, the government of Ghana should help in marketing apparel thus put ban on import and cheap clothing. Help in sourcing market for their goods, marketing the industries in order to attract investors. They should also pay regular visits to the industries to know what is happening and also see to it that, standard rates for garments are agreed upon by both US and Ghana government in order to stop US customers from 'bullying' the Ghanaians. These will help boost productivity and help Ghana to continue to be eligible to the AGOA's act on wearing apparel.

The respondents were asked if there were any other comment and they mentioned verbal abuse by management. This is not healthy for the industries and must stop.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

This chapter gives a summary of the study and proposes recommendations or suggestions that will help improve upon the operations of the garment industries under AGOA in the free zone areas of Ghana.

#### **Summary**

The main purpose of the study was to look at what is happening in the garment industries under AGOA in the free zone areas of Ghana. The study was to find answers to the following research questions

1. To what extent has the objectives of AGOA been achieved by Ghanaian industries under the Freezone?
2. What benefits do these industries derive for being under AGOA?
3. Is there a difference between current production capacity and the actual production capacity of the industries?
4. What are the challenges faced by the garment producing industries within the Freezone?
5. What strategies have been put in place for improving upon the operations of garment producing industries under AGOA for that matter the Freezone Act?

In order to find answers empirically to these questions, a descriptive survey was conducted in four 'garment' industries in Accra and Tema. The total number of workers sampled for the study was 116 workers using the multi stage sampling technique. A set of questionnaires and interview

schedule were used. The researcher employed one trained research assistant in addition to me for the data collection. Literature was reviewed on theoretical issues relating to the topic and also from empirical sources which were made up of previous researches on other beneficiary countries under the AGOA's wearing apparel act.

Data collected was analyzed using such statistical tools as measures of central tendency, (mean score, standard deviation), percentages and frequencies.

### **Findings**

The major findings of the study were as follows:

1. Majority of the respondents at the workforce level are females whilst in the management level the males form the majority.
2. The objectives of AGOA have been achieved to a minimum extent in that, in the aspect of poverty alleviation, a few Ghanaians have been employed currently compared to the real capacity of employees the factory can take. The remuneration is small even that, the workers are not paid regularly.
3. The workforce said, to a large extent, they are acquiring some skills that will help them set up their own sewing centers if they leave there and they have the necessary machinery for production but the machinery or equipments of the industries are getting very outmoded and the industries have only a few modern machinery but not the sophisticated ones that can help provide a better finish and make work faster and easier. Little training is given to a few workers annually though there are expatriates in the industries, they are not making maximum use of them so it can be deduced that, the technical assistance promised by the AGOA act has been achieved to some extent.

A few industries are able to access the U.S credit facility but not regularly and the others don't have access to it at all so they are in financial crisis. I can therefore say that, the objectives of AGOA have been achieved to minimum extent.

4. There is a big difference in the current production and actual production capacities of the industries on the contrary, some of the industries are overworking their workers looking at their current workforce capacity and their current production capacity. The industries are not producing to their fullest capacities which might be due to low number of workforce, inadequate modern machinery and problems in marketing of products.

5. The management and workforce said, they have benefited from the AGOA act. They agree that, it has helped them to cater for themselves, equipped them with the necessary skills needed to work in the garment industries and also has helped them to be able to use modern machinery. Fifty percent of respondents in the management position mentioned that, they do not often have access to US credit facility. On the issues of forums and trade and investments, expatriate assistance and infrastructure, the respondents indicated that, they often do benefit from them but it was indicated that they benefit more in forum on trade and investment and infrastructure than expatriate assistance.

6. Both management and workforce have major challenges such as lack of motivation, inadequate facilities and amenities, lack of finance, insufficient managerial ability among others and these are impeding productivity.

7. Motivation, provision of adequate facilities and amenities, good managerial ability among others were mentioned by both management and workforce that,

they are good strategies when put in place, will help increase productivity in the Industries.

### **Conclusions**

There are other sub Saharan countries which are benefiting more from the AGOA Apparel Provision but this cannot be said about Ghana. AGOA's objectives of alleviating poverty in sub Saharan African countries have only been met to a minimum extent looking at the numbers employed vis - a -vis the real employees the factory can take. This could be due to the poor motivation of workers. The machinery is also not modern in terms of technology. All these are impeding productivity and are not helping Ghana maximize profit and benefit from AGOA's apparel provision.

Technical expertise have been provided thus we have expatriates in all the industries but we seem not to be making good use of them, since they are the same people in Kenya and other Sub- Saharan African countries which are reported to be doing well in apparel production under AGOA.

The unavailability of an adequate management system, lack of motivation, inadequate infrastructure and amenities and the inability to access the U.S. credit facility is having a very great effect on the Apparel industries and in case the above is duly corrected, we will be able to meet up with the world market and Ghana will benefit fully from the AGOA act this will help individuals and the nation as a whole to maximize profit. The study gave a vivid picture of what is happening on the ground in the industries will help the appropriate authorities to take appropriate steps to curb unemployment and also help Ghana remain eligible to the AGOA act.

## **Recommendations**

Based on the findings on the study, the following were recommended.

1. The production managers and quality control units in the industries in Ghana should organize workshops and training for workers of the industries to educate them on garment producing techniques, garment performance, good finishing practices etc using technical men in the area.
2. The Ghana trades union should monitor the industries and make sure the workers are duly paid for what they work for and on time.
3. The Government should help the industries financially or help them access loans or the US credit facilities that will enable them acquire modern equipments such as those under the merchandised workplaces and transfer lines and pay their workers well. Also this will enable them run the industries at maximum capacity.

## **Suggested Studies or Further Studies**

1. Look at the number of people who have left the industries and have set up their own sewing centers.
2. Compare the rules of origin for apparel with the garments produced in Ghana here to see if Ghana is meeting the Apparel's rule of origin
3. A study should be conducted after 2015 to see if AGOA has helped to develop the garment sector in Ghana.

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**APPENDICES**

**Appendix A**

**UNIVERSITY OF CAPE COAST**

**FACULTY OF EDUCATION**

**DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION**

**QUESTIONNAIRE FOR STAFF OF MANAGEMENT LEVEL**

This questionnaire forms part of a study being conducted in connection with a thesis by a student from the above named department. You are kindly requested to read through the items and respond to them as honestly and objectively as possible. Every information provided shall be treated as confidential and used only for academic purposes. Besides, your anonymity is guaranteed.

Thanks for being part of this study

**SECTION A: DEMOGRAPHIC DATA.**

Tick (√) the appropriate boxes that apply to you.

1. Sex: Male [    ]

Female [    ]

2 Age: Less than 20 years [    ]

20 – 30 years [    ]

31 – 40 years [    ]

41 – 50 years [    ]

51 years and above [    ]

3. Highest Academic qualification

SSSCE [ ]

GCE 'O' or 'A' level [ ]

HND [ ]

Bachelor Degree [ ]

Master's Degree [ ]

PhD [ ]

Other Specify.....

4 Your position in the industry. Please specify .....

.....

**SECTION B:THE EXTENT TO WHICH THE OBJECTIVES OF  
AGOA HAVE BEEN ACHIEVED.**

5. How many workers do you have currently?

.....

6. How many employees can the factory take at a time? .....

7. Do you organize training workshops for your employees?

Yes [ ] No [ ]

8. If yes, what is the mode of training? Is the training given

Abroad [ ]

Locally [ ]

9. How many employees do you organize this training for per anum

(specify).....

10. Do you have machinery for smooth production?

Yes [ ]

No [ ]

11. Please name the categories of machines you have in the factory

.....  
.....  
.....  
.....

12. How many do you have in each category? (Specify)

.....  
.....  
.....  
.....  
.....

13. What is the actual production capacity of the factory?

.....  
.....

14. At what capacity do you produce currently? .....

.....  
.....

15. Why are you producing at the capacity you mentioned in 14 above?

.....  
.....  
.....  
.....

17. How do you acquire raw materials for production purposes?

.....  
.....

18. If it is imported, specify country.....

19. How do you market your products? .....

.....

.....

**SECTION C: BENEFITS AND CHALLENGES OF GARMENT PRODUCING INDUSTRIES IN THE FREE ZONE.**

Please tick (√) where applicable to you. How often do you get the following to boost your production?

	Always (1)	Very Often (2)	Often (3)	Not often (4)	Never (5)
20. Access to U.S credit facility					
21. Expatriate assistance in production					
22. Business forums on trade and investment					
23. Infrastructure (modern machinery, building, transport etc)					

24. Which of the following benefits do you derive as a company located within the free zone? Tick (√) as many as may apply.

- a. Ease in exporting finished products [    ]
- b. Ease in procuring raw materials.    [    ]
- c. Tax rebates from government.        [    ]



25. Do you receive some special governmental interventions?

Yes [    ]      No [    ]

26. If yes to the above list the various forms of interventions.

- a. ....
- b. ....
- c. ....
- d. ....

27. In your opinion; what are some major challenges that you face as an individual and an industry in your area of specialization?

Please specify.....  
.....  
.....

28. In your view, do you think the inception of AGOA has had an effect on the lives of the individual, the community and nation as a whole?

Yes [    ]      No [    ]

29. If yes, is it positive or negative? .....

30. If Positive, please give reasons. ....

.....  
.....  
.....  
.....

31. If Negative, please give reasons.....

.....  
.....

**SECTION D: STRATEGIES PUT IN PLACE FOR IMPROVING UPON  
THE OPERATION OF GARMENT PRODUCING INDUSTRIES  
WITHIN THE FREE ZONE.**

32. Do you have plans for improving upon some of the operation of the industry in your outfit on area of specialization?

Yes [ ] No [ ]

33. If Yes to the above, what are some of the plans or strategies?

Please specify.....  
.....  
.....  
.....

34. What are some of the things you think when put in place by the Ghana government or U.S government will help boost production?.....

.....  
.....  
.....

35. Any other comment .....

## **Appendix B**

### **QUESTIONNAIRE FOR WORKFORCE**

This questionnaire forms part of a study being conducted in connection with a thesis by a student from the above named department. You are kindly requested to read through the items and respond to them as honestly and objectively as possible. Every information provided shall be treated as confidential and used only for academic purposes. Besides, your anonymity is guaranteed.

Thanks for being part of this study

#### **SECTION A: DEMOGRAPHIC DATA**

1. Sex: Male  ]  
Female  ]
2. Age: 15 years  ]  
16 – 25years  ]  
26 – 35 years  ]  
36 – 45 years  ]  
45 years and above  ]
3. Academic qualification: BECE  ]  
SSCE  ]  
HND  ]  
Degree  ]

Other (please specify.....)

4. Position at workplace: Please specify.....

**SECTION B: THE EXTENT TO WHICH THE OBJECTIVES OF AGOA HAVE BEEN ACHIEVED**

This section is to help collect data on the extent to which the objectives of AGOA have been achieved.

	To a large extent (1)	To some extent (2)	To a limited extent (3)	Not at all (4)
5. Do you have access to training facilities which will help you improve upon your work?				
6. Can these training help you acquire skills to be able to set up your own training centre in case you leave the industry?				

7. Are you guided when working in the industry?				
8. Are the conditions of work of the industry favourable to you?				
9. Do you have the necessary machinery needed to work with?				
10. Do you have modern machinery such as multi cutters, dual purpose machines, computerized pattern making etc.				
11. Do you have insurance				

policy covering you?				
-------------------------	--	--	--	--

**SECTION C: BENEFITS AND CHALLENGES OF GARMENT INDUSTRIES UNDER AGOA**

This section is to look at the benefits and challenges of garment industries.

Please tick (✓) that to indicate whether you agree to the benefits derived under AGOA as it applies to you.

	Strongly Agree (1)	Agree (2)	Strongly disagree (3)	Disagree (4)
12. It has helped me to cater for myself and dependant.				
13. I have been equipped enough with the necessary skills needed to open a sewing center on my own.				
14. I can now use modern machinery for clothing construction.				

15. Do you face any problems when working?

Yes [    ]    No [    ]

16. Mention some of the problems you face

.....  
.....

**SECTION D: STRATEGIES FOR IMPROVING UPON OPERATIONS  
OF THE GARMENT INDUSTRIES UNDER AGOA IN THE FREE  
ZONE**

17. In your view, what are some of the things you think should be done to help  
to smoothen production? .....

.....  
.....  
.....

18. Do you think the government of Ghana should come to your aid?

Yes [    ]    No [    ]

19. If yes above, why?

.....  
.....

20. If no to 18 above, why?

.....  
.....

21. Any other comments.....

## Appendix C

### INTERVIEW SCHEDULE FOR WORKFORCE

This questionnaire forms part of a study being conducted in connection with a thesis by a student from the above named department. You are kindly requested to read through the items and respond to them as honestly and objectively as possible. Every information provided shall be treated as confidential and used only for academic purposes. Besides, your anonymity is guaranteed. Thanks for being part of this study.

#### SECTION A: DEMOGRAPHIC DATA

1. Sex: Male [ ]

Female [ ]

2 Age: 15 years [ ]

16 – 25years [ ]

26 – 35 years [ ]

36 – 45 years [ ]

45 years and above [ ]

3. Academic qualification: BECE [ ]

SSCE [ ]

HND [ ]

Degree [ ]

Other (please specify.....)

5. Position at workplace: Please specify.....



**SECTION B: THE EXTENT TO WHICH THE OBJECTIVES OF  
AGOA HAVE BEEN ACHIEVED**

This section is to help collect data on the extent to which the objectives of AGOA have been achieved.

	To a large extent (1)	To some extent (2)	To a limited extent (3)	Not at all (4)
5 Do you have access to training facilities which will help you improve upon your work?				
6. Can these training help you acquire skills to be able to set up your own training centre in case you leave the industry?				
7. Are you guided				

when working in the industry?				
8. Are the conditions of work of the industry favourable to you?				
9. Do you have the necessary machinery needed to work with?				
10. Do you have modern machinery such as multi cutters, dual purpose machines, computerized pattern making etc.				
11. Do you have insurance policy covering you?				

**SECTION C: BENEFITS AND CHALLENGES OF GARMENT INDUSTRIES UNDER AGOA**

This section is to look at the benefits and challenges of garment industries.

Please tick (√) that to indicate whether you agree to the benefits derived under AGOA as it applies to you.

	Strongly agree (1)	Agree (2)	Strongly disagree (3)	Disagree (4)
12. It has helped me to cater for myself and dependant.				
13. I have been equipped enough with the necessary skills needed to open a sewing center on my own.				
14. I can now use modern machinery for clothing construction.				

15. Do you face any problems when working?

Yes [    ]    No [    ]

16. Mention some of the problems you face.....

.....

**SECTION D: STRATEGIES FOR IMPROVING UPON OPERATIONS  
OF THE GARMENT INDUSTRIES UNDER AGOA IN THE FREE  
ZONE**

17. In your view, what are some of the things you think should be done to help  
to smoothen production.....

.....  
.....

18. Do you think the government of Ghana should come to your aid?

Yes [    ]    No [    ]

19. If yes above, why?

.....  
.....

20. If no to 18 above, why?

.....  
.....

21. Any other comments.....

.....  
.....