

# **GHANAIAN JEWELLERY INDUSTRY: ITS PROBLEMS AND SOLUTIONS**

**A Thesis submitted to the Department of General Art Studies,  
Kwame Nkrumah University of Science and Technology,  
in fulfilment of the requirements for the degree of**

**Doctor of Philosophy**

**(African Art and Culture)**

**By**

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**February 2008**

## DECLARATION

I hereby declare that this submission is my own work towards the PhD and that, to the best of my knowledge it contains no material published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgment has been made in the text.

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## PREFACE

There are a lot of problems confronting the jewellery industry that many writers have written about. Some have offered meaningful solutions and suggestions. I have also written on the title, *“The Ghanaian Jewellery Industry: Its problems and Solutions”* at the M.A. level, in which a lot of problems were unearthed and solutions offered. Some of the problems are still hindering the progress of the industry, and it is therefore still necessary to continue this research by comparing and contrasting and researching further into the study of the suggestions of what other writers have written. I will also try to write on what has not been covered by other writers, including myself.

In the researcher’s previous thesis, I wrote that it was probably unusual for anyone to write mainly on problems and solutions to the Ghanaian Jewellery Industry. As was stated in that thesis, this writer was motivated by the fact that others who have written about the industry have done so from the artistic point of view. There is therefore the need to look at the thesis as a reference book for researchers, craftsmen, policy makers, also as a teaching aid, and as a business guide.

It was difficult getting information for this work since there is scanty literature on the industry, and also because most of the jewellers are illiterate who do not value research. Also, because of suspicion, the jewellers were not ready to give out information or data. This researcher however also relied on materials from libraries, newspapers, interviews as well as personal observations.

Kumasi

W.K.

May 2007

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## ABSTRACT

Many developing countries including Ghana possess significant deposits of precious and non-precious metals, materials, and stones, but many of these natural treasures are merely exported as raw materials. Although the countries including Ghana have an ancient tradition of jewellery production and a large handicraft capacity for manufacturing, jewellery is only exported in very modest quantities, if any at all. This potential can be exploited if the problems in the industry are identified and solved.

Ghanaian goldsmiths and other jewellers are all known for their important jewellery manufacturing and have raised their work to the Master craft level, taking on apprentices who help them to produce their works including jewellery. Jewellery is widespread in all cultures in Ghana. The gems and jewellery often say something about general identity, ethnic identity or the wearer's status. It also reveals the culture in which they originate.

Every imaginable resource and item can be used in jewellery production. Be it artificial or synthetic material like plastic, broken bottle etc, or natural materials like leather, animal bone, seeds, coconut shells egg shells, metals like gold, silver, brass, iron, and even clay and tree backs, and also bamboo. In the course of carrying out this work, surveys were carried out on both producers and consumers of jewellery products. The

researcher at the end of the work, has unearthed as many problems and solutions as possible.

The following methods of research were used to come out with this thesis: Questionnaires to producers and consumers, personal interviews, documents including books, journals, magazines, newspapers, and periodicals were also be used as regards to the review of related literature and Internet.

This research project covered Accra, Ho, Kumasi, Koforidua and Cape Coast, and it is hoped that with the recommendations implemented, and the government playing its role, the jewellery industry in Ghana would live up to its desired expectation. Jewellers must also know that they have a role to play in the success of the industry.

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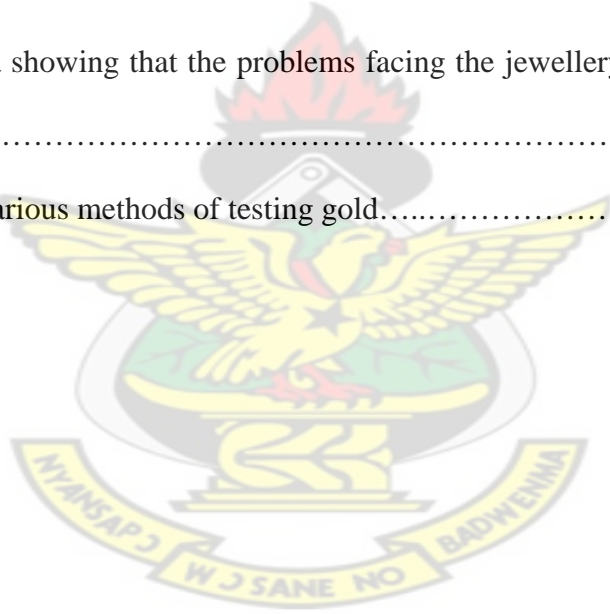
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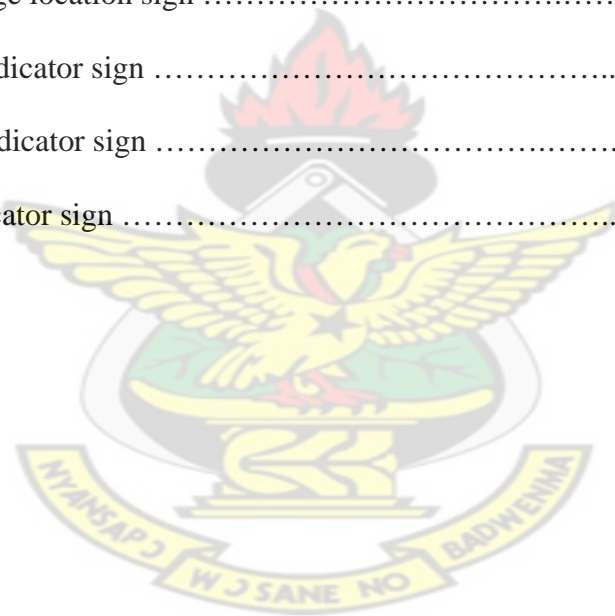
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## ABBREVIATIONS

1. AGI: Association of Ghana Industries
2. AGOA: African Growth Opportunity Act
3. AIDS: Acquired Immune Deficiency Syndrome
4. BA: Bachelor of Art
5. BBA: Bachelor of Business Administration
6. BESO: British Executive Service Overseas
7. BFA: Bachelor of Fine Art
8. BIS: Bureau of India Standards
9. CEPS: Customs Excise and Preventive Service
10. C.P.P.: Contact Promotion Programme
11. DANIDA: Danish International Development Agency
12. ECOWAS: Economic Community of West African States
13. EPA: Environmental Protection Agency
14. FGJ: Federation of Ghanaian Jewellers
15. GEPC: Ghana Export Promotion Council
16. GIPC: Ghana Investment Promotion Centre
17. GNCCI: Ghana National Chamber of Commerce and Industry
18. GNFS: Ghana National Fire Service
19. GP: Gold Plated
20. GRC: Ghana Railways Corporation
21. GSS: Ghana Statistical Service
22. GTB: Ghana Tourists Board



23. GTZ: German Development Co-operation
24. HIV: Human Immunodeficiency Virus
25. HND: Higher National Diploma
26. IMF: International Monetary Fund
27. ITTU: Intermediate Technology Transfer Unit
28. JSS: Junior Secondary School
29. KMA: Kumasi Metropolitan Authority
30. KNUST: Kwame Nkrumah University of Science and Technology
31. L.I. Legislative Instrument
32. MOTI: Ministry of Trade & Industry
33. NBSSI: National Board for Small Scale Industries
34. NLC: National Labour Commission
35. NVTI: National Vocational Training Institute
36. PMMC: Precious Minerals Marketing Company
37. PSI: President's Special Initiative
38. RGP: Rolled Gold Plated
39. SSS: Senior Secondary School
40. SSNIT: Social Security and National Insurance Trust
41. TCC: Technology Consultancy Centre
42. TB: Tuberculosis
43. TV: Television
44. UAC: United African Company
45. UCC: University of Cape Coast

- 46. UK: United Kingdom
- 47. UNDP: United Nations Development Project
- 48. USA: United States of America
- 49. USAID: United States Agency for International Development

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## DEFINITION OF TERMS

1. **Annealing:** to make a metal or glass soft by heating and then cooling it slowly.
2. **Assets:** valuable properties of a person or organisation which can be used for the payment of debts.
3. **Casting:** to make an object by pouring liquid such as molten metal into a shaped container to become hard.
4. **Depreciation:** the act of causing something to become valueless overtime.
5. **Electroplating:** a quick and inexpensive way to make base metal look like gold. The metal object is dipped in a gold plating solution and then an electrical current is used to coat the object with a thin layer of gold.
6. **Embossing:** a technique of creating a raised design by pushing metal out from its reverse side with hammers and punches.
7. **Enamelling:** fusion of a coloured glassy substance of metal to create a design.
8. **Etching:** a process of using acids to create a design on metal by corrosion.
9. **Fabrication:** to make or manufacture something from various materials.
10. **Fine gold:** gold containing no elements or metals. It is also called pure gold or 24 karats.
11. **Fineness:** the amount of gold in relation to 1000 parts. For example, gold with a fineness of 750 parts (75%) gold and 250 parts (25%) of other metals.
12. **Filigree:** a delicate open work design often made by binding and soldering fine wires.
13. **Gold alloy:** a mixture of gold with other metals formed by melting them together. Gold is alloyed (combined) with metals such as silver, copper, zinc and nickel to reduce its cost and change its characteristics such as its colour and hardness.

14. **Goldsmith:** is a person who makes gold into ornaments.
15. **Gram:** the most wide spread unit of weight for gold jewellery.
16. **Hallmark:** an official mark stamped on gold, silver or platinum objects to indicate their quality, origin and maker.
17. **Jeweller:** a dealer in jewels or maker of jewels.
18. **Karat (carat):** a measure of gold purity. One karat is  $\frac{1}{24}$  pure, so 24 karat is pure gold. Carat is the unit of weight for gemstones. These two words originate from the same source, the Italian “carato” and the Greek “karation” which mean “fruit of the carob tree”. In ancient times, carob beans were used as counter weights when weighing gems and gold. Outside the US, “karat” is often spelled “carat” particularly in the Commonwealth countries.
19. **Lapidary:** the art of cutting gemstones or the one who cuts, polishes and engraves them.
20. **Pure gold:** same as fine gold.
21. **Shares:** parts or portions of a larger amount, which is divided among several people or to which several people or to which several or many people contribute.
22. **Solder:** a metal or metallic alloy used to join metals.
23. **Soldering:** the process of fusing two pieces of metals together with solder.
24. **Solid gold:** gold that is not hollow. Even though legally in the US, “solid gold” can only be used for 24k gold, it may commonly refer to karat gold which is not hollow or layered.

25. **Trademark:** a mark that indicates the manufacturer, importer or seller of an item.

Trademarks must be registered with a patent and trademark office, and trademarked items must have a quality mark.

26. **Troy Ounce:** the standard unit of weight for gold. It may have been named after a weight used in the annual fair at Troyes in France during the middle ages. 31.103 grams = 1 troy ounce.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Statement of the problem

The jewellery industry, even though has been in existence for decades, is still regarded as an infant industry bedevilled by numerous problems. However, no one seems to have made persistent attempts at solving them.

Although there is the Federation of Ghanaian Jewellers which is supposed to be the umbrella association of all jewellery groups in the country, be it Goldsmiths Association, Bead Makers Association, The Jewellers' Club, or Ghana Jewellers Union, it exists only in name. It has not got a constitution or byelaws, and therefore cannot adequately spearhead the affairs of jewellers. Also, it does not have a registered office or permanent postal address.

"The youth have no more interest in the jewellery craft because the few elderly gold and silversmiths enshroud the craft in mystery and secrecy" (Kotoku, Unpublished MA thesis 2001:3). The same can be said of the brass casting and bead making craft. Anybody who is not a

family member goes through a lot of frustration to get apprenticed. The youth now prefer to engage in vocations that can give them quick money like refining and selling of raw gold.

The above problems have necessitated the writing of this thesis. As will be seen in the ensuing chapters, solutions and detailed suggestions are offered to justify the statement of the problem.

## **1.2 Objectives of the study**

The objectives of the study are:

- i) To find out the problems associated with the jewellery industry in Ghana; and
- ii) To suggest probable solutions to the problems.

## **1.3 Delimitation**

As much as possible, in this thesis, the researcher would cover the following types of jewellery. These are, bead works, and brass casting using the lost wax casting methods and cuttlefish bone casting. Also, to be covered are other natural, artificial and synthetic materials used for making jewellery. The thesis also discusses the problems associated with the production and marketing of the various types of Ghanaian jewellery, and offers suggestions for their solutions.

The research was based on selected jewellers, jewellery firms, apprentices, stakeholders, and customers of jewellery products in five towns from five regions in Ghana. These are Accra, in the Greater Accra Region, Koforidua in the Eastern Region, Cape Coast in the Central Region, Ho in the Volta Region and Kumasi in the Ashanti Region.

#### **1.4 Hypothesis**

There are problems facing the Ghanaian jewellery industry which can be identified and with proposals for their solution, they can be solved.

*Arguments for and against the hypothesis will be advanced to find out whether the above hypothesis is valid or not.*

#### **1.5 Statement of assumption**

It is assumed that when the problems in the jewellery industry are identified and solved, it will become viable, and earn the country high foreign exchange, if it is also exported.

#### **1.6 Reasons for writing**

It is necessary to write this thesis because apart from jewellers who are directly affected by the problems, the government also need to know



the problems so as to provide the necessary enabling environment to implement the many suggestions so as to make the industry viable.

It is also necessary to write on this thesis because as far as the present writer is concerned, as I wrote in my previous work, no one seemed to have devoted his time to write only about the problems and their solutions. Those who considered the problems and the solutions shifted these subjects to the background because they did not tackle them as the main objectives of their theses.

It is again necessary for this thesis to be written because a good labour force is being wasted. This is because some of the youth who roam about the streets selling items like dog chains could learn a trade like jewellery making and thus earn a living, and also employ other people. Jewellers have tried to work within the odds of the time but the problems keep on retarding the growth of the industry. The industry is unattractive to the youth who find it a primitive craft. Indeed, the industry in Ghana, strives on outmoded technology, and it is hoped that this thesis will contribute to the promotion of this industry.

### **1.7 Limitation**

I would have liked to cover as many geographical areas and jewellers as possible, but due to financial constraints and suspicion from especially goldsmiths, since we are all in the same trade, it was not possible to do so. During interviews, goldsmiths especially, were reluctant to give out data or information on their operations. Another area of concern is the unavailability of reading material and data on the industry. The above limitations however, did not affect the quality of the research.

### **1.8 Importance of the study**

It is important to make this study because this work will be an additional source of material to be used by interest groups in the jewellery industry. Students of art and jewellers in general will also find this book useful. Investors wishing to invest in the jewellery industry may also use this book as a first hand source of information as to which area of the jewellery industry is lucrative to invest in. An investor or businessman with the aid of this thesis will decide on whether to set up a training school or import modern equipment for the industry, or how to market and what types of jewellery to import if any.

Another important problem to be solved if the jewellery industry is to become viable is the problem of unemployment in the country. This point was mentioned in the researcher's previous thesis, and it is important to still stress it as one of the important aspects of the study. This is because the devil finds work for the idle hand, it is said, and if the numerous youth will find jewellery making worth learning, they might go off the streets and produce not only to make money for themselves but also it would enable them to lead decent lives.

### **1.9 Methodology**

The methodology used in the writing of this thesis includes a review of related literature, personal interviews and discussions with both consumers and producers of jewellery. Photographs, tables and graphs are also used to make points clearer where necessary.

Narrative, descriptive, analytical and interpretative methods are used where and when necessary. Answers to questionnaires also serve a useful purpose as far as the methods of approach are concerned.

### **1.10 Organization of chapters**

The thesis is written in seven chapters, and these chapters are as stated below.

The first chapter of the thesis includes the following: scope of work, statement of the problem, limitations, objective, and reasons for writing, hypothesis, and statement of assumption, methodology, and historical background of jewellery production in Ghana. Chapter two reviews the related literature on the thesis topic, i.e. the problems and solutions to the Ghanaian jewellery industry.

The Third Chapter tackles the problems and solutions to the production processes of the various forms of jewellery. It is discussed alongside the production methods. Acquisitions of land for setting up the workshop are also discussed in this chapter. Also discussed is the problem of tools and equipment acquisition. The health implications of not working in a clean environment are also tackled in the third chapter.

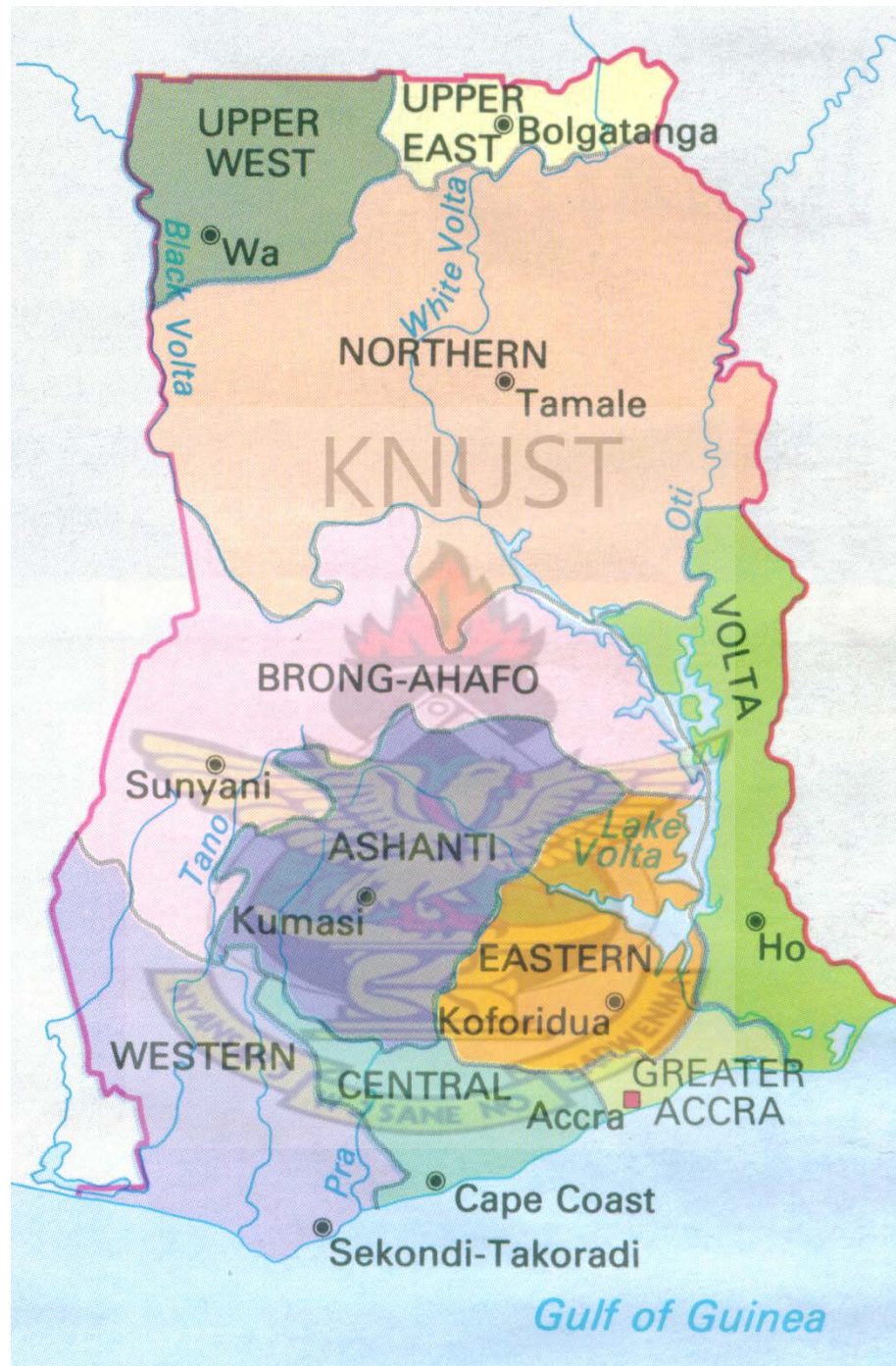
The problems and solutions to the sale and marketing of jewellery are discussed in chapter four of the thesis. Packaging and product display, and pricing are also among the contents of chapter four. The various types of pricing are discussed in depth in the fourth chapter.

In Chapter Five are the discussions, while Chapter Six gives the methodology. Chapter seven is the summary of the thesis, which is then followed by the conclusion and finally the suggestions and recommendations.



*Map 1.1 Map of West Africa, showing Ghana  
(Source: Atta-Quayson, 1999:27)*





*Map 1.2 Map of Ghana Today showing the ten Regions  
(Source: Atta-Quayson, 1999:9)*

### **1.11 Ethnographical background of Ghana**

As can be seen from Map 1.1, Ghana is located in the centre of West Africa bordering the Gulf of Guinea and Atlantic Ocean to the south, Cote d'Ivoire to the West, Togo to the east and Burkina Faso on the northern border. The Republic of Ghana is named after the medieval Ghana Empire of West Africa. Geographically, the position of old Ghana was numerous miles north of the present Ghana, and occupied the area between rivers Senegal and Niger. It is alleged that some inhabitants of present Ghana have ancestral links with medieval Ghana. This can be traced down to the Mande and Voltaic people of Northern Ghana – Mamprussi, Dagomba and the Gonja. Akans of modern Ghana were also thought to be descendants of this great empire. The Akans of present Ghana and Mandikas of Senegal/Gambia who had strong links with the empire share names like Danso. Ancient Ghana derived power and wealth from gold and the introduction of the camel during the Trans-Saharan trade increased the quantity of goods that were transported. Majority of the knowledge on Ghana comes from the Arab writers, who described Ghana as having the richest gold mines on earth. These mines were situated on the upper Senegal River. Unfortunately, after the 12<sup>th</sup>

Century, the wealth of ancient Ghana began to decline. There were numerous reasons for the decline. The King lost his trading monopoly, at the same time drought began and had a long-term effect on the land and its ability to sustain cattle and cultivation. It is, however, believed that it is by sheer coincidence that modern Ghana was once known as the Gold Coast, a name given to it by the Portuguese traders who landed here in 1472, in recognition of an over-generous endowment of the precious mineral. In Ghana, gold is at the centre of power and wealth. Till today, the gold deposits of *Asante*, remain one of the world's richest and largest. No wonder, South Africa's AngloGold had to acquire Ashanti Goldfields in 2003 to remain in business because of the high cost of mining gold in South Africa. Today, AngloGold Ashanti of South Africa has captured the number two spot as the world's gold producer. Newmont Mining Corporation, the United States-based gold producer, in 2002, became the world's leading producer of gold. AngloGold Ashanti's feat was made possible by the improved performance of ex-Ashanti Goldfields' mines in Ghana. With this development, analysts say positioning AngloGold Ashanti as a leading gold producer in the world would not only expand and sustain the Ghana Stock Exchange as one of the leading markets in Africa but it would also further expose Ghana's potential as a perfect destination for international investment. This was announced by Mr.



Daniel Owiredo, Chief Operations Officer, AngloGold-Ashanti (West Africa) when he released the second quarter results of AngloGold Ashanti at a press conference in Accra on the 15<sup>th</sup> August 2005. If this assumption is true then there is the likelihood that there would be increase in purchases including jewellery. A desire to control the wealth in gold created a fierce struggle among several European nations in the then Gold Coast and helped to shape a unique contemporary historical tradition unknown in any other part of Africa. The position of modern Ghana therefore offers tourists a simply vast array of natural and manmade attractions that enables her to compete favourably with any known tourist destination in the world. This trend of Ghana's development has thus influenced a lot of people to patronise its goods and services including jewellery, some of which are produced in Ghana.

### **1.12 Climate and vegetation**

The climate of Ghana is tropical, but the temperatures vary with the season. In the southern part of Ghana there are two main rainy seasons. The first rainy season is from May to July and the second from September to November. In the Northern regions of Ghana, there is only one rainy season and it begins in April and lasts till September. The annual rainfall ranges from 1,100mm (about 43in) in the north to

about 2,100mm (83in) in the south. This means that there is sufficient rainfall for farmers to have good yield to enable them to be able to have enough money to buy their needs, including jewellery. The harmattan, a dry desert wind, blows from the northeast from December to March, lowering the humidity and creating hot days and cold nights in the north. In the south the effects of the harmattan are felt in January. In most areas the highest temperatures occur in March, the lowest in August. The coolest time of the year is between June and September, and December and January, when the main rainfall occurs. Variations in temperature both annually and daily are quite small. The average minimum temperature is around 23° C or lower. It is comparatively dry along the southeast coast; hot and sometimes humid in southwest; hot and dry in the north. During these times, that is between the rainy season and March, we have the Christmas season, where jewellers who stop their production to go into farming, as we shall see in chapter three, come to produce for Christmas, since that is also when Christians celebrate the birth of Christ and usher in a new year, with a lot of purchases, and shopping. The 2005 Christmas for example, under the title *Shoppers Besiege Accra*, Donkor (2005:29) of the Daily Graphic on the 24<sup>th</sup> December, 2005 writes that everywhere in the city one can see people suffering from Christmas fever Accra is bursting at its seams as people have flooded the business centre to do

last minute shopping. She continues that shoppers have besieged the city centre shopping for clothes, gifts, food items and drinks. Aidoo (2005:1) of The Ghanaian Times on the same day also wrote under the heading, *It's X'mas Again*, "The central business district of Accra was agog with very brisk commercial activity with people doing 11<sup>th</sup> hour shopping." Some of these gift items definitely will include jewellery.

In Ghana, the weather cannot be forecast more than a week or so in advance, but weather averages are good indicators of what to expect in the month. Because of the unusual climate pattern in Ghana, there are a wide range and all year round traditional festivals and celebrations that visitors can enjoy for their sheer colour, pomp and pageantry. During these festivals, the chief, people and citizens use rich and expensive body arts including jewellery. These occur because these celebrations provide a deep spiritual connection for those whose inclinations are directed towards these ends.

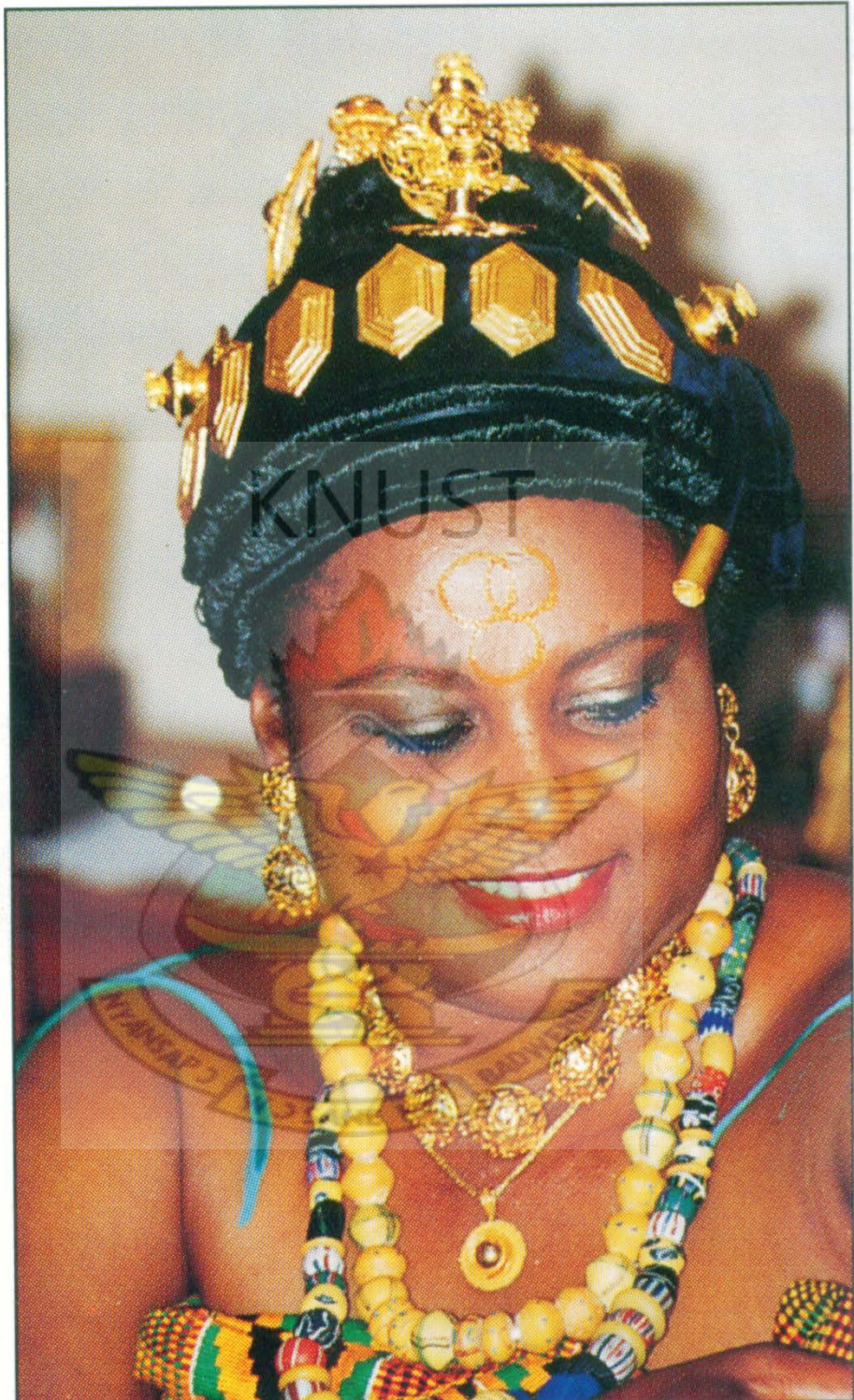
A few of the most popular festivals include the *Homowo* festival held by the Gas in August. The Fantes celebrate the *Fetu Afahye* festival in September, while the *Aboakyir* festival is celebrated by the Efutus. The Anlos celebrate the *Hogbetsotso* while *Odwira* is by the Akwapims and *Dambai* by the Dagombas. Over 90 ethnic groups celebrate various

traditional and cultural festivals and thus guarantee some type of cultural extravaganza every week of the year. At all these festivals all sorts of jewellery are worn as part of the regalia and paraphernalia of the Chiefs and people. Plates 1.1 and 1.2 depict pictures of one of such scenes from festivals.



*Plate 1.1. A Chief and his court criers and sword bearers at a festival.  
(Source: Ayensu, 1997:164)*





*Plate 1.2 A woman adorns her head gear and body with jewellery at a festival.  
(Source: Ayensu, 1997:164)*

Much of the natural vegetation of Ghana depends on factors like the climate and soil, as well as activities of living organisms including man. In Ghana, Man's agricultural activities have led to the destruction of much of the vegetation of the land, but there are still such beautiful tourist attraction trees as the silk cotton, mahogany, and cedar in the tropical forests of the south. Two-thirds of northern Ghana is covered by savannah, with a scattering of trees including shear-butter trees, acacias and baobabs, and there are also beautiful animals in the region. These animals include leopards, hyenas, buffalos, elephants, antelopes and monkeys. All these make the north a wonderful tourist attraction spot. Tourists flood into the country to see the beauty of Ghana's natural environment. These tourists buy a lot of souvenir items including jewellery.

It must be noted that it is the climate that determines the vegetation pattern and therefore influences agricultural activities, which largely provide money to most of the people to also buy jewellery. Since Ghana is mainly an agricultural country, the climatic conditions influence people's purchasing pattern. This is because farmers plant crops like maize, cassava, millet, etc, which have short gestation periods of between 30 to 90 days. The two farming seasons each year

in the south therefore make the farmers make sales and have enough money to buy assets and also do a lot of shopping including jewellery.

### **1.13 Population**

The Ghana Statistical Service source confirms that Ghana's population is now 18.8 million. The figure which emerged out of the 2000 population and housing census represents a 50% increase over the 1984 headcount of 12,296,081. It also represents a growth rate of 2.6%. Dr. Kwaku Twum-Baah, the then acting Government Statistician announced this at a press briefing in Accra. He continued to say that the birth rate had declined, and if it continued to decline, then Ghana's population was likely to record less than 24 million for the next census in 2010. Dr. Kwaku Twum-Baah named Ashanti Region as the most populous region with 19.1% of the population, followed by Greater Accra with 15.4% of the population and Eastern Region with 11.2%. It must be noted that the three most populous regions in Ghana make up 45.7% of the population. These three regions fortunately are inhabited with the upper middle class, and also include Accra and Kumasi that have most of the hotels in Ghana. This implies that the growth rate of the population could influence a change in the purchasing pattern of the country. There may therefore be a likely increase in the purchase of commodities including jewellery.



### **1.14 Agriculture**

Ghana's agriculture sector plays a crucial role in reducing poverty and achieving economic growth. Agriculture in Ghana accounts for nearly 50% of the Gross Domestic Product (GDP). About 66% of the labour force is in agriculture (Alhassan, 1994:11). Agriculture is therefore the mainstay of the economy providing employment and source of livelihood to about 66% of the labour force. It is through agriculture therefore that people get money to buy jewellery. A few of the farmers practise mechanised farming, with majority still using traditional methods. There is therefore the need for Ghana to shift agriculture away from its subsistence level and transforming it into an economically attractive more profitable sector. When this is done there will be more money in the hands of the populace to buy more luxurious goods like jewellery. The contribution of agriculture to safeguarding income, employment and food supply and in turn to reducing poverty among the rural population will make it possible for farmers to buy jewellery either as presents or engagement rings to be used to marry new wives.



The above notwithstanding, there are still a number of factors that contribute to low productivity which is still a great challenge in agriculture. Some of these are farmers' lack of modern technologies, weak organisational structures due to high rate of illiteracy, and lack of long-term investments. There are also high post harvest losses. Small farmers have either no or hardly have any access to local or international markets.

The Ministry of Agriculture is encouraging growth in the agriculture sector by implementing reforms as well as investment programmes. Efficient advisory services and access to other services are intended to help farmers improve their production methods and thereby increase yields and incomes. This will mean more purchases, and jewellery will definitely be on the list. Cocoa production is another agricultural activity that has indirectly had influence on the jewellery industry. While plate 1.3 shows a cocoa pod cut from the tree trunks and split open, plate 1.4 shows a jewellery set designed depicting cocoa pods. This is typical Ghanaian jewellery, and can be found all over the Middle and Far East (Ayensu, 1997:132).



*Plate 1.3 Cocoa pods cut from the tree trunks and split open  
(Source: Atta-Quayson, 1999:15)*



*Plate 1.4 Gold Jewellery Set made with Cocoa pod design.  
(Source: Ayensu, 1997:132)*

When Ghana gained independence from colonial domination in 1957, it enjoyed economic advantages unrivalled elsewhere in Africa. The economy was solidly based on the production and export of cocoa, of which Ghana was the world's leading producer. Cocoa production occurs in the forested areas of the country, especially Ashanti, Western, Brong-Ahafo, Central, Eastern and Volta Regions. The crop year begins in October, when purchases of the main crop begin while the smaller mid-crop cycle starts in July. During this period, goods and service providers increase the prices of their goods and services because the purchasing power of cocoa farmers goes up. With the Cocoa Marketing Board buying all the cocoa produced in the country, except those smuggled out of this country, and paying ready guaranteed fixed price, the farmers buy all sorts of goods including jewellery without even asking for a bargain. The cocoa farmers also pay labourers and farm hands that worked on their farms because they have now been paid for their produce. The labourers, also like their bosses spend money extravagantly.

### **1.15 Industries and infrastructural development**

In the late 1920s the artisans and craftsmen exhibited great indigenous skills and talents in blacksmithing, goldsmithing, cloth weaving, pottery, woodcarving, and the making and casting of brass artefacts, which were the prevalent industries and trade at the time. Most of the trades started as traditional family businesses in homes. The smiths produced things like agricultural implements like hoes, bullock plough blades, jewellery, and earthen pots.

These industries made a lot of contributions to the national development efforts. Despite their significant contribution to national development, they have been left to their fate in matters of national development planning. Very little has been done to develop the physical infrastructure of most of the villages where these crafts are practised. Some of the infrastructures like schools, water, electricity, roads, telecommunications, safety devices; waste disposal sites, etc. are nearly non-existent in the villages. Most of the roads are un-tarred and in bad condition and most of the buildings are built of temporary materials. Even the only hospital for cocoa farmers; that is the Cocoa Clinic is situated at Bubuashie in Accra (Ayertey, 2002:11). A second one commissioned in 2004 is also located at Adum in Kumasi. No wonder, the youth flock to the cities in order to enjoy these facilities.

As already noted, most of the trade started as informal family businesses tracing their roots in the making of the crafts like the brass artefacts, goldsmithing, woodworking, leatherwork and weaving. As an informal sector, and since the rate of illiteracy is high, the establishment of kinship ties and the recruitment of family members into the enterprise was one of the surest ways to safeguard against embezzlement, stealing of tools and undermining of the business strength by non-family apprentices.

During the colonial period, the Gold Coast began to develop economically. Roads and railways were constructed. A harbour was constructed at Takoradi. In 1878 a Ghanaian by name Tettey Quashie brought cocoa into the country. This eventually became the country's major cash crop. Large-scale commercial gold mining began, and Western style of education was introduced, culminating in the founding of the University College of the Gold Coast in 1948. The education system trained a class of Ghanaians that found employment in the colonial administration. This same class of educated elite sought economic, political and social improvements as well as self-government and eventually independence for Gold Coasters.



After the world war II, the drive for independence began in earnest under the auspices of the United Gold Coast Convention and the Convention people's Party, the latter founded by Kwame Nkrumah in 1949. Britain granted Ghana independence on March 6 1957, under a governor general as the representative of the crown and Nkrumah as Prime Minister. In 1960, a new constitution created the Republic of Ghana, and the same year, Nkrumah was elected president. Nkrumah saw Ghana as the star of Black Africa, and believed that Ghana should lead the effort to free the whole of Africa from the shackles of Western colonialism. His ideas about African unity proved immensely appealing in the late 1950s and early 1960s. Indeed, the Pan-Africanist dream resonated across Africa in the 1990s, and in fact, even till today.

Nkrumah believed in a rapid transformation of the Ghanaian economy. Under his rule the country underwent many infrastructural developments including the building of roads, the Adomi bridge (plate 1.5) and other bridges, the Akosombo dam, (see plate 1.6), Tema harbour, schools, hospitals, the Accra - Tema motor way, and some of the government universities.



*Plate 1.5 The Adomi Bridge near Akosombo (Source: researcher's collection)*



*Plate 1.6 The Akosombo Dam with Lake Volta in the background (Source: Atta-Quayson, 1999:15)*

The development of these technologies and infrastructure led to the setting up of many industries. The setting up of industries saw people employed and being paid incomes that enabled them to buy their needs including jewellery. Because of the road and rail transport, goods and passengers were easily transported in the country, even though during the rainy season some of the roads become impassable because heavy rains wash away the road surfaces and bridges. The absence of good roads at many places is therefore a great handicap because of the problems of transporting raw materials to the factories or markets. This notwithstanding however, as written earlier, they have helped to transport raw materials, cocoa, timber and foodstuffs into the markets and factories and also to the ports for export. Transportation and movement of goods encouraged the distribution of raw materials and jewellery in the country.

The main reason for building the Akosombo dam was to provide electricity both for domestic consumption, and also for export. Ghana therefore exported electricity to neighbouring countries like Benin, Togo, and Cote d'Ivoire. Due to the increased demand for electricity locally because of an increase in population, the export of electricity to neighbouring countries had to stop. The availability of energy, though



expensive has facilitated the setting up of industries including jewellery.

Tourism is also a priority sector in Ghana with a lot of incentives and benefits for investors in this sector. There are also incentives for star-rated hotels, and holiday recreational resorts. Other tourist attractions in the country include waterfalls, beaches, forts, castles and other historical sites, and even specialised restaurants. Because of the incentives like tax and rate exemptions, many investors have invested in this sector. The tourism sector therefore is well developing to international standard, and therefore makes it possible for a lot of foreign tourists to visit Ghana. With the influx of foreigners, who have comfortable hotels to sleep in, industries associated with them make good business for taxi drivers, restaurants and also handicraft dealers including jewellers. Jewelleries are displayed for sale in most of the top hotels in Accra and Tema. It is now easy to travel on a good network of roads to buy goods like beads in Krobo - Odumase or other jewellery from other places.

Mention must also be made of improved communication systems that have made it easier, faster and more convenient to travel around to shop for goods, including jewellery, especially by tourists. Ghana's

telephone system is run by Ghana Telecom and is relatively reliable. However, there is overwhelmingly popular use of cellular telephones in the cities. Ghana Telecom since 1996 has increased phone lines from 78,900 to 130,000 in 1997. The first cellular phone service in Ghana was initiated by Mobitel in 1992. In that year alone, 19,000 Ghanaians owned mobile phones. In 1998 the number of mobile phone users in the country increased to 43,000 and by the middle of 1999 the number increased to 68,000. Four companies now compete for cellular customers, and usage has risen from 132,000 subscribers in 2000. Today, the picture is different; there are close to three million mobile phone users in the country. This is good news because today, certain customers make jewellery orders by using their mobile or cellular phones to call the jewellers.

#### **1.16 Traditional gold mining**

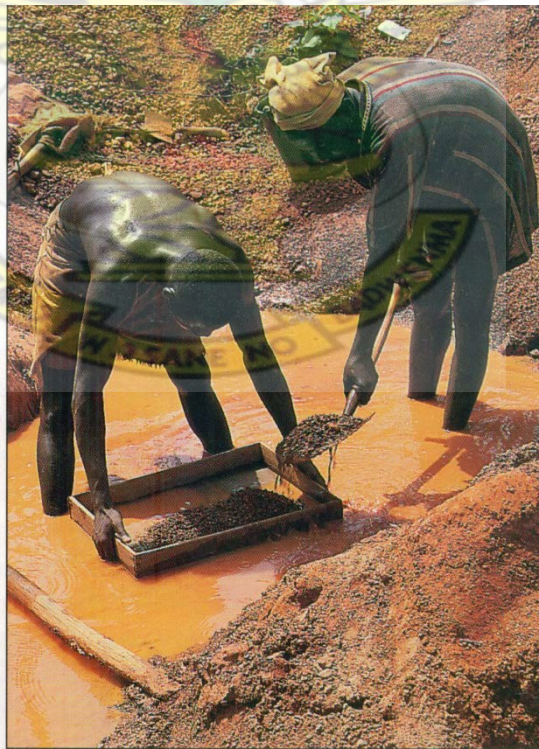
Even though this thesis is on the various types of jewellery, there is the need to write on traditional gold mining and its technology. This is because Ghana has a long tradition of gold mining technology and gold smithing. It is also because gold plays a very important role in the jewellery industry.

There are a lot of mining companies now in Ghana today licensed by the Ministry of Mines to mine gold in Ghana, but the traditional gold mining is still practised illegally in many parts of the country, especially in towns and villages where gold is mined. As early as 1471, the Portuguese recorded the production of gold by local Ghanaians (Anquandah, 1982:41). This therefore implied that gold was being mined in the country long before the coming of the Europeans to Ghana. In the past, the local people obtained their gold mainly from alluvial and superficial deposits. The alluvial gold is the gold that is mined from water, or from deposits left by a flood, and the superficial gold is the type that is mined from the surface, not deep or penetrating into the ground. The method used to mine from either is by direct panning, using large scale shallow pans that they swing or spin round. They also swirl some of the deposits from the bed of the stream. In this process, the gold, which is heavier, remains at the bottom of the pan, while the dirt, which is lighter, is washed out. This method by which the indigenous people washed for alluvial gold in the early 19<sup>th</sup> century is still in use in certain mining communities in the country. Between AD1400 and 1900, the Akans produced gold by traditional methods (Anquandah, 1982:42). Plates 1.7, 1.8, and 1.9 depict miners using traditional methods to pan gold from water bed; while plate 1.10 shows the gold after panning.





*Plate 1.7 Miners panning for gold. (Source: Ayensu, 1997:49)*



*Plate 1.8 Miners panning for gold. (Source: Ayensu, 1997:49)*





*Plate 1.9 Miners panning for gold. (Source: Ayensu, 1997:49)*



*Plate 1.10 Alluvial gold after panning (Source: Ayensu, 1997:55)*

The gold produced was normally exchanged for salt and other commodities. Among the people of ancient Ghana, gold dust was a

major factor in the development of a civilisation of well organised kingdoms and gold used as currency, was used to buy all their luxury goods from abroad (Anquandah, 1982:45).

### **1.17 Traditional goldsmithing**

Goldsmithing started quite early in Ghana, because of the availability of the raw material, gold in the country, and also because people had the taste for gold ornaments either for their own use, or as a store of wealth. People also bought ornaments in large quantities because they used them to adorn their bodies. Gold jewellery was also used as currency to exchange goods bought from Europeans.

Chiefs and the wealthy persons in the society also use jewellery on festive occasions to show their social status in the society. Jewellery making also served as a source of employment for both the smiths and traders who sell the products. Jewellery is also used in burying the rich including Chiefs. This is done as a sign of respect and dignity accorded to the dead. This is because the Ghanaian believes that the soul is immortal or there is life after death.

In the olden days, the goldsmiths' workshop was always made up of males. This was because of the belief that if a woman worked as a

goldsmith, it would affect her fertility. Goldsmiths usually clustered together and were usually under royal control. They produced only for the Chiefs and the affluent in society. Today in the bead jewellery industry, some females however produce and sell them as can be seen in plate 1.14 of a woman in the process of producing beads.

Presently also, as in the past, they still work in small corners or in a shade. They also have a furnace besides them in which they can melt their gold in order to cast it into jewellery. Professor Anquandah mentioned Ross and Cole's publication, *The Arts of Ghana*, which provides numerous illustrations of Akan gold objects that are either in private collections or in museums. These are eloquent testimonies of Akan expertise in goldsmithing. The ranges of products are from gold leaf jewellery to cast necklaces, rings, beads, bracelets and hollow-cast sword ornaments. The traditional methods of making such jewellery have been very slow. This might be partly due to the fact that in the past, jewellery was a preserve for the chiefs and the kings and therefore did not have a wide market.





*Plate 1.11 A goldsmith working with traditional tools at Ho.  
(Source: Picture by researcher)*



*Plate 1.12 A traditional goldsmith soldering with traditional tools at Adum,  
Kumasi. (Source: Picture by researcher)*



*Plate 1.13 Goldsmith from Sewua weaving a chain using traditional basic tools. (Source: Picture by researcher)*



*Plate1.14 Woman jeweller producing beads at Koforidua. (Source: researcher's collection)*

It was also because in the olden days as we have today, there were no sophisticated tools and equipment to produce jewellery in large quantities. As can be seen in plates 1.11 to 1.13, certain Ghanaian smiths still use very simple and outmoded tools to produce their jewellery.

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## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

#### 2.0 Introduction

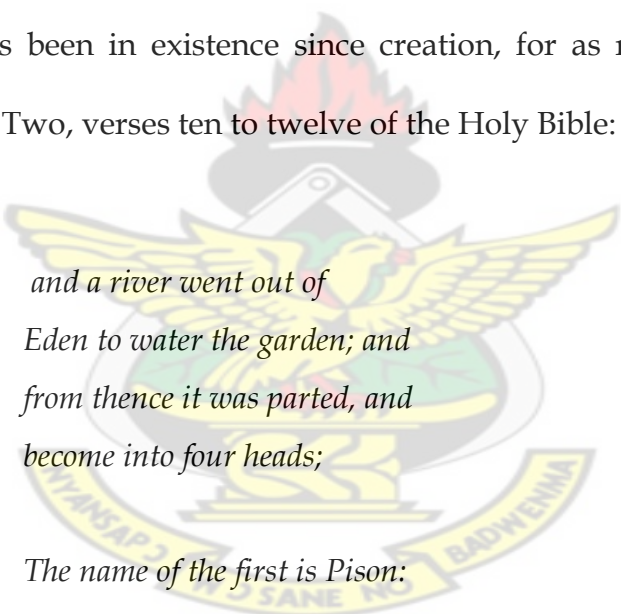
The current review of related literature is beneficial because it intends to help the researcher and other readers to be sure of what previous writers have so far covered, or not, on the subject being investigated in this PhD thesis. Knowing what previous writers have covered is especially beneficial to the researcher because it will reveal the uncovered grounds where the current research should be directed, to enable me to contribute significantly to the growth of knowledge in the jewellery industry. The present review is also important because in the process of searching through literary works, the researcher will acquire more research techniques and uncover new problem solving methods that can be applied to resolve new problems that may be encountered in the current research.

The review will further help to reasonably compare and contrast the new findings with old documentary materials to enhance this PhD thesis. Moreover, this review is particularly advantageous because it will enrich the researcher's manufacturing skills as a jeweller.

Though the present literature review incorporates the previous one, the old information is not a verbatim transcription in the current review. That is, old sentences have been recast, though the ideas remain the same.

## 2.1 Gold

Even though many kinds of raw materials are used in making jewellery, one of the most popular materials used in Ghana is gold. Gold has been in existence since creation, for as read from Genesis Chapter Two, verses ten to twelve of the Holy Bible:



*and a river went out of  
Eden to water the garden; and  
from thence it was parted, and  
become into four heads;*

*The name of the first is Pison:  
that is it, which compasseth  
the whole land of Havilah  
where there is gold;*

*and the gold of that land is  
good: there is bdellium and the  
onyx stone.<sup>1</sup>*


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<sup>1</sup> King James Version of the Holy Bible



The location of gold since creation, under rivers, or under the ground, has made it very difficult to mine, and also an expensive raw material for the making of gold jewellery. This may therefore account for its scarcity and high value. This therefore means that even though gold is a natural gift, its method of mining makes it expensive.

Gold mining has been taking place for many centuries in this country. Many writers have testified to this; and according to Anquandah, (1982: 34)



*Gold is of particular interest to the archaeologist and historian since it was mined [in this country] in pre-European times, probably as early as the 14<sup>th</sup> century and provided the basis for long-distance trade between the Akan on the one hand and the Mende and European traders on the other hand.*

This observation by Anquandah is generally accepted by Ghanaian historians to be true, and in an article in *The Mirror of Saturday*, 28<sup>th</sup> December 2002, Professor James Anquandah again wrote that, this country had tremendous gold deposits in its ancient rocks which have been exploited for ages. He continued:

*It appears, however, that the cost of production by means of modern technology [in Ghana] has in recent times been escalating. Ghana continues to produce gold today, but the income from the gold industry has somewhat declined (Anquandah, 2002:18).*

In fact, the rising cost of gold mining in the country, which Anquandah has referred to, is partly due to old and inefficient machinery, and is also due to ineffective production methods used by the workers. While alluding to crude mining implements used in this country in the olden days, Professor Anquandah wrote as follows,

*The simple implements, which were employed in the industry, were described by 19<sup>th</sup> century Basel Missionaries as including a long-bladed spade for digging, a wooden bucket, for bailing out water or for hoisting up the earth containing gold, and a bowl for washing the gold (Anquandah, 2002:18).*

As far as we know, these simple mining instruments are still used by certain surface miners in Ghana. Anquandah (1982:34) also wrote in his *Rediscovering Ghana's Past*, which is an archaeological documentary, that the older rocks of Ghana are rich in economically exploitable minerals including gold, diamonds, bauxite, and manganese. All that Professor Anquandah has written in his articles and books confirm



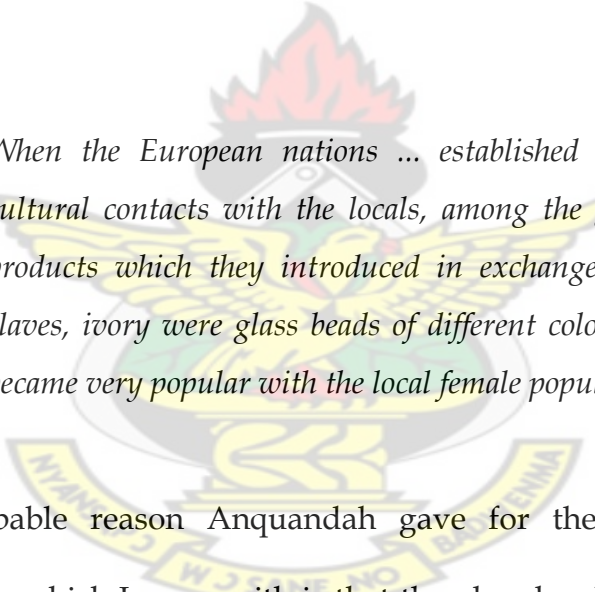
that even though gold has played a very important role in trade and commerce for many centuries, its mining is still beset with numerous economic and technological problems. Apart from these problems, there are a lot of health and environmental hazards discussed later in this thesis.

In her *Jewellery Source Book*, Scarisbrick (1998:14) writes: Gold occurs naturally in the earth in an attractive ready-to-use state. A large quantity of the mineral is exported from Ghana in the raw state; the local people worked the remainder of the mineral into jewellery and ornaments such as state regalia. The local people use handcrafted methods, including local casting that are often very tedious and time consuming, in the production of the ornaments. These will be discussed in full in chapter three. We, however, remark that, since gold dust is believed to have been in existence in the ground since creation, the use of gold in jewellery making in the world is slightly younger in creation.

## **2.2 Beads**

Apart from gold, beads are popular and precious jewellery in Ghana and other parts of the world. Beads can be said to be small pieces of coloured glass, wood, stone, shells, metals or plastic etc with a hole

through the middle, usually strung together and used for jewellery or decoration. Beads are therefore human artefacts that have been in existence since the dawn of civilization. Human beings, of different parts of the world, many millennia ago, were fashioning small objects of animal bone and teeth, seashells and colourful stones strung on especially plant fibre to adorn their bodies and clothing. The story of the development of trade and commerce in West Africa can also be traced through the history of beads. Anquandah (1982:26) says



*When the European nations ... established trade and cultural contacts with the locals, among the goods and products which they introduced in exchange for gold, slaves, ivory were glass beads of different colours which became very popular with the local female population.*

The probable reason Anquandah gave for the use of beads in commerce which I agree with is that the glass beads were cheap, light and easily transportable. Beads were therefore shipped in millions to West Africa around the 1650s (Anquandah, 1982:26).

In the book, *Jewellery-World crafts*, by Doney, (1996:4) he also confirms global use of beads as currency: beads were used for many years as currency for trading. People traded beads for goods. Beads therefore

played an important role as currency in commerce and trade in the past, but today, with the introduction of banknotes, cheques and e-commerce, there may probably be a decline in the use of beads as currency. There has also been a shift of the use of beads from currency to fashion.

### **2.3 Traditional Beliefs**

Most cultures have used jewellery either on account of spiritual beliefs, aesthetic tastes, or for some other reason. Beads for example, were possibly manufactured to enhance the spiritual power of say hunters over their prey, to bring luck, and to protect the wearer from danger and harm, and also to strengthen the connection with the spiritual world (Doney, 1996:4). The problem here is that since there is the traditional belief in the wearer having an advantage over his preys or enemies, there is the likelihood of substituting the wearing of jewellery for hard work. This is because instead of working hard to increase yield, the farmer or hunter may falsely rely on wearing of say, a talisman, which is believed to have supernatural powers to boost up yield. The carpenter instead of producing quality products may also rely on the use of jewellery to attract customers to buy his products. The use of jewellery for supernatural purposes is also displayed during festivals. Palanquin carriers to protect a Chief from his enemies

from pulling him down to fall from the palanquin and be disgraced wear talismans on the waist. On another supernatural use of jewellery, Scarisbrick (1998:8) again writes that, the beauty of gold, in the eyes of early man, meant that it was frequently singled out as a fitting gift for the gods or a suitable accompaniment for the dead. In Ghana, especially among the Akans, it is a custom to bury the corpses of royal people with certain items including gold jewellery. When the corpse is being placed into the coffin, he is accompanied with money, beads, blankets and other precious objects which the people think he may need on his way or on arrival at his destination (Sarpong, 1974:36). It is believed that there, the dead person is supposed to lead the same life that he led while on earth. A chief here is a chief there; a farmer here is a farmer there (Sarpong, 1974:36). The disadvantage associated with burying the corpse with the above listed items is that the jewellery or art works are wasted even though the producers derive some income from the bereaved to whom they sell them. They may however be excavated by archaeologists in future, but at a high cost. Regarding this, Anquandah (1982:4) writes of reports on archaeological discoveries such as the Egyptian Tutankhamun burials, the Meroe and Ballana royals buried with gold jewellery. The most famous piece of gold jewellery in the world is believed to be the face mask of the boy-king of Egypt (1361-1352 BC), Tutankhamun. Howard Carter

discovered this mask in his tomb in 1922. Ayensu (1997:30) corroborates this that when the tomb of the Egyptian pharaoh was opened in 1922, the incredible amount of gold it contained was still untarnished after thousands of years. This tomb preserved some of the greatest treasures of the goldsmiths' art. This facemask is normally displayed in the Cairo museum. (Refer to plate 2.1)



*Plate 2.1 The face of Tukukhamum. (Source: Ayensu, 1997:30)*



This shows that even though a lot of jewellery and precious items are buried with the dead due to traditional belief, it gives ready market and income to those who produce them as stated earlier, on the other hand, the supernatural use of jewellery for the solution of problems as said earlier also, may encourage laziness and low productivity since people may falsely rely on its supernatural power for abundant yield.

The concept of jewellery making in general is timeless. People have always had an instinctive desire to adorn themselves. Simple ornaments of berries, soft stones, animal teeth and the like date back to the Stone Age, as do some simple gold objects. Scarisbrick, (1998:15) writes that, in Western Europe, a gold jewellery industry was flourishing soon after 2500 BC. By 2000 BC, the goldsmiths in the Near East had developed the skills necessary to form, manipulate and join small components. Their designs reflected all aspects of the societies in which they blossomed. Religion, superstition, social organization, economics, trade, and warfare all played a part. Ancient gold jewellery was made with a minimum assortment of tools and these were simply made from metal, wood or bone. Today's jeweller or goldsmith just like the ancient goldsmiths does not also require sophisticated tools and equipment to produce his jewellery. Techniques included granulation and filigree. Traditional goldsmiths still produce jewellery using granulation and filigree techniques that are labour intensive and

time consuming. Plate 2.2 shows filigree jewellery produced by this researcher. Anquandah (2003:16) confirms this in another article in *The Mirror* of 4<sup>th</sup> January 2003, that today only a few goldsmiths can be seen operating in Ghana. They still employ the old traditional methods which were in vogue in earlier centuries.

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*Plate 2.2 Traditional filigree jewellery produced by writer. (Source: Picture by researcher)*

There once existed the gold and silversmiths' association, which was set up around 1909 and grew to become a powerful union of traditional craftsmen. This Prof. Anquandah (2003:16) says it is a testimony to the importance of traditional gold industry in Ghana.

Prof. Anquandah is of the view that there was a modern industrial revolution in Ghana between 1891 and 1911, which might have changed the traditional production methods of mining and processing gold, especially, with the establishment of Ashanti Goldfields. This produced the breakthrough in the industry by introducing a rather large-scale highly mechanised process of removing ore in large quantities and milling it to recover the minute of the precious metal.

On Industrialisation in the third world countries, Geoffrey Hurd (1986:17) writes in his book, *Human Societies – An Introduction to Sociology* that, developments in the field of microprocessors have dramatically increased productivity (and thereby reduced demands for labour) in some manufacturing industries. Hurd continues that, the development of microprocessors has also brought cheap computing power to production processes. This therefore means that with basic modern machines, production could be increased. Care must however be taken so that the technology employed will be of relevance to the

society. Care must also be taken not to unnecessarily lay off labour to create unemployment.

Hurd (1986:22) again continues to write that,

*The most advanced industrial technology of the day, however, is unlikely to be that which is best suited to the resources of a given non-industrial society...The new technologies are likely to be too expensive to maintain, to require considerable and continuing expenditure of scarce foreign exchange on spares and foreign technicians.*

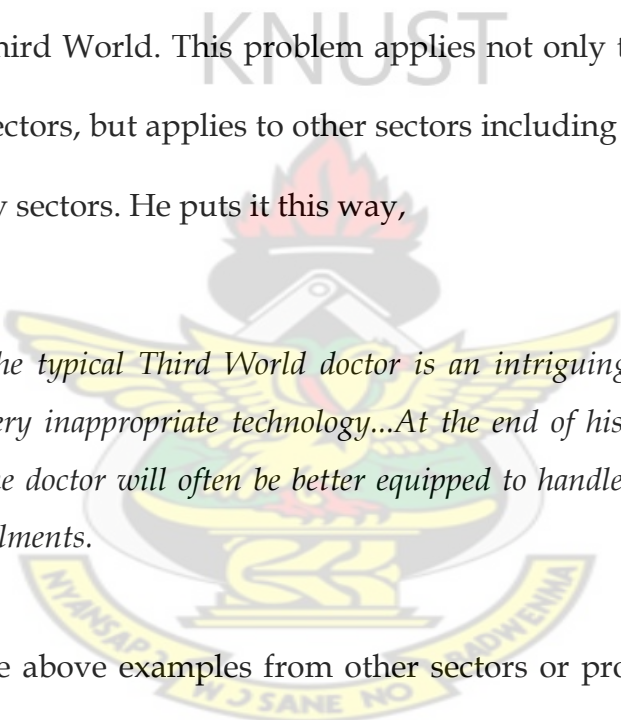
About the manufacture of jewellery, Renée Newman in her book, *The Gold Jewellery Buying Guide* writes that In Europe, a higher percentage of the jewellery is hand-fabricated compared to the United States. They (Europeans) also like the personal touch of dealing with a jeweller who makes a piece from start to finish (Newman, 1993:47). Hand-fabrication even though it makes the product unique, is one of the major problems facing the jewellery industry. This makes it difficult for the industry to expand. Also, one needs to employ many jewellers to work on a few pieces instead of using a machine or equipment operated by one person to do mass production. Handcrafted jewellery, however, has a disadvantage of a time consuming process as expressed by Anquandah earlier, and is therefore more expensive. For this

reason, some jewellery buyers totally avoid handcrafted jewellery because they assume they are too expensive and therefore unaffordable, but it is not always so. The masses should therefore be educated about it. But for a country like Ghana, where there is abundant labour, it is most times cheaper to handcraft jewellery since it is evident that the diffusion of the technologies and practices of Europe and North America to the Third world is not all gain (Hurd, 1986:22). There are often unintended consequences that subvert the objectives of both planners and practitioners. The third world in the 1970s has been adopting small-scale, relatively cheap, labour-intensive technologies which provide the added bonus of modest inroads in unemployment. It is often very difficult for politicians and government advisers to resist the lure of the latest Western technology, for specially adopted intermediate technologies even if they sometimes prove more expensive. The 'Green Revolution' as reported by Geoffrey Hurd provides a good example, that, there were the effects that externally induced technological change had on the social structure of rural areas. The benefits accrued to the wealthier farmers while the rural poor in some cases actually suffered a decline in income, resulting from even more effective competition.



Hurd continues to give another example on misappropriation in the third world as follows: Every year there is brain drain of medical personnel whose training represents a major portion of the health budget of the poor societies.

Paul Harrison (1979:22) also gives another example of the problematic nature of the diffusion of technology in the medical and health services in the Third World. This problem applies not only to the medical and health sectors, but applies to other sectors including the handicraft and jewellery sectors. He puts it this way,



*The typical Third World doctor is an intriguing piece of very inappropriate technology...At the end of his training the doctor will often be better equipped to handle Western ailments.*

From the above examples from other sectors or professions, it can be deduced that in attempting to solve the problems of the jewellery industry, emphasis must be on developing appropriate technology, taking into consideration the availability of labour and raw material, so that Ghana is not worse off. Until the period of mass production arrives, simple implements and tools can be used in producing jewellery so that the poor youth in the rural areas can also take

jewellery production as a vocation. The raw material must not necessarily be an expensive metal like gold, but any suitable object. Shells, ivory, bones, plastics, glass, stones, clay and other non-metals are all materials that can be used in making jewellery. Fati of Aboabo, Kumasi, producing jewellery using grass, as can be seen in plate 2.3. In plate 2.4, the young girls also of Aboabo produce jewellery using plastic materials.



*Plate 2.3 Fati of Aboabo, Kumasi, producing jewellery using grass.*  
(Source: Picture by researcher)

In Charles Adu Boachie's unpublished B.A. thesis, *"The Challenges of the Ghanaian Jeweller in the face of Technological Development"*, he quoted De Bellefond S.V. and could not hide his surprise at the amazing skills of our ancestors, by making this statement, and to speak the truth, they

are so happy as to surpass all the craftsmen I ever saw; their files are much finer than ours and will make their work fine as our filigree (Bellefond, 1669:28). The traditional goldsmiths and jewellers who took over the trade from the older generation have had very little change in terms of technique. De Bellefond (1669:6) also attests that the handicraft jewellery making involves mostly using the hand, equipped with basic tools and equipment to make jewellery it needs just a small capital base. Even though De Bellefond mentions as above, that small capital base is needed to set up a jewellery shop, in today's poverty stricken Ghana, very few goldsmiths and jewellers after their training and apprenticeship can raise the capital to start their own workshops.



*Plate 2.4 Young girls of Aboabo producing jewellery with plastic materials.  
(Source: Picture by researcher)*

Gentile (1973:11) also writes that

*During the medieval times, it was the Church that was the inspiration for creative efforts and also the recipient of finished works of jewellery. ... Since the beginning of time, man has made his jewellery from the objects that have surrounded him, and today, tribal peoples use those selfsame materials – shells, bone, wood, seeds, and feathers, all in a variety of colours... of rich brilliance.*

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This buttresses the point that since time immemorial, any natural object with an unusual colour or shape, or with a hole in it, was used to make the earliest jewellery (Doney, 1996:4). Jewellery makers, or jewellers, are always looking out for rare or unusual items to include in their work. Everyday objects like seeds and grasses, feathers, shells and animal bones were some of the first sources of simple jewellery (Doney, 1996:5). As mentioned earlier, other forms of material apart from gold were used in the making of jewellery. As part of efforts at expanding the industry therefore, just as other writers have written earlier, other materials are recommended rather than only gold which, apart from being expensive, might not make jewellery, especially fashion jewellery creative enough.

Tools for making jewellery in Ghana today are still outmoded and 'crude'. Charles Adu Boachie' writes in his unpublished BA thesis that, the hard and rough bark of cuttle-fish bone served as a file, among the early goldsmiths of Nungua (Boachie, 1994:8). In Ashanti and the central part of Ghana, it is generally held that, acquisition of metal tools by their ancestral craftsmen was linked with the advent of the craft of blacksmithing that is traced to have started among the early Akan ethnic groups during the period of the slave trade. Some of the old goldsmiths according to Boachie (1994:8) started with the use of stone hammers, stone anvils, some rough surfaced leaves serving as emery etc. With the coming of the white man however, Boachie (1994:8) continues, tools of higher precision and efficiency were brought by the Whiteman. The present researcher is of the view that jewellery production is more of a skill, and employs more labour than machines. It seems therefore that apart from offering employment, this is not good for the Ghanaian economy. This is because production will be at subsistence level.

In his unpublished BA thesis, *A Manual on Jewellery – Making for Adult Beginners*, Apenteng (1994:10) confirms that jewellery making is not as popular as the other crafts. The craft is associated with ideas of magic and religion which forbids women from doing it. Gerald Apenteng's



view in this case, seems to refer to the production of gold and other types of metal jewellery, rather than bead making, which from time immemorial, has been the work of women in Ghana. Even the taboo that prevented women from making metal jewellery in Ghana has been relaxed greatly. This is because in the Metal Section of the College of Art, KNUST, the College of Jewellery at Weija, a suburb of Accra and at PMMC in Accra, many women have now been producing metal jewellery, especially gold jewellery. Female apprentices in goldsmithing were also seen in some workshops during the researcher's fieldwork.



*Plate 2.5 Female goldsmith apprentice at work at Ho.  
(Source: Picture by researcher)*

Plates 2.5, 2.6 and 2.7 depict photographs of females in the goldsmith trade taken by the researcher. Akabuo, (1988:14) also confirms that in the Anfoega area in the Volta Region of Ghana, women are also not entertained in the profession. It could be remembered that we have already criticised this idea, since we have shown that women have never at any time in this country, been prevented from making beads. Also, we have shown that these days, many women are producing metal jewellery.



*Plate 2.6 Female student goldsmiths of College of jewellery in the studio.  
(Source: Picture by researcher)*

Today, in the Metals section, of the College of Art, KNUST, there are about more females than males training in jewellery. Some of the females, after finishing their course, practise jewellery making. The modern trends in which females participate in jewellery making in Ghana, is in line with what some females do in some other countries. Women's participation in the making of jewellery in Ghana today may not be a peculiar matter (Kotoku 2001:35). This is because, the following quotation from the *Jewellery Source Book* mentions the making of jewellery by men and women in many parts of the world, and jewellery in this case, may include metal jewellery.

*The story of jewellery over seven thousand years of civilization covers the response of successive generations of craftsmen and women to the challenge of fashioning rare and precious materials into personal ornament that express the prevailing artistic style (Scarisbrick, 1998:8).*

The use of the word 'women' in the above shows that even about seven thousand years ago, women were practising goldsmithing: but in Ghana, women's participation in the craft has delayed until recently when women's participation is mainly confined to academic institutions due to traditional beliefs and religion. A probable reason

why women were previously not allowed to practise goldsmithing might be that the traditional smiths before the commencement of work used to perform religious rites. These rites were not performed when a woman was in her menstrual period. Even still, a woman in her menstrual period is believed to be impure whiles the smith must always be in a state of purity.



*Plate 2.7 Female student goldsmiths with male counterparts, all of College of Jewellery in the studio. (Source: Picture by researcher)*

According to Adjei (1992:28) in his unpublished thesis, under certain circumstances he (smith) should abstain from sex in the course of making a particular work. Ablution and abstinence from sex by the smith is seen as a moral guidance toward successful work.

In her book, *The Art of the Negro Peoples*, Leuzinger (1960:35) also writes that,

*The fear of forces unleashed by working the material necessitates compliance with certain rules before commencement of operation. Abstinence and fasting, sacrifice and prayer these more often than not, are the laws that govern the Negro's' mode of work. The priest blesses his tools before each new phase of work.*

Prayer by the smith in the form of dedication and incantations to the spirits of gold, fire and air before work starts is a form of insurance against the wrath of these spiritual forces, and also towards successful work. Today, most Christians also pray for good sales or production before commencing of work. The problems associated with these are that some people take any mishap or bad output to mean the wrath of God. They therefore instead of putting up sound business practices, they rather spend days in shrines, prayer camps and church houses seeking 'healing' for their 'sick' businesses.

Women are likely not to be able to keep themselves pure due to pressure from their husbands and thus offend the gods. The researcher



in his interview with goldsmiths reveals that the older smiths still believe in this taboo that women should learn goldsmithing. However, as pointed out earlier, certain goldsmithing workshops have now taken on female apprentices. The government and the Federation of Ghanaian Jewellers should take up the challenge to educate the older goldsmiths to accept female apprentices. This is because, since they are more experienced, they would impart their knowledge to the younger generation including girls. As written earlier, the Metals Section of the College of Art, KNUST, trains females in jewellery. The College of Jewellery, in Accra, also trains female goldsmiths. Females interested in learning goldsmithing would be gainfully employed after their training. When they are employed it will reduce poverty.

In most African societies, it is common to hear people speak of mystery in crafts including metal crafts and wood sculpture. These mysteries continue to serve as a hindering factor to the growth of the jewellery industry, more fully than anything else to reveal the extraordinary deep sympathies hidden in the heart of the African (Laye, 1973:161). The Africans' way of life is full of a mystery – a system of life, which has been encoded in their arts and crafts including jewellery and goldsmithing. Since gold jewellery is generally regarded more valuable than any other ornament, because of its precious nature, and

the difficulty with which it is acquired, society takes great care of it in the form of regalia and priceless ornaments in the courts of the Chiefs and Kings.



*Plate 2.8 Protective talisman made from vegetable fibre and includes glass beads and gold castings. (Source: Ayensu, 1997:167)*

Some of these ornaments like armlets and other artistic forms were the basis of their magic and religious practices (Adjei, 1992:46). Plate 2.8 is an example of protective talisman jewellery worn on the wrist. The Ashanti of Ghana and the Fon of the Republic of Benin did various cast gold works for similar purposes. The Golden Stool of Ashanti is believed to represent the soul of the people of Ashanti and in the olden

days it was said to have unified the state towards a common enemy. The stool is still a mystery even to the Ashanti to whom it belongs.

The smiths formed guilds at the Chief's court and produced some of their regalia. These were used to impress the public and to signal amongst themselves (Chiefs and Kings) differences in rank and to commemorate major events in history (Mcloed, 1981:72). The Ghanaian Indigenous goldsmith stresses so much on the spiritual aspect of the craft to the extent that most of the symbols and themes used in the craft are based on socio-religious life of the society. This limits the scope of design and has influenced the design of Ghanaian jewellery even up to today. Laye (1973:162) also points out that, everything that our various metal workers made was inseparable from the mystery; it was directly connected with the cult, and magic. Akabuo (1988:15) has this to say, during research, goldsmiths still do not want to give information and still hold jewellery in mystery. The problem here is that since the goldsmiths refuse to give out information and data, the industry will continue to remain stagnant and will not see any growth as is happening now. The goldsmiths believe that the knowledge they have is sacred and must not be shared. They also refuse to acquire new knowledge. There is therefore also, a falling standard in the industry, as pointed out earlier, with designs being outmoded and overused.

Tools and equipment are also outmoded. The result is poor product craftsmanship and finish.

Joseph Adjei writes, that as the gold is being refined, the smith mutters prayers to the spirits of fire, air and gold. His (the goldsmith's) apprentice sets to work on the bellows until a flame springs to life and on it is placed the crucible containing metal. All other works cease in the course of refining and there is silence, a silence of expectancy (Adjei 1992:49). Laye, (1996:3) also continues that the complete silence and respect with which the apprentices and others watch the work, give some idea of its importance. Goldsmithing is here made into a cult. This limits the expansion and growth of goldsmithing.

Leuzinger (1960:35) writing in *The Arts of the Negro Peoples* has the following view about craftsmanship.

*When one considers the laborious and complicated methods, which the Negro artist is obliged to employ, his achievements seem all the more admirable. Everything is done patiently by hand with utter dedication, elaborate craftsmanship and love. He uses his material at his disposal with consummate skill.*

Even though the traditional goldsmith who took the trade up from the older generation has had very little change in terms of technology, the much younger generation of goldsmiths now has very little belief in the rites and rituals performed in ancient times. But even with the latter, their belief stands to shake under outside influence; some of these influences include Christianity and Islam (Kotoku 2001:42).

The old system of traditional goldsmithing is gradually phasing out. To the new generation of smiths the entire art of goldsmithing is seen as an ordinary craft devoid of mysticism, and which only needs greater skill and ingenuity for its success. They find it difficult to reconcile the old and new. Perhaps the old tradition will eventually disappear not because of foreign pressure but rather the disappearance will be the inevitable result of modern education. The disappearance is in some way fundamental to society's civilization since foreign elements can contribute effectively to the smooth running of the smith's workshop when we come to think of modern equipment. Notwithstanding the above statement, there are some conservatives who would still want to cling on to the old ways of doing things. Tourists and foreigners are also a contributing factor; they would want the traditional methods preserved and practiced for them to come to see. The National Commission on Culture also promotes the preservation of traditional



methods in the name of preserving culture. In South Africa for example, AngloGold-Ashanti has employed the services of traditional goldsmiths from Mali to teach traditional jewellery as a way of preserving the methods that are today practised mainly in West Africa. Some of these methods are granulation, glass bead making, filigree, gilding, cuttlefish bone casing, and lost wax casting etc.

The problem of high cost of raw materials like gold, silver, and copper according to Apenteng, (1994:11) makes the artisan not to operate in full capacity. The present researcher agrees with Gerald Apenteng on the above problem, but still suggests the use of other less expensive raw materials like wood, bone, glass etc, for making jewellery. Apenteng (1994:11) also continues to outline the following as the problems facing the industry.

- i. *Jewellery making is not as popular as the other crafts.*
- ii. *The craft is associated with ideas of magic and religion, which forbid women from doing it.*
- iii. *There is high cost of raw materials like gold, silver, copper and brass. As such, artisans cannot operate in their full capacity.*
- iv. *Techniques, tools, equipment and skills are changing. This affects the artisans and most of them cannot compete on both the local and international market.*

- v. *There is a design problem since most of the craftsmen are illiterates.*
- vi. *There is a lack of strong Jewellers Associations to present their grievances to the Government.*
- vii. *Conservatism – Craftsmen and consumers want to stick to old ideas and taste only.*
- viii. *Craftsmen consider the technology as a trade secret and would not impart it to others.*
- ix. *There is inadequate publicity – showrooms and advertisement to motivate members of jewellery associations and to increase public awareness about jewellery products.*
- x. *Banks and Government failure to grant loans to Association of Jewellers cripple the trade.*

The present researcher does not fully agree to some of the problems sited by Gerald Apenteng. Probable solutions to the above problems listed by Gerald Apenteng are discussed in subsequent chapters of this thesis. Other writers have also pointed out similar problems.

Some of the researcher's colleague jewellers especially goldsmiths complain of not having enough money and equipment, but this should not be a stumbling block for our capabilities to produce. Even though this is true to some extent, a visit to workshops of goldsmiths by the present researcher reveals that tradition is one of the many set backs. Writing on this problem, Hudson (1994:92) did not mince words when

she wrote in her unpublished BA thesis that Local goldsmiths prefer to use their own crude methods rather than using modern methods. Lack of education on the improvement of techniques is also a set-back. Prof. Anquandah has also been quoted earlier as supporting the same view. Truly most goldsmiths in Ghana prefer using old methods of working because they cannot afford the high cost of better working tools. However, some of them have progressed tremendously and are using the newest methods available. Hudson (1994:45) again writes that, the major hindrances facing gold jewellery producers are financially related limitations. This may be true to some extent. While heavy capital is needed to start and establish a goldsmithing workshop and salesroom, much capital may not be required to set up a bead producing industry.

The cost of promoting a product is high and is even higher if it is being promoted internationally. The Ghana Export Promotion Council has to some extent helped to promote Ghanaian jewellery outside, to the USA, Canada, Germany and UK. Six Companies including Pearl Jewellery Limited that is the researcher's Company were involved in this Contact Promotion Programme (CPP) in the USA and Canada, financed by the Commonwealth Secretariat in 1997. This was from 10<sup>th</sup> to 18<sup>th</sup> March 1997. The interim report, among others shows that

Catalogues are becoming the preferred shopping method for many Americans – especially senior citizens who are reluctant to leave home, and working people with less time. The report by Saican Consultant Inc. (1997:3) explains that the items that sell best in catalogues are usually new designs. The objects must be well photographed in small sizes, and all of them must be of a standard measurement, and must not break easily. They must also be easy to ship.

Ghana's gold jewellery cannot be said to fall within the above criteria since it is mainly handcrafted and each piece is slightly different in appearance and size. Merchandising via the Internet is essentially an extension of the catalogue business and most major catalogue companies have Internet sites. Easy entry has, however, opened up the market to many smaller players (Saican, 1997:3). The report explains that merchandising on the internet provides an opportunity for companies from Ghana, for example, to launch a mail-order operation at relatively low cost. Mr. Adu-Mensah, the then Deputy Director of the Ghana Export Promotions Council explains that if there is a cost sharing, each company will be required to pay initially US\$1000 and an annual subscription of US\$500 per annum. This amount is far above the reach of many Ghanaian Jewellery Companies, but the consultant refers to it as low-cost. During his visit to Ghana in March 2002, the

Commonwealth Secretary General held a meeting with the six sponsored jewellery companies. At the meeting, he promised that the Commonwealth Secretariat as a follow up to the implementation of the Saican report on the Contact Promotion Programme would further sponsor an e-catalogue on Ghanaian Jewellery on the Internet to facilitate the global sale of Ghanaian jewellery by e-commerce.

Jewellery sale by television is also very catchy in the United States. The CPP report explains further that TV shopping channels feature lengthy programmes extolling the virtues of the product and providing lots of background designed to create identification with potential purchasers (Saican, 1997:3). The TV shopping market, though less important at this time than mail order catalogues, have made a stride into the market place and will continue to grow. This type of channel has attractive advantages. The exposure is good, especially if the product offers story material for the show. Sales can be huge, and orders of 20,000-30,000 items are not uncommon. But, the return and payment policies can be extremely severe. This can put great pressure on the ill-prepared and financially weak producer (Saican, 1997:4). Ghana for now is far from the Market requirements of the United States of America, even though few companies have on their own tried to penetrate. However, Mr Kwame Kuamuar, the Managing Director of



Nouvel Bijou says he tried to get a home page on the Internet after the Contact Promotion Programme, but had to discontinue because of the cost involved. Pearl Jewellery is connected to the Internet, with an e-mail facility, but does not have its own website. The high cost of getting a home page has also prevented the company from doing so. Goldsmiths and other jewellers have insufficient knowledge about the export market. They are not abreast with the requirements of the international market. For example, the standards and technical demands and regulations like assaying and hallmarking are not adhered to. This affects quality control maintenance of expected standards.

In 1993, a commonwealth consultant on jewellery Dr. Theija Heittiarachi, in a paper, *Ghana tries to boost jewellery production for export*, said among other things that,

*Ghana can within the next five years earn 500 million dollars annually through the exportation of its quantitative indigenous handicraft jewellery if adequate attention is given to the effective funding and development of the product. Furthermore, the handcrafted jewellery industry can easily become the leading foreign exchange earner for Ghana (Theija, 1993:4).*

The required funding has not come from government, and it is over ten years now since Dr Theija wrote that report. Even if the government had given all the necessary financial support, the 500 million dollars he projects Ghana to earn from jewellery export is too high an ambitious figure.

Zigah (1986:7) also in her unpublished BA thesis says, by exporting her jewellery, Ghana can earn enough foreign exchange to purchase the things it cannot produce and also import machinery to improve her industries and the country in general. For Ghana to excel in Jewellery exports there is the need for more people to be trained in jewellery. As Theija, (1993:25) points out that, the most important part of Ghanaian jewellery is the quality design, and finish obtained by using hands and tools rather than machines. This points to the fact that even though, Ghana cannot compete with the developed countries in terms of machine made fine jewellery, Ghana has the unique advantage of handcrafted jewellery; and the former General Manager of Precious Minerals Marketing Company (PMMC). Adubofour (1992:2) said at the opening of a jewellery exhibition that the PMMC has established a modern workshop to train jewellers and to help upgrade the performance of those already in the trade. But the PMMC has not kept its promise and faith. Instead of its promise to train goldsmiths to

upgrade their skills, it has rather used its workshop to go into direct competition to produce and sell jewellery. Unfortunately, the PMMC now imports jewellery from Israel to sell, instead of exporting such items to earn foreign exchange for Ghana. The upgrading and training of the youth in goldsmithing are not motivating enough. The older generation of craftsmen is passing away but they usually bequeath their knowledge and skill only to their offspring. Therefore the secret of the trade mostly stays within the family. Since many men decline to enter the trade, and since many of the goldsmiths are not willing to pass on the secrets to outsiders, the art is gradually dying. At the moment very few dedicated and honest goldsmiths exist and it is only a small percentage of the number that produces designs of excellence.

In order to get more people to be interested in goldsmithing, the business has to be more viable. The viability of the industry is discussed extensively in chapter seven, and consumers have to be educated to appreciate handcrafted jewellery, be able to differentiate handcrafted from machine made work, and be able to differentiate carat gold from electroplated work.

Hughes (1966:11) in his book *Modern Jewellery* writes that it is probable that the best jewels are those that are commissioned from a designer,

rather than bought ready made from a salesman. This is the good and encouraging news to Ghanaian jewellers including goldsmiths that even in Europe, there is the demand for handcrafted designed jewellery. The researcher is still echoing that the Ghanaian handcrafted jewellery industry should be given a boost by government. From the above discussions, even though it is realised that the Ghanaian jewellery industry has a high potential for export, the government has not played enough supportive role. In its Public Investment Programme 1988-90 Volume 2, Number one, prepared by the Ministry of Finance and Economic Planning on the development and expansion of non-traditional manufactured products, mention is not made of jewellery. Jewellery was not recognised in 1990 as a non-traditional export earner when a report under the heading, "Development and Expansion of non-traditional Manufactured Products" was produced. The report stated as follows:

*The programme is designed to boost up non-traditional exports through the provision of financial and technical support to selected export oriented companies ...to enable them raise the quality of their products/produce to international standards. ...The companies will be assisted through credit facilities in foreign exchange to produce raw material inputs, machinery, equipment and technical know-how.*

The Ministry of Finance and Economic Planning designed the above programme. About thirteen years after the above report, today, the Ministry of Trade, Industry and President's Special Initiative is reported on page 20 of the 21<sup>st</sup> July 2003 edition of the People's Daily Graphic as having selected the handicraft sector under the Rural Enterprise Development Programme for special development. Under the programme, the district assemblies are to select three commercially viable flagship projects, which will generate businesses and enterprises in rural communities over a three-year period (Gobah, 2003:28). The sector Minister, Alan Kyerematen, who was inaugurating the Advisory Board on Handicraft in Accra, said the decision to single out the handicraft sector for immediate development was the result of the sector's performance in terms of revenue generation over years. (Gobah, 2003:28) The handicraft sector has received a lot of governmental support over the years. If the same attention and support were given to the jewellery sector, it would also have generated enough revenue. Even though the government has not neglected the jewellery industry completely, it still has to give more financial support to the sector.



The Board is under the chairmanship of Miss Hajia Alima Mahama, Deputy Minister of Trade and Industry in charge of Small and Medium Enterprises. Other members are Mr. K. Adu-Mensah, Mr. R.K. Adjasoo, Mr. Ladi Nylander, Mr. Robert Ellis and Mr. Selasie Tetevi. The rest are Mrs. Bridget Kyeremanten-Darko, Mr. K.O. Asante, Mr. S.Y. Bortsi, Nana Asantewaa Boateng and a representative each of the Kpando and Aburi Carvers Co-operatives. The composition of the board now is mainly all handicraft affairs. It would be a laudable idea if at least a jeweller were also nominated to the board to air out the views of jewellers. Mr. Alan Kyerematen continues to say that, although the sector faces difficulties, such as inadequate raw material supply, difficulties in accessing credit, poor design and quality and late delivery, among others, its performance has increased over the years and has reached \$11.0 million.

He said the ministry, under the new Industrial Reform and Accelerated Growth Programme is to develop an export-oriented industrialisation, focused primarily on agro-processing and other manufacturing activities as well as involving mass mobilisation of rural communities and other vulnerable groups. The minister said one component of the strategy is the implementation of the President's Special Initiatives on cassava starch, salt, palm oil, garments and

textiles. He said the second strategy is to pursue a comprehensive import substitution industrialisation programme targeted at producing locally 70 per cent of all non-petroleum government imports as well as 50 per cent of all processed foods imported by individuals and companies.

KNUST



**CHAPTER THREE**  
**PRODUCTION PROCESSES:**  
**THEIR PROBLEMS AND SOLUTIONS**

**3.0 Introduction**

In every manufacturing set-up, the process cannot be complete without the mention of the production processes. In every production process therefore, there is the use of tools, machines, equipment, labour and raw materials. The place to carry out the production activity is also important. Some of the equipment used in production can be described as ancient or modern. In today's terms, they can respectively be described as outmoded or hi-tech. Even though most of these modern production tools, equipment, and processes are not used in Ghana, some of which may not even be necessary, there is the need to still mention them, including their uses.

Technological development in Ghana has been at a slow pace and this has hampered the growth of most industries including the jewellery industry. In discussing the problems, attempt are made to offer useful solutions. Even, in the course of collecting data for the preparation of this thesis, many jewellers were advised about the way of improving

their production processes. The pieces of advice given have been indicated in various parts of this thesis.

### **3.1 Problems and solutions to land acquisition and development in Ghana**

It is important to write on the problems and solutions of land acquisition in this chapter, before tackling the production processes because, land plays a very important role in the establishment of a jewellery factory. Without land, a factory cannot be set up. And it is well known that the problems of land acquisition in Ghana have been a major hindrance in attracting foreign investors into the country.

Setting up a factory or workshop, especially for jewellery, requires among other things the place to work. The place, called land in economic terms is one of the factors of production. The place could be a rented, leased or direct purchased premise or piece of land. The process of acquiring the place, whether it is rented, leased or purchased has numerous problems. In my interview with Mr. J.E.K. Dadson, a senior Lands officer at the Lands Department in Accra, he said that, there were nearly 36,000 land litigation cases pending before the courts all over the country since 1994. On how to reduce such problems, Mr. Dadson called for a revision of laws and regulations

including those on land use, planning and valuation for efficient land administration. I agree with Mr Dadson's view but add that there has to be public education on the sale and resale of lands by Chiefs, and also prospective buyers must first check information on the land they intend to buy at the Lands Registry before doing so. This will prevent the need to go to court in the first place since the problem when prevented is better than trying to resolve it at the law courts. There are presently some processes of review going on but whether the laws can be easily reviewed or not, is another issue. This is because the processes of law review take several months if not years. Stake holders have to be consulted, the public will also have to send memoranda, and the Attorney General's Department would have to draft the new bills, which have to be passed by parliament. It has to receive presidential assent to become law, and then finally published in the gazette to become operational. The Supervising High Court Judge for the Volta Region, Mr. Justice Paul Gyaesayor, has called for the simplification of laws governing land administration in the country in order to forestall problems associated with the prevailing system. He says, "the government should establish a system under which all the processing of all land documents could be facilitated under one umbrella in order to end the present fragmented system which was very cumbersome and expensive" (Graphic, 2003:16). The Supervising



High Court Judge made the call at the opening of a two-day consultative forum at Ho by officials of the Land sector agencies in the Volta Region. He continued to say that the Judiciary is inundated with grievances pertaining to land ownership, some of which have been in contention for more than thirty four years. At the same forum, the then Deputy Minister of Lands and Forestry, Madam Theresa Naa Ameley Tagoe, said, “it would take fifteen years under a new land administration programme to evolve coherent and consistent policies and laws to rid the land market of indiscipline” (Graphic, 2003:16). The learned Judge and the Deputy Minister have made very good points, but have not offered any practical solutions to the problem. The various institutions working under one umbrella, will not totally solve the problem since even though part of the problem is administrative, it has more to do with educating the chiefs, as pointed out earlier to stop double sale of land.

When renting a premise, a Rent Control Officer in Kumasi, Mr Samuel Adjei, who quoted the rent control law, Rent Act, 220 of 1963, said that the law specifies among other things that rent should not be paid in advance of more than three months, and within one month after renting the premise, the landlord must issue the tenant with a rent card, which must be replaced every four months, but in Ghana, when

one is renting a premise, if it is for commercial purposes, the landlord will collect or demand first, 'goodwill', and then rent advance for so many years.. The 'goodwill' is money that is paid to the landlord, just because the place is to be used for commercial purposes. This amount ranges from about twenty five million cedis in the suburbs of Kumasi to about one hundred and two hundred and fifty million cedis in the city centre as at August 2006. The amount paid as 'goodwill' is also influenced by the nature of business that one wants to use the premise for. Opanin Kwaku Kra, a landlord at Aboabo Number One, a suburb of Kumasi confesses that he does not understand what purpose the goodwill serves but that was what he came to meet. He also says that since it is very expensive to put up a house, and that the demand for such commercial premises are high, there is the need to charge goodwill. The problem therefore is that, in certain cases, the client has to pay this money just at the beginning of the construction stage. Money that could be used for some other business or invested to yield profit is paid to the landlord and locked up for sometime, over three to four years. Receipts are in most times not issued since the practice is illegal. A shop owner at Ayeduase, near KNUST, claims that he has paid one hundred and fifty million cedis as 'goodwill' for three rooms he intends to use to expand his business. For over two years, the buildings of the rooms were not completed; and according to him, he

has really been drained of working capital because he took the money as a loan from the bank and anticipated that the building would have been completed within the promised ten months. He is now paying interest to the bank for locked up cash.

In Accounting terms, according to Mr. N. Y. Yentumi of John Allotey & Co, an accounting and auditing firm in Kumasi, 'goodwill' money is factored in the rent advance paid to the landlord. It is therefore spread over a period. But in reality, the landlords do not refund 'goodwill' money. However, normally, tenants fail to take their landlords to court for redress. It is therefore a liability and not an asset.

A jewellery company paid 'goodwill' money for a new showroom in Adum, Kumasi in March 1999, when the building had then been started. The rooms of the ground floor of the building were all rented out before their completion in February 2002. New tenants who came in after completion, had shops and office spaces only on the first and second floors, after paying three times what the earlier tenants had paid as 'goodwill', plus two years rent advance quoted in dollars. This therefore means that if at the time of payment, the dollar rate goes up the cedis equivalent also goes up. This guarantees a stable income for the landlord, while the tenant has an indirect rent increase. Quoting of

rent in foreign currency is illegal, but no one seems to be able to enforce the law due to scarcity of rooms. It must be noted that, one interesting aspect of the acceptance of the 'goodwill' by the landlord is that if he believes that the tenant may be impatient to wait for the construction to be completed, he will not accept the 'goodwill', and in such a case, the tenant has the disadvantage of paying more after construction. Most commercial buildings in cities therefore get rented out before construction is completed, otherwise one may not get a good and strategic location. The whole system of 'goodwill' is somehow corruption.

When the place is an outright purchase, it means that the purchaser becomes the owner of the land or property. In the Ashanti Region, lands are leased for ninety-nine years if it is for residential purpose. It is leased for between twenty to fifty years if it is for commercial purposes. In an interview with Nana Tufuor of the *Asantehene's* land Secretariat at Manhyia in Kumasi, he stated that, when one wants to sell a building on a leased plot, one has to seek the consent of the landowner, the *Asantehene*. In such a case, the new owner is entitled to only the remaining years left for the expiry of the lease. Even if one wants to mortgage the building for say, a bank loan, according to Nana Tufuor, the *Asantehene's* consent must still be sought. All land in the

Ashanti Region and most lands in the Greater Accra Region are sold on leasehold. Mrs. B Bobobee, the Ashanti Regional Administrator of Stool Lands in an interview said the other regions mostly sell out their lands on outright purchase, and this is called freehold. This means that once the agreed price for the land is paid and the necessary documentations completed, the land becomes the bona fide property of the new owner. In such a case, if the new owner decides to sell it, he does not need to consult anybody for his consent.

On deciding on a location for establishing a jewellery factory therefore, there is the need to make or take certain economic decisions. Some of these are accessibility to raw materials, nearness to the market and utilities like water, electricity, and in certain cases, telephone. The economic considerations however vary according to the type of jewellery that is being produced. The copper jewellery producers at Sewua, a suburb of Kumasi in the Ashanti Region, work under trees and are therefore at the mercy of the weather. They may have to stop production when it rains. This will account for low productivity because they have to stop working when it is raining. No wonder, most jewellery producers, during the rainy season turn to farming to supplement their income. Since they farm alongside the production of jewellery, there is inconsistent and low jewellery production output.



Madam Monica Asomadu from Darbaa who manufactures beads, says that her family has cultivated cash crops like citrus and palm trees alongside vegetables. The income, especially, from the cash crops is used as additional working capital in her beads business since she has not been able to access loans from the banks in this country. This researcher has, after interviewing Madam Monica, seen the wisdom in the cultivation of cash crops to supplement her working capital. This issue will however be discussed extensively again in Chapter Six which deals with suggestions and recommendations.

As it has already been indicated, acquiring land in Ghana for the manufacturing of jewellery or for other purposes, one has to go through very cumbersome procedures. Even acquiring a building permit is more frustrating. Most people therefore do not have building permits before putting up their buildings. Pearl Jewellery in Kumasi applied for a permit to put up a building at Ejisu since 1999 for the production of jewellery. Even though all the necessary fees including the inspection fees totalling two hundred and fifty thousand cedis were paid to the District Assembly in that year, by September 2003, when I started writing this PhD thesis, the building permit had not been issued to me. By 2003, the fees for acquiring a building permit in the Ejisu-Juabeng District Assembly in the Ashanti Region, had been

increased to C1, 050,000.00. The reason for the increase, according to an assemblyman in the District, Hon. Patrick Abiriwo is that a proposed inland port to be constructed in the District by the Ghana Shippers Council and the Ghana Ports and Harbours Authority, will attract a lot of investors to make business very lucrative in the district. Increases in price are truly linked up with increase in bids for land. The new fees are all above the reach of most artisans and craftsmen including goldsmiths and other jewellers. Most developers in the District now therefore continue developing their lands without permit. All that the assembly's task force does is to write a notice on the building **Stop Work by order, or Stop work, Produce permit**, without enforcing the order.

Regarding acquisition and development of lands, if the land is to be acquired from a chief, irrespective of whether the land is acquired on lease or if it is an outright purchase, one has to book an appointment to see the Chief. According to Nana Kwesi Yeboah II, Chief of New Ampabame, near Ejisu, if anyone comes to him with the intention to buy land, he informs his elders and the Chairman of the land allocation committee, which includes himself the Chief, some elders, the unit committee member for the area and the head of the chief's family. The prospective buyer is then asked to go and come back to

check on the appointment day. When he makes his second call, he is then given a day to come to meet the committee. The date is normally fixed on a Sunday since most people are available at home on Sundays. On the appointed day, the prospective buyer goes to the committee with a bottle of schnapps to present to the chief and his elders as tradition and custom demand. The prospective land buyer then informs the committee of his mission. The chief and his elders, through his spokesman will welcome him and then inform him of the price of the land. If he is interested then he pays some money for some people to go to demarcate and show him the piece of land and its location. If he likes the place, then he either pays for it or fixes another date that he will come back to make payment for it. If he pays for the land, an allocation note indicating the plot location and number is issued to him.

If the land is to be acquired from a chief, whether on leasehold or outright purchase, there is the need to first, book an appointment with the chief or family head. According to Nana Sarfo Ababio II, the Chief of Kotei, near KNUST, if anyone books an appointment with him to buy land, he sometimes intentionally does not honour the appointment. He disappoints the person for about once or twice, just to let the person know that it is not easy to buy or get land. He also

does not deal with middlemen but with the prospective buyer. According to Nana Sarfo Ababio II, the appearance, of a prospective buyer, his educational background, social status and the purpose for which he is acquiring the land, influence the price he (Nana Sarfo) quotes for the land. There are, however, certain areas where land is sold through family members, but in this case too, the family members inflate the price. There are normally no receipts issued; all the money paid is said to be 'drink money'. It is only an allocation note as shown in plate 3.1, and a site plan as indicated in map 3.1 that are issued stating the plot number and site. If the amount is not fully paid, the allocation paper is not issued. The problem, therefore, is that should any mishap occur, there might not be any evidence of ownership or claim from anybody. After the allocation paper is issued, it is taken to the Lands Commission for a search to be conducted to find out whether the land has already been allocated or registered.

## KOTEI OWIA – OWO – ADE STOOL LANDS

P. O. BOX 88  
UST  
KUMASI

DATE 24th June 2015

Dear Sir,

KUMASI PLOT NO. 1 BLOCK XVI KOTEI

We, the undersigned, have the honour to inform you that the above-mentioned plot has been allocated to WUGGAFIEN KOTEI HENE, NANA VICTOR ADEO – KOTEI.

And we shall be grateful if the necessary action will be taken.

The allocation is made subject to the following condition:

1. That the Allottee will pay the ground rent involved.
2. That the Allottee will within one (1) year commence and within two (2) years complete building on the plot.
3. That the OWIA –OWO-ADE Stool reserves the right to re-enter on the plot if any of the above conditions is not complied with and without any right of claim by the Allottee for expenses or compensation.

We have the honour to be,

Endorsed by Asantehene

I accept the conditions

[Signature]  
ALLOTTEE (BY HON. ASANTEHENE)

Your Obedient Servants,

1. [Signature]  
KOTEIHENE

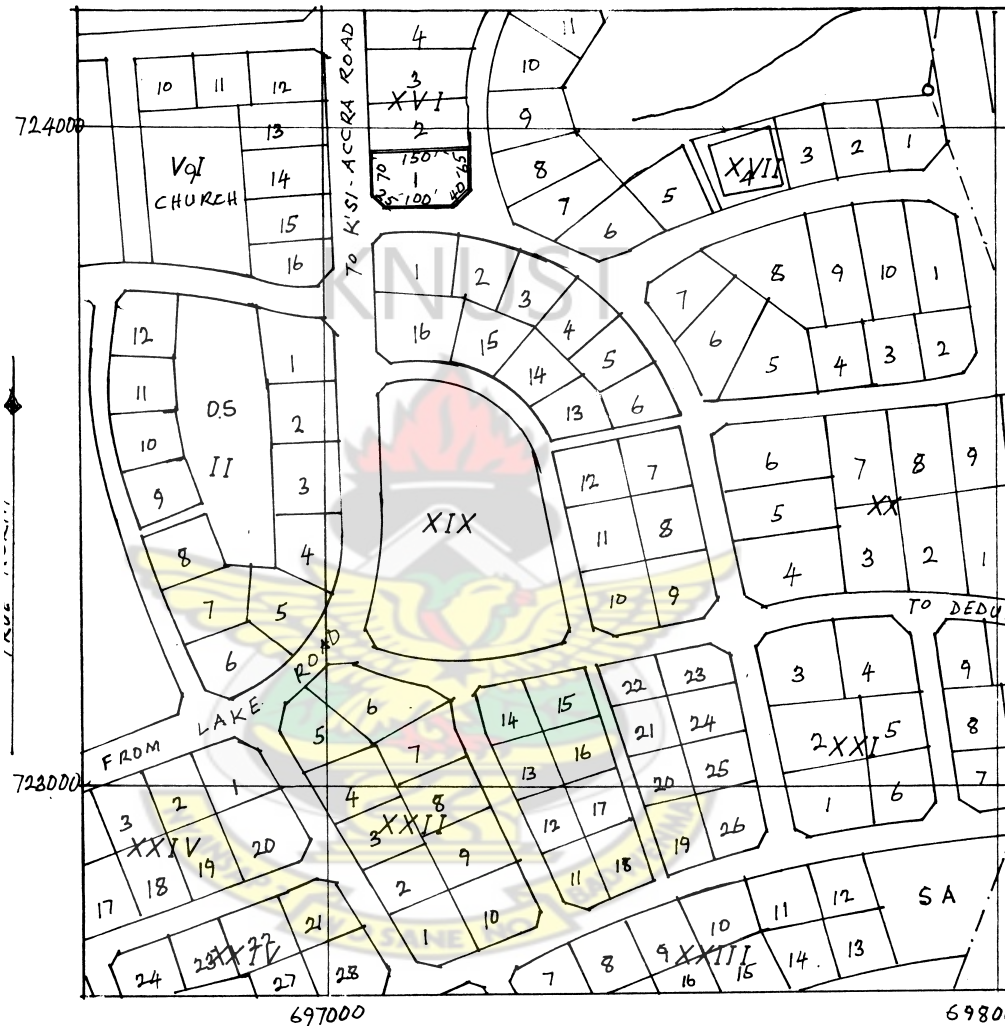
2. [Signature]

3. [Signature]

THE SENIOR LANDS OFFICER  
LANDS DEPARTMENT  
P.O. BOX 43  
KUMASI

*Plate 3.1. An Allocation note signed by Nana Kwaku Safo II and his elders*

**KUMASI-KOTEI**  
**PLOT No.1 BLOCK XVI**  
**FOR WORLANYOH KOTOKU & MRS VICTORIA ATTOH-KOTOK**  
 — Shewn Edged Pjnk —  
**SCALE=1:2500**



Map 3.1 A sample of site plan belonging to the researcher



An enquiry at the Kumasi Metropolitan Assembly and the Regional Town and Country Planning Department in Kumasi revealed that government reserve lands can be acquired at very minimal annual rentals. According to Mr. Paul Osei Bobie, the District Town and Country Planning officer for Mampong in the Ashanti Region, about 30 metres near most major roads and about 15 metres along most streets in the cities are government-reserved areas. It came to light during the collection of data that some smart businessmen had acquired these lands, put up shops, and then renting them out at exorbitant prices.

The Ghana Railways Authority was also mentioned as having vast land, which it rents or leases out for about twenty-one years. The procedure for acquiring land from the Railways Authorities is simple. An application is made to the Managing Director in Takoradi through the Regional Engineer in Kumasi who will attach a site plan of the area one is interested in. Within one month, approval will come and a building permit is sought from the K.M.A. and the Town and Country Planning Department, and construction begins. It is interesting to note that all these processes, however, do not proceed fast if tips are not given to boost the officials to process the documents. Even if the

permits are refused, the applicants still go ahead with their development.

As regards the leasing of the railway lands, as another source of acquiring land to put up structures including stores for all sorts of businesses, including jewellery so as to boost the trades and increase sales, this researcher in an interview with the acting Chief Director of the Ministry of Harbours and Railways, Alhaji M.N.D. Jawula, said that, the Ministry and the Ghana Railways Authority (GRC), has stopped leasing out its land to developers since it has been abused and other people took advantage of it to encroach on other parts of the land that had not been leased. He therefore said that the GRC has even been issuing out quit notices to squatters, and had issued a final warning to all such squatters and traders along the country's rail lines to quit or be forcibly removed. He said that thousands of such squatters have encroached on rail lines and the land along the lines in Accra, Kumasi, Takoradi and Tarkwa turning them into trading posts and perching grounds. The problem caused by the Ghana Railways Corporation is that the people are likely not to be squatters as it is being alleged, but are tenants who claim to have dealt genuinely in acquiring their lands from the Ghana Railways. According to the Chief Director, the squatters were initially given up to the end of April 2005 to quit but

said the ministry had decided on humanitarian grounds to extend the deadline to the end of June 2005. He reiterated the fact that the GRC had been lenient on the squatters because most of them acquired the land illegally through some unscrupulous staff of the GRC. The acting Chief Director said the GRC Law made it unlawful for the erection of any structure within 15 metres on either side off rail tracks but indicated that the GRC had decided to demolish only structures within 15 metres of the tracks during the first phase of the exercise. Alhaji Jawula further alleged that prostitutes, drug peddlers, thieves and some traders have been occupying some structures built illegally on some of the lands owned by the Railway Authority.

On the fifth of October 2006, the Ghana Railways Company Limited again directed all occupants of railway lands within a distance of 15 meters on both sides of rail tracks in the country to vacate those lands on or before October 25, 2006. It warned that all structures must be removed from the lands before the October 25 deadline. The statement issued by the railway company said “Any occupant on the specified railway lands who fails to comply with this directive shall be forcefully ejected and prosecuted after the deadline”<sup>2</sup> It said any occupant with a valid building permit from a metropolitan, municipal or district

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<sup>2</sup> Daily Graphic of 5<sup>th</sup> October, 2006 page 16

assembly should submit the original document of the permit to the city engineer for vetting. It said the vetted copy must then be submitted to the Railways Area Manager before the October 25, 2006 deadline. The statement further reminded all the occupants of railway lands that the exercise was the first phase to eject all occupants within a distance of 30 metres on both sides of the rail tracks.

A visit by this researcher to the rail lines around Kejetia through the Central market to Akwatia Line in Kumasi showed that some encroachers even lived very close to the tracks. Items such as washed clothes, sleeping mats and other personal belongings were openly displayed on the tracks. While hawkers sell in the middle of the rail lines, only to run away at the sound of an approaching train, pedestrians who have been deprived the use of the walkways use the tracks, a situation which sometimes caused the life of pedestrians. Living close to the rails pose a great danger and monies that the government could use to provide amenities and to use to improve health needs are used to cater for such squatters when they fall sick or are knocked down by a train. Plate 3.2 reveals a seen in Accra of squatters living close to a railway line.



*Plate 3.2 Squatters along a railway line in Accra (Source :Graphic Corp.)*

The problem as mentioned earlier which has been caused by the inconsistency on the part of the GRC is that, while lessees of railway lands claim their documents are genuine, since they have violated the law that prohibits the erection of structures within 30 metres, there is now the likelihood of losing their properties through demolition. Structures likely to be affected include Jewellery shops like Crucibles Jewellery and Letap Jewellery Ltd., among others, all in Accra. According to the GRC regional engineer in charge of Ashanti Region, the agreements normally state that the structures to be put up should



be of temporary nature, but some people are able to get building permits to put up permanent four-storey buildings or more. At the offices of the Town and Country Planning, they also claim that the permits are normally issued for temporary structures but when the landowners go to build, they put up structures that are entirely different from what have been approved. They are unable to do anything because they are not the enforcement agencies.

At Darbaa in the Nkawie District of the Ashanti Region, according to the Secretary of the Bead producers, Mr Michael Opoku Asomadu, the land on which they produce their beads is a family land and they did not have to go through any cumbersome processes to settle and work on it. They even live there with their family. This is also the same with the gold weight brass casters at Kokobin Krofufrom, also in the Ashanti Region. They also work on family lands and do not have any formal acquisition documents. One foresees a problem in this type of land acquisition, in that when any other family member may require a piece of land for any other use apart from jewellery, it may lead to litigation. At the other practising centres visited by this writer however, no problem of such nature has occurred yet. Also, because most of the jewellers produce from their homes, their attitude towards production is not businesslike. The Ghana Export Promotion Council



has put up production sheds in both villages, ie Darbaa and Krofufurom on lands given to the Council by the Chiefs of the villages. According to the Ashanti Regional Export Promotion Council Officer, Miss Gertrude Ansah, as far as she is aware, no formal acquisition or title deed to the land was made since the sheds in the villages were put up for jewellers of the two communities by the Council to boost their business. Still concerning the citing of land for the production of jewellery, Mr Kwami Adinkra, an ivory carver at Adum informed the researcher that when the *Ivory* carvers at Adum, arrived mainly from Havé and Vakpo in the Volta Region of Ghana, the *Adumhene*, gave them the land on which they are practising their craft. The carvers chose Adum because according to Mr Adinkra's late grandfather, Adum was then the centre of the goldsmithing trade. Prof. Edward S Ayensu confirms this in his book, *Ashanti Gold* that goldsmiths traditionally congregated together in the part of the town called Adum where they were under a measure of royal control and supervision. (Ayensu, 1997:167) Their working place presently is under the K.M.A., and since they do not have any title to it, they are almost always threatened with ejection. They however pay ground rent to the K.M.A.

### 3.2 Problems of location of jewellery workplaces

In Ghana, there are so many factors that affect the location of businesses including jewellery making. One of such factors, that are a hindrance to the development of the industry, is that some of the jewellery workshops and stores are located at some places that are not industrially and commercially suitable. One may have located one's business at a particular place because the land or storeroom is an inherited property freely obtained. This may adversely affect the promotion of the industry because the shop is located at a place that is not good for the products to sell fast. The cost of production may also be very high and the items may therefore be expensive.

Traditional practices, as pointed out earlier, is another factor that influences the location of jewellery industries especially goldsmithing. According to Kotoku (2001:67)

*Goldsmith shops are also located in the corners of houses where goldsmiths' work with their children as apprentices. Some of these children do not have the privilege to have formal education. It is common sight today to see goldsmiths 'cluster' in a shop. In Kumasi, goldsmith shops are scattered all over the city with about two to about five 'masters' and their apprentices working under one roof. ...This, of course, is a hindrance to progress (Kotoku, unpublished MA thesis 2001: 67).*

This has been the practice since time immemorial, when goldsmiths have been located within the corners of the courts of chiefs, who commission them to produce their jewellery. Traditional practices therefore have hindered the growth and progress of the jewellery industry. Professor Edward S. Ayensu, corroborated my point by writing that, traditionally, goldsmiths worked in or near their own homes, which were usually a group of rectangular rooms arranged on three or four sides around a small courtyard (Ayensu, 1997:168). He continues to write that in some cases, they worked within the courtyard, perhaps sheltering from the fierce tropical sun in the shade of a tree or under a flimsy open-sided shelter made with a leaf thatch (Ayensu, 1997:168). There are no planned industrial estates in the country. The only attempt to build an industrial estate is by SSNIT at Weija, near Accra, where the College of jewellery is located. Even with this, the diverse nature of the industries targeted to be located there has not made it very effective.

*There is no proper lay out of the workshops, the smiths come out with their work tables to work during the day and pack them back after close of work. This practice, consumes a lot of strength and man-hours, which could have been used to increase production. Most of the owners of goldsmith shops in Koforidua, Cape Coast, Kumasi and even Accra still continue to remove their working tables and tools at the end of the day's work (Kotoku, 2001:69).*

It must be noted that these problems associated with workshop layout do not apply only to gold jewellery, but also to other forms of jewellery making like bead making and brass casting. A solution to this problem that slows down production is that, the jewellers should form co-operatives and work under one workshop as said earlier. The differences here, however, are that, instead of clustering in one small room, they could rent a big hall that they could use as a workshop and share the cost of the rent.

*The modern jewellery workshops in Ghana, in most cases are located either behind or adjacent to the showroom. For security or some other reasons, the workshops are enclosed. This means that there is one door leading to the workshop from the showroom (Kotoku, Unpublished MA Thesis, 2001:69).*

As for the bead making workshops, they are mainly thatched roofed buildings located on the compound of a family dwelling, or the outskirts of a town. (See plates 3.3 and 3.4). One of the problems of the workshops for making gold jewellery in the city centres is that they were not initially built for producing jewellery. They were rather built and rented, and used as shops, and that there is hardly a room for expansion. For this reason there is often a limit to the profit to be

reaped by jewellers. Also, since the industry is practised mainly in the city centre, there it is not easy to get access to undeveloped land. Undeveloped lands within the commercial areas are under the Local Metropolitan Authorities and are rented out for the erection of temporary wooden structures like kiosks for say hairdressers or barbers. Buildings constructed with cement blocks or permanent structures will not be allowed. The premises for the workshops are therefore mainly rented at high costs including many years advance payment. In the developed world unlike Ghana, where closed workshops exist probably because of their weather, or climate, their gold jewellery workshops have very well fumes and waste disposal systems that even within their air-conditioned workshops, one cannot see a drop of dust.

Like gold jewellery producers, the bead manufacturers and copper jewellery producers also work in the open spaces in the villages. There is no security, and health regulations are also not adhered to. The workplace is sandy and not a cemented floor. This writer's suggestions to the security and health problems are that jewellers especially those who work in open spaces if they are many in a village, can contribute money and rent a room, where at the close of the day, they can pack their wares. On the other hand, they can also arrange with other shop



owners so that at the close of work they could keep their items in their shops. The shop owners may however charge them some money for keeping their items for them. It could be on a monthly, weekly or daily basis.



*Plate 3.3 Opened bead workshop at Koforidua (Source: Picture by researcher)*





*Plate 3.4 A Woman jeweller producing beads in an open workshop in Koforidua (Source: Picture byresearcher)*

### **3.3 Problems of acquisition of tools and equipment**

There are problems associated with the acquisition of tools for the production of jewellery. Though basic hand tools can be used to produce certain types of jewellery in Ghana, it does not mean that the production of jewellery does not require sophisticated tools or equipment, as in plate 3.5, but this is because the production methods employed in Ghana by the jewellers are mainly handcrafted and labour intensive. This makes the production process in Ghana very slow. On the contrary, machines used for making jewellery in the developed countries, even though have become more compact, sophisticated and expensive, they are too expensive for most Ghanaian

traditional jewellers to buy. The modern equipment has made production faster and cheaper. For example, Precious Minerals Marketing Company (PMMC), Nana Yao Boakye Jewellery and Casting Ltd., Kumasi and Letap Jewellery Limited, are companies that have sophisticated casting machines, which they cannot use to full capacity. Valachi Jewellery, New Jesse Jewellery and Hagest Jewellery, all in Accra have bought portable centrifugal casting machines. Today, there are well-developed, modern and compact casting equipment like the vacuum casting equipment. There are also the rotating polishing machines and tumblers that are automatically operated. With the tumbler for example, once it is set on the speed of rotation and the time of finish, and switched on, it operates by itself until the time set has elapsed. There are also new machines to be used from the designing stage to the finishing stage. All these are to help in producing jewellery faster and at a less expensive cost. Most jewellers, that is, goldsmiths, bead producers and casters, do not seem to know the modern trends. Even if they know, acquiring the machines may be above their means. The College of Jewellery and ATAG in Accra have very modern state of the art vacuum casting machine bought for them by USAID. Since these machines were donated to the Institutions by USAID, It is suggested that they put it at the disposal of other jewellers. This is

because on their own they would not have been able to buy the casting machines since it would have been overcapitalising.

Unlike in 1998, when basic equipment for the industry was scarce, now there are a lot of dealers selling the tools. The increase in the number of people dealing in the tools business might have occurred and become more lucrative probably due to the increase in the number of trainees in the formal training sectors of the trade. For instance, the Metals section of the College of Art and Social Sciences, KNUST, and the College of Jewellery, Weija, near Accra, have been training graduates and diplomates in jewellery making. Another probable reason for the increase in the dealers on the jewellery tools and accessories might also be that, most of the jewellery trainees are anxious to start their own enterprises after finishing their training. They invest a lot in acquiring the basic tools while in training. They acquire these tools because it is a prerequisite for jewellery trainees to buy their own tools during training. They therefore have no choice but to acquire them. The problem, however, with the tools sold in Ghana is that since the dealers sell them for much profit, they import cheap and shoddy tools for which they can make a lot of profit. Since the students or jewellers do not also have enough money to afford to import good quality and expensive tools, they are forced to buy and sell inferior ones. This

tends to make the jewellery products look unattractive. It is my suggestion that the training institutions should import these tools themselves, or contact local manufacturers and importers, who will import them on their behalf at a discount or negotiated price. The institutions will then sell them to the students. This will solve the problem of buying inferior tools since the training institutions will import the tools based on the specifications of the schools.

A local research unit like the Technology Consultancy Centre (TCC) of KNUST is capable of producing basic hand pliers for the Jewellery and other industries. The Technology Consultancy Centre presently produces ceramic trays for the bead producers. The few bead producers, who are aware of this, claim they do not buy from the centre because the trays are expensive. The TCC has also not conducted any survey to find out why the products are not being bought. Jewellery producers using materials like bamboo, glass, wood and leather for making beads, use a lot of improvised tools like knives, chisels and hammers.

Mr. Korlettey, a blacksmith at the Metals section of the College of Art, KNUST, produces some of the local pliers, which he sells to students of the section. His pliers do not grip as efficiently as the imported ones

and they are also equally expensive, except that foreign exchange is saved because they are got locally.

Mr. Dan Amrago, a research fellow of the Technology Consultancy Centre, KNUST says the tools manufactured by the blacksmiths for the jewellery industry can be improved upon a request to his outfit. Research will be conducted to get the temperature for hardening the steel so as to get precision tools made not only for the jewellery industry, but also for other related industries like carpentry or masonry. If the Technology Consultancy Centre is able to break through in the manufacturing of basic tools for the jewellery industry, the improvised ones fashioned by blacksmiths may no longer be used. Orders will also not have to be placed for any more efficient tools from the foreign market. This is because one of the problems and dangers in importing is that there is the likelihood that the suppliers will not send specified equipment. Mr. Kwame Kuamuar, the Principal of the College of Jewellery in Accra confirms that, through a grant from the USAID, the College ordered certain tools for use by the students of the college. When the tools arrived, according to Kwame, some were substituted with a note stating that because they did not have what was requested, they had substituted for what was closest. Since the tools had already arrived in the country, it would have been more

expensive to reject them. The substituted tools are now locked up since they are not what they wanted, and they cannot serve their purpose. The probable reason for the substitution was that the money was transferred with the order, and the suppliers did not want to make a refund.

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*Plate 3.5 Set of Modern Casting Tools made in Germany*

Another problem of tool acquisition is that, apart from insufficient foreign currency facing the country as a whole, the individual jeweller does not have enough money to place an order for tools made in foreign countries. Banks and leasing companies shy away from investing in equipment, especially for the jewellery industry. This is because unlike equipment, that have universal use, such as computers, tools for the jewellery industry is limited to only the jewellery industry and if a company defaults in payment, it will be difficult to dispose of the tools to pay off the debt. During the fieldwork for the researcher's previous thesis, it came to light that banks are not keen to lend to small businesses because of their high failure rate. Banks may lend more if the owner has a reasonable investment in the business. Another reason for the banks' refusal or reluctance to lend, according to Mr. Fred Adu, Manager of Standard Chartered Bank, Kejetia Branch in Kumasi is that, small businesses have insufficient collateral security and a poor record of earnings. Mr. Fred Adu also points out that the failure rate of small businesses under which jewellery falls is very high. He puts it around 60 percent, and even though their main problem is insufficient capital, the banks may be of little help.

Most goldsmiths or jewellers desirous to produce jewellery in this country therefore use outmoded and second-hand equipment, which are not favourable for mass production, and which do not augur well for good finishing techniques. Equipment and tools in the Metals section of the College of Art, KNUST, for instance, date back to the 1960s and are therefore not very efficient to meet modern demand in terms of mass production and lustre. The Metals section can seek assistance from non-governmental organisations for the supply of modern equipment. Mr. Johnny Halm, the former head of the Metals section of the College of Art and Social Sciences sent out letters soliciting for financial support for the section. If the letters soliciting for financial support for the section had succeeded, then the students being trained would have become more efficient and their output would have increased because they would have been trained with modern tools that would have made them more efficient, and the industry would have seen a resulting growth. Students who travel abroad for holidays should also use part of their earnings to buy tools and sell some of them to their colleagues at moderate prices (Kotoku 2001:82).

Another probable solution to the acquisition of equipment is that jewellers including goldsmiths should form a Co-operative Union

where members would contribute money to order the tools in bulk and sell them to the members. This view has almost always been discussed at meetings of members of the Federation of Ghanaian Jewellers, and other jewellery groups and associations at their least opportunity. This writer, a member of the Federation of Ghanaian Jewellers attends such meetings and lauds the move of the association in trying to source funding to buy tools in bulk for its members. Since the tools are to be bought in bulk, there could be discount in quantity purchase and also freight charges.

### **3.4 Manufacturing processes: their problems and solutions.**

Melting of materials is an integral and important aspect of the jewellery making craft, especially the aspects of the craft that involve the use of metals as in the case of gold, and silver-smithing, brass casting, and glass bead making.

On the use of new technologies, Aid to Artisans Ghana, (ATAG) has in the month of June 2005, promoted four new technologies that have emerged in Ghanaian bead production at its showroom at the Ghana Trade Fair Centre, La, in Accra. This was when this writer went to the ATAG Media laboratory to make enquiries on a course in Matrix Jewellery Designing. On display were some of the finest beads

produced with new technologies. The new beads are made of recycled plastics and soapstone rock. These are real breakthroughs in the jewellery industry.

The developers of the new technologies include Mr. Lovi, a Ghanaian ceramist who is making a new type of beads by recycling the powder waste from soapstone carvings. His beads come in all shapes including bowls, balls, cubes etc. Another world-class bead designer and industrialist, Mr. Henry Cedi Djaba, whom this writer had earlier on visited and interviewed in his Krobo Odumase workshop, has imported into this country modern equipment for glass bead making. He has made considerable investments in time and money by visiting abroad to learn this new technology. Even though this technology is expensive, it is very efficient and versatile and can be made to achieve the ultimate in bead making comparable anywhere in the world today.





*Plate 3.6 Cedi Djaba producing beads using a modern gas torch. (Source: Picture by researcher)*

Mr. Henry Djaba is seen in plate 3.6 producing beads using one of his modern gas torches. Another person who took part in the ATAG promotion, is one Mr Michael Agbetsi, a soapstone bead maker who is involving a number of youth in his town, Asamankese, and its neighbourhood, in the Eastern Region of Ghana, in a labour intensive industrial type of soapstone bead production by the meticulous, tedious and skilful carving of soapstone rock using various types of knives and hand-held tools. His good sense in industrial production has enabled him to create jobs and training for several unemployed youth in his town.



Another new type of bead which will be of great interest to bead jewellery lovers is the likeable but cheap recycled jewellery of an indigenous technologist, Mrs. Amina Iddrisu of Moshie Zongo, in Kumasi. Madam Amina Iddrisu uses the crude but ingenious technology of melting junk plastics like obsolete videotape, audiotape parts and disposed plastic cosmetic containers in a frying pan over a charcoal fire. She then rolls the melted plastic on a stiff, dried elephant grass, shaping a line of beads on the stick. In addition to enjoying good local patronage, her products are exported to Mali and Niger.

It is good that the Ghana Bead Society has taken the initiative to showcase these new technologies so that jewellers may use them to create fashionable, desirable, durable and indeed, marketable jewellery.

With regards to the bead producers at Darbaa and Asamang in the Ashanti Region, they pound glass in a mortar to fine powder. At Odumasi-Krobo and Somanya in the Eastern Region, the raw material, glass is pound on stone into fine powder. The glass powder is then sieved. After that depending on what colour one wants, it is added and mixed with the fine sieved powdered glass. This powder is then used in filling a clay or ceramic disk with cylindrical holes. The clay plate is

then put in a locally produced kiln or oven. The locally produced oven uses charcoal and sometimes firewood. According to Mr. Michael Opoku Asimedu, the two gas ovens or kilns provided them by the Ghana Export Promotion Council, has not been helpful, thus their preference for the local oven. The problem with one of the kilns is that it is not cost effective, and does not also heat to the required melting temperature. Two burners with filled gas were used in one firing in one of the kilns but it did not get to the required temperature to enable the powdered glass to melt. This therefore meant that they might need at least four burners heating at the same time. With the second kiln, with one gas burner, it also overheats and gets all the powder molten and burns out the colours. The attention of the Ghana Export Promotion Council has been drawn to the problem on both kilns but it has not been rectified yet. The craftsmen think that with their years of experience, the mechanics should have consulted them for their inputs before going ahead to produce the kilns for them. They believe that the kilns, which are a sheer waste of money, may be able to fire ceramic earthen wares rather than glass. Plates 3.7 to 3.11 depict various stages of the bead making process.

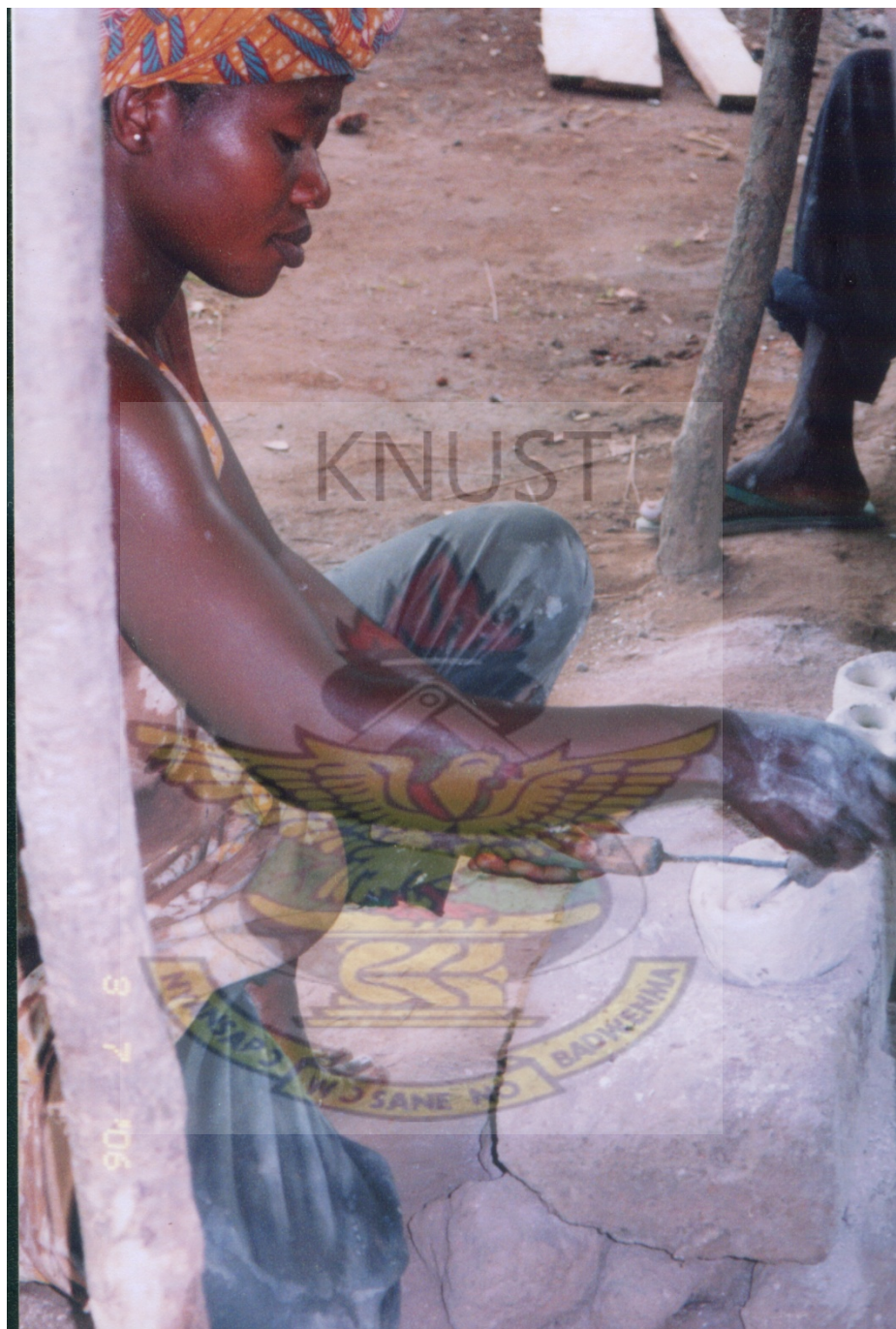


*Plate 3.7 Bottles used as raw materials in producing Beads. (Source: Cedi Beads, Picture by researcher)*





*Plate 3.8 Cedi Djaba pounding glass bottles in a metal mortar (Source: Picture by researcher)*



*Plate 3.9 Woman shaping beads using two metal pins. (Source: Picture by researcher)*





*Plate 3.10 Hearth for firing powdered glass into beads.  
(Source: Picture by researcher)*



*Plate 3.11 Bead maker using metal pins to shape 'Bodom' beads.  
(Source: Picture by researcher)*



In the case of gold and silver jewellery production, after the materials are weighed, they are put in a crucible and then put on fire in a hearth or furnace, as in plate 3.12. It is covered and allowed to melt because sometimes during melting the molten metal spills over into the fire.



*Plate 3.12 A goldsmith at Ash-Town, Kumasi melting using traditional methods. (Source: writer's collection).*

Since most goldsmiths are illiterate, they buy their gold always on the assumption that it is 22 karats. The sellers of the raw materials, gold, may cheat the illiterate goldsmiths. Goldsmiths also have a fixed or pre-set method of alloying gold, using a lot of assumptions. They may be fortunate to get the required karat but in most cases, it falls below the standard one. It might not be the intention of a goldsmith to cheat

but since he worked on assumption, if a customer decided to test the finished work, he or she might feel cheated.

Another problem associated with the testing, alloying and melting is that, the acid when kept for a long time say, about two years could become weak and give wrong results when it is used in determining the purity of gold. The electronic method is also defective sometimes because if the metal is gold coated, it is likely to react to the coating rather than the base metal. In this case, the metal has to be filed to actually test the base metal rather than the coating. Other methods of testing of precious metal are discussed in the later part of this chapter, under the sub heading, **Hallmarking and Assaying of Precious Metals.**

The problem faced by goldsmiths and jewellers in the melting, alloying and testing of their materials is that most goldsmiths melt them by using the hearth, and test the quality of the gold by using only nitric acid. Mr. Kwame Adu, a goldsmith in Kumasi (Ash-Town) who has been in the trade for over two decades believes that he has sufficient experience in determining the karat of the gold just by rubbing it on a touch stone and applying the acid. The rate at which the acid dissolves the gold helps him to determine the karat (Kotoku 2001:87). A lot of

other goldsmiths in Kumasi and Koforidua also agree to Mr. Adu's method of testing the karat of gold. It will be an advantage to the industry if an assaying unit is established in Accra at the premises of the Precious Mineral Marketing Corporation. Also, in Kumasi, the metal section of the College of Art, Kwame Nkrumah University of Science and Technology should sell alloyed gold to goldsmiths and also carry out simple tests on jewellery. Assaying laboratories should be established at PMMC and other places including the Ghana Standards Board. Other investors could set up refineries and assaying laboratories. The public must also be made aware of the existence of such assaying laboratories if they are established so that they can also send their works or jewellery for testing or assaying.

### **3.5 Hallmarking and assaying of precious metal.**

At this juncture, this writer would like to discuss assaying of jewellery. In discussing hallmarking and assaying of jewellery, reference would be made extensively to what happens in other parts of the world, since hallmarking is supposed to be of an international standard and global.

There are a number of methods for measuring the gold content or fineness of carat gold jewellery. A hallmark therefore is a mark or number of marks, made on gold, silver or platinum jewellery or plate



to confirm that its quality is up to the correct legal standard. Measuring the gold content is what is known as assaying. It must be noted that there are various methods of measurement, and the one that one might use depends mainly on the accuracy of measurement and the ease of measurement. The cost of the equipment or instrument will also influence one's decision on which of the assaying instruments to buy. Some of the methods of hallmarking and assaying are mentioned below.

- i. **Fire Assay (Cupellation method)** - This involves taking a small scraping from the jewellery and weighing it accurately, and then wrapping it in lead foil with some added silver. It is then cupellated in a furnace at about 1100°C to remove all base metals. The resulting gold-silver alloy piece is then placed in nitric acid to dissolve out the silver (this is known as parting), and then re-weighing the resulting pure gold. This method is considered as one of the most accurate methods, with an accuracy of 0.02%, and is the standard reference technique used by most national assay laboratories worldwide for Hallmarking. A simplification of this technique involves omitting the initial cupellation stage and just melting the sample with silver and copper, and

rolling it to a thin sheet and then dissolving out the silver and base metals with nitric acid. This is satisfactory only when there are no other impurities present, but will be less accurate. The equipment for this test costs about US\$ 50,000.

- ii. **Inductively Coupled Plasma Spectrometry** – This involves taking a small sample of about 20 milligrams, dissolving it in acid and subjecting a sample to analysis in an ICP (Inductively Coupled Plasma) Spectrometer. This technique has an accuracy of 1 part per thousand but requires the use of comparative standard reference alloy samples of known composition. This technique is accepted for hallmarking purposes and has the advantage in that it also measures the other alloying constituents. The equipment costs US\$150,000.
- iii. **X-ray fluorescence (XRF)** – It is a non-destructive technique that is suitable for normal assaying requirement, such as in house quality control in manufacturing or for certifying gold content in retail outlets. It has an accuracy of 2.5 parts per thousand under good condition, where this means the surface of the jewellery being measured is relatively flat and sufficiently large. On carved surfaces, the gold x-rays

generated and measured are scattered and accuracy is reduced significantly. It is a quick technique that takes about three minutes to assay, and the computer can automatically print out the results. It also measures the content of the other alloying metals present. However, it only measures the gold content of a thin surface layer, so accuracy is compromised where the jewellery object has had a chemical surface treatment or has been electroplated with a layer of pure gold. There are several instruments on the markets abroad developed specifically for gold jewellery assaying, such as the X-tester, and these are reasonably priced. Certain jewellery retailers in India, according to Mr Ashok Patel of Letap Jewellery in Accra have equipped their stores with such instruments. In India therefore, Mr. Ashok Patel continues to say, the gold content of each piece of jewellery is measured as it is sold, printing of a Certificate and thereby guaranteeing the carat and providing the customer confidence. This is done because there is no national Hallmarking regulation in India. I suggest that just as in India, Ghana precious jewellery producers should also adopt this method so that their customers will have more confidence in their products, and Ghanaian jewellery will

also be accepted globally. Presently, because it is not hallmarked, it is only taken as a craftwork. It will also give more value to the jewellery. It is estimated to cost US\$25,000.

- iv. **Touchstone testing** – The touchstone testing is an ancient method for measuring gold content whereby a rubbing of the jewellery is made on a special touchstone alongside rubbings of known reference samples and treated with acids.

The colour of the reacted area is compared to that of the reference sample. This method is not sufficiently accurate (about 15 parts, per thousand at best) and is only useful as a sorting test to differentiate carats. Unfortunately, this is the type of test that most jewellers use in Ghana because it costs as low as \$100.

- v. **Electronic Gold tester**-The electronic gold tester is a cheap, although portable technique used in testing gold content. Accuracy is poor, being correct to 1-2 carats (4-8%) and is compromised if the surface of the metal is gold plated. It is also like the touchstone useful only for sorting. A few jewellery shops in Ghana, like Hagest Jewellery and New Jesse Jewellery, all in Accra, use this type of tester to test

their gold jewellery. According to Mr Aheto Tsegah the owner of Hagest Jewellery, as pointed out earlier, it is poor in accuracy. He therefore combines the electronic test with the touch stone test. The cost of the equipment is US\$200.

- vi. **Density test**-The density of carat gold reduces as carat is lowered and this gives rise to density measurement as a possible method of measuring gold content, using Archimedes principle. However, the other alloying constituents also influence the density, and so the accuracy of the density measurement is questionable. Even though this is not a good method of testing gold, small-scale gold buyers in Ghana use it because it costs about US\$500.

In summary therefore, for high accuracy, consistent with marking and hallmarking regulations, only fire assay and ICP Spectrometry are highly recommended, because of their high rate of accuracy, as stated above. These techniques involve the taking of physical sample by scrapping it from the jewellery item.

For good accuracy, X-ray Fluorescence (XRF) analysis is suitable. The accuracy depends on the shape of the item; it is best on flat surfaces. This technique is suitable for quality control in production and for



certifying the carat in a retail shop. It is a quick technique, as said earlier, and it takes three to four minutes, and does not require any technical expertise to operate. The results are automatically displayed and could be printed out on the computer. For sorting jewellery into different carats, the touchstone and electronic gold pens are suitable.

Most people refer to the *hallmark* on their jewellery, but this term is often loosely used. It is important to differentiate between *Mark* and *Hallmark*. They have different levels of guarantee of the carat. Only an independent third party, specifically an Assay Office, applies a Hallmark. It is also important to note that in many countries, law fixes the carat of jewellery that is allowed for sale on the market. For example, one can sell 9, 14, 18, and 22 carat gold jewellery in the U.K.

In most countries marking of gold jewellery showing the carat or fineness is required by law. This is done by physically stamping of the jewellery with a punch, even though these days some jewellers engrave them. It must however be noted that the carat mark on a jewellery does not guarantee that it is a gold product. The manufacturer without any independent check usually does the marking on jewellery. Thus your carat conformity is not guaranteed. The customer only has to rely on the integrity of the jeweller.

Unfortunately under-carat jewellery is common in certain countries including Ghana. In Ghana however, the result of the lack of certified fine gold, makes jewellers have to make do with gold of doubtful quality when preparing the gold alloy. Many may consciously or unconsciously be over-carating or under-carating their gold jewellery since they have to prepare their various gold alloys using gold of questionable quality. The economic implication of over-carating and under-carating to both the jeweller and the consumer is obvious. I agree with Mr Kofi Asomaning of KNUST that in the first situation, consumers get more gold than they pay for whereas in the latter, consumers are short-changed. (Asomaning, 2003:6) While some crooked jewellers may knowingly and intentionally produce low carat jewellery and pass them off as higher carat items others may unknowingly be offering substandard jewellery by virtue of the fact that the quality of their initial fine gold input is suspect. In other countries however, there is a legal requirement for all jewellery to be tested or assayed by an independent third party. If it is found to be within tolerance, then the assay office marks the jewellery with a number of marks including the carat or fineness, the maker's mark and the assay office mark. This is what is known as the Hallmark. Usually, the Assay office guarantees its mark by law, so the consumer has legal redress against the assay Office, if an item is subsequently found to be

of substandard assay. This is full guarantee of carat conformity. Below is a sample of a Hallmark.



*Plate 3.13 Hallmarking indicating legally accepted marks. (Source: Ayensu, 1997:179)*

It has a number of marks to confirm that its quality is up to the correct legal standard. This has been the practice in most European countries for centuries. Many countries therefore have developed their own regulations on precious metals control depending on local traditions and industrial developments that determine the fineness, sampling, testing marking and technical requirements. The fineness of the metal as said earlier ranges from 8-23 carats. Some countries require compulsory control and hallmarking of every article by an independent body, some have a voluntary hallmarking system like India while others only require prescribed marking by the manufacturer.

Official hallmarking is also found in certain countries formerly administered by the British and French in the colonial days. However, most have voluntary systems. On the European Union Directive on Hallmarking of jewellery, no compromise has yet been reached for the introduction of a directive for the harmonisation of standards and quality control. There are diversity of standards legally accepted within the EU today.

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#### Hallmarking Statistics

- i. UK has four assay offices, and all gold products sold on the home market must be hallmarked at one of the four assay offices in London, Birmingham, Sheffield and Edinburgh. Articles weighing less than 1 gram are exempted. Articles assayed range from 9 to 24 carat.
- ii. In France, all gold products sold on the home market must be hallmarked in one of the 24 assay offices located throughout the country. Only articles weighing less than 0.5 g were exempted until 31<sup>st</sup> July 2000. On that date, the exemption limit was raised to 1.0 g to avoid the potential damage of articles. Subsequently the limit was raised to 3.0 g in January 2002. Virtually all jewellery on the French market

is 18 carat, as volumes of 9 and 14 carat, now admitted as gold alloys, are negligible.

- iii. In Switzerland, only the marking of gold watchcases is obligatory, whether for sale on domestic or export markets. This is carried out by the Bureau Central du Contrôle des Métaux Précieux. Cases must bear a Legal Standard of Fineness mark and a Responsibility mark.

In India, as in Ghana, there is an emphasis on high carat gold jewellery purchase. Buying patterns in India reveal consumers' propensity towards discounts and reductions in the making charges. To continue business and maintain a sound client retention rate, producers are often forced to reduce the production cost by compromising on the quality of gold to cover costs and margins. As a result, the Indian consumer market is weighed down with irregular metal quality, adulterated jewellery, low carat soldering etc.

Identifying the need for protecting consumer rights and heavy demand for standardization of gold therefore, the Bureau of Indian Standards introduced the Hallmarking Scheme for Gold jewellery in India. The agency undertakes certification of purity of gold jewellery



in accordance with Indian Standards IS: 1417 Grades of Gold and Gold Alloys. Hallmarking is perhaps one of the key ingredients instrumental to India's positioning as a leading gold market centre in the world, commensurate with its status as the top-most consumer of gold jewellery.

As stated earlier, currently, gold hallmarking in India is voluntary. Of an estimated three thousand producers, just 600 are covered under the scheme. The market for gold in India is extensive, with the rural areas comprising a substantial percentage. The committee is looking at awareness programmes so that demand for hallmarked jewellery can be generated and facilities for providing the hallmark expanded. Several players associated with the industry are taking initiatives to promote hallmarking of precious metal.

Against the many players in the Indian jewellery market there are just eleven centres offering hallmarking services in the country. MMTC, Asia's largest bullion trader has been one of the prime movers of hallmarking scheme in India. It had set up India's first Bureau of India Standards (BIS) approved Assaying and Hallmarking centre, equipped with one of the most sophisticated testing laboratory. Jewellery certified with hallmark conforms to ISO 1417 requirements for purity.

Hallmark on gold jewellery comprises four symbols including Bureau of India Standards (BIS) standard mark, assaying and hallmarking centre's mark, year of marking and the identification mark of the Bureau of India Standards (BIS) certified jeweller. It is only when all the four symbols are there on the ornament that the buyer could be sure of genuine hallmarking.

Festival of Gold 2004, by MMTC Limited, a Government of India Enterprise and India's largest Bullion trader, is one of India's largest jewellery exhibition shows in one such initiative directed at promoting hallmarked jewellery. MMTC has promoted the concept of hallmarked jewellery in India way back in 1994 and is keen to encourage international standard and norms in the jewellery segment for the benefit of its consumers. It is also the first agency asked by Bureau of India Standards (BIS) to set up 15 more hallmarking centres in India. The first ones are already functioning and the aim is to have a world-class infrastructure to test and assay the purity of the gold jewellery.

Apart from offering better consumer protection against irregular product quality, hallmarking will further add impetus to the export competitiveness of Indian traders. In Ghana, the Government of Ghana through the Ministry of Trade and Industry is setting up an Assay

office at the Ghana Standards Board to regulate the quality of jewellery manufactured and imported into this country. This is in line with the Government's policy of adding value to precious metals mined in this country.

To be able to do this, according to Mrs Charlotte Ohene-Manu, Deputy Executive Director of the Ghana Standards Board, in a statement issued in the Daily Graphic of Thursday, 30<sup>th</sup> June, 2005, said unique identification marks would be allocated to each manufacturer and importer. In addition to the unique identification mark, each jewel will also carry The Assay Office Mark as well as the Fineness Mark of the precious metal. (Daily Graphic No 149468 30<sup>th</sup> June, 2005)

The statement explained that the action would also minimise the proliferation of sub-standard jewellery found on the Ghanaian market and to ensure that dealers in such jewellery could be easily traced. In pursuance of this action, the statement said, the Ghana Standards Board was registering all manufacturers and importers of jewellery in the country in an exercise that was began on 4<sup>th</sup> July and ended on 18<sup>th</sup> July, 2005. The statement said the registration forms could be picked from all the regional centres of the Ghana Standards Board, and its head office in Accra.

From our lengthy discussions above on Hallmarking and Assaying, the idea by the Ministry of Trade and Industry is laudable but this writer foresees numerous problems with the proposal. In my opinion, it is like putting the cart before the horse. This is because there are already, numerous problems that need to be solved before thinking of hallmarking or stamping. To mention a few here again, are that, there are not enough jewellery training institutions in the country. The technological know how and scientific knowledge of the industry is almost non-existent. The assaying office is supposed to assay the jewel from batches but the working capital of goldsmiths and jewellers is so small that they hardly work in batches. Instead, they work per piece and they are handcrafted. Another major problem as stated earlier is that the gold used by most goldsmiths are not refined gold; and goldsmiths do not have the machinery for testing the quality of the gold they buy and alloying in the workshops is done on guess work, on the assumption that the gold they buy is either 22 or 23 carat. The system of testing by most jewellers is by the touchstone or electronic test, which as said earlier are the most inaccurate in the industry. The cost of an efficient modern machine is far above the cost of most jewellers. In fact it is more than the working capital of most jewellers. The Precious Minerals Marketing Company uses the density test to

determine the carat of their gold, which as said earlier is not very accurate. There is also no legislation as at now, as far as this writer is aware of as to whether the assaying or marking should be voluntary or compulsory.

Most importantly, there is the need to set up a Jewellers' Council as in South Africa. In South Africa, the Jewellery council has established a quality assurance system that requires that jewellery are manufactured to the required acceptable quality standard in all respects, including products, delivering services and offering customer service of the highest quality. It also ensures that all jewellery produced is of a carat equal to or greater than that stamped on the item. There is also random assaying. The Jewellery Council of South Africa actively promotes the retail jewellery industry in South Africa with their retailers being encouraged only to purchase fine jewellery from manufacturers who are entitled to utilise the Jewellers Council Quality Assurance System (JCQAS) mark.

In Ghana the Ghana Standards Board intends to issue out the mark to both importers and Ghanaian producers, but this writer recommends that, as in South Africa where members are facing increasing competition with importers and smugglers, the mark among other



things is to be seen as an innovative idea which will promote Ghanaian manufactured jewellery as against the imported ones. It is also an important step to providing bona-fide Ghanaian manufacturing jewellers with a competitive edge against inferior imported products and a means to combat the increasing instances of under carat jewellery that is being supplied to the market.

### **3.6 Melting of metals: Its problems and solutions.**

Most smiths including jewellers melt their metal before forming them into jewellery or before casting. When melting on the hearth however, it is not easy to determine the temperatures of the molten alloy. This may cause overheating or over melting and result in a heavy loss of weight since some of the molten metal evaporates and thus loss of money, especially if it is a precious metal like gold or silver. In my previous theses, I wrote that goldsmiths, in their attempts to reduce such losses during melting, cover the top of the crucible with a block of charcoal. A solution to the problem, however, is to get an electric or gas operated furnace that has a temperature gauge that is able to show the melting point of gold at 1949°F (1065°C). When this point is reached, the furnace will begin to sound an alarm. If the furnace has an indicator warning light, then the light will go out intermittently and blink. If a correct furnace such as that described here is used, there

may never be a loss of much quantity of alloyed gold. The researcher of this thesis therefore still, emphasises the need to set up the assaying and alloying laboratory where the alloying of gold will be done for sale to the goldsmiths. Provision of such a facility is out of the reach of most goldsmiths, and also requires foreign currency, which is difficult for many of the jewellers to obtain.

The manufacturing of jewellery in Ghana whether goldsmithing, bead making or lost wax casting is still very traditional, manual and handcrafted. The process is time consuming, and is engulfed with a lot of waste. As written earlier, there is the need for the goldsmiths and importers to bring in modern machines to produce the jewellery.

The goldsmithing process for example, is that, the raw materials, mainly gold, silver and copper are proportioned according to the quality of ornament, and melted together in a crucible on a hearth. The molten metal alloy is cast into either a wire or plate form, using the necessary ingot moulds. It is then shaped or trimmed to the required size using the milling machine. The resulting wire or plate is then shaped into the required ring, necklace or bracelet, etc. and polished in the polishing machine.

During each production process, problems are encountered. While the metal is being melted in the crucible; the melting temperature of the gold alloy is not taken into consideration. Even if it is, it is the melting point of the gold that is used and not that of the alloy. Alloys have lower melting temperatures than base metals. This therefore means that while some goldsmiths may know that gold will melt at 1065<sup>o</sup>C they are not likely to know the melting point of the alloy. The result is that the alloy is over melted and results in the loss of some of the material. This over melting can be prevented if the metal section of the College of Art in conjunction with the Federation of Ghanaian Jewellers can hold a series of seminars for goldsmiths. The Federation can also print out a brochure that will include information like melting of gold and other metals, and precautions that are to be taken.

The crucible used by about 90% of the goldsmiths in Ghana is made locally in clay, and is very porous and therefore absorbs some of the molten metal. Thus, the alloy results in some loss of weight. The crucible sometimes even breaks or explodes during melting and results in heavy losses since all the metal pours into the fire and is very difficult to retrieve. Manufacturers of the crucibles are playing a very important economic and import-substitution role and need to be encouraged. The National Board for Small Scale Industries can arrange

a technical consultant to teach them to produce better crucibles using the right clay, firing them to the desired temperatures and thus getting them to the standard of the imported ones. Even though after using many of these crucibles, they are crushed and the gold is not fully retrieved from them and the cost of refining is high. Goldsmiths should be educated to use the graphite crucible because it is very hard and can be used over and over again. The graphite crucible is available in the P.M.M.C. accessories shop in Accra. P.M.M.C. should also take the initiative to promote the sale of their accessories.

The Rolling Mill is one of the important equipment used in the jewellery industry. It is not made locally, and has to be imported. It is also very expensive. One of the cheapest Rolling Mills from Zak Jewellery Tools, Inc. in New York, in U.S.A. is "\$672 (c 6,504,000) and weighs 34 kg". This price is Free On Board, that is, it excludes taxes, freight and insurance costs. The price is far above the purchasing power of most jewellers. They therefore rely on very old ones imported into the country in the 1960s by UAC. Some of the machines are corroded and worn out. A research at the ITTU and the Faculty of Engineering, KNUST reveals that these mills can be reconditioned and the faces of the rollers polished. The Faculty of Mechanical Engineering confirmed that it had done a similar reconditioning of the

Rolling Mill in the Metals Section of the College of Art, KNUST, in the 1980s. Only few goldsmiths own milling machines and others therefore have to shuttle between their workshops and those who own the mills. There is therefore a waste of time and labour. A solution to this problem of goldsmiths wasting time by shuttling between workshops to mill their metals is that, the masters should plan their milling work ahead in such a way that it might be done in bulk. This will reduce the frequency of the shuttling, and thus save production time (Kotoku 2001:92. Also, apprentices must be used on such errands since, the labour cost of sending a master will be higher than an apprentice, Again, after the execution of a job, I will suggest that the scrape should not be melted immediately, as is normally done, for lack of raw-material, but be kept for use on another related job.



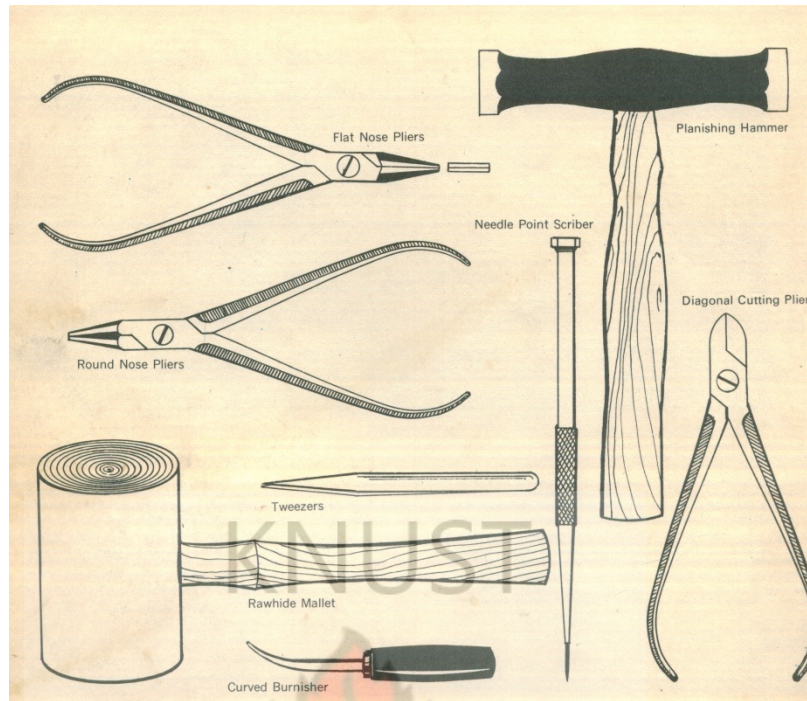


Plate 3.14.a. Basic workshop tools for making jewellery. (Source: Gentile, 1976)

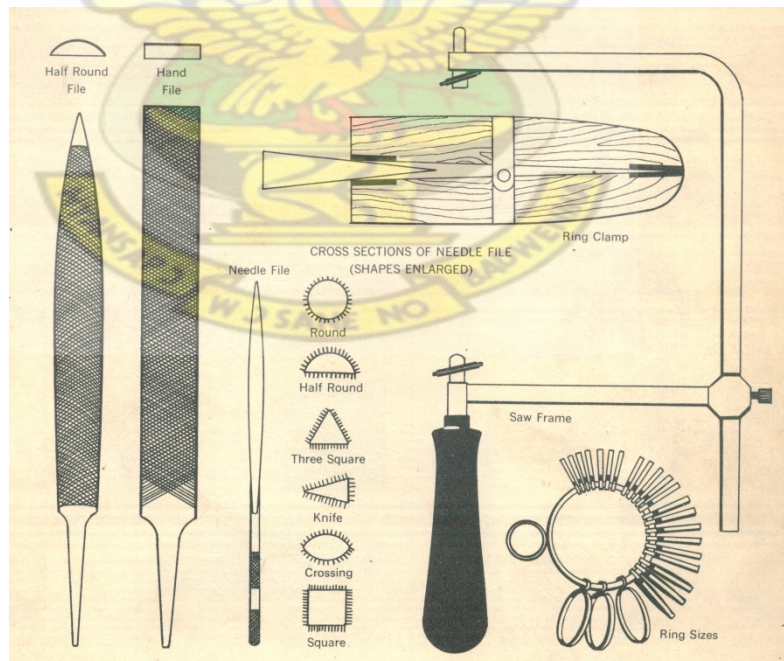
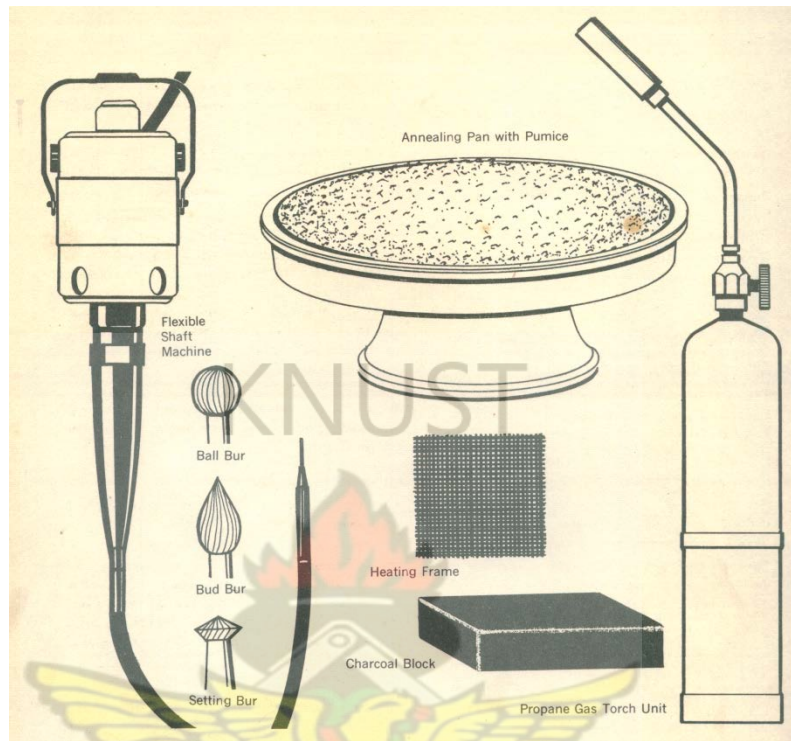


Plate 3.14.b. Basic workshop tools for making jewellery. (Source: Gentile, 1976)



*Plate 3.14.c. Basic workshop tools for making jewellery. (Source: Gentile, 1976)*

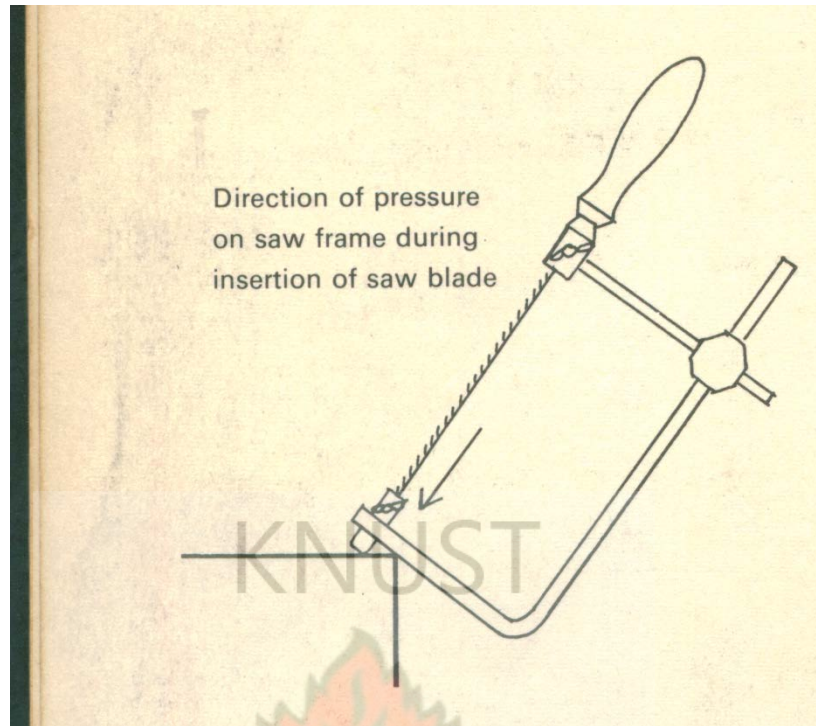
The fabrication or making of the jewellery is done with the aid of hand tools, as illustrated in plates 3.14a to 3.17. The type of tool depends on the techniques to be employed. The actual fabrication starts with milling the metal in sheet or wire, depending on the nature of

jewellery to be made. If it is a sheet work the design is traced on the sheet metal using the tracer or scriber. It is then sawn out or pierced.

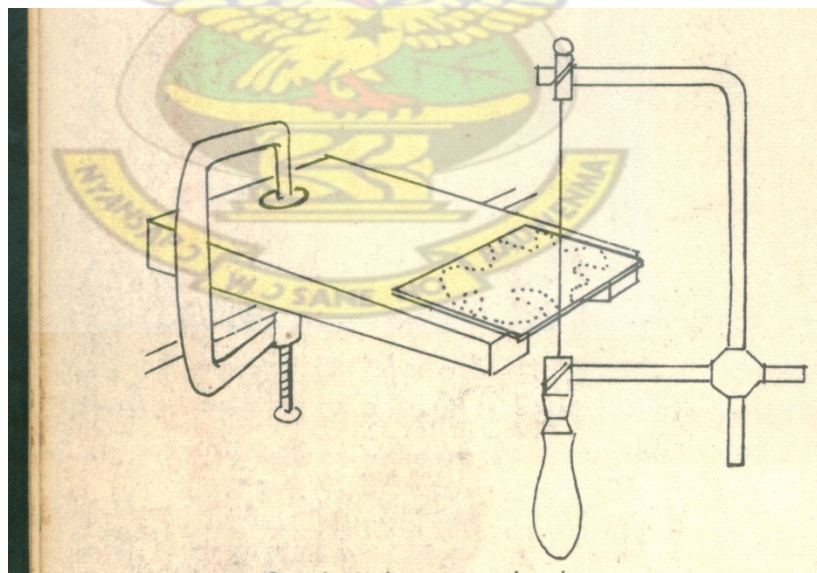
In sawing or piercing, a saw blade is inserted into the saw frame by loosening the wing screws at each end of the saw frame. The saw blade is then inserted into each end of the frame and screwed. The blade should be inserted with the teeth pointing outward from the frame and downward. If the direction of the teeth of the blade is difficult to determine, you run your finger lightly over the surface of the blade. This must however be done with care so as not to cause injury to oneself since the tip of the blade is very sharp.

After the above, the sawing begins with a few upward strokes of the blade, but the actual cutting is done on the down stroke. When sawing, the frame is held vertically. This helps to control the sawing and minimise blade breakage. The saw blades are imported and very expensive. Even though the correct method of sawing is by holding the frame vertically, most smiths and apprentices do not hold it rightly and this causes a lot of the blades to break.

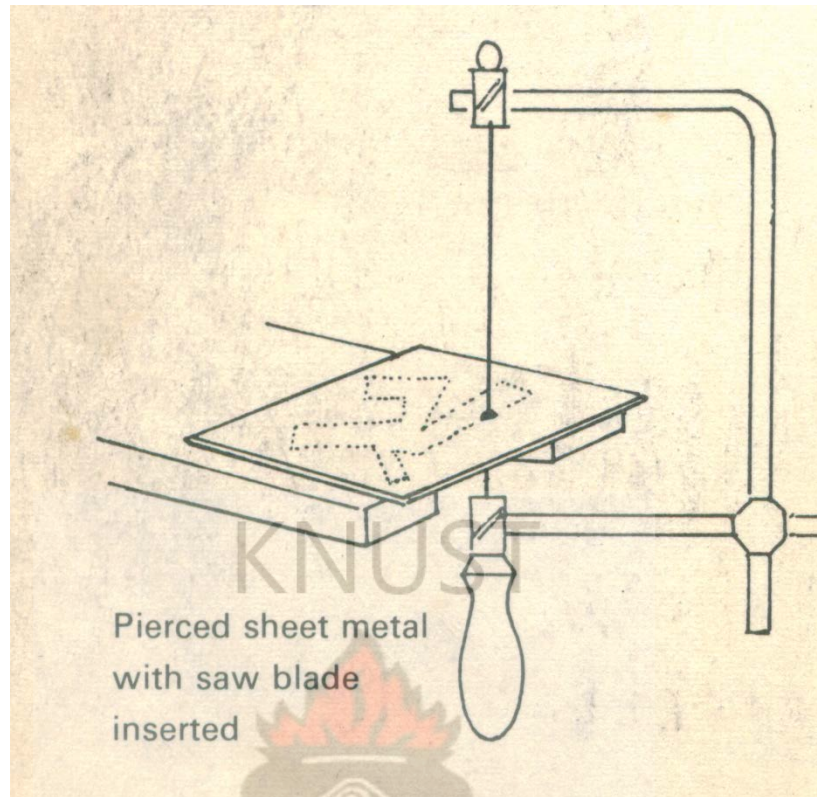




*Plate 3.15 Saw frame showing direction of saw blade during insertion. (Source: Gentile, 1976)*



*Plate 3.16 Saw frame with saw blade showing angle for piercing. (Source: Gentile, 1976)*



*Plate 3.17 Pierced sheet metal with saw blade inserted. (Source: Gentile, 1976)*

The saw blades are supplied by the Master goldsmiths or jewellers and are therefore not a loss to the apprentices; but it makes production cost higher. Master craftsmen should adequately educate and also supervise their apprentices while they are working so as to reduce waste.

After the metal is sawn, it is filed to define the forms. Files come in various sizes and cutting grades. In general, when one has a good deal



of filing to do one begins with a coarse file and then uses finer grades to finish up the surface. To get a good and even filing, small jewellery pieces must be held in a vice, or in a ring clamp. Some goldsmiths do not go by this, and they hold the work in their hands during filing. By not using the clamp, the piece of work is not held firmly and thus the work does not have a good finish. Also, a file, which cuts well, saves a lot of time. It is therefore important to see to it that all the teeth are cutting well. Files are also never to be thrown on each other in a drawer. The writer and researcher did not see a single goldsmithing shop during the research putting the above file maintenance procedure into practice. If it is followed, it could lead to good finish and increase in production. Now that the metal is sawn and filed to shape, it now has to be soldered. After the soldering, the work is sandpapered with emery paper and finally polished using the polishing motor.

### **3.7 Bead making process**

Below is a summary of the bead making process as is practised at Cedi Beads at Krobo-Odumase, in the Eastern Region. There are two main types of beads that are made at Krobo-Odumase. These are the opaque beads and the translucent beads. The method for making each is similar but there are differences. The first raw material for making the beads is glass. Sometimes this is purchased, but more often, old bottles

are used. The most popular are Pond's cold cream jars and Philip's Milk of Magnesia bottles, as in plate 3.7. The interaction of the glass with the dyes is a prime consideration. The used and old bottles are washed and crushed into a fine powder, as in plate 3.7. Usually a mortar and pestle are used, but sometimes a small stone is used while the glass is in a bag resting on a large rock. The powdered glass is then sifted using a wire mesh and a ceramic dye is added to it and stirred nicely. Clay moulds are then prepared, and the inside of the clay moulds are coated with kaolin. The purpose of the kaolin is to harden them and extend their lifespan. Moulds of various shapes are used. Some of the moulds will hold only one large bead, while others can hold a few. A cassava stalk is then inserted in the middle of the mould. Next the powder is poured very carefully into the mould using a funnel made from a can. When the glass powder inside the mould is fired, the stalk will burn leaving a hole in the molten glass, which comes out as the bead. During the 'design' phase, which requires great skill and experience, the different powdered colours are skilfully used to make the patterns on the beads. This is what is termed as the 'design.' A large quantity of beads could have designs through the whole bead, and not just along the surface.

Translucent beads are made by a similar method. But the glass does not need to be pounded into a powder. Small particles of glass are inserted directly into the moulds. It is then fired just as in the case of the opaque beads. Recycling older beads that are chipped makes some of the most priced beads. This is because they are assumed to be the “original” antique beads. In fact, after recycling it is very difficult for even an experienced bead dealer or collector to differentiate from the trade and antique beads. After ‘designing’, i.e. arranging the various colours in a skilful manner, the moulds are fired in a mud kiln. The powdered beads are then fired for 20 to 45 minutes at 600 to 850°C. The translucent beads are fired at 800-1000°C for 40 to 60 minutes. Because of this very high temperature, translucent beads cannot use a stalk, so the hole must be punched by hand. This is how the hole is done: as soon as the beads are removed from the fire, they are shaped with the use of two large long pins. The final step is to let the beads cool for about an hour and then polish them on a stone. Similar beads are then strung on a strand, and are ready for the market.

### **3.8 Lost wax casting**

In the case of the lost wax gold or bronze casting, the technique is called lost-wax casting technique. This is based on a wax model of a final product. The wax model is covered with wet clay, and allowed to

dry. When the clay has set, the model, which is made of wax, is heated. It melts and runs out and molten metal is poured into the clay mould. When cooled, the clay mould is broken and it leaves out the cast work. If the work is large, then the mould is usually hollow inside. Larger works require a core. This is then coated with a layer of wax. The core is covered with the wax and a layer of clay is laid over the wax. After the outer clay layer has set, the wax is melted out from the mould and hot liquid metal is poured onto the mould. The clay in this case is also broken and the casting removed and cleaned up. The advantage of this process according to Mr. Agyeman of Kurofufurom, near Kumasi is that, the wax is easy to manipulate and shape. It can be moulded or carved, rolled into fine sheets and threads. If mistakes are made, the wax can simply be re-heated and re-shaped until the craftsman is satisfied. It is only when everything is done perfectly in the wax that the other processes begin. When there is a flaw in the final brass casting the brass can be re-used for casting. The wax comes from hives of wild bees from the rain forests or the savannah lands in the north of Ghana, or imported from neighbouring countries like Burkina Faso and Mali. The first step in getting the wax purified is by pounding it and then boiling it in water for it to melt. The molten wax floats to the top of the water and is skimmed off. It is again melted and filtered through a cloth into water to set.

The brass used for the casting, according to Mr Agyeman, is difficult to come by. Foreign made brass used to be imported into the Gold Coast in the olden days in the form of brass vessels and ingots. Ayensu (1997:177) confirms the importation of brass from Europe, and writes, European traders quickly realised that there was an exceedingly profitable industry in importing damaged, old-fashioned and second-hand brass. He continues to write that, even brass items that were damaged beyond repair were brought into the Gold Coast. The tools used for the waxing process are very simple and include a long wooden block with a smooth surface, a flat strip of smooth wood rather like the blade of a palette knife, another strip of smooth wood with a point at one or both ends, razor blades and a thin pointed iron rod. A brass lamp or coal-pot is also used.

The flat wooden block is used for rolling the strips of wax, while the blades are for carving the wax. The pointed spatula is for modelling or cutting grooves or designing details or patterns. The tip of the thin iron rod when it is heated is used to cut into the wax or to melt one area so that a small piece of wax would stick to it. The tip of the rod is heated on the coal-pot or on the lamp. Some of the processes of the lost wax casting are pictured in plates 3.18 to 3.23.





*Plate 3.18 Mr Agyeman of Kurofufurom preparing the wax threads.  
(Source: Picture by researcher)*



*Plate 3.19 Mr. Agyeman preparing the wax model (Source: Picture by researcher)*



*Plate 3.20 Sieving the grinded charcoal to be used as smooth layer to cover the wax model (Source: Picture by researcher)*





*Plate 3.21 Mr. Agyeman in the process of covering the wax model with the smooth layer (Source: Picture by researcher)*



*Plate 3.22 Mixing palm fruit fibre with clay to get the coarse layer  
(Source: Picture by researcher)*





*Plate 3.23 Covering the final mould with a mixture of clay and fibre  
(Source: Picture by researcher)*

### 3.9 Cuttlefish bone casting

Another form of jewellery making technique is by casting using cuttlefish bone. The Cuttlefish bone is the internal shell of a form of fish called *sepia officinalis*. Seen from above, the cuttlefish bone has an elongated oval shape. It has a hard and thin crust in the outside, encompassing the internal softer part, the pulp, which is much thicker, and this is the part that can hold the impression of the model or it is the part that can be carved. The pulp is composed of closely packed thin layers of alternatively dense and spongy soft material. **Cuttlefish bone casting** is an ancient, but very accurate method for one of a kind of casting in precious metals or whatever. Cuttlefish bone is the backbone from a cuttlefish.

The process begins by cutting a cuttlebone in half and sanding the soft surface for it to become flat. The pattern is then pressed half way into one piece of bone. You now press the other half of the bone over the pattern. While they are aligned, you cut notches into two halves of the bone. The pattern is then removed, and a sprue is then cut in it. You then blow out the loose calcium, and using soft wire, realign the two halves of the pattern. The molten metal is now ready to be poured.

After pouring the molten metal you open the bone and have your finished product. This is then filed and polished. The melting can either be done using a torch or the metal melted in a crucible on a hearth and poured. One has to be sure to get the metal very fluid. If the melting temperature of the pour is correct and the metal is not under melted, you will get very fine lines on the casting from the cuttlefish bone.



*Plate 3:24 A goldsmith polishing jewellery at Pearl Jewellery Ltd, Asafo.  
(Source: researcher's collection)*

### 3.10 Finishing: Their problems and solutions

The final stage of the jewellery making process is the polishing. The polishing can either be made by hand or by use of a polishing motor. If polishing is by hand, the polishing stick or buff is applied with the polishing compound called rouge. A felt cloth can also be used. It is then rubbed on the surface of the metal until the polishing is complete.

When polishing with the motor, as in plate 3: 24, the buff is put on the spindle on the motor and then turned on. The polishing compound is then applied. If too much of it is applied, it forms cakes on the wheels. The polishing motor, which is usually electric, can be purchased new or second hand. A grinding motor can also be bought and tapered bolt attached to the tip to take the buff. Most of the motors used by Ghanaian goldsmiths are of the grinding motor type. After the jewellery is polished with the buff on the motor, it is cleaned in warm soapy solution of ammonia to remove all the rouge and grease on the work. It is then dried and cleaned with a polishing cloth. If this polishing procedure is not followed, the finished products will look dull and unattractive. It is recommended that people should be trained to be polishers. Goldsmiths normally rush through the polishing procedure. Pearl Jewellery used to have a polishing and finishing section with trained polishers; and apart from the PMMC, no



workshop visited by the researcher has a separate polishing set up. This has been discontinued by Pearl jewellery. The reason being that since the goldsmiths do not want to incur loss during fabrication, certain parts of the product that should be semi polished are left unpolished and makes the final polishing difficult. The semi polishing process is now an integral part of the fabrication process with the goldsmiths themselves doing the final polishing after the product has been inspected and accepted by the supervisor (Kotoku 2001:99).

In the case of glass bead finishing, after the casting, it is removed from the ceramic or clay plate and then grinded to shape using a grinding motor. The wastage from my estimation is about 30%, and according to the manufacturers, since it has been fired, when you add it to the waste glass during the next pounding, sometimes it affects the colour of the bead. The people doing the grinding, as I observed do not look healthy. Upon interviewing them I was told that they do not often fall sick or seek medical advice. This observation applies also to the goldsmiths and brass casters. They inhale a lot of fumes and dust. Even though they might feel that they are healthy, their condition could slow down production. The writer took advantage of the occasion to educate them to use masks or fume inhalers. Most of them did not however see the necessity for such dust absorbers since they



have been in the trade for years without any health problems. In continuation on the finishing of the bead making process, after they are ground they are linked with strings of either raffia or cotton in lengths of between eight inches to twenty inches. The final product is then greased with cooking oil to make them look glossy.

KNUST



## CHAPTER FOUR

### MARKETING AND SALE OF GHANAIAIAN JEWELLERY: THEIR PROBLEMS AND SOLUTIONS

#### 4.0 Introduction

This chapter deals with the problems associated with the marketing and sale of Ghanaian Jewellery, and in addition, offers suggestions for the solutions of the problems. The chapter therefore discusses the weaknesses inherent in the industry's difficulty to penetrate the market and puts forward some suggestions for solving this kind of problems. Jewellery has always been seen from the artistic point of view, but it is also necessary to see it as a business, and therefore market it as such. Jewellery like other art works tends to be product oriented. This means that the producers keep producing without close contact with the market. Normally, it is after production that the product is priced and thus does not always meet the customer's expectation. Other problems that are highlighted in this chapter include those of poor infrastructure, poor products and poor display, inadequate packaging, and problems associated with advertisement. The problems are discussed alongside the solutions.




















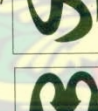










#### **4.1 Infrastructural problems affecting sales: Their solutions**

For any business to thrive, and be competitive there is the need to develop certain factors and basic infrastructure. This is carried out mainly by the government, individuals, or corporate bodies who see it as a civic responsibility. It is necessary for the government to play the leading role because when it creates the enabling environment, for businesses including jewellery, they will expand by way of increased production and sales. The businesses will also reciprocate by paying their taxes and levies which will be used to further develop the infrastructure like good roads, telephone or communication facilities, and hospitals.

#### **4.2 Unattractive designs and poor product finishing inhibiting large sales: Their solutions**

One of the problems confronting the industry is unattractive design that inhibits large sales. The jewellery products whose designs are unattractive include: chains, earrings, bangles, wedding rings etc. In addition, the designs are limited to a few motifs. The jewellery, whether in 18ct or 14ct gold, sterling silver or brass, or copper jewellery are mainly based on the traditional *adinkra* symbols as in the plate 4.1 and plate 4.2.

# SYMBOLIC MEANINGS OF THE ADINKRA DESIGNS

	<b>GYE NYAME</b> lit.- Only God, Symbol of omnipotence		<b>FOFOO</b> (bidens pilosa) lit.- seed of a plant, Symbol warning against jealousy.		<b>MMRA KRADO</b> lit. seal of law Symbolising supreme authority
	<b>HYE-WO-HO-NHYE</b> lit.-Unburnable, Signifies imperishability.		<b>FI-HANKRA</b> lit.- A house which is safe, Signifies security or safety in a home		<b>AKOKONAN TIA NE BA A ENKUM NO</b> lit.- a hen is careful of its young ones. Symbolic for mercy and patience
	<b>SANKOFA</b> lit.- Going back to my roots		<b>DWENNIMEN</b> lit.- ram's horn, Symbol of humility and strength.		<b>NSOROMMA</b> lit.- Star, Symbol of man's relationship with God
	<b>NTEASIE</b> lit.- What I hear I keep, Signifies wisdom and prudence.		<b>NYAME DUA</b> lit.- God's Tree Signifies God's presence.		<b>NYAME BIRIBI WO SORO</b> Signifies belief in God.
	<b>AKOBEN</b> lit.- War Horn, Signifies readiness to be called to arms or duty.		<b>OWU ATWEDEE</b> lit.-ladder of death, The symbol reminds all men of death		<b>NYAME BEWU NA MAWU</b> lit.-I die only when God is dead, Signifies the invisibility of man's spirit
	<b>ESE NE TEKREMA</b> lit.-The teeth and the tongue, Signifies friendliness, inseparable		<b>KWATAKYE ATIKO</b> lit.-back of a warrior's head Hair style of an Ashanti war captain.		<b>KRAMO BONE AMMA YEANHU KRAMO PA</b> lit.-Bad persons give good ones a bad name. Warning against hypocrisy.
	<b>PEMPAMSIE</b> lit.- Sew it in readiness, that is be prepared; eveready.		<b>KODEE MOWEREWA</b> lit.- Talons of the eagle, Signifies readiness to serve		<b>BI-NKA- BI</b> lit.- No one should bite another, Symbolic of justice, fair play tolerance and unity
	<b>AKOFENA</b> lit.-The sword for fighting. Recognition of authority.		<b>NKONSONKONSON</b> lit.- Chain, Symbol depicting unity		<b>KUNTINKANTAN</b> lit.- Do not boast, Symbolic of humility and servitude.
	<b>EPA</b> lit.- Handcuffs, That the law is no respector of persons.		<b>AKOMA</b> lit.- The Heart, Symbol of goodwill, love and consistency		<b>DUAFE</b> lit.- Wooden comb Symbol of feminine patience, love and fondness.
	<b>AYA</b> lit.- Fern, Symbol of defiance and ability to withstand hardship.		<b>OHENE ANIWA</b> lit.- eyes of a king, Symbolic of a king's eye which sees every thing.		<b>NKYINKYIMIE</b> lit.- Twistings, Be yourself

4

Plate 4.1 Adinkra symbols and their meaning. (Source: PMMC Catalogue)





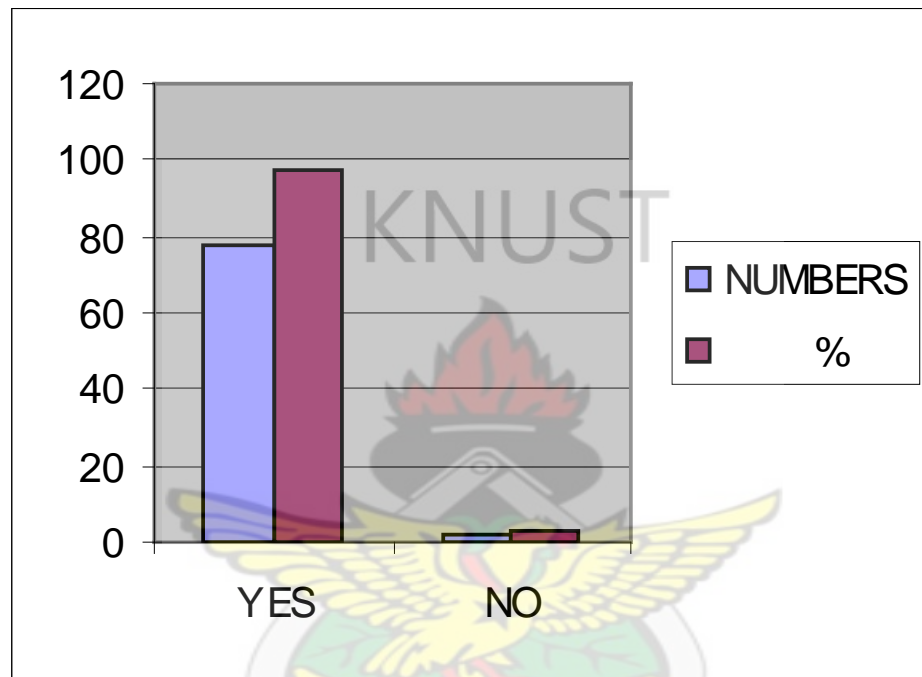
*Plate 4.2 Adinkra symbols used in designing a necklace (Source: From Pearl Jewellery showroom; picture by researcher)*

It will interest readers to note that during the field work for the collection of data for this thesis, out of 80 customers who responded to the question as to whether in the purchase of their jewellery, they were influenced by the design, 78 people representing 97.5% responded 'Yes' while 2 people, representing 2.5% responded that the design of the product does not influence their purchase. The same 97.5% also said they preferred the local



*adinkra* design in their jewellery than totally foreign. The figure 4.1 shows a representation of the above response in a graphical form.

Figure 4.1 Response to whether purchase is influenced by design



The bead or costume jewellery has also been produced using the same symbols and patterns over the years. An experienced dealer can easily see a bead product and know that it is from *Krobo* or *Asante* design since they have not changed over time. The techniques are also mainly limited to piercing and cuttlefish bone casting, or lost-wax techniques.



*Plate 4.3 Glass bottles as raw materials for making beads. (Source: Cedi Beads, Odumase Krobo, picture by researcher)*

Other materials like glass, (refer to plate 4.3) clay and sand are also used for making beads but as pointed out above, the same designs have been repeated over the years. In the researcher's thesis of 2001, page 114 to 115, it is wrote that the *Gye Nyame* symbol, which means "Except God", or "Nothing can be done without the help of God", is the most common and frequent motif used, and it has really been overused. Its popularity might probably be due to its association and belief in the Supreme Being. Even though it is not wrong to use this motif, this researcher suggests that the

motif should be redesigned in several ways. Plate 4.4 is suggestions of redesigned samples of *gye nyame* by the researcher.

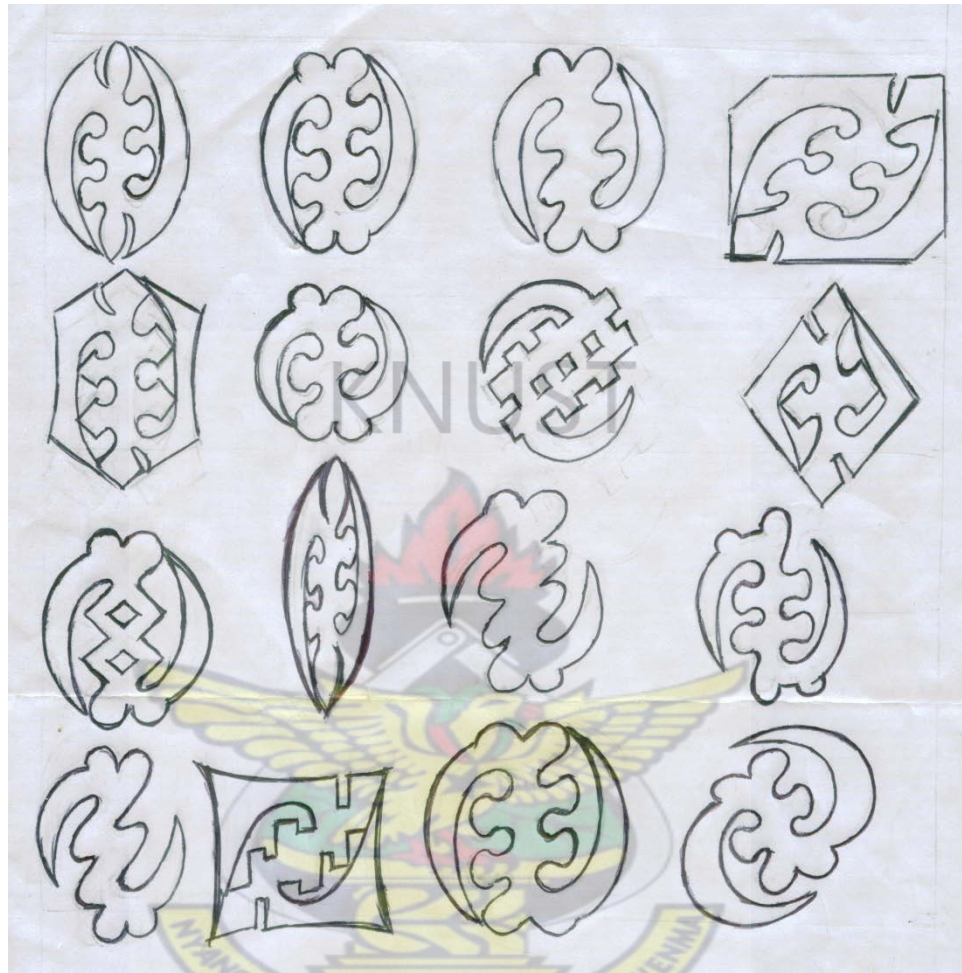


Plate 4.4 Suggestions of redesigned “gye nyame” symbol by the researcher.

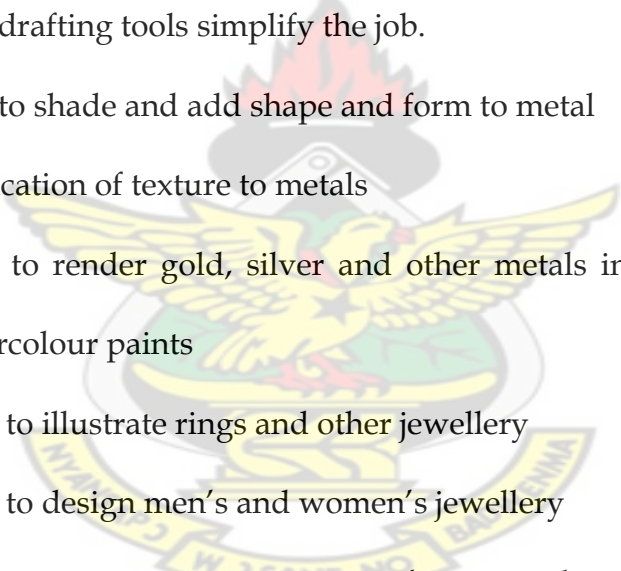
Copying of designs of other jewellers is also very common in the industry. This is because most of the jewellers are not creative to come out with new designs of their own. Since it takes a lot of time to come out with a new design, once the market likes it, almost every goldsmith or jeweller tends to copy or reproduce it, since such designs are not patented.

There is in Ghana, the copyrights law that protects the works of artists but it seems designers and artists including jewellers and goldsmiths hardly register their new designs with the Registrar General's Department as specified under the law. During research for his previous thesis, I wrote of my colleague jeweller Mr. Atta Dogoe, owner and manager of Lucky Gold Jewellery at Koforidua, who also complained bitterly about the copying of the symbols and the designs resulting in the fact that the same designs are found in the various jewellery shops. A customer buying jewellery, whether gold, silver, bead or copper, does not really have enough varieties to choose from. It is therefore enough to visit one or two shops to make a purchase, where one will see all the range of designs and varieties.

The writer is of the view that as in developed countries, there is the need to train and employ jewellery designers. Even though the Metals Section of the College of Art, KNUST, and the College of Jewellery at Weija, near Accra run courses in design, the course contents are not broad enough to transform the design needs of the Jewellery Industry. Our jewellers must learn from what happens in other countries. For example, in the Gemmological Institute of America, (GIA) in the USA, where this writer visited in 2001, they run a detailed certificate course in Jewellery Design including the principles of good jewellery design. They develop the skills needed to create and illustrate designs for a variety of jewellery in full



colour, actual size, and with full detail. The students are taught to design for beauty, but also for problem-free manufacturing, long wear, and comfort. At the GIA, they practise drawing techniques that help to convert ideas into sketches, and later into finished jewellery renderings sometimes using watercolour paints. Finally, at the GIA, students also learn how to customize jewellery to reflect the customer's individuality. Specific class topics are as follows:

- 
- i. How drafting tools simplify the job.
  - ii. How to shade and add shape and form to metal
  - iii. Application of texture to metals
  - iv. How to render gold, silver and other metals in full colour using watercolour paints
  - v. How to illustrate rings and other jewellery
  - vi. How to design men's and women's jewellery
  - vii. How to incorporate a customer's personality and needs into a design
  - viii. Presentation of final designs like a professional
  - ix. How to create detailed views and layouts for the jewellery manufacturing



Students are taken through step-by-step processes of sketching and illustrating gems, metals and jewellery through extensive practice and expert coaching from instructors. At the end of the class, students are required to display completed and framed projects before invited guests. To complete the class, there are 26 class projects and a final practical examination. A 75% average mark is required for projects and final examinations.

KNUST

Apart from the GIA there are numerous professional training Institutes in the developed countries that run similar tailored programmes for the uplifting of various industries including jewellery ones. It is gratifying to read from the Ghanaian Times dated 13<sup>th</sup> September, 2004 that The University of Cape Coast would from August 2005 offer a four-year degree programme in jewellery Science. This programme would be run using computer-aided designs. The Vice-Chancellor of UCC, Rev. Prof. Emmanuel Addow-Obeng, announced this in a speech read on his behalf at a symposium organised by the UCC Department of Laboratory Technology. He continued that, the introduction of the course would propel a lot of artisans in the precious metal industry to come out with quality handicraft.

Subjects for which Professors, Senior Lecturers are being sought for are,

- i. Mineralogy and Gemology
- ii. Stone setting, Enamelling, Hand-engraving
- iii. Metallurgy, Metal & Jewellery making
- iv. Computer Aided Design in Jewellery
- v. Jewellery Instrumentation and Laboratory Practice in Jewellery making
- vi. Industrial Chemistry

These were contained in the Ghanaian Times, No 14,354 ISSN 0855-15038 13<sup>th</sup> Sept, 2004 Page 12. This writer is of the view that even though the latest technology would be used to train the students, this might rather worsen an already bad situation. This is because after their training, the graduates might not get the necessary finances to buy the equipment and tools they trained with to work on their own. The idea is however laudable, and care must be taken to help the would-be graduates to obtain the necessary equipment and tools. The writer is also of the view that the Cape Coast University should apart from the proposed degree of B.Tech. (Jewellery), run a Diploma and Certificate programmes in Jewellery so as to be able to produce the required middle level personnel needed in the jewellery industry.

In the February 2002 Edition of the *Gold News Magazine*, page 80, Mr Murat Akman the Turkey's General Manager of the World Gold Council says: The buyers in America usually place their own design requirement and ask one to produce similar goods and expert samples. (Akman, 2002:80) This implies that the designing of jewellery must be taken seriously. In the researcher's MA thesis, it was written that Miss Gertrude Ansah of the Ghana Export Promotion Council said, there was really nothing wrong with the copying of designs. She said even bigger companies copy each other's works to some extent. She continued to reveal that handicraft buyers from say Germany, USA, etc, may bring their own designs to Ghanaian handicraft producers for thousands of a particular design to be produced. The order is therefore shared among the craftsmen since it is not possible for one craftsman to produce the thousands of pieces to meet the deadline. My previous work also mentioned Mr. Jay Khatau, a curator of African Art and Culture, from Illinois, USA, who had been coming to Ghana personally to give orders to more than thirty wood carvers at Aburi (in the Eastern Region of Ghana), Foase and Ehwiaa, (in Ashanti Region). According to Mr. Jay Khatau, he used to give them the specifications, travel to some other countries and come back to collect the completed orders on schedule. My recommendation in the previous thesis was that, if Ghanaian Jewellers received large orders from abroad they should not selfishly shield them

but share the orders among their colleagues so that the deadline could be met, and thus make the jewellers reliable. The fulfilment of these conditions would certainly be necessary for the orders to be sustained. As Murat Akman would put it, the faster you present your samples, the higher the possibility of making business (Akman, 2002:80). Replies to the questionnaire in relation to the present work reveal that customers would prefer more modern designs with higher fashion appeal. As pointed out earlier therefore, stakeholders including USAID, Aids to Artisans Ghana (ATAG) etc should assist goldsmiths and jewellers engage the services of designers.

In order to cut down cost, few goldsmiths and other jewellers can also pool resources together to employ designers. The designers must always be creative so that the designs do not later become monotonous. Jewellery trainees or apprentices should rather take designing very seriously and after their training work as a team since each individual's creative ability differs. As part of their training, the government, through its agency the Ghana Export Promotion Council, could facilitate the training by engaging the services of a design consultant who will be going round the workshops to teach the apprentices the principles of design. In this respect, the Ghana Export Promotion Council has assisted the Federation of Ghanaian Jewellers before. In this case, as I wrote in my previous work,

it facilitated the engagement of one Mr. Ron Mills, an American Jeweller to assist the Ghanaian jewellers in product design. Mr. Mills was sponsored by the USAID, and his assignment lasted for four weeks. He at that time visited this writers' jewellery workshop in Kumasi where he had a meeting with the staff and discussed issues bordering on designing. He therefore advised that some of its products be redesigned. He also whiles in Kumasi discussed jewellery designing with members of the Federation of Ghanaian Jewellers. This writer also participated in a one-day seminar organised by the Ghana Export Promotion Council in Accra in which Mr. Ron Mills was the main facilitator.

It is gratifying to note that designs from Western or Eastern magazines are now somehow being altered or redesigned by some Ghanaian jewellers instead of direct copying. Even though there is the copyright law, it is difficult to enforce it because the art works are hand produced and there may be slight differences from the original one and thus makes it difficult to hold one as having violated the copyright law.

In the researcher's previous work, (Kotoku, unpublished MA thesis 2001:126), he wrote that, in Taiwan, for example, a jewellery manufacturing company, S&L has over 17,000 styles, including rings, pendants, earrings, and bracelets. All of the company's designs are



patented. The President of S&L, Mr. Simon Liu believes that a constant stream of new designs is essential. Another company, Three & Three has a team of eight full time designers who produce new designs every season. The company employs a total of 30 people. This means that about 28% of its employees are designers. No wonder, 90% of its products is exported to the USA. Also in Taiwan among other things, many companies have doubled or tripled the number of designers they employ, turning out new designs and products on a regular basis. In an interview by the editor, with the Chairman of the Taiwan Association of Stationery Industries, in the *Giftware magazine*, which is relevant to this research, he said the following in an answer to the question: What about the level of design in Taiwan's stationery industry?

He said five or six years ago, designs here were not particularly good. However, since the time the China External Trade Development Council (CETRA) has been sponsoring visits for Italian designers to come to Taiwan, they share their designs and ideas in exhibitions and projects, with the necessary funding being provided by CETRA and members of the association. CETRA also has design centres in Italy, Japan, and Germany. The centres are of course helping improve the level of our design. (Giftware, 1998: 20)

One cannot isolate design from quality finish and craftsmanship. Ghanaian jewellers have to make a name for themselves in terms of reputation and quality. The quality of materials and workmanship must be very competitive.

In South Africa, AngloGold Ashanti has played a major role in the upliftment of the jewellery industry. With former AngloGold now partnering with former Ashanti Goldfields Company to form the new AngloGold Ashanti, the government should take advantage of it to let it invest in the value addition to gold as it is doing in South Africa since that is already one of their objectives – value addition.

Information from the Internet, [www.knust.edu](http://www.knust.edu), under the monthly news, is that, as a first step, AngloGold Ashanti's representatives met with the Vice Chancellor of KNUST to find out ways of co-operating with the Metals section of the College of Art and Social Sciences. Present at the meeting, according to the report, was Mr. Offei Nyarko, the then Deputy Vice Dean of the College, and Mr. Kofi Asomaning, head of the Metals Section of the College of Art and Social Sciences, KNUST. At the invitation of AngloGold Ashanti and other institutions, Otumfuo Osei Tutu II the *Asantehene* (the King of *Asante*) paid a 10-day's historic goodwill visit to

South Africa in April 2005. The purpose of the visit was partly to explore how African royalty could live the African dream of fostering African Unity, and also to deepen the longstanding relationship that exists between Ghana and South Africa and also to enhance cooperation and development that has been initiated between AngloGold of South Africa and Ashanti Goldfields Company into what is now called AnglGold Ashanti (Anglo Gold Ashanti, 2005: 6). The Asante King while in South Africa visited the famous Gold of Africa Museum at Cape Town. This museum tells the story of gold beneficiation from the 14<sup>th</sup> century, boasting of a wide collection of some 350 items representing the major regions of West Africa, notably Ghana, with some of the goldsmithing works dating from the 19<sup>th</sup> and 20<sup>th</sup> centuries. The Asante King also visited OroAfrica jewellery manufacturing company in South Africa. AngloGold Ashanti holds 20% stake in OroAfrica, which is the largest manufacturer of gold jewellery in South Africa. It has co-operated with it to launch an African gold jewellery brand by investing in the establishment of a Jewellery Design Centre at OroAfrica at a cost of \$250,000. The purpose of the centre is to generate new gold jewellery designs, and to improve product standards through technology, design and innovation. While Otumfuo Osei Tutu II was being conducted round the factory of OroAfrica by Mr Kelvin Williams, AngloGold Ashanti's Executive Director, responsible for marketing, as in plate 4.5, Otumfuo

Osei Tutu II, who is also the Chancellor of KNUST, seized the opportunity and called for collaboration between the company and the Kwame Nkrumah University of Science and Technology in Kumasi, Ghana to promote skills transference in jewellery production.



*Plate 4.5 Otumfuo Osei Tutu II at OroAfrica Jewellery factory in South Africa. (Source: Anglogold Ashanti West Africa News. Second Quarter, 2005:7)*

In the area of design innovation, Anglo Gold Ashanti's current Riches of Africa Gold Jewellery Design Competition was established in 1998 to showcase South African jewellery designers to enable them to enhance the technical skills of jewellery manufacturing and to support the local gold jewellery industry. Training workshops for competitors are held each year, while the award-winning works are exhibited and used in fashion shows and other events both locally and abroad.

The present researcher strongly suggests that if the Ghanaian jewellery industry is to see any radical change, then the government and the industry players must take the bold step to negotiate with AngloGold Ashanti to invest in the jewellery industry. It might not be a difficult task because on the Anglo Gold Ashanti, website, under marketing, Anglo Gold Ashanti launched a gold and jewellery design competition in Brazil in 2002, and is the first such competition in that country. The competition recorded an unprecedented interest, with a high quality of design and craftsmanship. AngloGold Ashanti is also pushing hard to invest in the jewellery industry of South Africa to increase the export of that country's jewellery. Ghana therefore does not have to play second to South Africa and end up giving out its strength in the jewellery industry for free in the name of co-operation.

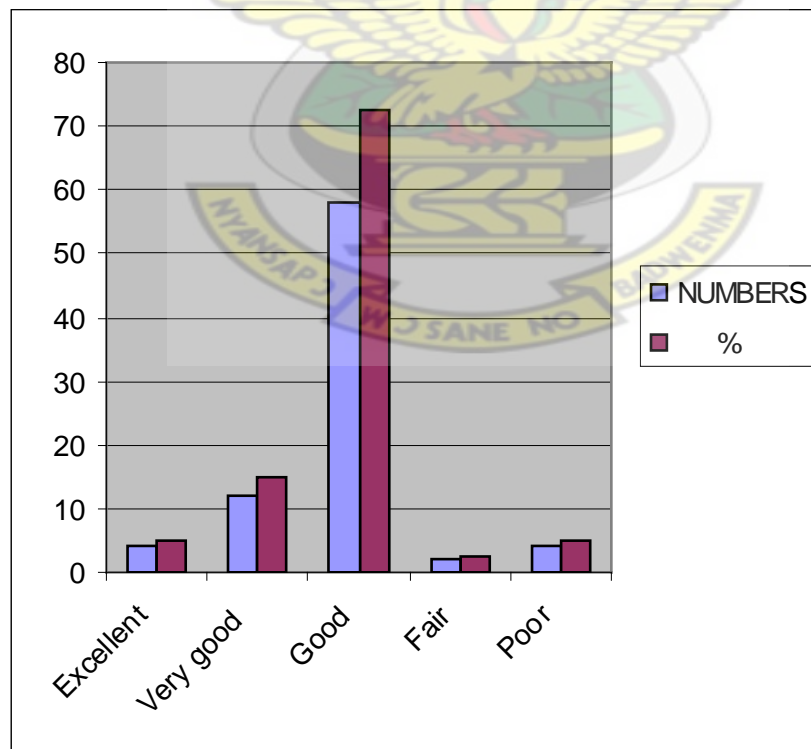
Another reason why this researcher believes that South Africa can be of assistance in the promotion of Ghanaian jewellery is that in the words of the South African Minister of Minerals and Energy, Miss Phumizile Mlambo-Ngouka at the launching of Vukani-Ubuntu Community Development Jewellery project, which is a jewellery project in South Africa to promote the talents of young South African jewellery designers, "South Africa supplies approximate 25% of the raw materials for the



jewellery world over, while only contributing less than 1% to the world's jewellery market." [A\VUCDjewellery project Messages - SA.htm]. This might mean that South Africa is highly interested in turning more of its gold into jewellery, and as a proof of its cooperation with Ghana in this direction in the Daily Graphic of 4<sup>th</sup> September 2004 titled *Anglogold sponsors local goldsmith*, it was reported that Anglo Gold Ashanti was sponsoring a Ghanaian goldsmith David Apim Tettey to give training on traditional West African jewellery making techniques to jewellery students during the Department of Minerals and Energy's mining week at Electra Mining Africa 2004 in Nasrec. The Goldsmith Training Programme forms part of the Company's benefaction initiatives and focuses on fast tracking the evolution of new design concepts that combine traditional goldsmith with African crafts to create jewellery with a distinct African identity. This programme started in 2000 when AngloGold Ashanti took seven lecturers from jewellery schools around South Africa to Mali for a week of training. The Company also brought Malian goldsmiths to South Africa in 2001-2002. The problems associated with this type of exchange programme is that while South Africa, which has about 3,000 jewellers who use modern machines want to add our designs to theirs for a good blend in order to come out with new designs, the Ghanaian and Malian goldsmiths may be excited about the per diem emolument they may get from such travels, and the impart knowledge for free. A solution to this

type of brain drain is that the Government agencies that authorise such co-operations must negotiate properly to get Ghanaian goldsmiths also trained in South Africa. Ghanaian goldsmiths on the other hand must also take interest in not only imparting knowledge to the South Africans but must also take interest in learning from them. We should not pretend to be leaders in the industry. We should accept that our technology is 'primitive', and our equipment obsolete. The South Africans have not approached us because we are better goldsmiths than they are but because we have an untapped design base.

*Figure 4.2 Response from customers on how they see the designs of jewellery produced in Ghana*



From the figure 4.2, 4 customers or 5% see the designs as excellent, 12 customers out of 80 or 15% respondents see the designs as very good. 72.5% or 58 respondents see the designs as good while 2 or 2.5% and 4 or 5% see the designs as fair and poor respectively. Since majority of the customers have been buying jewellery for over five years, and they rate the products as good, it implies that the customers agree with this researcher that the designs of the products need to be improved.

#### **4.3 Problems and solutions to poor display and packaging of jewellery**

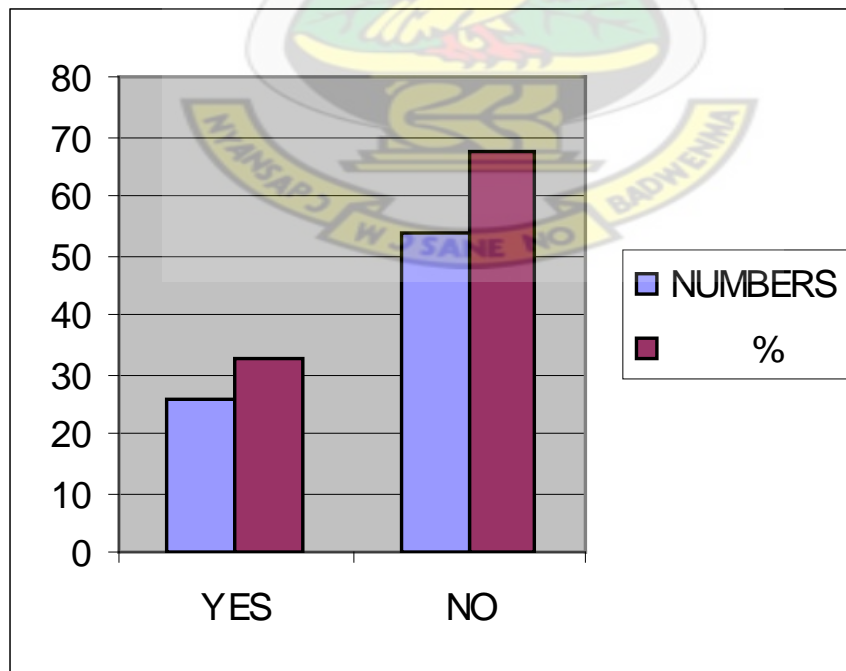
In Ghana, gold and silver, and other expensive jewellery like beads, and ivory are mostly displayed on a display pad in a glass showcase, or in a packaging box in a showcase in a showroom. Glass beads and less expensive jewellery are normally displayed on tabletops in the open, especially in the markets or in the showroom. Most goldsmiths and other jewellers in Ghana sometimes display their jewellery in showcases in front of their shops. They thus act as both production jewellers and sellers. This is probably because they may think that they want to cut down cost by not employing a salesperson. This has the advantage of the goldsmith or jeweller himself having direct contact with the customer. This practice however, may obstruct production since one may have to get up from his production table to attend to customers. Glass beads, Brass and copper jewellery are heaped in the open with no sense of special arrangement. To

make jewellery appealing, there is the need to use the right approach to display them. Considering the right way of arranging jewellery, Miss Ruth Mellergaard, who is a jewellery store designer and president of GRID/3 International, a New York City design firm, suggests that jewellery showcases have to be of a certain height, and arranged in a particular way. She says high showcases, once thought to intimidate customers, are now seen as a good way to bring jewellery closer to customers so they do not have to bend over. Wall showcases at eye level are also recommended. This height is between one metre and 1.5 metres.

It is also important to provide one or two chairs or stools for customers so as to make them comfortable in jewellery shops. It is preferable to use the bar-type seat since younger customers prefer to 'perch', rather than sit in more formal chairs. Ghanaian jewellery showrooms are not set up as above, even though a few have provided chairs for customers. On the items displayed, it can be overwhelming to try to look at everything in a full display case. This means that not too much should be displayed at a time. This has to be done because when too many are displayed, it becomes difficult for the customer to view the items properly. It is also good to display the jewellery several inches from the floor and the display cabinet.

The packaging of jewellery products to customers is as important as the jewellery itself. But unfortunately, jewellers do not give the packing of jewellery the necessary attention it deserves. In most cases, it is treated as secondary. The reason why jewellers do not give the packaging the necessary attention it deserves is that the packaging boxes or materials cost money and instead of factoring it as part of the production cost, it is assumed by jewellers as if it is waste of money. A few have however tried to package their products to customers as a way of increasing sales. Most of the packaging boxes especially clear Perspex boxes for wedding and engagement rings are imported into the country by traders.

*Figure 4.3 View of customers on packaging of Ghanaian jewellery*





As can be seen in figure 4.3, 67.5% of the eighty customers interviewed do not like the packaging of their products. Only 32.5% were satisfied with their products. Kotoku (2001:129) wrote that Novel Bijou, a jewellery company in Accra previously used locally made bags of *kente* cloth, but according to the Manager, Kwame Kuamuar, the cost of producing them has gone up considerably, and the quality is also not now appealing so he has changed to the imported types. Jewellery companies can team up and order the boxes in bulk with each company having its name or logo imprinted on it. This will reduce the cost of one company having to import a small quantity and therefore not have discount on bulk purchase. Even though this writer is not in favour of the importation of the jewellery boxes because in Ghana, we have a lot of cloth off cuts or wood waste that can be used in the making of jewellery packaging boxes. All we need to do is to sell the idea to any body that is interested in producing them for the jewellers. The jewellers themselves can also produce the packaging materials themselves as an additional source of income. South Africa has initiated a jewellery boxes and packaging project. This initiative would provide appropriate design, branding, logos and packaging of new South African gold jewellery products and could replace the current imported packaging supported by the jewellery industry. The pilot packaging project will serve as a valuable pilot to develop prototypes and test the market. Ghanaian jewellers can liaise with our South African counterparts

to also try to develop local packing boxes at cheaper costs. As written earlier, our boxes could be made of wood off-cuts or sawdust. There are so much wood wastes from the wood industries that the raw material base for the wooden jewellery boxes will not be a problem. It will also be a source of employment for some of the numerous unemployed youth. Vocational schools and dressmaking institutions could also train their students how to make these bags.

Those who sell beads and other less valuable jewellery in the markets also do not pay attention to packaging. The jewellery, especially bought in bulk is wrapped in any polyethylene bag or paper just convenient for carrying. This type of packing causes the jewellery to scratch one another and makes some of the jewelleries lose their lustre through friction, or rubbing on each other.

#### **4.4 Problems of pricing: Their solutions**

There is no clear-cut policy on the pricing of jewellery in Ghana. In my earlier thesis, I wrote that there are four different types of pricing.

- i. Cost based – Accountant's approach
- ii. Market Demand based – Economist's approach
- iii. Competition based – The Trader's approach
- iv. Market based – Based on value satisfaction

The cost based pricing is the type of pricing that is determined by costing the actual factors of production incurred in producing the item, and then adding a profit to it.

When there is a higher demand for a particular design, then it is the market demand type of pricing. Even though the cost of producing the item could be used as a basis for pricing, it is usually over priced because it has a high demand advantage.

In certain cases, a trader lowers the price of his items so as to sell more than his competitors. Based on that, he will sell at the same price or a little lower, so as to win more customers. This type of pricing is the competition based.

In the case of market based pricing or value satisfaction, the firm's goodwill and its products and services influence the price at which the jewellery is priced. For example, one buying beads would regardless of their high price, buy them if he is told that they are Krobo beads. The name, it is believed goes with quality.

Ghanaian jewellers and other craftsmen have an advantage in the pricing of their works in that, since most of the products are handcrafted, and no two items are identically the same, though the type of designs in one shop could be the same as that of another shop, there is no basis for calculating the price. The products including jewellery are priced anyhow and they therefore tend to sell most often at high prices. The customers who are aware of this also most times bargain before buying.

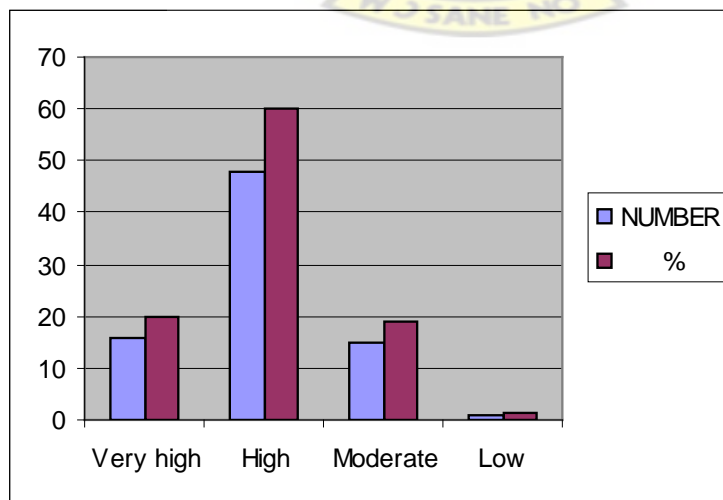
The location of the shop could even influence the price. The prices could therefore be exorbitant or not. The seller can even sell at a loss depending on how dire he is in need of money at a particular time. Jewellery shops that are located in prime areas price their works more expensive than those not in well commercial areas.

Pricing has also become so competitive that with information on the Internet, [www.manobi.net](http://www.manobi.net) has it that farmers in the field, artisans, and fishermen on the sea can use their mobile phones to check prices before they set off and find out where they will get the best offer price for their produce. This means that their wares are not sold from one shop but they operate mobile merchandise. With the advantage of using the mobile phone, they are abreast with the latest prices. They therefore can sell at a high or low price depending on market demand. With a strong

association, jewellers can also take advantage of the mobile phone technology to communicate prices with members so as to get good bargains.

Though the above can be a good way of getting good or high price for art works including jewellery, there is the general scarcity of information on market prices. Prices could also sometimes be under quoted. Misinformation on current prices is a likely cause of impoverishment of the rural craft producers including jewellers. This is because they are not well informed. Furthermore, the rural population is not generally supplied with sufficient means of communication. The mobile and fixed telephone networks covered a very little and negligible part of the rural areas. Presently, the mobile communication network covers the entire country with the Cellular companies competing among themselves.

*Figure 4.4 Customers' impression about the price of Ghanaian jewellery products*





The general impression of customers about Ghanaian jewellery products is that the prices are high. This is because as can be seen in figure 4.4, 20% of responded said the prices were very high. Sixty percent of customers responded that the prices were high, while only 18.8% said the prices were moderate and 1.2% said they were low. The writer also agrees with the customers that the prices of jewellery products especially gold jewellery are high.

The probable cause for the high price of jewellery products especially gold jewellery even though Ghana has large deposits of gold is due to the production loss. The 'accepted' loss in gold jewellery production is as high as 10%.

#### **4.5 Selling of jewellery: Problems and solutions**

In the jewellery trade in Ghana, the selling of jewellery takes mainly two forms: wholesaling and retailing. Most of the jewellery is retailed or sold direct to the consumer. Information collected from the field shows that manufacturers of non- precious jewellery like beads, copper, brass and electroplated jewellery are sold in bulk to retailers who also sell to their consumers whom they say are mainly tourists. The jewellery is normally displayed on tables or in showcases in the markets and sold to customers by the wives or children of the producers. (Refer to plates 4.6 to 4.9).



*Plate 4.6 Beads jewellery displayed in an open showcase at Cedi Beads.  
(Source: Picture by researcher)*

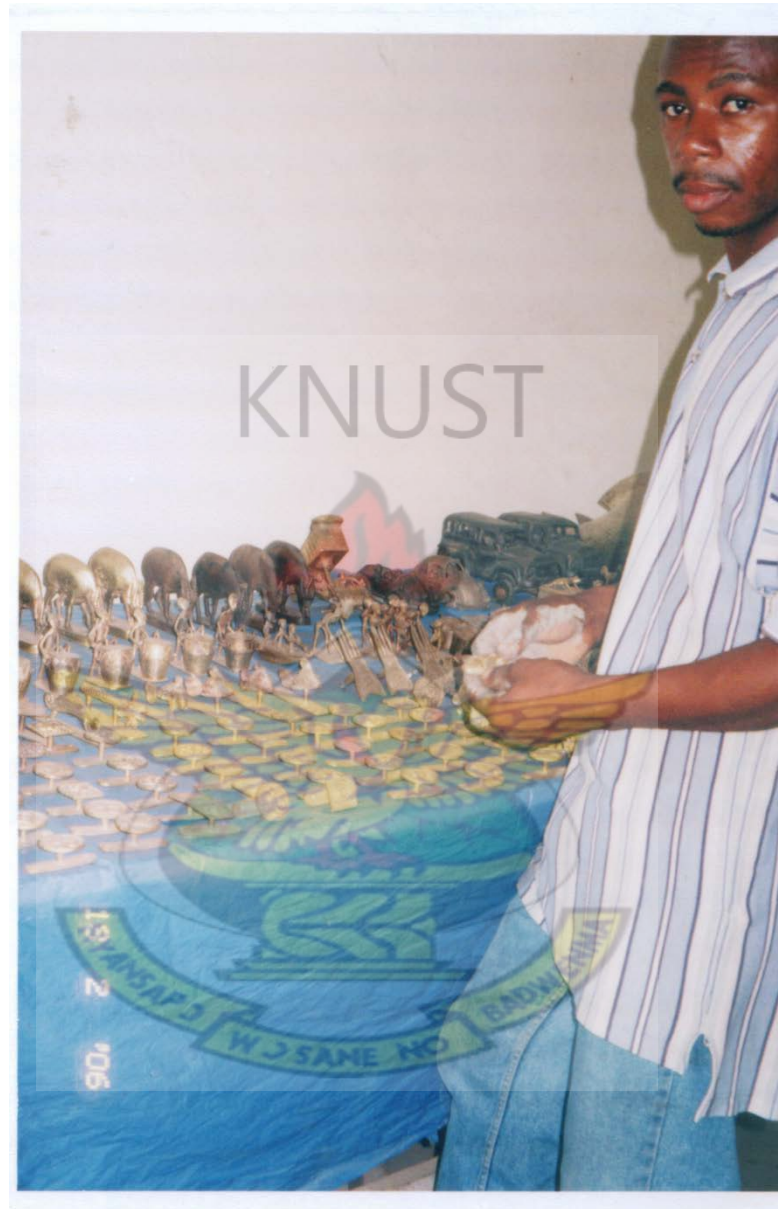


*Plate 4.7 Jewellery displayed in a showcase in front of a shop at Asafo, Kumasi.  
(Source: Picture by researcher)*





*Plate 4.8 Imported Filigree and Bangles jewellery displayed in the market.  
(Source: Ayensu 1997:133)*



*Plate 4.9 Brass cast jewellery displayed on a table at Krofufurom in Kumasi.  
(Source: Picture by researcher)*

The brass casters of Kofufurom keep their works on a table in their rooms, and when a customer comes, they either take the items out of their rooms or pour them on the bare floor for the customer to make his selection.

Prices are not fixed and the prices quoted depend on the type of customer. They normally in most cases sell to foreigners at higher prices. Another strategy used by jewellery producers to increase sales is by hawking of the jewellery. Hawking may be in the form of selling from house to house, market to market or from town to town. The jewellery, whether copper, beads, brass, or electroplated costume jewellery is carried round by the smiths themselves, their wives or middlemen. In the Krobo area, which is noted for their bead jewellery production, the men are the main producers of the beads. They work from Monday to Friday. They go to farm on Saturday, and rest on Sundays. The women, who string the beads, take them to the markets for sale. Since each village has its own market day, the women trade on a different market each day. Koforidua and Agormenya in the Eastern Region for example, have their market days on Thursdays and Saturdays respectively. On Mondays, which are the market days for beads in Kumasi, all sorts of beads are displayed for sale at both wholesale and retail prices. In the Kumasi Central market, this writer was told by Madam Alice Borkettey a beads seller from Krobo, said



that traders come from as far as Cote D'Ivoire Mali and Burkina Faso to buy beads in large quantities to go and resell them in their countries. One problem observed in this international trade in large quantities to the traders is that the Ghanaian traders are ignorant of the fact that they are exporting the beads to the neighbouring countries. They therefore do not fill the necessary export declaration forms for the traders, so that they can be shown at the exit border points of the country so that the correct export data can be captured with the Ghana Export Promotion Council for planning purposes since as said earlier, information and data on the industry is scarce. It is therefore assumed that beads are not exported, while it is not so. In Ghana, one has to obtain a licence from the Ghana Police Service to hawk gold jewellery. No licence is required to hawk any other form of jewellery. The hawkers' licence does not even have the pictures embossed on them. As in the researcher's previous thesis, some hawkers may take advantage of the house-to-house selling to dupe or burgle unsuspecting people. Even though hawking could boost sales, it is very dangerous. Sometimes, thugs rob the hawkers when they are travelling from one village or town to the other. Notwithstanding the problems associated with hawking, it is recommended by the researcher that a lot of people could go into hawking since it requires little capital, and there are no rents or high overheads to be paid except the toll that one pays to the Local Councils for use of the markets. Even though there are

travelling expenses incurred by the hawkers, they are minimal as compared to those paid by other traders since jewellery is handy and the traders do not have to pay money for the transportation of their luggage.

In most cases, precious jewellery like gold and silver are sold direct to consumers from showrooms. Usually, the sales persons in the jewellery showrooms do not have adequate knowledge in the techniques of producing and selling jewellery, because owing to insufficient money, the owners of the shops are unable to employ qualified sales persons. Also, even though the Metals Section of KNUST turns out at least twenty graduates in jewellery and metal products design annually, they either work in workshops or branch out to some other vocations. For instance, this researcher employed a female graduate from the College of Jewellery in his jewellery shop but she resigned, attended a Training College and took up a teaching appointment, complaining that the selling of jewellery was boring to her. In view of this and other complaints, it is suggested that those employed to sell jewellery in jewellery shops, ought to be scholars who have studied apart from jewellery, marketing and customer care. Another graduate from the metals section, who used to be the marketing representative of Stanchart Bank in Kumasi is now a marketing and customer services officer of Zenith Bank in Kumasi. During my interaction with him, he attributed his shift from the jewellery industry to

work at the bank because he believes the bank will give him more prospects and job security. Also, in his opinion, it was expensive to start a jewellery shop on your own, and also, the few jewellery shops he sees around were not run in a businesslike manner, and are small scale. If he is employed in any of them, they might not guarantee him regular income. Two other female graduates from the Metals section of the College of Art and Social Sciences are working with the Ashanti Regional office of the Ghana Tourist Board. They also said they find their present job very interesting. The metals BA degree according to one of them was only used as a springboard. In the researcher's previous thesis, he again referred to one of the showrooms of the PMMC in Accra, where the sales supervisor holds a B.A. degree in Social Science from KNUST, and an M.A. degree in Communication Studies. However, since she has no background knowledge in Jewellery making, and can therefore not explain certain technicalities of jewellery production to customers she is not likely to maximise the sales of PMMC. Since the Precious Mineral Marketing Company's problem is not about the cash to pay the sales staff, they should have employed someone from either the College of Jewellery in Weija, or Metals Section of KNUST, who has some idea on jewellery and can offer professional advice to customers. Most of the graduates from the Metals Section of the College of Art, KNUST employed by the Precious Minerals Marketing Company, work in their workshop. This researcher

was therefore delighted to hear that the Marketing officer of the Precious Metals Refinery, (a gold refining company in Accra,) is a graduate from the Metals Section of the College of Art, KNUST.

It was written in the researcher's previous MA thesis that, sales persons should be ready for the customer who is familiar with jewellery technicalities, and the one who is not. A customer may not know the difference between *gold karat* and *diamond karat*. Another may not know what 14ct gold 18ct gold means. A customer may ask, "Is your jewellery made of pure gold, or is this piece made of solid gold"? An "illiterate" sales person will find it difficult to answer it correctly to satisfy a customer. This is because being untrained he may not be aware of the different qualities in gold or other types of jewellery.

#### **4.6 Problems of insurance and their solutions**

Even though it is important that jewellery companies insure their premises against all risks, research from the field indicated that most of the jewellery shops have not insured their premises. The reasons given for the failure to insure is that they are expensive and a waste of money. The problem however is that when there is a fire outbreak or burglary, the companies tend to loose everything. There is therefore the need to educate the public, especially jewellers on the importance of insuring one's

premises. Moreover, insurance premium is accounted for as an expense and not taxable.

Kotoku (2001:140) wrote that, Insurance policy is the secret and effective watchman. This is because if the watchman of an insured jewellery shop is tied and the shop is burgled, the owner of the shop can make an insurance claim, but if the shop is robbed at gun point, there is no claim to be made because according to the insurance law it insures only against forceful entry.

This should not however suggest that jewellery shops should not employ watchmen since insurance companies take the presence of a watchman at a premise into consideration in deciding on the percentage of premium that a company should pay. This is because when one employs a watchman and also undertakes an insurance premium, the risk element is reduced just as when one insures against fire and has fire extinguishers.

Again, as written in the researcher's previous thesis, a sad aspect of the insurance policy is that if armed robbers entered a jewellery shop at gun point and made away with the jewellers' wares or money, the insurance companies would not be liable, since it was not regarded as burglary or forceful entry but robbery. Also, if after working hours, the premises is



locked, and there is burglary, and it is established that a duplicate key, or the original keys were stolen and used to open the premises and the merchandise stolen, the insurers will also not accept a claim. Jewellers therefore are advised to study the insurance law very well before going in. Even though insurance is good, if the requirements are not met, and one rushes to insure one's jewellery shop, one may merely waste money. On the other hand the research has revealed that individuals can deposit their jewellery at the banks for safe keeping and they can also insure them against robbery as is done in the developed countries. When this is done, it will make customers buy more jewellery since they will not be afraid of losing them.



## **CHAPTER FIVE**

### **DISCUSSIONS**

#### **5.1 Registration of jewellery shops as legal entities**

One of the decisions that a jeweller has to take is to see to the registration of his business as a legal entity. The form of registration determines the type of legal ownership. The registration used to be done only in Accra by the Registrar General's Department. Each type of legal ownership however has its advantages and disadvantages.

Kotoku (2001:153) indicated that of the nearly thirty individual goldsmiths' workshops visited in Kumasi, none of them had registered with the Registrar General's Department under the then Ministry of Trade at that time. The reason given by the master goldsmiths at that time was that since the Government did not supply them with raw materials they did not understand why they should register their shops for the government to tax them. This reasoning by the jewellers was unfortunate because they have to understand that it was not only a civic responsibility, but also a social obligation for them to pay their taxes. It is not the duty of government to supply them with raw materials. Even if the government supplied them with raw materials in the past it was not obligatory for it to do that. Regarding the registration of jewellery workshops, it is encouraging to learn that the owners of the recently established shops in Kumasi have registered theirs with the Registrar General's Department. Table 5.1 testifies to the fact that of the forty shop owners interviewed, twenty five representing 62.5% have registered their businesses with the Registrar General's Department. And as can be seen from Table 5.3, out of the forty shops interviewed, eighteen of them which represent 45% have been in business for less than five years. This further testifies to the point earlier made that the recently established shops have heeded to the advice to register their shops.

*Table 5.1 Interview with some owners of some Jewellery shops.*

Sample Size (Jewellers)	Respondent	Respondent %	YES	YES %	NO	NO %
40	40	100	25	62.5	15	37.5

*Table 5.2 Form of business ownership.*

Sample Size	A	B	C	D	E	F	G	H	I	J
40	40	100%	27	67.5%	1	2.5%	12	30%	0	0%

*Key to Table 5.2 A=Respondents, B=% Respondents, C=Sole Proprietorship, D=% Sole Proprietorship, E=Partnership, F=% Partnership, G=Limited Liability Company, H=% Limited Liability Company, I=Other, J=% Other*

*Table 5.3 Number of years that the jewellery shop has been in Business*

Sample Size	Respondents	%	Less than 5yrs	%	5-10yrs	%	More than 10yrs	%
40	40	100%	18	45%	8	20%	14	35%

This encouraging development has partly resulted from the advice this researcher has been giving to his colleagues, the jewellers. Also, during our previous research this researcher recommended to the Business Advisory Centre under the National Board for Small Scale Industries, headed by Madam Beatrice Boakye to train and run business courses for

the goldsmiths and other jewellers. It is remarkable to note that, as a result of the recommendation, three courses and a seminar have been organised for jewellers in Ashanti Region by the Business Advisory Centre. My present suggestion, however, also in this thesis is that the Business Advisory Centre ought to give business advice, educate, counsel and direct jewellers to register their businesses under any of the following business organisations.

- i. Sole Proprietorship
- ii. Partnership
- iii. Limited Liability Company
- iv. Joint Stock Company or
- v. Co-operative

It must be pointed out that Co-operative societies have to first register with the Registrar General's Department as a Limited Liability Company limited by guarantee before registering as a co-operative society with the Department of Co-operatives.

The Registrar of Co-operative Societies of Ghana, Mr Ernest A Dame, has said that, the number of cooperative societies in the country at the beginning of the third quarter of 2006 stood at 3,241. Ashanti region has the highest number of societies with 727. According to Mr Dame, there are mainly four categories of co-operative societies, and these are Agriculture,

Industrial, Service and Financial. Agriculture records the highest number with 1749 and the industrial which covers small scale manufacturing like batik and tie and dye among others. Unfortunately however, of all these co-operative societies, only one is in the jewellery sector, i.e. the Odumase Krobo Bead Co-operative Society.

Mr Dame continued that the co-operatives hinge on 'group spirit', which are economic entities, and in the absence of the communal or self-help concept, they tend not to thrive. The cardinal objective of the department is to educate co-operatives on group dynamics and good governance. He is optimistic that the era of free enterprise now prevailing will see the emergence of more societies as they are business enterprises.<sup>3</sup> The Jewellers including goldsmiths are therefore advised to form co-operatives so as to gain from the group spirit concept.

When the Business Advisory Centre of the NBSSI is educating the jewellers on the registration of their businesses, it must stress on the benefits associated with them, not forgetting the advantages of forming cooperatives. The Business Advisory Centre of the NBSSI must also

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<sup>3</sup> Interview with Mr Ernest Dame, by Konrade K Djaisi of the B&FT reported in October 23, 2006 issue of the Business and Financial Times p 4



explain to them the related laws governing the registration of businesses in Ghana which this writer has stated below:

- i. Registration of Business Names Act, (1962) Act 151 and Registration of Business Names Regulations 1972 LI 261
- ii. Incorporated Private Partnerships Business Act, (1962) Act 152
- iii. Companies Code (1963) Act 179
- iv. Business Corporation (official Liquidation) Act, (1963) Act 180
- v. Co-operative Societies Decree NLCD 252 of 1968, and Regulations of 1968.
- vi. The Trustees (Incorporation) Act, 1962 and its Amendment PNDC Law 311

The aforementioned Acts of Parliament makes provision for the description of each type of business, who owns it, how it should be operated, and how it should be wound up or liquidated. When a business is legally registered, it receives legal protection because it is treated as a legal entity. This means that it can sue and be sued. Information collected during the field research showed that most jewellery shops are still not legally registered with the Registrar General's Department despite the benefits, and the requirements of the law. The reason given by the Ashanti Regional head of the Ministry of Trade, Industry and President's Special

Initiatives (MOTI & PSI) is that, there has not been any enforcement of the law. There is therefore the need to enforce the law because under this present modern democratic Ghana, if company 'A' goes into business transaction with company 'B' that is not registered, the former cannot sue the latter if the latter defaults. The jewellery companies as pointed out earlier are rather thinking of the tax implications rather than the legal implications. For this reason, most of the jewellers do not feel compelled to register their businesses.

Another reason why most businesses do not register is that, the process of registration is very cumbersome and is likely not to be easy for the ordinary jeweller. For example, in registering a Limited Liability Company, a company name will have to be chosen, and the name chosen must not be misleading or undesirable in the opinion of the Registrar of Companies. Concerning the registration procedure for a Limited Liability Company, the number of shareholders ranges from a minimum of one to the maximum of fifty persons. The Directors of such a company however should not be less than two. The Company must have a location and postal address. An Auditor who must consent in writing must be appointed at the time of registration, and the company must have a Secretary. The Company must have clear objectives that must not be in conflict or unrelated. Every Company is required to fill an income tax

registration form that will enable it to obtain an income tax registration number. Following incorporation or registration, companies must file annual returns with the Registrar General's Department showing their audited balance sheet and profit and loss statement within eighteen months of incorporation. Thereafter, audited accounts and profit and loss statements must be filled every twelve months with the Registrar General's department. The Company's code also requires that strict accounts showing the financial position of a company and changes to such positions and the proper control of all properties be kept by the shareholders annually. A profit and loss account, and a balance sheet, prepared and signed by the Auditors and Directors, a report by the directors on the company's affairs and a report of Auditors on the books of accounts, balance sheets, and profit and loss statement, must be prepared and made available at the company's offices. Failure to take reasonable steps to ensure that proper books and report are kept and filed renders the company's directors liable to a two-year imprisonment, a fine or both. After incorporation, every company with foreign investors must be registered with the Ghana Investment Promotion Centre (GIPC) Depending on the objectives of the business, registration with Ghana Export Promotion Council, Copyright Administration, Minerals Commission, Free Zones Board, and Environmental Protection Agency may become necessary. The process is such that even those who venture

to register their businesses especially as limited liability companies have to fall on professionals like accountants, lawyers, and consultants who charge them exorbitant fees. If the registration process is simplified, in the opinion of this writer, more firms including jewellery industries will register. The registration is important because as stated earlier, it legally protects the business, and gives various institutions like the banks and other stakeholders the legal mandate to deal with such registered companies. The writer however, recommends that jewellery firms should not only register as limited liability companies since the fees for such registration are higher than other forms of registration, and such fees could be invested in the business to increase production.

With a business enterprise, or sole proprietorship, it can be registered in circumstances where an individual or corporate body registers a name. The following information is required on the application forms for registration.

- i. business name
- ii. general nature of business
- iii. principal place of business and all other places at which the business is carried out
- iv. present name, surname, and any former names
- v. nationality and Nationality of origin where relevant

- vi. date of birth
- vii. residence and other business occupations,
- viii. date of commencement of business.

This form must be signed by the proprietor, or if the enterprise is owned by a company, by a director or secretary. The Registrar can refuse to register the business name if he has a reason to believe that the business is unlawful or that the name is calculated to mislead the public, or that the name is undesirable, or that the name has previously been registered on behalf of somebody. The registration of a business name must be renewed annually or else it lapses. The annual renewal is however flouted by most businesses, because the operations of the Registrar General's office is carried out only in Accra, and apart from being time consuming, it is expensive to travel to Accra every year to renew the licences. This has made it difficult to know the actual number of businesses including jewellery businesses in operations. It will therefore be difficult for stakeholders including the government to get good statistics on existing businesses including jewellery businesses, to be able to assist them.

In registering a business under the Incorporated Private Partnership Act of 1961, Act 152, the incorporated partnership firm will have a ceiling number of 20 partners. This means that twenty goldsmiths can come



together to register a business as partners. The partners are personally liable without limitation for the debts of the firm, although they are entitled to indemnity from the firm and contributions from all partners.

Every partner is an agent of the firm and his acts done in the course of business bind the firm. Partners stand in a fiduciary relationship in trust with the firm and their co-partners and have an obligation to render to each other full information on all things affecting the firm. If a partner directly or indirectly carries on any business, which competes with the firm, he has to account for and pay over to the firm all profits he made in that business.

During incorporation, a partnership form must be completed and signed by all partners and delivered to the Registrar General's department for filing. The form must contain information on the following

- i. partnership name
- ii. general nature of business
- iii. address of principal place of business and other places at which the business is carried out
- iv. names, surnames and ages of the partners of the firm and any former names
- v. nationality of origin of the partners

- vi. residence and other business occupations of the partners
- vii. particulars of charges on partnership assets
- viii. date of commencement of business

A stamped copy of the partnership agreement must accompany the application form. The registration must be renewed once every year. Failure to renew the registration yearly can lead to inability to enforce the rights of the firm and its partners arising out of any contract during the time that there is a default in due registration. The law also requires that proper accounts of the firm are kept and a balance sheet, profit and loss accounts are prepared and lodged with the Registrar General every fifteen months. In the event of any changes in the particulars registered, the existing partners must file a statement informing the Registrar of the changes within 28 days of the change taking effect.

From all that have been pointed out so far in this chapter, it is realised that the passage shows a legal procedure for registering a business in Ghana. It must be noted also that registering a business is done only in Accra, the nation's capital as indicated earlier. This means that anybody registering a business would have to travel to Accra at a great cost. Apart from the registration done only in Accra, any change in the particulars will also have to be done in Accra. Since the law also stipulates that annual returns

have to be filed, it presupposes that there is a lot of cost to be incurred in the registration process. This has made it difficult for businesses including jewellery shops to register legally. The subsequent effect of not registering legally among other things is that the jewellery industry will not get the required support that it is supposed to get from stakeholders. It will also be difficult for the government to know the actual number of jewellery industries in the country for planning purposes. It will also not be able to transact business with the Banks since the Banks may not want to deal with an illegal entity. The researchers' suggestion therefore is that the registration process should be decentralised. That is, there should be offices opened in the regional capitals, if not the district capitals to save people who transact business with the Registrar General's office, including jewellers the cost always incurred from travelling to Accra. The time saved can go into extra production; whiles the money saved can increase working capital. Presently, there are agents who charge exorbitant fees and travel to Accra to do the registration on behalf of the business owners, including jewellers, and they charge high fees for rendering such services. Mr Emmanuel Ayitey, a goldsmith at Ash Town in Kumasi said in an interview that he registered his business through a middleman. After about a year, when he sent another agent to do the renewal for him at the Registrar General's Department in Accra, to enable

him to apply for a loan from a financial institution, it was detected that the certificate of registration was fake.

It is gratifying to note that the Registrar General's Department in collaboration with Ghana Post has begun a process to bring business registration to the doorsteps of the general public. For this reason, the Registrar General's Department has designated ninety-five post offices throughout the country, from where registration forms can be bought. Prospective applicants can now procure for registration, registration forms and submit the completed forms to any of the ninety-five designated Post Offices throughout the country. Business renewal and Annual Return Forms are also available at the said offices. Replacement of certificates may also be channelled through the same post offices. Upon submission, the relevant certificates of incorporation and commencement registration forms etc can also be collected from the post offices. This information was signed by Mrs E. Owiredu Gyampoh who is the Registrar of Companies, and published in the Sept 2, 2005 page 5 of the Ghanaian Times newspaper number 14,620 ISSN 0855 15039. The scheme according to the publication was to commence on the 1<sup>st</sup> September 2005. This is a real laudable move, and is an opportunity for all proprietors of all businesses to honour their statutory obligations by filing annual returns, renewing

their corporate registrations and to replace their old business certificates with new ones with security features.

The above problems however notwithstanding, since the decentralisation has not taken off yet, this author suggests that all jewellers should register as sole proprietors or Limited Liability Companies. Jewellers must avoid partnership Incorporation as much as possible. This is because, from past experience, partnerships that have succeeded are those between same professionals like Lawyers, Architects, and Accountants etc. There has been so much mistrust, selfishness and greed among partners. This leads to serious litigations. Precious time that must go into production is now being used in litigation. Even though jewellers are also in same profession and could register as partnerships, their traditional beliefs of secrecy, mistrust and selfishness will make it difficult for a partnership between them. The points stated above do not however mean that Partnership is generally bad, but it is the partners that have to understand the implications of partnership. There is the need for the partners to also understand the legal implications. Relevant sections of the Company's Code, Act 179 of 1963 necessary for this research are reproduced as Appendix G.

## **5.2 Apprenticeship**



Apprenticeship is the combination of learning on-the-job and related technical and theoretical instructions for a skilled occupation. Apprenticeship has therefore been one of the oldest forms of development of skills in the world. It began early in the history of mankind, and it played an important role in developed economies including America. George Washington for example, apprenticed in surveying. Apprenticeship in jewellery making, just like other vocations, is also not an exception. In Ghana, traditionally, one could only become a goldsmith through inheritance. In other words the art was passed from father to son or nephew. This was a basic requirement from all prospective apprentices and in addition, women are traditionally not entertained in the profession. Previously, before becoming an apprentice in goldsmithing in Ghana, one was put under six month's trial. During that time, the master watched him closely to ascertain his honesty and vigour for work. The least flaw exhibited led to disqualification. Again in Ghana, the Apprenticeship Act was passed in 1970. This is known as Act 351. The Act empowers the NVTI to among other things to organise apprenticeship, in-plant and training programmes for industrial and clerical workers and train Instructors and Training Officers required for the purpose.

The apprenticeship act makes provision for a National Apprenticeship Council, which was also passed under a Legislative Instrument,

Apprentice Regulation L.I. 1154 of 1978, with the major responsibility to control and regulate all forms of apprenticeship training to ensure uniformity. It is also the responsibility of the council to study the existing apprenticeship schemes in relation to standards of training and if necessary making recommendations for their improvement. It will interest readers to know that since the enactment of the L.I., the Council has not been formed, as far as I am aware. This has led to masters not giving the right training to the apprentices. Some use them for all sorts of menial work; even some go to the extent of using them to work for them at home or on their farms. Some are not also paid. Since they do not also know their rights, most of them obey their masters without complaint. This has therefore led to many, if not most of the apprentices abandoning the training. According to some of the masters, there are also instances where apprentices or even employees steal gold or other raw materials from their masters for their own jobs to supplement their incomes. This in the opinion of the researcher may partly be due to the fact that, from data collected, 75% of the apprentices are above eighteen years old. Some are even married, and need more money to be able to cope with their financial obligations. The get rich quick attitude of the youth has also made apprenticeship in goldsmithing almost nil. When they start learning and are able to do some bit of refining of gold, due to poverty, they forget about their primary aim of being in the trade and they thus concentrate

more on the gold or precious metal refining at the expense of learning the goldsmithing trade.

Apprenticeship as mentioned earlier in the thesis, is not well organised in the jewellery industry in Ghana, especially goldsmithing. There are no standards for training. The apprentices instead of their masters training them, use them as a source of cheap labour, and make them do the most hazardous parts of the jobs. This is especially what pertains in the bead industry where they are sometimes made to polish the beads by holding them in their bare hands and rubbing them on flat stones covered with sand. This is the practice at certain shops including Cedi Beads, as can be seen in plate 5.1. This writer has recommended to Mr Cedi Djaba to construct a tumbler, and use it for the polishing, since the present system of polishing by using the fingers on bare stone could make the apprentice fall sick. If he is indisposed, it will affect production in a negative manner.



*Plate 5.1 An apprentice at Cedi Beads at Krobo-Odumase polishing beads with sand on a stone with bare hands. (Source: Picture by researcher)*

The researcher also recommends the following for the youth who want to apprentice in jewellery making. The minimum age this researcher recommends for apprenticeship is fifteen years. This is because at fifteen years, it is assumed that one would have completed the Junior Secondary

School and would still have been staying with one's parents, who might supplement one's cost of apprenticeship. Also, apprenticing should not be assumed to be for school dropouts but should be a matter of choice.

In order to reduce the dropout rate in jewellery apprenticeship, it is again suggested that apprentices should be able to relocate. That is, if the parent of an apprentice for example, who is an employee, is transferred to another town, or city, it should be possible for the apprentice to also transfer to a new master at the place where the parent has been transferred to, provided master jewellers are there. This will reduce the tendency of abandoning the programme. The present researcher advises therefore that when an apprentice is relocating, he must first cancel the training contract with his current trainer. This should be done in agreement with the trainer and the consent of the guardian if the person is under eighteen years old. Once cancelled, one can sign another training contract with another trainer.

This researcher suggests the following as obligations on the part of the trainee. It must be noted that under Ghana's Labour Act 651 of 2003, similar obligations are expected of employees. That is, he must

- i. attend and perform work as directed by the employer unless it is detrimental to his health and welfare.



- ii. observe the conditions of the relevant employment agreement.
- iii. behave in a courteous and professional manner.
- iv. obey all lawful instructions.
- v. work towards achieving the competencies of the apprenticeship's training plan.
- vi. acknowledge that all information obtained from the master and given in circumstances of confidence must be kept confidential, and he should not disclose them to any person without his master's approval.

If an apprentice is under 18 years, this researcher suggests that the apprentice's parents or guardians must ensure that the above responsibilities are met.

On wages for apprentices as said earlier, it is recommended that as a minimum, apprentices must be paid a training wage depending on the financial standing of the master. The wage paid to apprentices must depend on the individual apprentice's progress made during the training. The wage could also be calculated as a percentage of the pay that the full time employees take, but this is however dependent on the year or level of experience of the apprentice. Of the forty apprentices interviewed on the

field, it came out however that thirty two, or 80% of the respondents are paid some form of allowances by their masters.

Tools may also be supplied to the apprentices and deducted from their wages or allowances. This will motivate them, and also enable the apprentice to be well equipped to start his own workshop after his apprenticeship. This measure will therefore increase production or will not tempt the newly trained jeweller to move into another vocation for lack of funds to set up his or her workshop.

Of all the workshops this researcher visited, each shop owner engages only one or two apprentices. At Elder Jewellery at Asafo, in Kumasi for example, the manager, Mr. E Amponsah the owner, runs the business single-handed with no other staff. He has no apprentice either. It took this researcher three days to get him to grant an interview. This is because in his absence, the shop is locked. According to him, all the times that he was absent, he had travelled to attend to his Citrus farm. He says his business, which was registered in the first quarter of 2005, was less than one year, and he would therefore have to work for sometime before he would arrange to employ a sales assistant. At Lucky Gold Jewellery at Koforidua in the Eastern Region, the owner Manager, Mr. Atta Dogoe, who is also the Vice president of the Federation of Ghanaian Jewellers, almost always

has his shop closed since he has to travel to Accra frequently, either to attend meetings, or to transact business.

It is suggested that to revamp the apprenticeship programme in the jewellery industry, there is the need to implement Apprenticeship Regulation L.I. 1154 of 1978 which when adhered to, will enable apprentices to enjoy some form of income whiles under training as stipulated in the Apprenticeship Regulation L.I. This will motivate them to take the apprenticeship seriously, because certain apprentices drop out because of financial difficulties. Apprentices could combine work with training so as to further supplement their income. This means that they could be working somewhere and during weekends they will come to the workshop to learn. By so doing, the number of jewellers would increase and this will also increase production. The researcher recommends between 12 months to three years as the length of apprenticeship, even though it could extend to four years. This is so because after learning the basics in the trade for about six months, one needs to learn and practise to get the requisite trade and work experience before venturing to set up on his own or to be employed by somebody. Training could be full-time, part-time or school based. Existing clerical employees therefore could also undertake apprenticeship. To safeguard both the employer and trainee, the researcher recommends the signing of a written contract by both

parties. Where the trainee is a minor, the guardian or parent should sign it on his or her behalf.

Most people have always thought of apprenticeship as old fashioned, or even a form of slave labour. They think so because in modern times one thinks of training in a vocation only in vocational schools, and any one who undertakes apprenticeship is assumed to be a school drop out. Masters also, as said earlier, use apprentices extensively for private gains. Schoolchildren who also help their parents in their trades after school hours are said to be under child labour and abuse of the child, even though, in this researcher's opinion, by so doing, the schoolchildren who learn directly from their parents at an early age end up being the best artisans. Jewellery is no exception to this. By all accounts therefore, embarking on an apprenticeship requires a great deal of motivation and dedication. Most trainers offer very low wages to apprentices, and the latter are made to work for long hours while some do not pay any wages at all. One therefore has to persevere to have an apprentice training rewarding.

This researcher is also of the opinion that apprentices who receive a one to one training from experienced masters should be encouraged to work on commission as soon as their skills are up to standard. It is gratifying to

note however that while interviewing some master-jewellers in connection with payment to apprentices, some of them indicated that they were paying commission to apprentices. Pearl Jewellery, also pays commission to apprentices, depending on the skill of the apprentice. Mr. Cedi of Cedi Beads in Krobo-Odumase is one of the masters who also pay commission to apprentices. Master jewellers should also be willing to teach apprentices the ins and outs of running a small business as well as the practical skills of the jewellery trade. This however is a problem to the Masters themselves since they have not undergone business training. The masters therefore lack business managing acumen themselves. They are encouraged to avail themselves to training. Some of these business management-training programmes are advertised in the Daily newspapers. *Empretec* Ghana organises in service training for businesses. Master craftsmen should also be given entrepreneurial training and refresher courses.

Since certain unkind and difficult masters pay apprentices moderately or, nothing at all, apprentices must find different odd jobs to supplement their income. This is because when they do any odd jobs within the workplace, they are not paid; it is assumed to be part of the training hazards. It is worth noting that jewellery apprenticeship is usually not for



those who want to make a lot of money quickly. Graduating jewellers from formal training institutions like KNUST and College of Jewellery, Weija, near Accra, are unwilling to also have the patience to apprentice. This is because those from the formal training sector lack the working experience and confidence needed to get a job. Interviews conducted by this writer revealed that there is a mismatch between the training provided by training institutions like the College of Jewellery and the KNUST Department of Industrial Art and other formal jewellery training institutions and the needs of the jewellery manufacturers when they employ them. Although students continue to graduate every year from formal jewellery institutions, a lack of skills required by the jewellery manufacturers is normally cited by the manufacturers as a major concern. Graduates can therefore not take their place productively at a jewellery bench without considerable additional training and tuition. The training institutions however counter that jewellery manufacturers have unrealistically high expectations of graduates. They suggested that the real reason behind the reluctance on the part of jewellery manufacturers to acknowledge the training courses was a financial one in that, by not acknowledging the qualifications, the jewellers were not obliged to pay graduates appropriate salaries. While many jewellery manufactures denied this others noted that there was an element of truth in the concern.

Suggestions and solutions to the above problem are offered in chapter seven of this thesis.

### **5.3 Worker's health and safety**

It is necessary to comment on the worker's safety since despite the hazards that are associated with reckless use of chemicals and tools, jewellers overlook its importance. When issues of studio safety are better recognised in the workshop it will give rise to a healthy workforce and thus increase production. The good news is that, certain shop owners have made their shops safer than they were. An important factor, however, is that safety issues are real and must be taken seriously otherwise one can actually do damage to oneself and others. By behaving unsafely, one can shorten one's life or sometimes possibly go blind (Kotoku 2001:201).

Safety might be said to be acting in a manner and instituting measures that preclude or avoid injurious behaviours and circumstances. This means not doing any thing to hurt one-self or others presently or in the future that will cause injury. The best safety device this researcher recommended therefore was carefulness when working. One of the significant issues in safety is complacency. This means one is used to it; thus "this is the way we have always done it, and we do not see any thing wrong with it because nothing has happened so far." It is necessary to do

away with complacency and analyse the existing situation and be willing to change and re-evaluate on a regular basis.

Traditional ways of doing things also get in the way of the jeweller's way of doing things. For example, gilding, using dangerous acids and mercury though in a very dangerous manner, in a way had remained unchanged. The jewellery industry is slow to adopt new techniques and ways of doing things, and that attitude is costing goldsmiths their health. An example of slow ways of doing things by jewellers is that, bead makers still pound their broken bottles with pestle in mortars, which is dangerous to their health. Yeboah (1997:117) wrote that, he was informed by Mr. C. K. Darko, Field Director, Aids to Artisans Ghana, Kumasi that, ATAG has developed kilns and glass crushers for local bead producers of Krobo. The development of the kilns and glass crushers is in a positive direction because it will speed up production, and also be safer than the present system of pounding in a mortar. Also, with the introduction of modern melting and soldering devices, most traditional goldsmiths continue to use the hearth and a palm oil lamp for melting and soldering respectively. It is recommended that training for jewellers should include education on modernisation and safety measures. It will be necessary to have a checklist to be used as a guide to ensure that things are done correctly and that you do not make mistakes. It must be noted that circumstances change, so also

do technologies. It may therefore be a good idea to re-evaluate them on a regular basis.

#### ***5.3.1 Medical Check- Up***

As another safety measure, it is necessary for every jeweller to tell his doctor about the sort of work he does for a living and what metals and chemicals he is exposed to. Before one starts work or is employed to work in a jewellery workshop it is advisable for one to go through a medical examination for one to know the condition of one's lungs and other organs of one's body. This test should be repeated periodically, say at intervals of six months. This may easily reveal the adverse effect the working conditions may have had on jewellers.

#### ***5.3.2 Prevention of children and pregnant women from entering workshop***

It is also recommended that children should not be permitted to come to jewellery workshops. This is because when children play around in the workshop, they can inhale dangerous chemicals; they can also mistake acid for water, and thereby drink it and die. After a lot of thought, this researcher thinks and recommends that a pregnant woman should not work in a jewellery studio because of the numerous particles that fly about in the room, as well as the dangerous chemicals that may be inhaled by a pregnant woman. For this reason this researcher had to transfer a

pregnant lady goldsmith to the jewellery showroom at another location. To substantiate this point, it is recounted that during a lecture to members of the *Kumasi Royal Lions Club*, a charitable organisation, of which this researcher is a member, Dr Joseph Akpaloo who lectured on the topic, *Pregnancy Precautions*, said that chemicals and dust that a pregnant woman is exposed to in an ordinary household from carpets and household cleaning products, are easily transferred to the foetus. Metal dusts, solvents and other chemicals such as metal salts and oxides, all have the potential to injure the foetus.

### ***5.3.3 Eating and drinking in the workshop***

Eating and drinking in the workshops also may allow particles to be swallowed into the body, since the particles may fall into the food and water. If a person wants to drink in a jewellery workshop, he must use a kind of container that has a cover and then use a straw; this may reduce the potential chemical contact. It is still important that jewellers should not smoke cigarettes in the workshop. Smoking, besides being bad for the health, one ought to know that it reacts with many chemicals like nitric acid or hydrochloric acid. **No Smoking** signs as in plate 5.8 should be displayed not only in the jewellery workshops but also in the showrooms to remind both workers and customers of the dangers of smoking around the workplace. Additional warning signs like. **Fire Extinguisher** location



sign as in plate 5.10, or the **Flammable Material** sign and **Explosive Material** sign as in plate 5.3 and plate 5.4 respectively should be conspicuously displayed in the workplace.

Hygiene is also an important aspect for maintaining good health in order to increase production. We use our hands so much in the jewellery shops that they get exposed to all kinds of chemicals, metals and dusts. It is therefore very important to develop a hand washing habit to reduce contamination of the hand. The contaminated hands may touch the mouth while eating etc. Regular thorough hand washing, before leaving a workshop as a part of the shutting down the shop ritual can help reduce the overall exposure significantly.

There is a reason for people in factories to wear working clothes. This keeps one's dress from getting soiled and makes one freer to work. Using working clothes such as an apron, or overalls helps keep chemicals and metal residues in the workshop out of the body. A rubber apron is recommended for dealing with chemicals. It is also suggested not to wear a ring at the bench, the ring may be hooked onto something, say a machine part or a hook of some kind and tear the skin of the finger. Also, a ring must not be worn because chemicals and dusts can get trapped under the ring and cause reactions which may lead to diseases like

dermatitis. Work clothing should also be washed regularly and separated from other laundry. They should also be washed very frequently. Sandals or bare feet are also not recommended because particles like saw-blades and sharp objects could cut the toes. Protective canvas footwear or shoes are recommended as footwear to be worn in jewellery workshops.

Burns are a common hazard in the jewellery workshop. All goldsmiths, like other jewellers get small burns now and then and sometimes, larger burns occur as well. Burns are the most common small injuries reported in the workshop, next to small cuts. It is not advisable to use oils or greasy ointments to treat burns. This is because the oils and greasy ointments from the workshop may be contaminated and when used will cause infection. While some people use buckets of iced water kept on it for about an hour as an initial remedy, this writer recommends the use of the juice from the leaves of plants, or other herbal preparations from a drug store. The herbal preparations are far cheaper than the orthodox medicines, even though they are equally efficacious. Burns are however avoidable if safety precautions mentioned below are taken. If one is working with fire, torches, and flammable materials, it is important that one is careful at the workshop to avoid accidents.

As part of precautionary measures, it is important to use tweezers and tongs as much as possible so as to keep the fingers away from the chemicals, soap, and solvents used. It is ideal to always have stainless steel tweezers readily at hand.

Since the jeweller uses chemicals for cleaning, finishing, etching, electroplating, anodising pickling, enamelling, wax working, casting, and so on, and since he traditionally uses sulphuric acid, nitric and hydrochloric as well as mixtures of the last two as *aqua-regia* for refining, precautions must be taken since all of them are dangerous chemicals to have around. It must be noted that the basic rule when carrying bottles of acid is always to keep one hand under the bottle. Because of scientific inventions, there is now very little need for concentrated acids in most jewellery workshops. Thus in the researcher's MA thesis, he wrote that using salts that form dilute acids can provide pickles and etchings. Vinegar and a little salt can also work well as pickling solution. To reduce the use of acids as much as possible one has to at least get electronic metal testers instead of acid testers.

The researcher reiterates that, precautions also need to be taken against dusts since in almost all the jewellery working processes, dusts, no matter how small, are emitted into the air. Sometimes it can be seen. These are

unknowingly breathed in and because the particles are somehow large, they end up being deposited in portions of the lungs. If we are fortunate, these may be cleared from the body by its natural mucus where it is bound up and brought up into the oesophagus and swallowed. The finer dust particles that we cannot see with the naked eye are the most dangerous. They enter the lungs, go far deeper into their recesses and can result in chronic damage. Ventilation in the workshop is therefore very important if one should have a safe workshop. Cross ventilation is the most ideal. Cross ventilation is when you have windows at least at two sides of the room. As recommended in the researcher's previous thesis, a fume or extractor fan is also very important. It can be used in addition to having windows. A fume hood can also be installed in the studio.

Good lighting in the workshop is also good. The lights could be positioned overhead, or mounted on the wall, say every six feet apart. Desk lamps can also be used in addition to the mounted lights. With this, one may not have sight problems because of using insufficient light to work.

The research findings show that the number of jewellers having accidents on the polishing motor whiles polishing is quite high. It is therefore always necessary to hold things intelligently while polishing them. The

polishing machine can also be connected to a foot operated cut off switch so that when damage is inflicted, the machine would be shut down the moment anything happens. Some jewellers like to use a polishing motor that is not very powerful just for this reason that if something happens, the user can stop the machine easily. The writer however recommends the foot switch instead. This is because in case of an accident, the foot can quickly be used to switch off the motor.

It is often said that any action repeated over and over again for a very long time in a particular posture, has the potential to injure the joint where it is repeatedly stressed. It is therefore good to try to arrange jobs in such a way that one can work in different ways and use the body differently during the day. This suggestion might conflict with the principle of division of labour and specialisation, but it is recommended because it keeps the body flexible because the person works in different postures. Analysis of jewellery workshops is that much damage could be avoided by having different working heights. Jewellers therefore often perform the wrong task at the bench pin height because that is the main height available for all of those working in a particular workshop. Some tasks should be done at waist height and others at different heights, particularly if doing the same job over and over again all day. It should be deliberate to have the soldering station separated from the workbench and at a

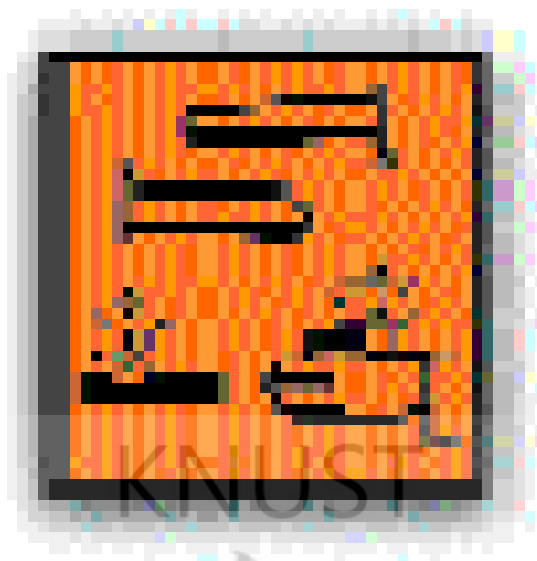


comfortable standing height for use so that the work layout forces the worker to change positions fairly frequently. This also allows the soldering area to be separately vented, which can be difficult to do at a bench. The above is recommended because, while it may not be as efficient because it may slow down the work, it is a healthier and more rewarding method because you get to change your immediate surroundings and position during the workday.

#### *5.3.3.1 Health and Safety signs/symbols relevant for the growth of the jewellery industry in Ghana*

The following symbols and signs are also necessary, relevant and a must in every workshop if accidents are to be prevented. Some have already been referred to in this thesis.

Acids are dangerous substances and should be used carefully. The 'corrosive material' symbol (refer to plate 5.2) is therefore normally displayed especially on containers that have corrosive materials like acids in them. As a safety measure, jewellers must watch out for this corrosive material symbol on any container especially in the workshop and take the necessary precautions before opening them. The pickling area in most jewellery workshops must also have such symbols displayed since in that area, acids are mostly used.



*Plate 5.2 Corrosive material symbol. (Source: [www.healthandsafety.co.uk/](http://www.healthandsafety.co.uk/))*



*Plate 5.3 Flammable material symbol. (Source: [www.healthandsafety.co.uk/](http://www.healthandsafety.co.uk/))*

Just like the Corrosive Material symbol, the 'Flammable Material' symbol (refer to plate 5.3), explosive material symbol (refer to plate 5.4) and 'Toxic Material' symbol (refer to plate 5.5) must be displayed at the appropriate

locations in the workshops and the jewellery showrooms so as to serve as safety measures against injuries in the workplace.



*Plate 5.4 Explosive material symbol. (Source: [www.healthandsafety.co.uk/](http://www.healthandsafety.co.uk/))*



*Plate 5.5 Toxic material symbol. (Source: [www.healthandsafety.co.uk/](http://www.healthandsafety.co.uk/))*



KNUST

*Plate 5.6 Ear protection sign. (Source: [www.healthandsafety.co.uk/](http://www.healthandsafety.co.uk/))*



*Plate 5.7 Eye protection sign. (Source: [www.healthandsafety.co.uk/](http://www.healthandsafety.co.uk/))*

Because of injury to both ears and eye, jewellers when working in an area with excessive noise must wear an ear protector. Areas where there is excess noise must also have the ear protection sign as in plate 5.6 boldly

displayed. In the same vain, where there are excessive radiations like the soldering and melting areas, the eye protection sign as shown in plate 5.7 must be displayed.



Plate 5.8 'No Smoking' sign. (Source: [www.accuform.com/viewtem.cfm](http://www.accuform.com/viewtem.cfm))



Plate 5.9 Fire Extinguisher Location sign.  
(Source: [www.accuform.com/viewtem.cfm](http://www.accuform.com/viewtem.cfm))



It is mandatory for public institutions to obtain fire certificates under Legislative Instrument (LI) 1742. The LI which came into effect in 2003 is to ensure that public buildings in the country put in enough safety measures to save occupants in the event of fire outbreaks. With the issuance of the fire certificate, such signs as 'No Smoking' signs as in plate 5.8, 'Fire Extinguisher' location sign (refer to plate 5.9) and 'Fire Exit' location sign as in plate 5.10 are mandatory. The LI states that any person who fails to obtain a fire certificate commits an offence attracting summary conviction to a fine not exceeding 250 penalty units or to imprisonment for a term not exceeding 12 months or both. The certificate, when issued by the GNFS, certifies the adequacy of fire precautionary measures in a particular public institution. In an interview with Mr. Philip Arheng-Mensah, the Director in Charge of Fire Safety at the GNFS Headquarters in Accra, a lot of public campaign had been done but the public did not seem to heed it. He explained that it even necessitated the GNFS to take the campaign to the press in the form of announcements in the hope of getting good responses from owners of public institutions.

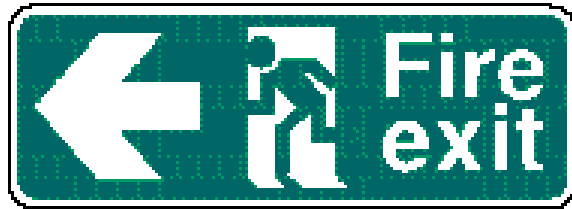


Plate 5.10 Fire Exit Location sign. (Source: [www.accuform.com/viewtem.cfm](http://www.accuform.com/viewtem.cfm))



Plate 5.11 First Aid Post location sign. (Source: [www.accuform.com/viewtem.cfm](http://www.accuform.com/viewtem.cfm))

In jewellery workshops, burns cuts and injuries are part of the daily routine. It is therefore necessary to have a first aid box in the case of a small workshop and a first aid post as in plate 5.11 if the firm is a big

company. They may be stocked with basic analgesic and such drugs as can be used to treat burns, cuts and petty injury. The location of the 'First Aid' box or area must have the first aid post sign clearly indicated as can be seen in plate 5.11.



*Plate 5.12 Wet floor warning sign. (Source: [www.accuform.com/viewtem.cfm](http://www.accuform.com/viewtem.cfm))*

As was observed on the field of research, no jewellery with wet floors had the 'Wet Floor' caution warning sign, as in plate 5.12 displayed. This sign is necessary for jewellers doing electroplating, beads making and gold jewellery polishers since they use a lot of water which spills on the floor.

Because jewellers use machines, precious metals and chemicals in the jewellery workshop, they should have a 'No Entry' sign as in plate 5.13 on the entrance door of their workshops so as to prevent outsiders from entering the workshops.



Plate 5.13 'No Entry' sign. (Source: [www.accuform.com/viewtem.cfm](http://www.accuform.com/viewtem.cfm))

Certain jewellery shops use high voltage electricity thus when one makes a slight error and touches it, it can lead to instant death. To avoid such accidental deaths as a result of contact with electric current, it is important to have the 'Electric High Voltage' location sign conspicuously displayed. It should also be displayed as a warning to those who might not know that particular machines have high voltage of electricity operating them. The High Voltage Caution sign therefore must not be taken for granted.



*Plate 5.14 Electric Voltage location sign.  
(Source: [www.accuform.com/viewtem.cfm](http://www.accuform.com/viewtem.cfm))*

'Staff only indicator sign (refer to plates 5.15a and 5.15b) are signs that could be placed alongside the No Entry sign, or it could be on its own. This sign is a warning to outsiders that the area is restricted to only staff of the company. It was gratifying to learn from the field of research that some jewellers had this sign at the entrances leading to their workshops. At the close of day or before the beginning of work every day when the shop is not yet opened to the public, the "Closed" sign as in plate 5.16 could be displayed to indicate that the shop is not yet opened to the



public. This was also a sign that most workshops had in front of their showrooms.



*Plate 5.15a 'Staff Only' indicator sign. (Source: [www.accuform.com/viewtem.cfm](http://www.accuform.com/viewtem.cfm))*



*Plate 5.15b 'Staff only' indicator sign. (Source: [www.accuform.com/viewtem.cfm](http://www.accuform.com/viewtem.cfm))*



Plate 5.16 'Closed' Indicator sign. (Source: [www.accuform.com/viewtem.cfm](http://www.accuform.com/viewtem.cfm))

#### 5.4 Labour problems

As written earlier, it is my suggestion that more formal post JSS training and vocational institutions specifically for jewellery should be established by the government or private individuals. This is because, unlike other handicraft industries in Ghana like carpentry, masonry, hairdressing, cookery, needlework, dressmaking, auto engineering, tailoring, interior decoration or auto body spraying that are learnt formally in post JSS institutions like vocational schools, none of them offers jewellery. This has made the labour in jewellery very scarce. What has even made the situation worse is the lack of interest in apprenticeship. This is because it is assumed that those who go in to learn as apprentices are school dropouts. This therefore sometimes has adverse psychological effect on

the youth. They are made to feel inferior, and society sees them as such. The College of Jewellery in Weija, which is the only private institute training jewellers, has also not lived to expectation, despite the huge financial support it received from USAID. The college now operates in one workshop and runs an apprenticeship programme, instead of the Higher National Diploma and Certificate programmes that it used to run. This is so because, according to the past students interviewed, since the first students' intake into the school in 1999, no student has graduated even though they have finished their various programmes of study. This is so because the Ministry of Education and the National Accreditation Board has not accredited the school as a tertiary institution to run a Higher National Diploma, because even though they have enough tools and equipment, it could not meet the manpower and other logistic requirements for accreditation. This frustration has therefore left the promoters of the school with no other option than to convert the school's programme into an apprenticeship programme. Thanks to the Rural Art and Industry Department of the Faculty of Industrial Art of KNUST, that has upgraded its metalwork and jewellery sections, and are training students in jewellery making. One laudable idea of their programme is that the students in their third year spend ten weeks of the second semester on Industrial attachment. Two such students were in my studio, Pearl Jewellery Ltd, for their industrial attachment. Apart from using

metal, the students also use materials like seashells, cowry, seeds, and scrap metal etc to produce their jewellery. After their training therefore, they may be well equipped to use not only gold or silver, but also other materials to produce their jewellery.

It is also suggested by this researcher that the Government should put legislation in place to ensure training, development of skills and skills transfer in Ghana. This could be the Skills Development Act which will aim to equip Ghanaians with the skills to succeed in the global market and to offer opportunities to individuals and communities for self advancement to enable them to play a production role in society. The legislation should aim at the following:

- i. Fast tracking basic training of unskilled, unemployed and inexperienced youth to produce jewellery.
- ii. Emphasis must be placed on African Art and culture and this must be encouraged in the creation of jewellery and to promote value addition of the country's natural resources.
- iii. Training schools should emphasis on jewellery design. The trainees should be inexperienced people who should be trained to produce jewellery in the shortest possible time.
- iv. After their training, or in their final year, should be spent in what should be called a hive. The hive will afford people or the trainees

the opportunity to operate without needing to purchase expensive equipment and materials. It alleviates the need for participants to finance the formation of small business and negates start-up costs.

- v. It offers the participants in the hives a safe, secure working environment
- vi. It offers the participants a shareholding in the hive.
- vii. It assists with marketing to focus solely on their chosen profession.
- viii. It provides experimental training to its trainees in a manufacturing environment where they work side by side with qualified jewellers.

Employment levels in Ghana have also taken a downturn, and this has affected the purchasing power of employees in Ghana. This is confirmed in a Ghana News Agency (GNA) report in Accra on the forth of August 2005 reporting Dr Augustine Fritz Gockel, an economist and lecturer at the University of Ghana, as saying that Employment levels in the formal sector have registered a steep decline over the years. He attributed the downturn to public sector reforms such as retrenchment and downsizing policies, privatisation and consequential exit initiatives and economic growth points that were not based on Traditional sources of labour.

Dr Augustine Fritz Gockel was speaking at a day's sensitisation workshop for members of the Judiciary in Accra. Dr Augustine Fritz Gockel quoted



the Ghana Statistical Survey (GSS) as saying the formal public sector employment, which was as high as 333,000 in 1960 declined to 186,000 in 1991. This turn of events will affect the purchase of jewellery. If the shift from the public sector employment is towards self employment, then there is the likelihood that some of the retrenched workers can opt to learn to produce or sell jewellery using their gratuity as working capital to invest in the jewellery business.

The workshop organized by the National Labour Commission (NLC) on the theme: "Understanding Labour Act 651" seeks to provide the members of the Judiciary with sufficient information on the law to ensure adequate delivery of justice on issues regarding labour. Sponsored by the United States Agency for International Development (USAID) the forum would also deal with the institutional framework of the law as well as steps to guide disputants about employment relations. He said the loss in formal sector jobs coupled with high growth rates in the economically active population suggested a burgeoning informal sector estimated at about 90 per cent of the total labour. The reforms, however, had a consequential effect on the economy since huge sums of money were used to compensate workers, who were laid off.

Dr Augustine Fritz Gockel said as governments and enterprises were not able to pay the loans contracted to settle retrenched workers what was a real sector crisis only became a financial sector crisis. By 1990, non-performing loans and other government-guaranteed obligations to state-owned enterprises were 431.4 billion cedis; the non-performing loan of the private sector was 421.9 billion cedis.

The financial crisis further limited the ability of firms to increase output and, therefore, incomes and employment until the international community came out with interventions to redeem the situation. The above situation as enumerated by Dr. Gockel will make people's purchasing power low, and thus might affect the purchases of items like jewellery. A solution to this problem therefore is that retrenched people must be trained to do their own businesses. Training in entrepreneurship is also necessary because, it prepares one for self employment, and if one is retrenched, since the person has got enough entrepreneurial skills, his income level will not fall and thereby will make him still able to buy luxury goods including jewellery.

At the same function, Mr Danso Acheampong, Deputy Chairperson, NLC, noted that it was not usual that members of the Bench were sensitised to the provisions of new enactments. Mr Danso Acheampong, continued to

say that, the near oddity, if it may so be described, has come about due to the history of the new labour law, its role in promoting economic growth and its alternative mechanism dispute resolution of industrial disputes. He expressed optimism that the participants would be sufficiently informed on the provisions of the new labour law to enable them to guide disputants in employment relations to address their complaints to the Commission for less time-consuming and inexpensive settlement. Mr Danso Acheampong said as an instrument promoting harmonious industrial relations, the Commission would use effective dispute resolution practices to foster cooperation among the labour market players and mutual respect for their rights and responsibility.

He noted that since the Commission was inaugurated it had received more than 200 complaints from individual workers, trade unions and employers. Some have been settled, others are being processed and mediation in the rest is underway. The Commission constantly monitors the labour scene for signals of industrial unrest, liaises with parties concerned and facilitates negotiated settlements. With the National Labour Commission playing its expected role in monitoring labour unrests, it is expected that the human resource in work places including the jewellery industry will be well motivated to increase output.

### **5.5 Motivating the human resource in the jewellery industry**

Motivation is concerned with the factors that influence people to behave in certain ways. Well motivated people are those with clearly defined goals who take action that they expect will achieve those goals. Such people may be self-motivated, and as long as this means they are going in the right direction to achieve what they are there to achieve. Most people, however, need to be motivated to a greater or lesser degree. The organisation as a whole can provide the context within which high levels of motivation can be achieved by providing incentives and rewards, satisfying work, and opportunities and learning and growth. But managers still have a major part to play in using their motivating skills to get people to give of their best, and to make good use of the motivational processes provided by the organisation (Armstrong, 2006:252).

Motivation therefore can be said to be in two forms. The first is that people can motivate themselves, and the second is that people can be motivated by others or management. These two types of people as identified by Douglas McGregor are what he propounds in his Theory X and Theory Y.

### *5.5.1 McGregor's Theory X and Y Motivational Theory in relation to the jewellery industry in Ghana<sup>4</sup>.*

One cannot write on motivation of workers without mentioning McGregor's **Theory X** and **Theory Y** which are theories of human motivation. They were created and developed by Douglas McGregor at the MIT Sloan School of Management in the 1960s that have been used in human resource management, organisational behaviour, and organisational development. They describe two very different attitudes towards workforce motivation. McGregor felt companies followed either one or the other approach.

#### *5.5.1.1 Theory X People and the jewellery industry in Ghana*

In this theory, management assumes employees are inherently lazy and will avoid work if they can. Because of this, workers need to be closely supervised and comprehensive systems of controls developed. A hierarchical structure is needed with narrow span of control at each level. According to this theory, employees will show little ambition without an enticing incentive programme and will avoid responsibility whenever they can.

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<sup>4</sup> [www.businessballs.com/mcgregor.htm](http://www.businessballs.com/mcgregor.htm)  
[www.amazon.com/Human-Side\\_Enterprise/dp/0071462228](http://www.amazon.com/Human-Side_Enterprise/dp/0071462228)



The Theory X manager tends to believe that everything must end in blaming someone. He or she thinks all prospective employees are only out for themselves. Usually these managers feel the sole purpose of the employees' interest in the job is money. They will blame the person first in most situations, without questioning whether it may be the system, policy, or lack of training that deserves the blame.

Furthermore, Theory X supervisors cannot trust any employee, and they reveal this to their support staff via their communications constantly. A Theory X manager can be said to be an impediment to employee morale and productivity.

Many managers (in the 1960's) tended to subscribe to Theory X, in that they take a rather pessimistic view of their employees. A Theory X manager believes that his or her employees do not really want to work, that they would rather avoid responsibility and that it is the manager's job to structure to work and energize the employee. The result of this line of thought is that Theory X managers naturally adopt a more authoritarian style based on the threat of punishment.

One major flaw of this management style is that it is much more likely to cause diseconomies of scale in large businesses.

#### *5.5.1.2 Theory Y People and the jewellery industry in Ghana*

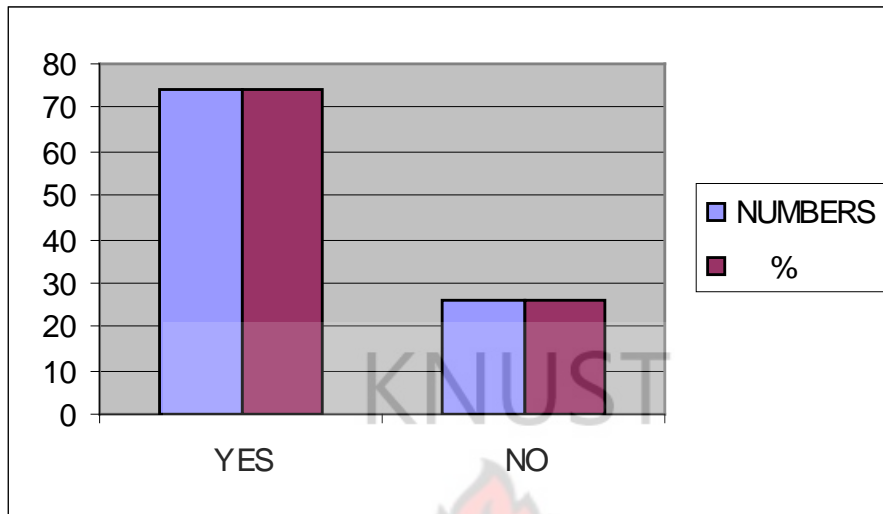
Theory Y allows a business to expand while making more profit because factory-floor workers have their own responsibilities. In this theory, management assumes employees may be ambitious, self motivated, and anxious to accept greater responsibility, and exercise self-control and self-direction. It is believed that employees enjoy their mental and physical work duties. It is also believed that if given the chance, employees have the desire to be creative and forward thinking in the workplace. There is a chance for greater productivity by giving employees the freedom to perform at the best of their abilities without being bogged down by rules.

A Theory Y manager believes that, given the right conditions, most people will want to do well at work and that there is a pool of unused creativity in the workforce. They believe that the satisfaction of doing a good job is a strong motivation in and of itself. A Theory Y manager will try to remove the barriers that prevent workers from fully actualizing themselves.

Many people interpret Theory Y as a positive set of assumptions about workers. A close reading of *The Human side of Enterprise* reveals that McGregor simply argues for managers to be open to a more positive view of workers and the possibilities that it creates.

It is an undeniable fact that all levels of employees in the jewellery industry whether skilled or unskilled, need some form of motivation or satisfaction on their jobs to help improve productivity, and as a result jewellery shop owners as employers have to understand why it is important to give prominence to this idea of motivation so as not to limit the jewellery industry's effort to increase production. This writer is of the view that the problems facing the jewellery industry can be solved if these ranges of factors like conducive working environment, recognition, promotion, and adequate remuneration are given adequate attention. When workers in the jewellery industry are not only motivated well, but if they also have the ability, the necessary skills, equipment, supplies, and time, they will be able to perform better. In the light of this, jewellery shop owners must invest some sums of money and other resources on the fundamental needs of their workers, all in an attempt to motivate them to concentrate on the job and thus reduce labour turnover, and increase production. For the jewellery business to survive and expand, the employees must have levels of rewards to attract, retain and motivate them. From figure 5.1, 74% of employees of jewellery firms apart from their regular pay, receive some form of incentive from their masters or employers. This is a laudable development because as stated earlier, it will boost the morale of the employees and production will increase.

*Figure 5.1 Number of employees who receive some form of incentive apart from regular pay*



There will be countless number of benefits to be derived when productivity in the jewellery industry increases. We have earlier mentioned increase in employment, increase in revenue to the producers, the District Assemblies, the government by way of increase in taxes and export revenue as some of the benefits to be derived.

In Ghana, the government has realised the importance attached to increase productivity in both public and private sectors and this has given birth to a number of attempts made to curtail what hampers and limits productivity. The Labour Act, 2003 (Act 651), is now in place to govern the relationship between employees and employers, especially on matters

concerning industrial relations. Both employers and employees are now awakened on their rights in dealing with each other. This then has called for a careful consideration to be given to all matters having bearing on productivity; some of which being the need to motivate employees to give an output of acceptable quality to realise the dreams of the industry of increased earnings, which is the primary aim of almost all business activities. Unfortunately employees who incidentally contribute so much to the success of many businesses including the jewellery industry have not been given the needed attention as they deserve. Employers adopt various concepts of labour influencing employer-employee relationship, and this has portrayed clearly what perception they have about employees. Some employers have been noted for lack of care and attention employees deserve. Employers including Managers in the jewellery industry as written earlier are usually very exploitative, abusive, authoritative, harassing, molesting etc without taking notice that whatever strategy is in place will attract a corresponding reaction from employees.

As a result of these inadequacies and leadership insensitivities, a whole lot of uncomfortable situations usually arise on the part of employees in the jewellery industry in the form of lukewarm attitude towards the work. The following issues are also affected as a result of employees' attitude. These are employee performance, employee responsibility, the image of



the firm, job satisfaction, organisational and individual commitment, innovation and creativity and in the long run a total stagnation and liquidation. Again it is uncommon to see employees putting up bad working habits like absenteeism, lateness, pilfering, misappropriation etc if they are well motivated. This writer is convinced that the success of the jewellery business depended on having the right people and motivating them properly. As said earlier therefore motivation is not just about money. It is about creating an environment in which the jewellers work.

### **5.6 Learning from South Africa**

It is suggested by this writer that the jewellers association of Ghana arranges to buy gold on credit from the mining companies to facilitate their work as the College of Jewellery buys gold on credit from Goldfields Ghana Ltd, and as South African jewellers also buy gold on credit from their mining companies. I suggest in addition, that the government of Ghana should assist the jewellers of this country to go through the arrangement with mining companies as the South African government has done on behalf of their jewellers in South Africa.

It is further suggested that the mining companies in Ghana should partner with gold jewellers of the country to produce gold jewellery for the local

and foreign markets as AngloGold Ashanti has partnered with OroAfrica in South Africa to produce gold jewellery. Also, as AngloGold Ashanti has helped OroAfrica to institute a design unit in Cape Town for the improvement of their jewellery designs, the mining companies should do likewise for the Jewellery Association of Ghana.

Again, it is suggested that the mining companies and government should assist the jewellery association by way of sourcing funding for them to set up training institutions to train jewellers. The Metals section of KNUST, and the College of Jewellery at Weija are examples of such training institutes. This is necessary because unlike the Metals Section of KNUST and the College of Jewellery at Weija, those without basic academic qualification can be trained in the suggested institutions. Also, this will make it easier for the neighbouring countries to come and learn from the proposed institutions to enable Ghana earn more foreign exchange by way of paying tuition and other fees in foreign currency. In South Africa for example therefore, their Goldsmith Training Project forms part of their initiatives of focusing on skills transfer with other countries in Africa. The artisans in West Africa have specialised knowledge in traditional African goldsmithing techniques and have practical technical skills combined with a distinctive sense of African design. These West African techniques have provided South African trainees with significant opportunities to be

exposed to the know-how required for small jewellery operators with low capital base structures. This assists disadvantaged jewellery manufacturers in South Africa to enter the mainstream market. The programme also assists such individuals with design facilities, marketing and logistical support. AngloGold Ashanti has also sponsored a second jewellery workshop in Soweto, which would allow the enrolment of jewellery learners. The school programme offers a two-year jewellery-manufacturing course for the purposes of fast-tracking unskilled, unemployed and inexperienced youths into jewellery and craft manufacturing. On completion of the programme, they may enter the industry as employees of established manufacturers, start their own ventures or enrol for further study at universities of technology. It is suggested that Ghana will take a cue from South Africa.

### **5.7 Exchange of human and technology resources**

Another suggestion as written earlier on is the exchange of human and technology resources. South Africa has already taken the initiative in its Goldsmith Training Programme in South Africa, which has resulted in AngloGold Ashanti sponsoring an accomplished Ghanaian goldsmith, David Apim Tetteh, to give training in traditional West African jewellery making techniques such as gold-foiling, granulation, filigree, and

embossing, during the Mining Week, held by the Department of Minerals and Energy, at Electra Mining Africa 2004 at Nasrec. This was the first time the company has brought a goldsmith from Ghana to South Africa to offer such a training programme. Jewellery students from seven institutions based in five South African provinces attended the weeklong goldsmithing workshop. The majority of the students were from community-based jewellery training institutions. Students were expected to produce pieces of jewellery that incorporated West African and contemporary South African design idioms during the workshop. The pieces were manufactured using techniques such as filigree, chain making and gold leafing, learnt during the programme. A workshop bench and tools were awarded to the most promising student at an awards evening.

### **5.8 Gold jewellery information handbook**

It is further suggested that, individuals, corporate bodies and the government through the Ghana Export Promotion Council, should initiate the making of an information handbook as has been done in South Africa. This is because since there is no readily available information on jewellery, and in its' bid to encourage beneficiation of minerals in South Africa therefore, a sourcebook of reference that will consolidate information on all relevant aspects of the jewellery and gold business was embarked

upon, and it served as a necessary resource for gold beneficiation strategies and initiatives in South Africa. South Africa before this handbook project did not have any comprehensive source of basic information on the local gold value chain. In 2004 therefore, AngloGold Ashanti, in partnership with the World Gold Council, the South African Departments of Trade and Industry, Minerals and Energy and the Industrial Development Corporation embarked on a research project to address this information vacuum. The Ghana government can also in a bilateral agreement, partner South Africa in reviewing the handbook and make it officially available to Ghanaians. This will help in solving certain problems in the industry and thus improve on the quality of the products and therefore increase sales.

The key purpose of the reference handbook project will be that the content will cover all industry sectors from mining and refining to retailing of gold products. The handbook will include information on how the gold industry operates at each level, on gold supply and demand, on volumes fabricated and consumed for export and domestic consumption, on indicative product pricing and margins, and on social and economic issues relevant to various parts of the gold industry. It is expected that the reference material will enable government and industry players to devise



effective beneficiation strategies in the industry and identify opportunities for further development. The handbook would be expected to be updated annually. It is my suggestion again therefore that Ghana, with assistance from the multinationals should partner South Africa because of Ghana's former Ashanti Goldfield Company's merger with South Africa's AngloGold to form AngloGold Ashanti, or produce a similar handbook on the jewellery industry. Another alternative is for Ghana to liaise with other African countries to produce such a handbook instead of each African country trying to produce such a handbook at a high cost.

It is further suggested that the annual jewellery exhibitions to provide a platform for jewellers to showcase their new designs should be reintroduced. The gold jewellers used to produce annual exhibitions that were very beneficial to them. Presently, it is only the Ghana Bead society that holds annual exhibitions. During these exhibitions, a number of enquiries are received at the stands and substantial orders are generated and manufactured.

Jewellery design trainees will also benefit from exhibitions in the following ways:

- i. They will be able to showcase their African designs and hand crafted products

- ii. They will be able to generate and secure sales
- iii. It will introduce new learners to the Ghanaian jewellery industry
- iv. It will provide final year students opportunities for employment.

In line with the above suggestions the College of jewellery in Weija organised such an exhibition in October 2004, while the Metals section of the Department of Industrial Art of the College of Art and Social Sciences also organised an exhibition in Kumasi at Alliance Française in 2004. Such exhibitions by trainees if sustained and organised annually, as suggested will go a long way to improve on the performance of the industry, since it is the trainees who are being exposed to the benefits of networking firsthand.

One other suggestion this writer offers for the solving of some of the many problems facing the industry is that, the government must encourage the exploitation of precious and semi-precious gemstone deposits in the country to the full through the localisation of gemstone cutting and polishing. By so doing, it will save foreign exchange used in importing such gemstones. It will also be a source of the numerous unemployed youth of this country. Ghana could also export some of these gemstones to other countries to get foreign money.

## 5.9 Formation of National Jewellery Council

It is also the suggestion of the researcher that the government must form a National Jewellery Council comprising experts in the jewellery industry and academia. The following are also recommended to be members of the Jewellery Council if formed. Representatives of the Ghana Chamber of mines, the Ministry of Trade and Industry, the financial institutions, Ghana Standards Board, Ministry of Education, and the Ministry of Employment and Manpower Development. The Council must formulate a national policy with regard to quality, standards licensing, manpower and training. It will also oversee the development of the foreign and local market of the industry, and the general policy direction and framework for the jewellery industry.

The proposed council when formed must operate along the lines of the Pharmacy Council which regulates the pharmacy practice in Ghana, or the Medical and Dental Council which also regulates the operations of medical practitioners in the country. The Jewellers Council of Ghana therefore will also regulate the work of jewellers in Ghana.

### **5.10 Costing and pricing of jewellery products**

Mainly, the jewellery industry in Ghana, as written earlier in chapter four does not apply strict business principles in its work, and this has led to low sales and its associated low profit. This is because the prices in most cases are set high, or unrealistic, and thus account for the low sales and profit. One of such business principles that must not be overlooked is costing, and another is pricing. For the purposes of this thesis, both will be treated differently.

One of the underlying factors, or guiding principles, in costing is to know the production cost of manufactured goods and services. Before this can be done, we need to understand the different types of cost and how costs behave when production levels or activity levels change.

For example in cost accounting, costs like manufacturing, administrative, selling, distribution and marketing, and possibly research costs can be analysed to enable jewellers in the jewellery industry to take decisions on any inefficient or wasteful spending. Since the owner managers operate most jewellery shops themselves, there are no effective cost control measures. Money is spent anyhow, unlike a business in which we have a production manager who will be held responsible for production costs and the sales manager for selling costs.

Quoting from my previous thesis, and also as I mentioned in chapter four of this thesis, the various types of pricing are as follows:

- a) Cost based                      - Accountant's approach
- b) Market demand based   - Economist's approach
- c) Competition based        - The trader's approach
- d) Market based                - Based on value satisfaction

But in this work the bases for pricing will be discussed, so that, throughout the discussion, the pricing problems associated with the jewellery industry may be solved.

In order to have a good price, it must be stated that price setting starts with pricing objectives. There are varieties of possible objectives, and these can be summarised as follows:

- Sales objectives
- Profit objectives
- Competitive objectives.



The sales objective could be sales growth, sales maintenance or just to sell at a breakeven price. Regarding the breakeven prices, the volume of total sales revenue is equal to total cost; there is no profit or loss. If the objective of the jeweller is to have a growth in sales, then this writer will suggest that jewellers can achieve this objective through price reduction. The price of jewellery in Ghana is high compared to other West African countries. While a gram of 18ct gold jewellery costs an average of 350,000cedis in Ghana as at 31<sup>st</sup> December, 2006, the same weight costs about 250,000cedis equivalent in Mali, Togo, Cote-d'Ivoire and Senegal, to mention a few. Tourists though they appreciate our products, buy more from our neighbouring countries than from Ghana. For a sales growth, it must also be noted that higher sales revenue does not automatically produce higher profits. Sometimes, jewellers expect that an increase in unit sales will tend to reduce cost per unit but however, in most cases it will be found that the expense of increasing sales volume outweighs saving in unit cost.

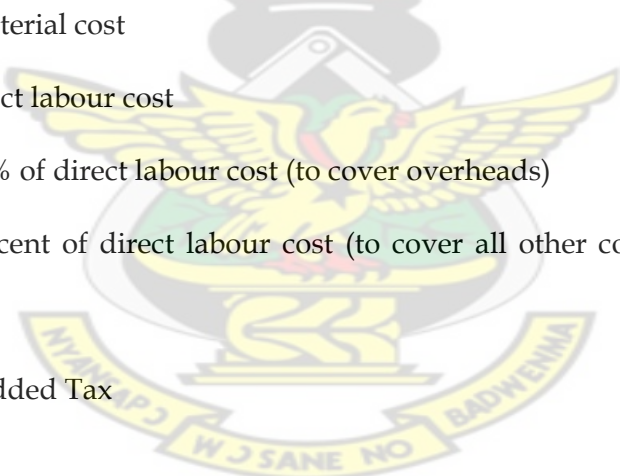
Some firms also price their jewellery just to maintain sales. This is the case of most bead sellers this writer interviewed. They realise that sales growth and expansion bring complexity, greater responsibility and more problems, in that more outlets will have to be secured and paid for and more staff employed to do the sales, and as pointed out earlier, the cost of

sales as against revenue may be negative. Jewellers who aim at profit could do that through cost reduction and market maintenance, which mean that they are just maintaining their market share or a penetrating price. The price charged for products and services is set artificially low in order to gain market share. Once this is achieved, the price is increased. Scancom Ghana Ltd., operators of *Areeba* mobile telecom used this approach in order to attract new clients when it first started operations in Ghana. Jewellery companies can also use this when they are new entrants. They will therefore be charging an economy price. This means they will be selling their products at very low price. The cost of marketing and manufacture is kept at a minimum. In this case, the price objective is simply just survival. Jewellery companies and jewellers that find it difficult to compete may drop their prices to generate the cash needed to pay bills and stay in business. They will do so with the hope that conditions will change and allow them to regain a firm position in the market place. Cost pressure from competitor importers who import jewellery at very cheap prices from say, Dubai, China or Thailand, has made it difficult for jewellers to maximise profit. The writer therefore calls on the government to protect the local jewellery producer by passing the necessary legislations reducing taxes. By so doing the jewellers and goldsmiths will have adequate return on investment. Pricing objectives should also emphasise cash flow as well as profits; this is to say therefore

that jewellers should not only think of selling, but to make good profit as well. This again involves generating cash as fast as possible and maintaining a steady flow of cash. To generate more cash therefore, jewellers may have to prune product lines and then lower the prices of their jewellery. Pearl Jewellery Ltd., which is my company, has adopted this strategy to increase sales and profit. Pearl Jewellery now produces more of marriage rings, i.e. wedding and engagement rings that comprise about 90% of its sales. Another pricing strategy that the writer recommends is to consciously price jewellery to prevent competition. Most competitors look up to the leader in setting prices. In Ghana, it is assumed that PMMC is the market leader, and it is therefore a good suggestion especially for new jewellery shops to enter the market with extremely low prices to discourage other jewellers from entering. Even though PMMC is government owned, the government has not used its position to regulate their prices to their advantage. This is probably because jewellery is considered as a luxury good unlike products like water and electricity where regulatory bodies are set up to regulate its prices and use. Prices therefore are set in a way as to offset the effect of competitors' actions, especially those who import jewellery, and in most cases smuggle them into the country. As said earlier, cost associated with bringing a product to the market are crucial factors in setting prices, because prices that are set below costs yield no profits. Pricing to promote

a product is a very common application that jewellers can also use. There are many examples of promotional pricing including approaches such as BOGOF (Buy One Get One Free).

At this juncture, it is still reiterated that the survival of the jewellery industry greatly depends on successful costing and pricing policy. It is therefore necessary to write a bit more suggestion on costing and pricing of jewellery. It is helpful for jewellers to examine other cost related approaches to price setting. For example, jewellers can use a simple formula to arrive at a price list

The logo of KNUST (Kwame Nnamdi University, Nsukka) is a large, faint watermark in the background. It features a central shield with a yellow eagle, a red and white cross, and a green base. Above the shield is a red flame. Below the shield is a yellow banner with the text 'WU SANE NO' and 'BADWENMA'. The shield is flanked by two yellow banners with the text 'NYANAPU' and 'WU SANE NO'.
$$\begin{aligned} \text{Price} &= \text{Material cost} \\ &+ \text{Direct labour cost} \\ &+ 100\% \text{ of direct labour cost (to cover overheads)} \\ &+ 120 \text{ to } 180 \text{ percent of direct labour cost (to cover all other costs and provide for} \\ &\quad \text{profit.)} \\ &+ 12.5\% \text{ Value Added Tax} \\ &+ 2.5\% \text{ NHIL} \\ &= \text{Selling Price} \end{aligned}$$

This model of pricing is used on the assumption that it would cover all costs and leave at least some profit. This approach ensures that all costs will be covered and the desired profit achieved. The disadvantage of this approach however is that it fails to ensure that quantity of output produced will be sold, since the jeweller cannot know whether the price is

in line with consumers' perception of the value of the product. This type of pricing however have a lot of advantages because it is easy to calculate it since it is based on a formula. Price increases are also justified, and it avoids the cost of getting information about the state of the jewellery demand. It can also produce a stable price so long as the cost centres in the formula do not change. It is interesting to note that when the above formula is applied to 18ct gold jewellery pricing, we realise that the retail price mentioned as the retail price of 18ct gold jewellery in the country and neighbouring countries is far lower than double. This implies that without proper costing, jewellers who produce 18ct gold jewellery are under pressure due to competition to sell at a loss. It, however, works perfectly well for jewellery of 9ct that unfortunately is not mainly produced in Ghana. Using the formula to price beads, brass and costume jewellery will be very rewarding.

It is suggested therefore that jewellers whether they have production or sales managers, or they manage their businesses themselves jewellers must try not only to be cost effective, but also cost efficient. For the jewellery industry to be cost efficient, therefore, managers will again have to look at the direct and indirect costs of producing a piece of jewellery. The direct costs are expenditures that can be directly identified with the cost of producing the item, like materials such as gold dust for producing



gold jewellery or broken bottles for bead making. The cost of labour used directly in the production of the jewellery can also be classified as direct cost. The indirect labour costs of a product are the costs of labour that does not spend a measurable amount of time directly on making the product. Watchman's wages, manager's salary, electricity bill not directly associated with the production of the jewellery are examples of indirect cost. During the research and collection of information for this thesis, it came to light that costs are not well classified and thus makes the production of jewellery seem more expensive than it should. If this is not done, costs that should be apportioned to both production and sales may be apportioned to only one cost centre. Some costs may even be omitted altogether and therefore give a wrong operational cost.

The researcher's recommendation on pricing especially on high carat gold jewellery therefore is that jewellers should use the demand based strategy. This is either priced on prestige or what this researcher will call discriminatory pricing strategy. A market challenger can launch a higher-quality product and charge a higher price than the market leader (Kotler, 2003:268). In the case of prestige pricing strategy for example, a product like high carat gold jewellery, when it is priced high it may bring higher sales volumes. Consumers believe higher prices indicate higher quality. In prestige pricing it must be noted that it goes complimentary to

discriminatory pricing strategy that makes jewellers often modify basic prices to accommodate differences in customer's product and location etc. Discrimination pricing, therefore, takes into consideration the customer segment. Discrimination pricing also considers the image, location and timing, say during high season.

Premium pricing which is not very different from prestige pricing uses a high price where there is uniqueness about the product or service. This approach is used where a substantial competitive advantage exists. Such high prices are charged for luxury products such as jewellery or certain fine art works. Jewellers including Goldsmiths can also use a pricing strategy called price skimming, which means that they can charge a high price because they have a substantial competitive advantage. However, the advantage is not sustainable. The high price tends to attract new competitors into the market, and the price inevitably falls due to increased supply. Millicom Ghana Limited dealers in mobitel phones used a skimming approach in the 1990s to charge high price. Once other manufacturers realize you are making good profit they may be tempted to enter the market and even produce at a lower unit cost, and adopt other marketing strategies and new pricing approaches.

### 5.11 Jewellery Marketing Research Centre

Managers of jewellery shops and centres need information in order to introduce products and services that create value in the mind of the customer. But the perception of value is a subjective one, and what a customer may value this year may be quite different from what they value next year. As such, the attributes that create value cannot simply be deduced from common knowledge. Rather, data must be collected and analysed. The goal of marketing research therefore is to provide the facts and direction that managers need to make their more important marketing decisions. To maximize the benefit of marketing research in the jewellery industry therefore, there is the need to set up a marketing research centre. It must be emphasised that those who will be in charge of this centre need to understand the research process and its limitations. They must also be experts in International business and marketing.

The Jewellery marketing Research Centre must be able to provide information that can be useful to the jewellery industry as a whole. In general, the value of information according to Kotler (2003:268) is determined by:

- i. The ability and willingness to act on the information.
- ii. The accuracy of the information.
- iii. The level of indecisiveness that would exist without the information.
- iv. The amount of variation in the possible results.
- v. The level of risk aversion.
- vi. The reaction of competitors to any decision improved by the information.
- vii. The cost of the information in terms of time and money.

#### ***5.11.1 The Marketing Research Process***

Once the need for marketing research has been established, most marketing research projects involve these steps:

1. Define the problem
2. Determine research design
3. Identify data types and sources
4. Design data collection forms and questionnaires
5. Determine sample plan and size
6. Collect the data
7. Analyse and interpret the data
8. Prepare the research report

### ***5.11.2 Marketing Problem Definition***

The decision problem faced by management of jewellery firms must be translated into a market research problem in the form of questions that define the information that is required to make the decision and how this information can be obtained. Thus, the decision problem is translated into a research problem. For example, a decision problem may be whether to launch a new jewellery product. Another decision problem may also be whether to under-cut price in the light of competition. The corresponding research problem might be to assess whether the market would accept the new product.

The objective of the research should be defined clearly. To ensure that the true decision problem is addressed, it is useful for the researcher to outline possible scenarios of the research results and then for the decision maker to formulate plans of action under each scenario. The use of such scenarios can ensure that the purpose of the research is agreed upon before it commences.



### *5.11.3 Marketing Research Design*

The Jewellery Marketing Research Centre must also take note of the fact that marketing research can be classified in one of three categories:

- i. Exploratory research: This is a valuable means of finding out what is happening, or to seek new insights, or to ask questions and to assess phenomena in a new light (Robson, 1993:42). They are particularly useful if you wish to clarify your understanding of a problem. Exploratory research can be likened to the activities of the traveller or explorer.
- ii. Descriptive research: The objective of a descriptive research is to portray an accurate profile of persons, events or situations (Robson, 1993:4)
- iii. Causal research

These classifications are made according to the objective of the research. In some cases the research will fall into one of these categories, but in other cases different phases of the same research project will fall into different categories. The jewellery research centre when established therefore must study the different stages of the research before deciding on which to use.

#### ***5.11.4 Questionnaire Design***

The questionnaire is an important tool for gathering primary data. Poorly constructed questions by the proposed jewellery research centre can result in large errors and invalidate the research data that will be generated at the centre, so significant effort should be put into the questionnaire design. The questionnaire should be tested thoroughly prior to conducting the survey. Marketing research by itself does not arrive at marketing decisions, nor does it guarantee that the jewellery firms will be successful in marketing their jewellery products. However, when conducted in a systematic, analytical, and objective manner, marketing research can reduce the uncertainty in the decision-making process and increase the probability and magnitude of success in the jewellery industry.

#### **5.12 PEST Analysis**

PEST analysis deals with the political, economic, social and technological forces in the successful operation of a business, or in short the micro and macro conditions. PEST analysis as regards the jewellery industry is very important in that it will make the jewellery industry consider its environment before beginning the marketing and production processes. It is after the PEST analysis has been carried out that an effective SWOT analysis can also be done. In my previous work, a SWOT analysis was carried out and it considered the strength, weaknesses, opportunities and

threats of the jewellery industry. In this work, it will be carried out again, but after the discussion of the PEST analysis. In fact, environmental analysis on the jewellery industry should be continuous and feed all aspects of planning. The jewellery industry's production and marketing environment is made up from:

1. The internal environment e.g. staff (or internal customers), office technology, wages, finance, etc.
2. The microenvironment e.g. our external customers, agents and distributors, suppliers, our competitors, etc.
3. It is necessary now to also offer suggestions and recommendations basing them on the macro-environment e.g. Political (and legal) forces, Economic forces, Socio-cultural forces, and Technological forces. These are known as **PEST** factors.

#### ***5.12.1 Political Factors***

The political arena has a huge influence upon the regulation of the jewellery business, and the spending power of consumers and other businesses. Political factors include government regulations and legal issues and define both formal and informal rules under which the firm must operate. Some examples include:

- i. tax policy
- ii. employment laws
- iii. environmental regulations
- iv. trade restrictions and tariffs
- v. political stability

It must be noted generally that there is political stability in the country. For example, during electioneering campaigning, advertising companies make a lot of advertisements appealing for votes of candidates. Both print and electronic media make plenty of money by way of these adverts. They therefore are in a position to buy a lot of items including jewellery. Ghanaian jewellers can also produce or cast the metal badges used by the political parties during campaigning times, and thereby making more sales. Also, during electioneering periods, politicians dash out a lot of money to the electorate to enable them win their votes, but because of the general poor income levels in the country, such monies are mainly used to buy food, and pay school fees, though a few may use it to buy jewellery.

It is my suggestion also that jewellery companies must advertise and expose themselves more, so that in the cause of other companies promoting their businesses, they could use jewellery, say beads or brass casting as some of the prizes of their sales promotion. If jewellery companies heed to the suggestion to step up advertisement in the

jewellery industry and disregard the notion probably that cost of advertising is high, during special occasions like Christmas or Valentine days, Mother's days or Father's days during which other businesses capitalise on advertisements and sell their products, jewellery companies will also register very high sales.

Certain government policies have affected businesses including the jewellery industry. For example, the Value Added Tax and National Health Insurance Levy of 12.5% and 2.5% respectively tend to make the price of jewellery very high. This tax, VAT for short, is a tax on consumption expenditure, collected in little bits at the various stages in the production-distribution chain. This means that, at importation, manufacturing, wholesale and retail levels, at each stage, VAT is levied on the 'value added' and not the full value of the product. By the VAT law, it is obligatory for all manufacturers, sellers and service providers whose turnover does not exceed 100 million cedis in twelve months, or 25 million cedis in three months are by law, eligible to register. It must be noted that VAT is not a tax on business expenses. Therefore registered businesses that pay VAT on purchases and expenses are to request for VAT invoices showing the amount of VAT paid to enable them reclaim these taxes. In practise however, these refunds are difficult to claim. Even though most goldsmiths and other jewellers have not registered to collect the tax, they



are indirectly affected because some of the inputs for the manufacturing of the jewellery products are imported and the tax is collected at the port of entry. This writer recommends that in order to make jewellery products competitive, jewellers who produce for export or sell a greater percentage of their jewellery to tourists and earn foreign money for the country, should be exempted from VAT. As an incentive for businessmen to invest in the jewellery industry, so as to produce more for the local market and also for export, government should, as a policy, make laws to regulate and ease the payment of tax on jewellery businesses. Government could grant say five years tax holidays for people who open new businesses in the jewellery sector. A jeweller, who produces on a very small scale, should be exempted from not only VAT, but also, other forms of taxes. This is because the income derived from their businesses, if proper records are kept, would point to the fact that they would have been tax exempt. The daily minimum wage of 16,000 cedis is tax exempt, and small-scale jewellers who also earn about four hundred thousand cedis net income in one month, in my opinion should equally be exempted.

The government's position on marketing ethics is very liberal, and it has therefore facilitated the activities of agencies like the Association of Ghana Industries (AGI) or *Empretec* Ghana that can source funding from non-governmental organisations like DANIDA for the subsidising of the

writing of a marketing plan. According to Mr. Saeed Brobbey, the Ashanti Regional Manager of the National Board for Small Scale Industries, the government has tasked this agency to identify and assist in writing business proposals for assistance to be given to businesses that are potentially viable but lack the necessary funding for marketing their products. But unfortunately, according to Mr. Saeed Brobbey, of all the companies that have been identified in Ashanti Region, only one bead producer was selected. This writer therefore suggests to jewellers to contact the government agencies for the necessary financial assistance. The problem, however, is that since some of the jewellery firms operate on a very small scale, even if they contact the agencies, they might not be selected. This writer however suggested to the regional manager to propose to the government to consider the micro industries like the jewellery firms that could form or strengthen their associations so as to benefit from such assistance. With the government's policy on running a trade liberal economy, if Ghanaian jewellers do not position themselves well, it would be difficult for them to face global competition.

Since the 1992 Constitution of Ghana guarantees religious and cultural freedom, and with the springing up of numerous churches and the government's promotion of tourism and its associated festivals, this writer suggests that jewellers take advantage of such festivals to produce more

jewellery for sale. Items like neck beads, bangles, and other forms of jewellery used by chiefs during festivals or by young girls during *dipo* ritual celebrations in Krobo in Ghana, could be produced in greater quantities for some to be sold to tourists as souvenirs and thereby increase the sale of jewellery. Even though certain religious groups do not wear, jewellery, most do, and with proper marketing campaign there could be the increase in sale of certain religious jewellery like the cross, or wedding rings.

The government of Ghana is involved in trading agreements with countries and unions such as European Union, African Union, ECOWAS or others. These multilateral trade agreements when taken advantage of could be of benefit to not only the country, but to solving some of the numerous problems of the jewellery industry, like say with the ECOWAS treaty of free movement of people, skilled goldsmiths or jewellers say from Senegal, Mali or from Togo could be brought into the country on exchange programmes to teach their Ghanaian counterparts certain skills in the industry. The College of Jewellery in Weija recruited a Togolese, by name Fo Koku Amouzou to teach filigree and granulation techniques. According to the Principal, it was beneficial to the College. Ghana enjoys favoured nation status with the USA in terms of the African Growth and Opportunity Act of 2000 (AGOA) which allows Ghana and other selected

African countries to open their economies and build free markets by exporting specified products including jewellery to the USA free of import duties. These incentives are to encourage trade between African countries and the USA by eliminating duties and introducing quotas in specified products. This provides Ghanaian jewellery manufacturers with a cost advantage over their European and Far East competitors on whom a 6% duty is levied for jewellery products exported to the USA. In 2004, 62% of South African jewellery exports were destined for the USA partly as a result of AGOA.<sup>5</sup> Under the AGOA trade protocol agreement with the United States of America, Ghana has not identified jewellery as one of the unspecified quota free products to be exported to the United States of America. The emphasis of the Ghana Government has been on the Textile and Garment industries, but since jewellery is also included in the products, I suggest that the Federation of Ghanaian Jewellers and the Ghana Bead Society among others must lobby the Ministry of Trade and Industry to be given attention and support like the textile and garment industry. Institutions like the Commonwealth Secretariat and USAID have supported the jewellery industry in the past. Also, the commonwealth secretariat supported the redesigning of Ghanaian jewellery for the export market by sponsoring an expert, Dr Theja Hathiarachi, as I wrote in my previous work, and the USAID has sponsored numerous jewellery

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<sup>5</sup> [www.goldinsouthafrica.com](http://www.goldinsouthafrica.com)

exhibitions in the country. These have helped boost up sales and it is the suggestion of the writer that contacts should still be made with these institutions to still support the jewellery industry so as to increase sales.

#### ***5.12.2 Economic Factors***

Economic factors affect the purchasing power of potential customers and the firm's cost of capital. The following are examples of factors in the macro economy:

- i. economic growth
- ii. interest rates
- iii. exchange rates
- iv. inflation rate

Jewellers need to consider the state of a trading economy in the short and long-terms. This is necessary when planning for international jewellery marketing. You need to look at the interest rates prevailing at the banks; jewellers also need to know what type of banking facilities that exist at the banks and tailor it to suit their requirements. For example, there are banks specifically for promoting the needs of agriculture like the Agriculture Development Bank, or National Investment Bank that specifically is for investment. There are others like the Standard Chartered Bank, Barclays Bank or the Ghana Commercial Bank. The good news about the banks in



Ghana these days is that because of keen competition, they have, among other innovative ideas, opened special departments to cater for the small-scale business sector. I recommend therefore that before a jeweller opens an account with a bank, he should find out what services it has to offer as far as its business growth is concerned. He should also get to know the Manager and his Customer Services Manager. This is necessary because when they get to know the jeweller, when there are any services like seminar or business promotion exercises he could be contacted, and thus help improve upon his business. For instance, Stanbic Bank Ghana Limited sponsors some businessmen to trade shows in South Africa annually. This writer could not honour an invitation from Stanbic Bank Ghana Limited to attend such a trade show in South Africa. Even though I was not able to honour the invitation because of time constraint, those who attended said it was beneficial for improving their businesses especially, they were exposed to new equipment in the industry. Barclays Bank has also played a major role in promoting the small-scale business sector. In September 2005, it organised a day's seminar for its customers in Kumasi on Risk Management. The facilitator was Mr. J. Magnus Frimpong, a senior lecturer of the KNUST School of Business. According to Mr J. M. Frimpong, an evaluation after the seminar revealed that their customers benefited from the seminar, and would want it to be an annual affair.

On interest rates, interest rates on loans used to be 35%. Presently, the rate of interest on bank loan is an average of 22%. Even though it is better than it formally was, it is still considered high. This means that with the already present high cost of tariffs and bills, it will be expensive to run a jewellery production on a loan or overdraft. There are institutions like Unique Trust Financial Services that give out loans within 48 hours, but it charges 8% per month. I recommend however that using a bank loan should be a last resort. When intending to use a bank loan however, jewellers must prepare a projected cash flow, and the money when granted, should be used for the intended purpose only. Jewellers also have the advantage of most customers paying deposit for their orders. Jewellers should insist on at least 60% deposit on placing an order. By this, jewellers have the advantage of the customer pre-financing the order.

### ***5.12.3 Socio-cultural Factors***

Social factors include the demographic and cultural aspects of the external macro environment. These factors affect customer needs and the size of potential markets. Some social factors include:

- i. health consciousness
- ii. population growth rate
- iii. age distribution
- iv. career attitudes
- v. emphasis on safety

This researcher further suggests that the socio-cultural influences on the jewellery business in Ghana which vary from region to region or certain segments of the region must be taken into consideration when designing and producing jewellery so as to register high sales. For example, certain Christians because of their belief may prefer to buy a cross pendant to a *Gye Nyame* pendant. The Roman Catholics also will buy the rosary. Christian marriages also use the wedding rings. It is very important that such factors are considered. The factors include what the dominant religion is and what their attitudes are towards the use of jewellery products. One must also consider if the different cultures have any impact on the production and sale of jewellery. The age of the population and their sex distribution must also be considered.

#### *5.12.4 Technological Factors*

Technological factors can lower barriers to entry, reduce minimum efficient production levels, and influence outsourcing decisions. Some technological factors include:

- i. Research and Development activity
- ii. automation
- iii. technology incentives
- iv. rate of technological change

High technology is vital if the local jewellery industry should have a competitive advantage over the imported and cheaper jewellery, since it is a major driver of globalisation. Hi technology allows for jewellery products to be made more cheaply and to have a better standard of quality. But in Ghana, as pointed out earlier, the mode of production is still dominantly hand crafted using old and dilapidated tools and equipment. Technologies offer consumers and businesses more innovative products and services such as Internet banking, new generation mobile telephones, etc, but in the jewellery industry, it is not so. “Modern technology in the enterprise of jewellery making has remained largely untapped in Ghana over the years.” (Ghanaian Times 14683 Nov 17 2005) Jewellers in the country therefore have evolved unique handcrafting

techniques for executing their traditional jewellery and ornaments. It is therefore not surprising that jewellery making in Ghana is perceived by many as an ordinary traditional craft. While traditional know-how is indispensable, the reality is that in many parts of the world, jewellery has become a major commodity whose production requires modern technological inputs. Modern trends in jewellery production have completely revolutionalised jewellery making especially for the mass market, to the extent that it is no more globally competitive to operate solely in the craft mode as obtains in Ghana. The role of technology in all aspects of jewellery production cannot be overemphasised. While computer aided design and manufacturing have enhanced the jewellery production of the developed world, with software that can now even interface designing with manufacture, of which the Ghanaian jewellery industry must take advantage of, we in Ghana still use traditional jewellery making techniques and obsolete equipment, and therefore incur high production losses and costs. As the solution to some of the above problems so as to make the Ghanaian jewellery industry have the necessary impact on the national economy, the government and its collaborated agencies, both private and governmental, must liaise with the mining companies, to import the necessary raw materials and inputs such as acids, chemicals, borax, saw-blades electroplating solutions etc for the



industry. Also, the government can impose a levy on the mining companies to aid the jewellery industry in Ghana.

### **5.13 SWOT Analysis of the Ghanaian jewellery industry**

A SWOT analysis is an analysis of an organisation or industry's strengths and weaknesses alongside the opportunities and threats present in the external environment (Thompson, 2004:1128). As written earlier, it is necessary to recast the SWOT analysis carried out in my previous work with current information where necessary.

#### **5.13.1 Strengths**

There is now, the National Youth Employment Programme, which enables the youth to train in any employable trade of their choice, including jewellery. Some youth have enrolled with masters to learn bead-making and others goldsmithing. The jewellery industry is also fortunate to have the College of Jewellery established to increase the manpower needs of the industry. The intake into the School is on Regional basis, and this means that when the trainees graduate they will go back to their regions to set up their businesses. The curriculum of the college of jewellery is such that it is 70% of practical work. This gives the students enough of practical training. The metal section of the Department of Industrial Art now runs a programme in Jewellery up to the Masters level, unlike previously where

students graduated in metal work. In my previous work, page 206, I recommended that the graduates from the metals section of the Faculty of Industrial Art of KNUST must have the option to specialise in jewellery production and sales. They should also go on industrial attachment during their holidays to have practical experience. By the end of their training they would be exposed to equipment not in their section, and they would also be better equipped to face the challenges of the industry, and thus help the industry to develop.

#### *5.13.2 Weakness*

In the previous work we identified the following as the weaknesses. That the industry suffered from inadequate money capital and as a result the production techniques used are not as good as they should be. This is due to the fact that modern equipment is not being used by the firms in the industry because of their weak financial base. The quality of the finished products depends on the quality of machinery used. We also identified that the high cost of raw material has made the firms to produce under capacity. This is because the jewellery firms are not able to buy enough raw materials to also produce a wide range of designs. The range of designs of jewellery produced by the jewellers in Ghana, as written earlier is also limited.

### ***5.13.3 Opportunities***

There is a wide market for jewellery both locally and internationally. In Ghana, almost everybody especially females have a piece of jewellery on as part of their dressing. Chiefs also use jewellery as part of their regalia. During festivals, all sorts of jewellery are used, and the type of jewellery used shows the social and economic status of the person. A lot of tourists and foreigners who visit the country also buy at least a piece of Ghanaian jewellery as souvenir.

### ***5.13.4 Threats***

Notwithstanding the numerous opportunities, there are also certain threats that affect the industry. In my previous work we mentioned that the general low income of the population is a great threat to the industry. Most people instead of buying high karat gold jewellery would settle for a low karat one, because they cannot afford the price of high karat jewellery. In this current work, we have identified the activity of smugglers as also a big threat to the growth and development of the industry. Because of the small size of jewellery, traders are able to smuggle quantities of the jewellery into the country without paying the necessary taxes. They are therefore able to sell at very low prices and thus make customers buy theirs instead of the ones produced locally. Another threat is that cheap imported imitation jewellery are brought in by traders from Dubai or

China, and sold at almost the price of gold. Lastly, there is also the perception that goods made in Ghana are of inferior quality. Ghanaians have a taste for foreign goods, and this is a threat to goods produces in the country.

#### **5.14 Effect of HIV/AIDS on the production and sale of jewellery**

Before writing on the effects of HIV/AIDS on the jewellery industry in Ghana, it is necessary to define and write on what it is all about. AIDS stands for Acquired Immune Deficiency Syndrome. It is a disease caused by Human Immunodeficiency Virus or HIV. It acts by weakening the immune system, making the body susceptible to and unable to recover from other diseases. Human Immunodeficiency Virus (HIV) is the virus that causes Acquired Immune Deficiency Syndrome (AIDS). HIV destroys the biological ability of the human body to fight off opportunistic infections such as pneumonia and tuberculosis (TB). A person can be infected with HIV for a long time without showing any symptoms of the disease. Nonetheless, during that period before a person develops symptoms, he or she can transmit the infection through sexual contact to other people. An infected woman can also transmit the disease to her infant during pregnancy or delivery or while breastfeeding. HIV can also

be spread by transfusions of contaminated blood and by sharing needles used for injections and drug use. AIDS itself is defined in terms of how much deterioration of the immune system has taken place as seen by the presence of opportunistic infections. Virtually all infected persons die from the disease. As at now, there is no known cure for AIDS.

In Ghana, an individual is said to have developed AIDS when he or she presents with a combination of signs and symptoms and has a positive HIV antibody test. These are grouped into major and minor signs and symptoms. The major signs and symptoms include:

- i. Prolonged fever.
- ii. Prolonged and chronic diarrhoea
- iii. Significant weight loss

The minor signs and symptoms include:

- i. Persistent cough
- ii. Persistent skin infection
- iii. Aggressive skin cancer
- iv. Oral thrush
- v. Recurrent Shingles (*Ananse*)
- vi. Enlargement of the lymph glands



It is said that any individual with two of these major signs and symptoms and two of the minor signs and symptoms plus a positive HIV antibody test is said to have the disease AIDS.

From what we have written so far on AIDS, it can be seen that it is not only a health issue, but a social, developmental and economical issue. The impact has a huge repercussion on the production and sale of jewellery. This is so because when workers in the jewellery industry are affected with AIDS, it will lead to low productivity. According to Commonwealth Rights Initiative Report (2001), "The HIV epidemic adversely affects growth rate in complex ways not only by killing off the most productive in their prime."<sup>6</sup> When HIV/AIDS was first identified in Ghana in March 1986, the National rate of infection was 1.5%. Today, the prevalent rate is 3.6%. This is based only on reports from the health institutions in Ghana which represents 30%. This is because in this country, majority of the victims patronise the traditional health centres, prayer camps and others do not report their illnesses due to the fear of stigma and discrimination. The non-reported cases are therefore likely to be more than the reported cases in Ghana. This means the prevalent rate of 3.6% in the country is misleading because majority of the carriers of HIV infections are difficult to be identified in the country. With such a high prevalent rate, workers,

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<sup>6</sup> [http://www.ghanaid.gov.gh/main/results\\_detail.asp?story\\_id=81](http://www.ghanaid.gov.gh/main/results_detail.asp?story_id=81)

including jewellery workers, can contract the disease and this will lead to frequent illness which will in turn result in low productivity. It will also result in the employer spending more on hospital bills of their employees. It has been reported that about 130 people in Ghana contract AIDS daily and it is estimated that 125 people would die from the dreadful disease daily by the year 2009 if the rate of infection continues at 3.6%. The prevalent rate in the West Africa sub- region ranges from 5% to 11%. According to the Ghana Aids Commission sources, 330,000 Ghanaians within the age group of 15-49 years are living with HIV/AIDS. It will be realised that the age group of 15-49 years is the working force in any economy. This will therefore shift a lot of attention and change the buying pattern of consumers. Instead of buying jewellery, they may be buying drugs to sustain themselves.

The impact of HIV/AIDS on households, families and the Nation is immense. The very fabric of Ghanaian society can tear apart because of intense burden of suffering among individual families. For example, in cases of prolonged illnesses, all family members have to bear the blunt of caring. Businesses including jewellery businesses and society, suffers when the most productive sector of society (human resources) as written earlier, who are aged between 15years and 49years are lost to HIV/AIDS related illnesses. The attention of purchases will shift from buying of

jewellery to using the money to buy medicine. The Ministry of Health projects that in the worst case scenario, the prevalence rate could increase to 9.0% by 2014. AIDS deaths will definitely lead directly to a reduction in the number of workers available, and less experienced workers replace those who died, leading to lower productivity. A shortage of workers will lead to high wages which will lead to higher domestic production costs. This will also lead to reduced savings because of greater health care expenditure and a loss of worker income can cause a significant drop in savings and capital accumulation for buying of luxury goods like jewellery.

Already, 160,000 children in Ghana have been orphaned by HIV/AIDS (Ghana AIDS Commission). If care is not taken, more people would be infected and additional children would be orphaned in the next five years. Without the appropriate social and life skills, these children will not be equipped as adults who would have learnt a trade including jewellery to enable them drive the economic engine of Ghana and thus, making the struggle for development and growth even tougher. The orphans might not have any education to become responsible members of society; this may lead them to become wayward citizens indulging in social vices like drug taking, crime, prostitution etc. The loss of young adults in their

productive years would affect Ghana overall economic performance in agriculture, commerce and industry, including the jewellery industry.

It must also be noted that the majority of HIV/AIDS cases recorded in Ghana and the world are females. This has serious social and economic implications to the country as well. According to Professor Sakyi-Amoah (Director of Ghana AIDS commission) commenting on the pandemic has said that the high incidence among women in Ghana would affect the government's policy of women in agriculture and other sectors of the economy. This shift in government policy will definitely affect the jewellery industry in terms of production and sales. For example government may instead of promoting the growth of the micro and small industries may now spend a lot of its budget allocation on health.

Speaking at the Golden Jubilee celebration of Opoku Ware Secondary in Kumasi (2002), the President of Ghana, His Excellency John Agyekum Kufour said that any investment individuals, parents, communities as well as the nation make will not yield the expected results if "We fail to wake up to the challenges posed by the deadly HIV/AIDS pandemic".<sup>7</sup>

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<sup>7</sup> <http://www.ghanaweb.com/GhanaHomePage/features/artikel.php?ID=30981>

Professor Amoah (2002) has predicted that Ghana's rate of 3.6% HIV/AIDS could go up if we fail to adopt more proactive measures. We have to safeguard the future generation of Ghana from extinction. Therefore, it cannot be over-emphasised that it requires active involvement of all Ghanaians both at home and abroad to fight the killer disease (HIV/AIDS) so that the youth can be in a healthy state to work actively to increase production in all aspects of the economy including the production of jewellery.





## **CHAPTER SIX**

### **METHODOLOGY**

#### **6.0 Background**

The methods for this work were adopted as appropriate methods to achieve the objectives of the study. The methodology used in the writing of this thesis includes a review of related literature, personal interviews and discussions with both consumers and producers of jewellery. Photographs, tables and graphs are also used to make points clearer where necessary.

As noted in the first chapter, the narrative, descriptive, analytical and interpretative methods are used where and when necessary. Answers to questionnaires also serve a useful purpose as far as the methods of approach are concerned.

The thesis is written in seven chapters, with the first chapter of the thesis including the following: abstract, scope of work, statement of the problem, limitations, objective, and reasons for writing, hypothesis, and statement of assumption, methodology, and historical background of jewellery production in Ghana. Chapter two reviews the related

literature on the thesis, i.e. the problems and solutions to the Ghanaian jewellery industry.

The third chapter tackles the problems and solutions to the production processes of the various forms of jewellery. It is discussed alongside the production methods. Acquisitions of land for setting up the workshop are also discussed in this chapter. Also discussed is the problem of tools and equipment acquisition. The health implications of not working in a clean environment are also tackled in the third chapter.

The problems and solutions to the sale and marketing of jewellery are discussed in chapter four of the thesis book. Packaging and product display, and pricing are also among the contents of chapter four. The various types of pricing are discussed in depth in the fourth chapter.

In chapter five are the discussions, while chapter six gives the methodology. Chapter seven is the summary of the thesis, which is then followed by the conclusion and finally the suggestions and recommendations.

As stated earlier, with a review of existing literature related to the thesis in the second chapter, a lot of problems were identified and possible numerous solutions offered. Discussions, suggestions and recommendations have been made after comparing and analysing the data. Illustrations including photographic representations were also included to make the study clearer. Personal interviews, discussions with jewellers were conducted. Narrative, descriptive, analytical and interpretive approaches were also used. Statistical data were provided where necessary, and a lot of discussions have been made. Response to questionnaires from consumers, producers, and organisations involved in the industry were used to complete the thesis.

In administering and introducing the questionnaire, it was necessary to explain clearly and concisely why the respondent needed to complete the survey, and in this regard, the simple random sampling was considered as the best to be used. This is because the area in which the research was carried out was considered as a large geographical area. It was possible to have face to face contact and did not need collecting data by postal questionnaire or telephone interviewing.

## 6.1 Sources of data

Data for this research were from primary and secondary sources.

- i. *Primary Sources.* These were questionnaires that were administered, and interviews that were conducted. Discussions with jewellery producers and consumers, and first hand observation by the researcher on the field were also primary sources of collection of data for this thesis. The questionnaires were designed to cover the two sectors involved in the jewellery industry, mainly the jewellers (producers) i.e. owner managers, and managers who are employees of the jewellery companies, Apprentices and other non management employee staff, and the consumers (customers) of jewellery products who are mainly traders, other workers and tourists who patronise jewellery products.
- ii. *Secondary sources:* These have been exhaustively dealt with mainly in chapter two which is the review of related literature. With regard to the literature, documents used included books, newspapers, journals, magazines and periodicals and theses from libraries of the Kwame Nkrumah University of Science and Technology, Kumasi, College of Art and Social Sciences, KNUST, Department of

General Art Studies, KNUST, University of Education,  
Kumasi Campus, National Museums, Accra, and British  
Council, Kumasi.

## **6.2 Population size and the need to sample**

For the research to achieve its objectives there was the need to collect data to administer and administer questionnaire. The research required sample data while others did not. Sampling therefore was based on selected jewellers, jewellery firms, apprentices, stakeholders, and customers of jewellery products in five towns from five regions in Ghana. These are Accra, in the Greater Accra Region, Koforidua in the Eastern Region, Cape Coast in the Central Region, Ho in the Volta Region and Kumasi in the Ashanti Region. The sample design involved one-on-one contacts both for the producers and the customers. Also, as written earlier, the simple random sampling method was used, which involved finding out and interviewing the selected interviewees or respondents in each category at random. Sampling was necessary for the following reasons:

- i. it was impractical to survey the entire population
- ii. budget constraints prevented a survey of the entire population
- iii. time constraints prevented a survey of the entire population
- iv. data collected needed results quickly.

In this regard, as can be seen in Table 6.1, forty jewellery firms and workshops were selected at random from five towns for the main purpose of administering the questionnaire. Three hundred individuals including forty jewellers/owner managers, one hundred employees, forty apprentices and one hundred customers of the forty selected firms and workshops were also selected at random, and were either interviewed directly and they responded to the questionnaire or questions. Twenty consultants were also interviewed. These details are shown in Table 6.1. Table 6.2 shows the distribution of respondents and the percentage of the respondents.

*Table 6.1 Distribution of sample Size*

<b>Interviewees</b>	<b>Sample Size</b>	<b>Accra</b>	<b>Kumasi</b>	<b>Koforidua</b>	<b>Ho</b>	<b>Cape Coast</b>
<b>Employees</b>	100	60	30	10	0	0
<b>Apprentices</b>	40	15	10	5	5	5
<b>Jewellers</b>	40	15	10	6	5	4
<b>Customers</b>	100	40	30	10	10	10
<b>Consultants</b>	20	6	5	4	3	2
<b>Total</b>	<b>300</b>	<b>136</b>	<b>85</b>	<b>35</b>	<b>23</b>	<b>21</b>



### **6.3 Pre testing of questionnaire**

Before using the questionnaire to collect data, it was pilot tested. The purpose of the pilot test was to refine the questionnaire so that respondents would have no difficulties in answering the questions and there would be no problems in recording the data. In addition, it enabled the researcher to obtain some assessment of the questions' validity and the reliability of the data collected. Preliminary analysis using the pilot test data was undertaken to ensure that the data collected enabled the investigative questions to be answered. The pilot test was conducted in accordance with the advice of Bell (1993:84) who considers such a test to be very necessary. For any research project there is a temptation to skip the pilot test. This researcher endorses Bell's (1993) advice that however pressed for time a person is, it is best for him to give the questionnaire a trial run as without a trial run, he has no way to knowing that the questionnaire will succeed.

The pilot test was checked with each completed pilot questionnaire to ensure that respondents have had no problems understanding or answering questions and have followed all instructions correctly. Their responses provided an idea of the validity of the questions. For self-administered questionnaires, additional information about the

problems was obtained by giving respondents a further short questionnaire. According to Bell's advice, when the short questionnaire was administered, it was found out that:

- i. the questionnaire took between 10 to 15 minutes to complete
- ii. the instructions were clear
- iii. none of the questions was unclear or ambiguous
- iv. the respondents did not feel uneasy about answering any of the questions
- v. in the opinion of the respondents there were no significant topic omissions
- vi. the layout was clear and attractive
- vii. there were no other comments.

For self-administered questionnaire, additional information about problems can be obtained by giving respondents a further questionnaire. This Bell (1993:269) suggests should use this to find out:

- i. how long the questionnaire took to complete
- ii. the clarity of instructions
- iii. which, if any, of the questions were unclear or ambiguous
- iv. which, if any, questions the respondent felt uneasy about answering
- v. whether in their opinion there were any significant topic omissions
- vi. whether the layout was clear and attractive
- vii. any other comments.

#### **6.4 Data collection instruments**

The data required for the study were gathered as shown earlier through interviews, questionnaire administration and moreover, personal observation as an additional instrument to check the validity and reliability of the information gathered on the field of research. Postal or E-mail was not used in administering the questionnaire because when this methods are used, they yield poor results. Saunders et al (1997:131) testifies that those who normally respond to postal and E-mail questionnaire constitute about 15 to 20 percent. To be able to have a high respondent rate and accuracy of data, the information was collected by the researcher personally. The researcher administered the questionnaire and conducted face-to-face interviews. As a result of this, the researcher got 93.3% (refer to table 6.2) response which is close to Saunder's estimation of 98%. The questionnaire for the customers of jewellery was however left in the shops where they were self-administered and collected at a later period. As pointed out earlier, the entire data collection, including the administering of the questionnaire, took this researcher over twelve months to complete.

Table 6.2 Distribution of respondents and respondent percentage

[ Sample Size ][ Accra ][ Kumasi ][ Koforidua ][ Ho ][Cape Coast]																		
<u>I</u>	<u>S</u>	<u>R</u>	<u>%</u>	<u>S</u>	<u>R</u>	<u>%</u>	<u>S</u>	<u>R</u>	<u>%</u>	<u>S</u>	<u>R</u>	<u>%</u>	<u>S</u>	<u>R</u>	<u>%</u>	<u>S</u>	<u>R</u>	<u>%</u>
<b>E</b>	100	100	100	60	60	100	30	30	100	10	10	100	0	0	0	0	0	0
<b>A</b>	40	40	100	15	15	100	10	10	100	5	5	100	5	5	100	5	5	100
<b>J</b>	40	40	100	15	15	100	10	10	100	6	6	100	5	5	100	4	4	100
<b>Cu</b>	100	80	80	40	35	87.5	30	28	93.3	10	7	70	10	4	40	10	6	60
<b>Co</b>	20	20	100	6	6	100	5	5	100	4	4	100	3	3	100	2	2	100
<b>T</b>	300	280	93.3	136	131	96.3	85	83	97.6	35	32	91.4	23	17	79.9	21	17	80.9

Key to Table 6.2

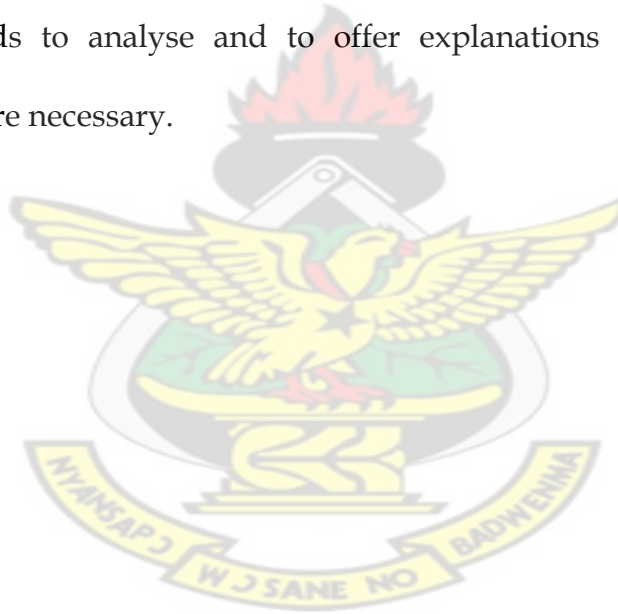
I = Interviewees, S= Sample size, R= Respondents  
 %= Percentage  
**E**= Employees, **A**= Apprentices,  
**J**= Jewellers, **Cu**= Customers, **Co**= Consultants,  
**T**= Totals

To effectively achieve the set objectives, the survey of the jewellery firms was carried out by involving the following:

- the design of questionnaire
- pre-testing the questionnaires
- modification of the pre-tested questionnaires
- administration of the modified questionnaires
- analysis of the data obtained from the questionnaires.

## 6.5 Data analysis

The data collected from the field were summarised and quantified statistically. They were later presented in a comprehensive manner in the form of tables, graphs, or pie charts within the thesis. (See for example, pages 172, 188, 191, 196 and 265). For a clearer understanding, the figures were expressed in percentages and in certain cases absolute values, and in other cases both in percentages and in absolute figures. These figures were used to derive the trends to analyse and to offer explanations and generalisation where necessary.



## CHAPTER SEVEN

### SUMMARY, CONCLUSION, SUGGESTIONS AND RECOMMENDATIONS

#### 7.0 Summary

The research started with the review of related literature. The review tried comparing related literature by other researchers on the subject matter. It tried to vividly outline and find out the problems that still persisted for the present author to solve.

This thesis has tried to solve the problems it identified. Therefore it has discussed the process of acquiring land for establishing a jewellery workshop and has pointed out the problems associated with it. This is important because if one does not take the necessary good steps in acquiring it, one can be led into very serious litigation problems in the future at a time least expected and thus affect the existence of one's jewellery business.

The thesis has also shown that it is important to maintain good health and safety at the work place. It has also discussed the environmental impact on the industry. It has pointed out that keeping a good and healthy environment, and maintaining all the rules on safety will not only lead to



a well motivated workforce, but also increase production by way of the workers not falling sick frequently.

The thesis has also confirmed a previous view that other materials apart from gold and silver can be used to produce jewellery. This will offer employment to the youth including young girls, since it does not involve a lot of capital.

The thesis has also brought to light the fact that when experienced and qualified designers who are currently in world trends in jewellery are employed by the jewellers in Ghana, it will let the jewellery companies expand their local market including the expansion of the export base of their jewellery products which as mentioned earlier in the thesis is not in high quantity in this country at the moment. The country will therefore gain by way of increase in the country's foreign exchange earnings.

The thesis has offered various suggestions for solving some of the many problems that have been mentioned in this work. It is believed that if the suggestions are taken, they will better ensure the viability of the jewellery industry.

Finally, the thesis has emphasised the need for Ghanaian jewellers to take advantage of the presence of AngloGold Ashanti operating in the country, to learn from South Africa the various strategies that it has put in place to uplift its jewellery industry.

## **7.1 Conclusion**

Obviously, this thesis as stated earlier has identified the numerous problems that are hindering the development of the jewellery industry in Ghana. Suggestions in tackling the numerous problems have been offered by the writer.

The research has shown beyond all reasonable doubts that with commitment and sacrifice from stakeholders, the problems identified as militating against the development of the jewellery industry in Ghana can be solved. When the problems are solved, it will lead to job creation, increase in foreign exchange earnings for the country, and a boost in tourism. Value will be added to waste and raw minerals and thus increase revenue.

The thesis has discussed that to make Ghanaian jewellery marketable, and internationally acceptable, there is the need to employ or engage the services of qualified designers of international repute, so as to improve

upon the design of the jewellery. This will in turn widen the range of designs produced by the jewellers in the industry. The thesis has also indicated that emphasis must not only be on the raw *adinkra* designs, but using them as motifs that can be improved upon, and not forgetting to emphasise on its background as a source of African inspiration.

Moreover, the thesis has offered suggestions and recommendations for the improvements of advertisement by jewellery companies in the country. It is the hope of the present researcher that the suggestions and recommendations will be considered by traditional goldsmiths, bead-makers, researchers, jewellers and the government of Ghana.

Above all, the thesis has identified that when jewellers form co-operatives there will be cost sharing and thus will reduce their operation costs. Cost sharing in legal services, accountancy and consultancy are likely areas that the jewellers can co-operate and have economies of scale. Also, when the jewellery businesses operate their outfits well by keeping sound management practices, the jewellery industry will flourish. In the light of the above, mention was made of good record keeping and professional pricing of jewellery products. With commitment therefore the problems facing the industry can be solved.

It is the expectation of the writer that the Federation of Ghanaian Jewellers will also play its desired role by way of an aggressive membership drive so that in unity, the problems facing the jewellery industry can be solved.

The hypothesis that “there are problems facing the Ghanaian jewellery industry which can be identified and with proposals for their solutions offered, they can be solved” was also corroborated by statistical data in Table 7.1 and further clarified with Table 7.2

The researcher was impressed by the responses from the three hundred people who responded to the questionnaire and also those who were interviewed orally, on the hypothesis that “the problems facing the Ghanaian jewellery industry can be identified and with proposals for their solutions offered, they can be solved”. As seen from Table 7.1, therefore, out of the 280 people who answered the questionnaires or were interviewed, 242 answered in the affirmative that the problems can be solved. In Table 7.2, it was assumed that with the twenty non-respondents answering in the negative and thus having a 100% respondent which is 300 people, we will still have 80.7% responding that the problems can be solved.

Table 7.1 Statistical data showing that the problems facing the jewellery industry can be solved.

	A	B	C	D	E	F	G	H	I
<b>Employees</b>	100	100	0	84	16	100%	84%	16%	0%
<b>Apprentices</b>	40	40	0	40	0	100%	100%	0%	0%
<b>Jewellers/Masters</b>	40	40	0	32	8	100%	80%	20%	0%
<b>Customers</b>	100	80	20	68	12	80%	68%	12%	20%
<b>Consultants</b>	20	20	0	18	2	100%	90%	10%	0%
<b>TOTALS</b>	300	280	20	242	38	93.3%	80.7%	12.6%	6.7%

Key to table: **A:** Sample Size, **B:** Respondents, **C:** Non-respondents, **D:** 'Yes' response, **E:** 'No' response, **F:** % of respondents, **G:** % of 'YES' response, **H:** % of 'NO' response, **I:** % of Non-response.

Table 7.2 Statistical data showing that the problems facing the jewellery industry can be solved with the assumption that the twenty non-respondents answered NO.

	A	B	C	D	E	F	G	H	I
<b>Customers</b>	100	100	0	68	32	100%	68%	32%	0%
<b>TOTALS</b>	300	300	0	242	58	100%	80.7%	19.3%	0%

Key to table:: **A:** Sample Size, **B:** Respondents, **C:** Non-respondents, **D:** 'Yes' response, **E:** 'No' response, **F:** % of respondents, **G:** % of 'YES' response, **H:** % of 'NO' response, **I:** % of Non-response.

As can be seen from Table 7.1 and Table 7.2, the respondents comprise:

- i. 100 employees from jewellery firms
- ii. 40 apprentices from the jewellery industry
- iii. 40 jewellers, who are either owner managers or individual masters
- iv. 100 customers of the jewellery firms including students and lecturers who have been buying jewellery from between one to over twenty years
- v. 20 consultants related to the jewellery industry

Since the 242 people representing 80.7% confirmed the hypothesis that the problems facing the jewellery industry can be identified and solved, and the writer also associating himself with the 80.7%, it is certain that the problems bedevilling the jewellery industry can be identified and solved, provided the suggestions outlined later in this thesis are taken seriously.

#### ***7.1.1 Researcher's New Findings***

This thesis, "The Ghanaian Jewellery Industry; Its problems and solutions", as far as the researcher is aware of, is the only work that is solely devoted to the problems and solutions in the jewellery industry in Ghana. With the researcher researching and coming out with numerous research findings, this thesis will serve as a useful document for jewellers, policy makers, researchers and students.



This thesis has unearthed the important role that land acquisition plays in the setting up of a jewellery factory. It has been mentioned in the thesis that when acquiring land, whether rented, leased or freehold, the necessary search has to be made so as to avoid litigation in future since land disputes, when they get to the law courts for settlement, take several years to be resolved. Also in deciding where to establish a jewellery shop, whether for bead making, lost wax casting goldsmithing or casting, using the cuttlefish bone, certain economic decisions have to be taken. Some of these decisions are accessibility to raw-materials, nearness to the market and in certain cases utilities like water, electricity and probably the telephone.

As mentioned by the researcher earlier, learning how to make jewellery does not require any high academic education. It takes the interest and determination of the person. Previously, apart from bead-making, women or females had been discriminated against by traditionalists' belief to practise the trade but some females are now learning and practising it.

The suggestion that jewellers should form a unified association and operate as a co-operative association will be beneficial to the jewellers themselves. As a unified strong union, they could lobby the government

about their requirement, and since they pay tax, and therefore contribute to the development of the country, the government may listen to their concerns. Also, they could order for tools, raw materials and other accessories in bulk and gain the advantage of having discounts because of bulk purchase.

Various methods of testing for gold have also been mentioned in the thesis. Their rate of accuracy limitations and their estimated cost have also been mentioned so that anybody who wants to buy gold jewellery or testing equipment specifically for testing gold jewellery, will make him take the correct decision. In the previous thesis, mention was made only of the touch stone or acid test and the electronic test without reference to their rate of accuracy. Things mentioned by this researcher in this PhD thesis which are also new findings include the advantages and disadvantages of the Ghana Standards Board (GSB) setting up a Hallmarking and assaying unit to hallmark Ghanaian gold jewellery. The purpose of the Ghana Standards Board's (GSB) decision to hallmark gold jewellery as written earlier in this thesis is to regulate the quality of jewellery manufactured and imported into Ghana. A summary of these methods is depicted in table 7.3

*Table 7.3 Summary of various methods of testing gold. (Source: World Gold Council report)*

Technique	Versatility	Sample size	Accuracy	Limitations	Equipment Cost
Fire Assay	Only gold	~250 mg	0.02%	-	Moderate US\$50,000
ICP	Complete analysis	~20mg	0.1%	-	High US\$150,000
XRF	Complete analysis	Non - destructive	0.1 - 0.5%	Surface layer, flat samples	Moderate US\$25,000+
Touchstone	Only gold	Almost non-destructive	1.2%	Unsuitable for high carat and white gold	Low US\$100
Electric pen	Only gold	Non - destructive	4 - 8%	Not consistent	Low US\$200
Density	Only gold	Non - destructive	Poor	Only for binary alloys	Low US\$500

Mention was also made in this thesis for the need to set up a Jewellers Council as it is in South Africa. The council when formed should operate along the lines of councils like the Pharmacy Council, the Medical and Dental Council, or the Judicial Council. Membership of the council as recommended by this writer should be some representatives from the Ghana Chamber of Mines, the Ministry of Trade and Industry, Financial Institutions, the Ghana Standards Board, the Ministry of Education, the Ministry of Employment and Manpower Development, the Federation of Ghanaian Jewellers, and the jewellery training institutions.

This thesis has explained in detail the goldsmithing processes, the bead making processes and the lost wax casting methods. It has also explained in detail casting using the cuttlefish bone.

Again mentioned in this thesis is the need for the engagement of designers of international repute. This writer, in accordance with plate 4.4 has given suggestions of redesigned *gye nyame* symbol.

As mentioned previously, and again as stressed in this thesis, is the important role that the Metal Section of the Department of Industrial Art of KNUST and the existence of the College of Jewellery at Weija, have played in solving to some extent the manpower requirements of the jewellery industry. It was indicated by the researcher that the government through the Ministry of Education should also heed the call to introduce jewellery in the senior secondary and technical schools in Ghana. Further research during the writing of this PhD thesis has shown that the PMMC and Goldfields Ghana Ltd. are planning to open jewellery training schools in the country. It was also written earlier that the Cape Coast University is also in the process of starting a B. Tech degree programme in Jewellery.

Apprenticeship training and the apprenticeship Act are also mentioned in the thesis as avenues through which the jewellery industry could expand.

It was previously suggested that, masters who do not pay their apprentices some form of allowance should do so, and it should be paid regularly so as to encourage the apprentices to learn the trade, and not face any hardships during training. It is learnt from the fieldwork that most masters use their apprentices as house helps in addition to the training and teaching. It is also learnt from the fieldwork that most apprentices are now being paid allowances. It will therefore be an innovation if apprentices are made to sign a contract with their masters stating the obligations of both the master and the apprentice as stated earlier in the thesis because no such contract is being signed now between the apprentices and their masters. Apprenticeship therefore should not be for school dropouts but should be a matter of choice.

The health needs of the jewellers are also important. It was mentioned that workers of jewellery firms, because of the unhealthy nature of their jobs, should have regular medical check ups. Children and pregnant women should not be allowed in the workshops since it could affect their health. There should be no eating in the workshop, whiles no smoking signs should be adhered to. On the field of research, it came to light that certain shops have heeded the advice, and do have check ups. Some have also now taken the researcher's recommendation, and are therefore

having regular medical check ups. They have also registered their workers under the National Health Insurance Policy.

In the previous thesis it was mentioned that the production section can work on a shift system so as to produce more. This means that one set of workers will come in the morning while another set comes late afternoon and closes in the night. It has however been noted in this thesis that, even without a shift system in place, a well motivated workforce is rather the workforce that is able to produce even above its targets. Motivated people generally work hard. Mention was also made of McGregor's motivational Theory X and Theory Y. The thesis has mentioned that the owners of jewellery shops do not normally motivate their workers, and the workers think that their masters are cheating and using them to enrich themselves. There is therefore the need for the managers to pay their staffs adequately. It has also been learnt that it is not only money that motivates, but working in the right environment and having the required tools and raw materials also motivate and increase production.

Readers are reminded that in the previous thesis, suggestions were made for the training of more jewellers preferably outside the country to learn the newest technology since the Metal section for example had equipment dating back to the 1960s. It will also be recalled that it was further



suggested in that thesis that the metal section should source funding from institutions like USAID, or DANIDA, to equip its studios with modern machines. On the field of study for this thesis it was realised that on the exchange of human and technology resources, and as mentioned in this thesis, the South Africa government has employed a Ghanaian goldsmith to train South African jewellers in West African traditional jewellery technology. South Africa has promised that this exchange programme would be extended to other Ghanaian jewellers, and it would be a collaboration, and not only between Ghana and South Africa, but other African countries.

Mention was also made in the previous thesis that the government through the Ghana Export Promotion Council should initiate a programme that will enable jewellers promote their products through the internet, but for the past years it has not been done due to the cost involved. It is therefore as a new contribution that this writer has called on the same stakeholders to come out with a Jewellery Information Handbook which will make information available on the jewellery industry to both producers and consumers.

Kotoku (2001:204) wrote on the SWOT or micro analysis, which examined the strength, weaknesses, opportunities and threats to the jewellery industry in Ghana which other writers did not note in their writings. In this thesis even though mention was still made of the SWOT or micro analysis, it has gone further to discuss the PEST or macro analysis which is the political, economic, social and technological environments in which the jewellery business operates. This analysis will enable the jewellery business not to operate in a vacuum but with a business plan. Under the legal environment, some of the numerous laws that are necessary for the smooth operation of the jewellery industry are produced as appendices.

In the previous thesis, it was mentioned that there was no clear-cut system on the pricing of jewellery in Ghana. Apart from the four different types of pricing mentioned in that thesis and still referred to in this thesis, the current thesis has gone further to suggest a formula to be used as a basis for pricing. This formula as well known, has taken into consideration the raw material and other direct costs such as the cost of electricity, indirect and other overhead costs, and a profit margin before arriving at the selling price. When this formula is adopted by jewellers, they will not sell their works at a loss.

On the issue of insurance, while the previous thesis recommended to jewellers to insure their premises against fire and burglary, this thesis has added that individuals can also insure their jewellery against theft or deposit them with the banks for safe keeping as is being done in some developed countries like Britain, France, Sweden and USA. With this development customers may buy more since they are sure of the security of their jewellery.

#### ***7.1.2 Comparison between the Research Findings and the Literature Review***

It is necessary to compare the research findings with the literature review because if it is not done, the literature review will be irrelevant to the whole thesis. Both the fieldwork and the related literature confirm that there are numerous problems facing the jewellery industry in Ghana.

In this regard therefore, scholars like Professor James Anquandah in his book, *Rediscovering Ghana's Past*, have attested to the fact that simple implements were employed in the jewellery in the nineteenth Century. He continues that such implements are still in use today. This thesis has made the same observation, and Ayensu (1997) also confirms this. Also, the observation of this PhD thesis writer and the observation made by both Anquandah and Ayensu have shown that the use of traditional methods

slows down production, both in the gold mining and jewellery making sectors. Beads for example, are still produced in the traditional and 'crude' methods without regards to the health and safety of the employees. Lost wax casting is carried out in the open using wax, palm-nut fibre and charcoal as some of its raw materials. These methods unlike the modern vacuum casting machines used in developed countries and modern workshops, casts works with a lot of flaws. These works have to be filed and refilled in attempts to get the flaws off. In most cases, the cast items have to be cast again, which is a waste of time.

During the research on the field by the researcher of this thesis, it was realised that techniques like filigree, granulation hand chain weaving and cuttlefish bone casting are some of the traditional techniques that most of the goldsmiths in Ho, Cape coast, Koforidua, Accra, and Kumasi still practice. Anquandah (2003:16) again in an article says that the goldsmiths still employ traditional methods which were in vogue in earlier centuries.

As regards traditional gold-mining using 'crude' methods popularly known as 'galamsey', there have been reports of the miners getting trapped underground and losing their life. Furthermore, as stated in the review of related literature, Sarpong (1974:36) writes of the Akan custom of burying corpses especially of the royal people with certain items

including jewellery. They are of the belief that the items were needed on their destination. The same observation has been made by the researcher of this thesis.

This researcher mentioned the Federation of Ghanaian Jewellers, which only exists in name today. Just like the inability of the jewellers of today to organise themselves into a strong association. Anquandah (2003:16) as in the review of related literature, wrote that there once existed the gold and silversmiths' association which was set up around 1909 and grew to become a powerful union of traditional craftsmen. The lack of a strong jewellery association as observed clearly on the field of research made it difficult for the smiths to present their grievances to government.

In the review of related literature, Akabuo (1988:14) confirms that in the Anfoega and other areas in the Volta Region, women were not entertained in the goldsmith profession. This is because as Apenteng (1994:10) puts it, jewellery making was associated with magic. Therefore, women were forbidden to practise it. It will be recalled that this matter has been noticed in this thesis. We have also found out from the fieldwork that the taboo that barred women from practising goldsmithing has been relaxed. The reason given by certain older smiths as to why women were previously not allowed to practise goldsmithing was because certain rites were

performed, and it was feared that a woman in her menstrual periods was impure for such rites. Even according to Adjei (1992:28) as in the review of related literature, under certain circumstances, the male smiths should abstain from sex in the course of making a particular work. These traditional practices, as was gathered on the field of research, have reduced tremendously these days. There were female apprentices in certain workshops and at the metals section of the Faculty of Industrial Art, KNUST; there are more females who graduate than males.

Akabuo (1988:15) wrote that during his research, the smiths were not ready to give information on the trade to outsiders. They still hold jewellery in mystery. Laye (1973:162) also points out that everything our various metal workers made was inseparable from the mystery; it was directly connected with the cult and magic. The goldsmiths of old believed that the knowledge they had was sacred and must not be shared. This has led to a falling standard in the industry. Today, however, even though information is still difficult to get, few of their colleagues gave information to researchers and writers if they are prepared to pay them some money. This researcher confirms this that when the smiths are given money they give out certain information, even though it is still with difficulty.



As in the review of related literature, Apenteng (1994:11) again wrote of the high cost of raw materials like gold and silver. He suggested the use of other less expensive raw materials like wood, bone, glass etc for the making of jewellery. It is a laudable idea when this researcher during the fieldwork also realised that jewellery producers were using all sorts of materials including glass for beads, stones and other materials cheaper than gold to produce jewellery.

Both the review of related literature and the present researcher's findings have indicated that the problem of good designing is hindering the growth of the jewellery industry since most of the jewellers are illiterate and are therefore inexperienced in proper designing. During the fieldwork for writing this thesis, it came to light that lack of education and conservatism are still a major set back in the development of the jewellery industry.

## **7.2 Suggestions and recommendations**

In line with the identified problems militating against the jewellery industry, and for the purpose of solving the problems, the writer offers the following suggestions which will be presented in two parts. The first being a recast of the suggestions that were made in the researcher's MA thesis, and the second being the new suggestions made in this thesis.

### *7.2.1 Suggestions made in the researcher's MA thesis*

- i. As suggested in the researcher's previous MA thesis, jewellers should form co-operatives so that they import inputs like chemicals, tools and equipment in bulk, so as to gain the advantage of bulk purchase discount.
- ii. Under the co-operative system, jewellers could also rent a common shop which should be turned into a showroom, where they will display and sell their products. They will then share the operating cost among themselves and this will improve their profits as they will cut down cost.
- iii. On the production of tools, as recommended in my previous thesis, the jewellers could contact the Technology Consultancy Centre, or the Faculty of Engineering, or any Engineering or blacksmithing firm who has the machines and the facilities to produce the tools.
- iv. On the packaging of jewellery products it is suggested that small wooden boxes lined with a wisp of tissue can be used as jewellery boxes for small items. Cloth off-cuts from the garment industry can also be sewn and used as packaging bags for jewellery. Depending on the size of the bag, it could be used to package items bought in large quantities. In packing however, care must be taken not to scratch the items.

- v. It is also recommended that periodic courses and seminars be run for sales persons of the jewellery showrooms so that they can learn how to serve their customers better for increased sales.
- vi. It is recommended also that those jewellers who have not insured their premises and wares should do so because in case of disaster, they could make claims and revive their business. They must also understand that insurance premiums are company expenses and therefore tax exempt.
- vii. It is also recommended that jewellery firms must make use of consultants in their businesses. Whether accounting, legal, marketing or management, since the consultants can advise them and offer strategic plans for them to have advantage over their competitors. This will be at a cheaper and negotiated cost since the person has to be consulted as and when his services are needed.
- viii. As suggested earlier, jewellery workshop floor sweepings must be kept and refined. The floor must also be cleaned with water and rag, and the waste water allowed to settling in the bucket to retrieve the gold filing and dust before the water is thrown away. If possible one should use woollen carpet to trap the gold dust.

- ix. The Environmental Protection Agency must be strict and rigid in enforcing all by-laws on the environment. Chemicals flushed out during refining and production must be well diluted or neutralised.
- x. To increase production, the production section should run a shift system so as to use the same quantity of workshop space, tools and equipment to increase production.
- xi. The jewellers as evidenced in some associations must form co-operatives so that tools for example, must be imported in bulk at a lower price, and professional services accessed at a discounted price.

#### ***7.2.2 Suggestions made in the current thesis***

- xii. Considering the numerous litigations involved in acquiring land as outlined in the thesis, it is suggested that jewellers must do thorough investigations before they make any payments. The investigations on whether the land has already been allocated can be done at any Regional office of the Lands Commission.
- xiii. Even though hallmarking of precious metal jewellery is important, care must be taken in passing any legislation making hallmarking compulsory in Ghana since research has shown

that the country is not ready yet, because the industry is still regarded as an infant industry. There is no code of ethics on members of the trade which in the view of the researcher must supersede such legislation because without such a code jewellers might not feel morally guilty if they do not hallmark their products. A country like India, which is the highest consumer of jewellery in the world, has a voluntary hallmarking system in place. Ghana should follow suit because in India, where there is voluntary hall marking most of the jewellers are individual master goldsmiths just as pertains in Ghana. It will therefore be a laborious task to mark each piece of jewellery produced.

- xiv. Gold and other minerals mined in this country are exported in their raw state. There is therefore the need to encourage mining companies and other investors, whether local or foreign to set up gold refineries within their factories to meet the gold jewellers' requirements. The jewellers themselves can also set up small refinery units in their workshops to refine floor sweeping and other waste materials in their studio.
- xv. As can be seen in the thesis, the designs of Ghanaian jewellery products are limited. This has therefore made sales to decline in the industry in recent times. To be able to increase sales and

venture into export market therefore, it is recommended that world class designers need to be employed by Ghanaian jewellers who will help in improving the designs.

- xvi. More training schools in jewellery production have to be opened so as to produce the human resource requirement of the jewellery industry. Currently, there is the College of Jewellery at Weija, and the Metals section of the Department of Industrial Art, KNUST, that runs programmes in jewellery up to the MFA level.
- xvii. The laws on Apprenticeship, Vocational and Technical education must be enforced so as to ginger the youth to take interest in learning a trade including jewellery. The current law, Act 351 of 1970 legalised the establishment of the National Vocational Institute with a vision to improve upon capacity development, skill training and re-training and to set standards to control quality of skill training at the craft and secretarial levels. It has a mission to co-ordinate nationwide all aspects of vocational training including apprenticeship.
- xviii. Those Jewellery businesses that have not registered their businesses with the Registrar General's Department as legal corporate entities must do so. It is necessary for them to do so because, without that they may not be able to open bank



accounts in the name of their businesses and have access to the much needed capital to expand their businesses.

- xix. Research departments on the promotion and use of other metals in large scale jewellery production must be set up under the Industrial Research Institute of the CSIR, and the Metal Section of KNUST or any other institution so as to come out with current research findings in the industry. Current literature and research findings on the jewellery industry are very minimal if not almost nil, hence the suggestion about embarking on more researches.
- xx. Inspectors must enforce the laws on health and safety in the workplace. Section 75 to 77 of the Factories, Office and Shops Act of 1970 (Appendix E) empowers inspectors to carry out inspection in factories without any obstruction so as to make sure that the places are in a safe and healthy condition. Production staff must undergo regular medical check ups, at least two times in a year. This will keep them in good health for maximum production output.
- xxi. Stakeholders must produce a jewellery information handbook so that jewellers of Ghana will read and become acquainted with the modern production and marketing trends in the

industry. As in South Africa, it will be a reference book on the industry, in which both consumers and producers can consult.

xxii. There must also be the formation of a National Jewellery Council that will oversee the activities of the jewellery industry. As stated in the thesis, the council must operate along the lines of other councils like the Pharmacy Council, Medical and Dental Council or the Judicial Council that sees to regulate and register members in their sectors.

xxiii. There must also be established a Jewellery Marketing and Research Centre for people to go there and upgrade their knowledge. This centre could serve as a hive for jewellers to go periodically to learn latest trends in the industry. It should have a well stocked library and should be able to provide jewellers with information from both local and foreign buyers.

xxiv. In establishing of a jewellery firm, there must be a business plan which should take into consideration, the PESTLE analysis, i.e. the Political, Economic, Social, Technological Legal and the Environmental factors of the macro economy. This plan will position the company strategically, and it will have a vision and a mission. It will have a goal. The plan will show where the company is now, where it wants to be and how it wants to get there. It will also enable the company to plan properly and

match actual outputs with projected, and therefore investigate any variance.

- xxv. In the pricing of jewellery products, the formula for pricing the products as mentioned earlier could be used as a guide, but the product life cycle and value addition must also be taken into consideration.
- xxvi. Jewellers must undergo management training from time to time. This will enable them to expand their businesses since they will acquire skills that will make them handle the growth of the business. With proper management training they will be able to interpret the financial positions of their businesses.
- xxvii. Jewellery shops must encourage customers, especially tourists to use credit, cheque or electronic cards for the purchase of their jewellery. This is necessary because they will tend to buy more since they will not be paying immediately with physical cash.
- xxviii. As a way of increasing sales, jewellers can employ marketing and sales staff who will sell and canvass their jewellery from house to house, or door to door, especially week-ends and public holidays when most people are at home. Hawking of jewellery must also be encouraged. In this case, they should be paid commission on sales made so as to motivate them to work hard.

- xxix. Chimneys and extractor fans must be used to extract any gaseous material in the workshop since most of the gases may be poisonous. This step is necessary so as to keep smiths in good health.
- xxx. Finally, the use of the internet to source for latest information on the industry on production, sales and marketing is highly recommended.



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## GLOSSARY

1. ***Adinkra:*** they are traditional designs that have proverbial meanings.
2. ***Gye Nyame:*** it is a traditional adinkra design with the proverbial meaning “Except God”.
3. ***Kente:*** a colourful traditional cloth woven on a traditional loom.

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**APPENDIX A**  
**QUESTIONNAIRE FOR JEWELLERY PRODUCERS**

1. Name:  
(optional).....  
.....
2. Sex: (i) Male (ii) Female      Nationality: Ghanaian / Non - Ghanaian
3. Age: (25 – 40 years) (40 – 55 years) (above 55 years)
4. Location of Business: (i) Town.....(ii) Region: .....
5. Educational Background: (i)JSS/'O'level (ii)SSS/'A'level  
(iii)Tertiary (iv)other
6. Form of ownership (i ) Sole proprietor (ii) Partnership (iii) Limited Liability (iv) Other (please specify)  
.....
7. Is the business registered with the Registrar General's Department?  
(i)Yes (ii)No
8. If yes, when .....If No,  
why.....
9. Nature of Business: (i) Retailing (ii) Wholesaling (iii) Manufacturing  
(iv) Exporting
10. How long have you been working at this present location? (i) 0–5years  
(ii) 5<sup>+</sup> - 10 years (iii) 10 years and above
11. How long has the business been in existence? (i)0–5yrs (ii)5<sup>+</sup>-10yrs  
(iii)10 years and above
12. What products does the company produce? (i) Beads (ii) gold  
jewellery (iii) brass  
(iv) Costume (v) Silver jewellery (vi) other
13. Are the company's current premises adequate? Yes / No
14. If No, does the company have plans of moving in to bigger facilities?  
Yes / No

15. If Yes, what factors would be taken into consideration in relocating?  
 (i) Nearness to market (ii) Nearness to Utilities (iii) Size of new premise  
 (iv) Infrastructure Development (v) other
16. Do family members hold any positions in the business? (i) Yes (ii) No
17. If yes, what positions? (i) Management (ii) Sales (iii) Production (iv) Other.
18. How did you raise the initial capital to start the business?  
 (a) From own savings locally (b) Travelled abroad (c) Loan from friends (d) loan from bank (e) loan from family (f) gift from family (g) grant from government (h) loan from government (i) sale of own/family property (j) other sources (specify) .....
19. How did you acquire your tools and equipment?  
 (i) Through middlemen locally  
 (ii) By importation  
 (iii) Locally obtained
20. Are they second hand or new ones.....
21. What percentage of your tools and equipment are imported?  
 (i) 0 – 25% (ii) 25 – 50% (iii) 50 – 75% (iv) 75 – 100%
22. What percentage of your tools and equipment are locally made?  
 (i) 0 – 25% (ii) 25 – 50% (iii) 50 – 75% (iv) 75 – 100%
23. Did you have any problems in acquiring your tools and equipment?  
 Yes / No  
 If yes, what was the nature of the problem?  
 (i) Difficult to get right type of tools  
 (ii) Exorbitant prices  
 (iii) Suppliers credit difficult to get  
 (iv) Banks unwilling to pre-finance without collateral  
 (v) Difficulty in locating tools dealers  
 (vi) Other.....  
 .....



24. What is the current system of operation or production process?  
(a) capital intensive (b) labour intensive.
25. What problems do you encounter during the manufacturing process of your jewellery? .....
26. How are the problems solved?  
.....
27. How do you design your jewellery?
- (i) Copying from catalogue
  - (ii) Relying on customer's description of item
  - (iii) Copying of other products
  - (iv) Does not design
  - (v) Commissions a designer
  - (vi) Other
- .....
28. Do you face any problems in the designing of your jewellery? Yes / No
29. What is the nature of the problem, and how is it solved?  
.....
30. What problems do you face during the finishing stage of your jewellery? .....
31. How do you check the quality of your products, and what problems do you encounter, and how are they solved? .....
32. How are production losses controlled? .....
33. How do you check pilfering in the workshop? .....
34. What practices do you have in place for tools and equipment maintenance? .....
35. Does the company have an employee benefit plan? Yes /No
36. If Yes, please give details .....
37. Does the company have a medical care plan? Yes /No
38. If Yes, please give details .....
39. Does the company have an employee bonus plan? Yes / No

40. If Yes, please give details .....
41. Does the Company have a Board in place? Yes / No
42. If Yes, how often do they meet? .....
43. Are Board decisions implemented? Yes / No
44. If No, please give reasons .....
45. Do you have a management team in place? Yes / No
46. Are management decisions implemented? Yes / No
47. If No, please give reasons .....
48. Does the Company have an Organizational Chart? Yes / No
49. If No, please give reasons .....
50. Does the Company have a Business Plan? Yes / No
51. If No, please give reasons .....
52. Is there any training programme in place for staff? Yes / No
53. If No, please give reasons .....
54. How many employees are in the company?  
(a) 1-5 (b) 6-10 (c) 11-15 (d) 15-20 (e) 20+
55. How many are employed in the production unit? .....
56. Of the production staff, how many are females? .....
57. Of the production staff, how many are skilled? .....
58. Of the production staff, how many are unskilled? .....
59. Does the company give equal opportunity to females as males?  
Yes / No
60. If No, please give reasons .....
61. Do you have a production Supervisor or Foreman? (i) Yes (ii) No
62. Do you have any problems with your production labour?  
(i) Yes (ii) No
63. What is the nature of the problem, and how was it solved? .....
64. What are the major raw materials you use in the production of your jewellery?  
(i) Gold  
(ii) Silver

- (iii) Brass
  - (iv) Copper
  - (v) Broken Glasses
  - (vi) Scrap Metal
  - (vii) Other.....
65. How do you get your raw materials?
- (i) Local sources
  - (ii) Imported by own company
  - (iii) From local middlemen
66. Do you have any problems in the acquisition of raw materials?
- (i) Yes (ii) No
67. What is the nature of the problem? .....
68. Does the company have substitutes for it's raw materials? Yes / No
69. Is the company registered with the Ghana Standards Board? Yes /No
70. If No, please give reasons .....
71. Which of the following utilities does the company have access to?
- (Please tick)
- Electricity, Water, Telephone, Fax, E-Mail, Internet, Gas, Access  
Road, Others (please specify) .....
72. Are there any problems in accessing utility? Yes / No
73. If Yes, what is the nature of the problem? .....
74. Has the company undertaken any Environmental Impact assessment?
- Yes / No
75. If No, please explain .....
76. Is the company aware of the current laws relating to environmental protection? Yes / No
77. Does the company export? Yes /No
78. If No, what are the constraints?
- (i) Lack of interested
  - (ii) Products not designed for export
  - (iii) Low production level

- (iv) Satisfied with local sales
- (v) Other.....
79. If Yes, to what countries? .....
80. Are sales seasonal? Yes / No
81. If yes explain. ....
82. Are you able to produce to meet demand? Yes / No
83. If No, please give reasons
- (i) Lack of capital
- (ii) Lack of production staff
- (iii) Orders unrelated
- (iv) Orders produced per piece
- (v) Other.....
84. What is the distribution channel of your products? (Please tick)
- Manufacturer – Wholesaler – Retailer – Consumer
- Manufacturer –Wholesaler - Consumer
- Manufacturer – Retailer - Consumer
- Wholesaler – Retailer – Consumer
- Manufacturer – Consumer
- Wholesaler – Consumer
- Retailer - Consumer
85. How does the company price its products? (Please underline)
- Based on production cost – Accountant’s approach
- Based on design – Value satisfaction
- Based on competitor’s price – The trader’s approach
- Based on Market demand – Economist’s approach
86. Does the company keep financial records? Yes / No
87. Does the company prepare Audited Accounts? Yes / No
88. Is it easy for the business to obtain Loan or Credit? Yes / No
89. If No, please give reasons. ....
90. Does the business operate a bank account? Yes / No
91. If No, please explain .....

92. Does the Business prepare Budgets? Yes / No
93. If No, please give reasons.....
94. Does the company employ the services of consultants? Yes / No
95. If Yes, in what areas. If No, please  
explain.....
96. Is the business Insured against Fire & Burglary? Yes / No
97. If No, please give  
reasons.....
98. Is the company a member of any of the following? (Please underline)
- Federation of Ghanaian Jewellers
- Ghana Bead Society
- Ghana Gold & Silversmiths Association
- Federation of Association of Ghanaian Exporters
- Association of Ghana Industries
- Ghana National Chamber of Commerce Industry & Agriculture
- Empretec Business Forum
- .....
99. Is the company registered with any of the following? (Please underline)
- Internal Revenue Service
- VAT Service
- SSNIT
- Any other (please specify)
- .....
100. If Yes, please cite examples and  
explain.....
101. Has the company participated in any local Trade Fairs or Exhibitions?  
Yes / No
102. If Yes, what was the response? .....
103. If No, please give reasons  
.....

104. Has any government legislation hampered the growth and smooth operation of your business? Yes / No
105. Has the company participated in any foreign Exhibitions? Yes / No
106. If Yes, what were your impressions .....
107. If No, please give reasons .....
108. What motivated you to start your own business? .....
109. Generally, what do you think are the major and minor problems facing the industry? .....
110. How can the problems be solved? .....
111. Are solutions already underway? .....
112. Can the problems be totally solved? Yes / No
113. If Yes, how? .....
114. If No, why? .....
115. What internal forces (from both the industry and the nation) militate against the welfare and expansion of the industry? .....
116. How can they be surmounted? .....
117. What external forces (from outside the industry, and outside the country) militate against the industry? .....
118. Do you have any other comments or suggestions that will help improve upon the jewellery industry in Ghana? .....



**APPENDIX B**  
**QUESTIONNAIRE FOR JEWELLERY CUSTOMERS**

1. **Name of customer**  
(optional).....
2. **Location** (i) City/Town.....(ii)  
Region.....
3. **Sex:** Male / Female
4. **Age:** (below 18-25years) (25-40 years) (40-55years)  
(above 55 years)
5. **Profession:**.....
6. **Educational Background** ( ) illiterate( ) Secondary( ) Tertiary  
( ) other (specify) .....
7. What type of jewellery products do you normally buy?  
( ) gold ( ) silver ( ) other (specify).....  
( ) locally produced ( ) imported
8. For how long have you been buying jewellery products?  
0-2 years 2-5 years 5-10 years 10-15 years 15-20 years 20+ years
9. What is your purpose for buying jewellery?  
( ) to adorn the body ( ) as a present ( ) for future investment  
( ) to resell  
( ) wedding ( ) engagement ( ) presentation to baby( ) other (specify)
10. Are you a regular customer of any jewellery company or jeweller?  
( ) Yes ( ) No If yes why do you prefer a particular jeweller, or  
company?
  - (i) Because of location
  - (ii) Because of after sales facilities and repairs
  - (iii) Because of its image
  - (iv) Because of speed and efficiency of staff
  - (v) Because of the price charged

- (vi) Because of product quality
- (vii) Because of high level of formality
11. What do you think about the prices of Ghanaian locally produced jewellery?  
☐ very high ☐ high ☐ average ☐ low  
 specify type of jewellery.....
12. What do you think about the prices of imported jewellery?  
☐ very high ☐ high ☐ average ☐ low  
 specify type of jewellery.....
13. Does the price influence your choice of purchase? Yes / No
14. If Yes, how?.....
14. What do you think about the quality of jewellery produced in Ghana?  
☐ Excellent ☐ Very good ☐ Good ☐ Fair ☐ Poor
15. Does the quality influence your type of purchase? Yes / No
16. What do you think about the designs of the jewellery produced in Ghana?  
☐ Excellent ☐ Very good ☐ Good ☐ Fair ☐ Poor
17. How do you grade the services of the jewellers and jewellery companies you have visited?  
☐ Excellent ☐ Very good ☐ Good ☐ Fair ☐ Poor
18. If not so good, how do you think the jewellers or companies can improve upon their services? .....
19. Are you satisfied with the attitude of the sales staff of jewellery companies?  
 Yes / No
20. If No, Why? .....
21. If Yes, what do you like about their services? .....
22. Are you satisfied with the packaging of jewellery products? Yes /No
23. If No, Why? .....
24. If Yes, what do you like about the packaging? .....

25. Have you been following any advertisement of the jewellery companies? Yes/No
26. If No, Why.....
27. If Yes, what do you like about the advertisement? .....
28. Does advertising influence your mode of purchasing? Yes / No
29. In your view, do you think that religion (Christianity, Islam) or our culture has any influence on your jewellery purchase? Yes / No
30. In your view, do you think that our culture has any influence on your jewellery purchase? Yes / No
- If Yes, please explain .....
31. What are your impressions about Ghanaian jewellery companies in general? .....
32. Do you have any suggestions to help Ghanaian jewellers and producers improve upon their products and services? .....



**APPENDIX C**  
**QUESTIONNAIRE FOR EMPLOYEES IN JEWELLERY FIRMS**

1. Age: (below 25years) (25 – 40 years) (40 – 55 years) (above 55 years)
2. Sex: (a) Male (b) Female
3. Educational Background:  
(i) JSS/'O'level (ii) SSS/'A'level (iii)Tertiary (iv) Other
4. Marital Status: (a) Single (b) Married (c) Divorced
5. Number of children: (a) 1 (b) 2 (c) 3 (d) 4 (e) 5+
6. How long have you been employed here?  
(a)1-5 (b) 6-10 (c)11-15 (d)15-20 (e) 20+
7. What department are you in?  
(a) Administration (b) Sales (c) Production (d) Other
8. What type of task do you perform .....
9. Are you a full-time /part-time worker?
10. Are you satisfied with your job? Yes / No
11. If No why.....
12. Do you have a contract of employment? Yes / No
13. How many hours do you work a day?  
(a) – 8hours (b) 8 hours (c) 8 hours +
14. Are you satisfied with your pay? Yes / No
15. If No give reasons.....
16. Do you receive any other incentives apart from your pay? Yes / No
17. Are you a family member? Yes / No
18. Do you intend leaving the job soon? Yes / No
19. If Yes why.....
20. Have you had any training since you were employed here? Yes / No

**APPENDIX D**  
**QUESTIONNAIRE FOR APPRENTICES IN JEWELLERY FIRMS**

1. Age: (below 18years) (18 – 25 years) (25 – 30 years) (above 30 years)
2. Sex: (a) Male (b) Female
3. Educational Background:  
(i) JSS/'O'level (ii) SSS/'A'level (iii)Tertiary (iv) Other
4. How long have you been an apprentice here?  
(a)-1 year(b)1year(c) 2years(d)3 years(d)4years(e)5years(f)5years +
5. Why did you decide to be an apprentice?  
(a) school drop out (b) interested in learning a trade  
(c) did not have opportunity for formal education  
(d) parents decided for me (e)other
6. What is the relationship between you and your master?  
(a)Excellent (b)Very good (c)Good (d)Fair (e)Poor
7. Do you receive any allowances? Yes / No
8. If yes, is it regular? Yes / No
9. Are you satisfied with the training here? Yes / No
10. What are your plans after your apprenticeship?  
(a) set up own workshop (b) look for a job (c) work with my master

## APPENDIX E

### FACTORIES, OFFICES AND SHOPS ACT, 1970

Abstract of the Factories, Offices and Shops Act, 1970 in the Form prescribed by the Minister responsible for Labour (L.I. 654 of Gazette No. 69 of 20<sup>th</sup> August 1970)

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#### ABSTRACT

**1. REGISTRATION OF FACTORIES-** Every person who occupies a factory on 1<sup>st</sup> April, 1970 must apply to the Chief Inspector of Factories within one month for its registration. A Certificate of Registration will then be issued, (*Section 2.*)

Where a factory is first occupied after 1<sup>st</sup> April, 1970 application for registration, must be made to the Chief Inspector before work in the factory begins. A Certificate of Registration will then be issued (*Section 3.*)

**2. NOTIFICATION OF ACCIDENTS-** Where an accident in a factory causes the death of a person employed therein or prevents him from earning full wages at his work for more than three days the occupier of the factory must immediately send full particulars of the accident to the Chief Inspector or the Inspector for the district.

If the person injured should subsequently die of his injuries, the occupier of the factory should immediately send written notice of the death to the Inspector for the district (*Section 10*)

**3. NOTIFICATION OF DANGEROUS OCCURENCES-** All cases of explosion, fire, collapse of buildings, accidents to machinery, or plant likely to cause risk of serious injury to employees, collapse, overturning or failure of cranes, derricks, winches, hoists, etc., and bursting of a revolving vessel, wheel, grindstone or grinding wheel occurring in a factory must be immediately reported by the occupier to the Inspector for the district.

(*Section 11*)



**4. NOTIFICATION OF INDUSTRIAL DISEASES-** All cases of poisoning, anaemia jaundice and certain other specified diseases must be immediately reported by the occupier to the Inspector for the district.

*(Section 12)*

**5. CLEANLINESS-** Every factory must be kept clean. In particular, accumulations of dirt and refuse must be removed daily from floors and benches and from staircases and passages. The floor of every workroom must be cleaned at least once a week, and all inside walls, partitions and ceilings must (a) if they have a smooth impervious surface be washed with hot water and soap or cleaned by other suitable method every 12 months, or (b) if kept painted with oil paint or varnished, be repainted or re-varnished every five years and washed with hot water and soap every 12 months, or (c) in other cases be whitewashed or colour-washed every 12 months.*(Section 13)*

**6. OVERCROWDING-** A factory must not be overcrowded. There must be in each workroom at least 400 cubic feet of space for every person employed not counting space more than 14 feet from the floor. Workrooms must be at least 9 feet high. *(Section 14)*

**7. VENTILATION-** Adequate ventilation of all workrooms must be secured by the circulation of fresh air. Where dust or fumes are present which are likely to be harmful, or where any substantial quantity of dust is given off, all practicable measures must be taken to prevent the workers from inhaling it, and where it is practicable localised exhaust ventilation must be provided and maintained.*(Section 15 and 23)*

**8. WASHING FACILITIES-** Adequate and suitable washing facilities must be provided and kept clean for the use of all employees. *(Section 16)*

**9. LIGHTING-** There must be suitable and sufficient lighting, either natural or artificial, in every part of the factory, where persons are working or passing. (*Section 17*)

**10. DRAINAGE OF FLOORS-** Where wet processes are carried on there must be adequate drainage of the floor. (*Section 18*)

**11. SANITARY ACCOMMODATIONS-** Sufficient and suitable sanitary conveniences, separate for each sex, must be provided and kept clean. (*Section 19*)

**12. DRINKING WATER-** An adequate supply of wholesome drinking water must be provided. If the water is not a piped supply it must be kept in suitable vessels and renewed daily and all practicable steps to prevent contamination. (*Section 20*)

**13. ACCOMMODATION FOR CLOTHING-** Adequate and suitable accommodation for clothing not worn during working hours must be provided. (*Section 21*)

**14. SITTING FACILITIES-** Employees who have opportunities for sitting in the course of their work must be provided with suitable seats. (*Section 22*)

**15. TAKING OF MEALS-** No person shall be allowed to take food or drink in any room where dust or fumes caused by any poisonous or otherwise injurious substance are present. (*Section 24*)

**16. PROTECTIVE CLOTHING-** Suitable protective clothing must be provided for workers in any process involving excessive exposure to wet, or to any injurious or offensive substance. This protective clothing may include gloves, footwear, goggles or head coverings as may be necessary. (*Section 25*)

**17. PROTECTION OF EYES-** In certain specified processes goggles or other effective screens must be provided to protect the eyes of workers.

Where electric arc welding is carried on the process must be screened so as to prevent persons (other than the persons engaged in the welding process) being exposed to the electric arc flash. (*Section 25*)

**18. NOISE AND VIBRATIONS-** Noise and vibrations likely to affect the health of employees must be reduced as far as possible by appropriate and practicable measures. (*Section 26*)

**20. FIRST AID-** In every factory there must be provided for every 150 persons employed a first aid box or cupboard, of a prescribed standard, containing only first aid requisites, and in charge of a responsible person who must always be readily available during working hours. A notice must be displayed in the premises stating the name of the person in charge of the box or cupboard. (*Section 28*)

**21. PREVENTION OF FIRE-** Every factory must have adequate means of fighting fire, which shall be kept in good condition and so placed as to be readily available for use. All stocks of highly inflammable substances must be kept in a fire resisting store or in a safe place outside the building. (*Section 31*)

**22. FIRE ALARMS-** Where more than 20 persons are employed in one building, or where explosive or highly inflammable substances are stored or used in any building in which persons are employed, fire alarms or other effective warning devices clearly audible throughout the building must be installed, maintained in good condition and thoroughly tested every 3 months by a competent person. (*Section 32*)

**23. SAFETY PROVISIONS IN CASE OF FIRE-** There must be adequate means of escape for all workers in case of fire, which shall be kept from obstruction. Contents of rooms must be arranged to give a free passageway to the means of escape and while persons are inside the factory all doors affording a means of exit must not be fastened in such manner that they cannot be immediately opened from inside. In the case of new factories, all doors affording a means of exit must either open outwards or be sliding doors. All means of escape in case of fire must be clearly marked by a suitable notice. Effective steps must be taken to ensure that all persons employed are familiar with the means of escape and the routine to be followed in case of fire. (*Section 33*)

**24. CONSTRUCTION OF FLOORS, ETC., AND PRECAUTIONS AGAINST FALLS-** Floors, passages, gangways, steps, stairs and ladders must be of sound construction and properly maintained. Handrails must be provided for stairs and openings in floors must be fenced so far as the nature of the work permits. So far as is reasonably practicable there must be provided (i) safe means of access to every place at which any person has at any time to work, and (ii) fencing or other means for ensuring the safety of any person who is to work at a place from which he could fall more than eight feet and which does not provide secure foothold and, where necessary, secure handhold. Sufficient clear and unobstructed space must be maintained at every machine in motion to enable the work to be done without risk. (*Section 34/35*)

**25. TRAINING AND SUPERVISION-** No person shall be employed at any machine or in any process likely to cause him injury unless he has been fully instructed as to the dangers likely to arise and the precautions which he must take, and he has received sufficient training or is under adequate supervision. (*Section 36*)

**26. CLEANING OF MACHINERY-** No woman or young person shall be allowed to clean any part of a machine if they would thereby be exposed to risk or injury from any moving part of that machine or any adjacent machinery. No woman or young person shall be allowed to clean any part of a prime mover or of any transmission machinery while the prime mover or transmission machinery is in motion. (*Section 37*)

**29. NEW MACHINES-** New power driven machines must not be sold, let on hire, or used unless certain specified parts are effectively guarded.  
(*Section 41*)

**35. PRECAUTION AGAINST GASSING OR SUFFOCATION-** Special precautions are laid down for working in confined spaces where men are liable to be overcome by dangerous fumes or where the supply of air may be insufficient. (*Section 48*) Further precautions will be laid down in safety regulations made under section 51 of the Act, and such precautions must be strictly observed.

**36. PRECAUTIONS AGAINST EXPLOSION OF INFLAMMABLE DUST OR GAS-** Precautions against explosion are laid down for certain process and for welding or soldering on containers which have held any explosive or inflammable substance. (*Section 49*)

**41. INSPECTION-** Factory Inspectors have power to inspect every part of a factory by day or by night. They may require the production of registers, certificates and other papers. They may question any person found in the factory, either alone or in the presence of any other persons they think fit, and may exercise such other powers as are necessary for carrying the Act into effect, including the taking of samples for analysis. It is an offence to obstruct an Inspector in the execution of his duties. (*Section 77*)

## **APPENDIX F**

### **ACT 651 LABOUR ACT, 2003**

#### **PART III – PROTECTION OF EMPLOYMENT**

##### **Rights of employer**

8. Subject to this Act and any other enactment the rights of an employer include the right to

- (a) employ a worker, discipline, transfer, promote and terminate the employment of the worker.;
- (b) formulate policies, execute plans and programmes to set targets;
- (c) modify, extend or cease operations; and
- (d) determine the type of products to make or sell and the prices of its goods and services.

##### **Duties of employers**

9. Without prejudice to the provisions of this Act and any other enactment for the time being in force, in any contract of employment or collective agreement the duties of an employer include the duty to

- (a) provide work and appropriate raw materials, machinery, equipment and tools
- (b) pay the agreed remuneration at the time and place agreed on in the contract of employment or collective agreement or by custom without any deduction except deduction permitted by law or agreed between the employer and the worker;
- (c) take all practicable steps to ensure that the worker is free from risk of personal injury or damage to his or her health during and in the course of the worker's employment or while lawfully on the employer's premises.
- (d) develop the human resources by way of training and retraining of the workers



- (d) provide and ensure the operation of an adequate procedure for discipline of the workers.
- (e) provide and ensure the operation of adequate procedure for discipline of the workers.
- (f) furnish the worker with a copy of the worker's contract of employment;
- (g) keep open the channels of communication with the workers and
- (h) protect the interests of the workers

### **Rights of a worker**

- 10.** The rights of a worker include the right to
- (a) work under satisfactory, safe and healthy conditions;
  - (b) receive equal pay for equal work without distinction of any kind;
  - (c) have rest, leisure and reasonable limitation or working hours and period of holidays with pay as well as remuneration for public holidays;
  - (d) form or join a trade union;
  - (e) be trained and retrained for the development of his or her skills; and
  - (f) receive information relevant to his or her work.

### **Duties of workers**

- 11.** without prejudice to the provisions of this Act, the duties of a worker in any contract of employment or collective agreement, include the duty to
- (a) work conscientiously in the lawfully chosen occupation;
  - (b) report for work regularly and punctually;
  - (c) enhance productivity;
  - (d) exercise due care in the execution of assigned work;
  - (e) obey lawful instructions regarding the organization and execution of his or her work;
  - (f) take all reasonable care for the safety and health of fellow workers;
  - (g) protect the interests of the employer; and

(h) take proper care of the property of the employer entrusted to the worker or

### **Contract of employment**

**12.** (1) The employment of a worker by an employer for a period of six months or more or for a number of working days equivalent to six months or more within a year shall be secured by a written contract of employment;

(2) a contract of employment shall express in clear terms the rights and obligations of the parties;

### **Written statement of particulars of contract of employment**

**13.** Subject to the terms and conditions of a contract of employment between an employer and a worker, the employer shall with two months after the commencement of the employment furnish the worker with a written statement of the particulars of the main terms of the contract of employment in the form set out in Schedule 1 to this Act signed by the employer and the worker.

### **Sub-Part not applicable to family concerns**

**32.** This sub-Part does not apply to a person employed in an undertaking in which only members of the family of the employer are employed.

## **PART XV – OCCASIONAL HEALTH, SAFETY ENVIRONMENT AND ENVIRONMENT**

### **General health and safety conditions**

**118.** (1) It is the duty of an employer to ensure that every worker employed by him or her works under satisfactory, safe and healthy conditions.

(2) without limiting the scope of subsection (1) an employer shall

(a) provide and maintain at the workplace plant and system of work that are safe and without risk to health

(b) ensure the safety and absence of risks to health in connection with use, handling, storage and transport of articles and substances;

(b) provide the necessary information, instructions, training and supervision having, storage and transport of article and substances;

© provide the necessary information, instructions, training and supervision having regard to the age, literacy level and other circumstances of the worker to ensure, so far as is reasonably practicable, the health and safety at work of those other workers engaged on the particular work.

(d) take steps to prevent contamination of the workplaces by, and protect the workers from, toxic gases, noxious substances, vapours, dust, fumes, mists and other substances or materials likely to cause risk to safety or health;

(e) supply and maintain at no cost to the worker adequate safety appliances, suitable fire-fighting equipment, personal protective equipment, and instruct the workers in the use of the appliances or equipment;

(f) provide separate, sufficient and suitable toilet and washing facilities and adequate facilities for the storage, changing, drying and cleansing from contamination of clothing for male and female workers;

(g) provide adequate supply of clean drinking water at the workplace; and

(h) prevent accidents and injury to health arising out of, connected with, or occurring in the course of, work by minimizing the causes of hazards inherent in the working environment.

(3) It is the obligation of every worker to use the safety appliances, fire-fighting equipment and personal protective equipment provided by the employer in compliance with the employer's instructions.

(4) an employer shall not be liable for injury suffered by a worker who contravenes subsection (3) where the injury is caused solely by non-compliance by the worker.

(5) An employer who, without reasonable excuse, fails to discharge any of the obligations under subsection (1) or (2) commits an offence and is liable on summary conviction to a fine not exceeding 1000 penalty units or to imprisonment for a term not exceeding 1000 penalty units or to imprisonment for a term not exceeding 3 years or to both.

#### **Exposure to imminent hazards**

**119.** (1) When a worker finds himself or herself in any situation at the workplace which she or he has reasonable cause to believe presents an imminent and serious danger to his or her life, safety or health, the worker shall immediately report this fact to his or her immediate supervisor and remove himself or herself from the situation.

(2) an employer shall not dismiss or terminate the employment of a worker or withhold any remuneration of a worker who has removed himself or herself from a work situation which the worker has reason to believe presents imminent and serious danger to his or her life, safety or health.

(3) any employer shall not require a worker to return to work in circumstances where there is a continuing imminent and serious danger to the life, safety or health of the worker.

#### **Employer to report occupational accidents and diseases**

**120.** an employer is required to report as soon as practicable and not later than seven days from the date of the occurrence to the appropriate government agency, occupational accidents and diseases which occur in the workplace.

#### **Specific measures**

**121.** The Minister may by legislative instrument make Regulations providing for specific measures to be taken by employers to safeguard the health and safety of workers employed by them.

## **Mediation**

**154.** (1) Subject to the time limit in respect of essential services, if the parties fail to settle a dispute by negotiation within seven days after the occurrence of the dispute either party or both parties by agreement may refer the dispute to the Commission and seek the assistance of the commission for the appointment of a mediator.

(2) Where the Commission is satisfied that the parties have not exhausted the procedures established in the collective agreement or have not agreed to waive those procedures, the Commission shall order the parties to comply with those procedures within such time as the Commission may determine.

(3) When the Commission is satisfied that

(a) the parties have exhausted the procedures established in the collective agreement;

(b) the parties have failed to settle the dispute; and

(c) none of the parties has sought the assistance of the Commission to appoint a mediator.

the Commission shall request the parties to settle the dispute by mediation within three days of the Commission becoming aware of the non-resolution of the dispute.

(4) Where the parties agree to mediate and at the end of the mediation proceedings there is settlement of the dispute, the agreement between the parties as regards the terms of the settlement be recorded in writing and signed by the mediator and the parties to the dispute.

(5) The settlement agreement referred to in subsection (4) shall be binding on all the parties unless the agreement states otherwise.

(6) When at the end of a mediation proceedings, no agreement is reached, the mediator shall immediately declare the dispute as unresolved and refer the dispute to the Commission.

(7) When at the end of a mediation proceeding, no agreement is reached, the mediator shall immediately declare the dispute as unresolved and refer the dispute to the Commission.

### **Voluntary arbitration**

**157.** (1) when mediation fails under section 154 (6) and the dispute is referred to the commission, the Commission shall with the consent of the parties refer the dispute to an arbitrator or an arbitration panel appointed under section 156.

(2) The parties to an industrial dispute shall, within three days after the appointment of an arbitrator or an arbitration panel under section 156, submit to the arbitrator in writing a statement of the issues or questions in disputes signed by one or more of the parties or their representatives.

(3) the arbitrator shall as soon as possible appoint a time and place for the hearing and notify the parties.

(4) If any party fails to appear before the arbitrator after the expiration of seven days after being so notified, the arbitrator shall proceed to hear and determine the dispute.

### **Arbitrator award**

**158.** (1) The decision of the arbitrator or a majority of the arbitrator shall constitute the award and shall be binding on all the parties.

(2) The arbitrator shall communicate the award in writing to the parties and the Commission within seventy-two hours after the award has been made except where the Commission is the arbitrator.

(4) In a compulsory arbitration, the decision of the majority of the arbitrators shall constitute the award and shall be binding on all the parties.



## APPENDIX G

### RELEVANT SECTIONS OF COMPANY'S ACT (ACT 179) OF 1963

14. After the commencement of this Code a company shall be formed in a manner following, that is to say,

(a) there shall be delivered to the Registrar for registration a copy of the proposed Regulations of the Company complying with sections 16 to 18 of this Code;

(b) unless, in the opinion of the Registrar,

(i) the Regulations do not comply with this Code;

(ii) the objects for which the company is being formed of the business which it is to carry on, or any of them are unlawful;

(iii) any of the subscribers to the Regulations is an infant or of unsound mind; or

(iv) any of the directors named in the Regulations is under section 182 of this Code, incompetent to be appointed a director,

The Registrar shall register the said Regulations;

(c) upon registration of the Regulations, the Registrar shall certify under his seal that the company is incorporated and, in the case of a limited company, that the liability of its members is limited;

(d) from the date of registration mentioned in the certificate of incorporation, the company shall be a body corporate by the name contained in the Regulations and, subject as provided in sections 27 and 28 of this Code, be capable forthwith of exercising all the functions of an incorporated company;

(e) the Registrar shall insert a notice in the *Gazette* stating the issue of such certificate and the terms thereof;

(f) the certificate of incorporation, or a copy thereof, certified as correct under the hand of the Registrar, or the *Gazette* containing the notice referred to in paragraph (e) of this section, shall be conclusive evidence that the company has been duly registered and incorporated under this Code and

no proceedings shall be brought in any Court to cancel or annul such registration Provided that nothing in this paragraph contained shall prejudice the institution of proceedings to wind up the company in accordance with section 247 of this Code.

(5) If the Registrar is of the opinion that by reason of any change in the objects of, or the nature of the business carried on by a company the name under which it is registered is misleading or undesirable, the Registrar may

*Part D: Commencement of Business*

**27.** (1) A company registered after the commencement of this Code shall not transact any business, exercise any borrowing powers, or incur any indebtedness, except such as shall be incidental to its incorporation or to obtaining subscriptions to or payment for its shares, until it has delivered to the Registrar a return in duplicate in the prescribed form giving particulars, as at the date of the return, of,

- (a) its name;
- (b) its authorized business, or, if the company is not formed for the purpose of carrying on a business, the nature of its objects;
- (c) the names and any former names, addresses and business occupations of its directors and secretary, and particulars of any other directorships held by them, as provided by section 196 of this Code;
- (d) the name and address of its auditor;
- (e) the addresses of its registered office and principal place of business in Ghana and the number of the post office Box of its registered office;
- (f) if its register of members is kept and maintained elsewhere than at the registered office of the company, the address at which it is kept;

(3) The return shall be signed by two directors and by the secretary of the company

(4) The Registrar shall register the said return and cause a copy thereof to be published in the *Gazette*.

**28.** (1) A company limited by shares registered after the commencement of this Code shall not transact any business, exercise any borrowing powers, or incur any indebtedness, except such as shall be incidental to its incorporation or to obtaining subscriptions to or payment for its shares, until,

(a) there has been paid to it for the issue of its shares consideration to the value of at least five hundred pounds of which at least one hundred pounds shall have been paid in cash within the meaning of section 45 of this Code; and

(b) the company has delivered to the Registrar for registration a declaration in the prescribed form verifying that such payments have been received.

(2) An existing company limited by shares shall not continue after the expiration of six months from the commencement of this Code to transact any business, exercise any borrowing powers, or incur any indebtedness unless,

(a) prior to the expiration of the six months and whether before or after the commencement of this Code, there shall have been paid to it for the issue of its shares consideration to the value of at least five hundred pounds of which at least one hundred pounds shall have been paid in cash within the meaning of section 45 of this Code; and

(b) the company has delivered to the Registrar for registration a declaration in the prescribed form verifying that such payments have been received.

(3) For the purposes of this section any value attributed to the goodwill of a business or to services rendered or to be rendered to the company shall not be regarded as valuable consideration for the issue of shares.

(4) The declarations referred to in subsections (1) and (2) of this section shall be signed by all the directors and by the secretary of the company.

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