

**DESIGN AND PRODUCTION OF COMMEMORATIVE CERAMIC MURAL OF
AFRICAN CUP OF NATIONS, GHANA -CAN2008**

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DEDICATION

I dedicate this project to my wife, Bridget Nyarko Gyimah and also my children Christabel, Kelvin and Chelsea.

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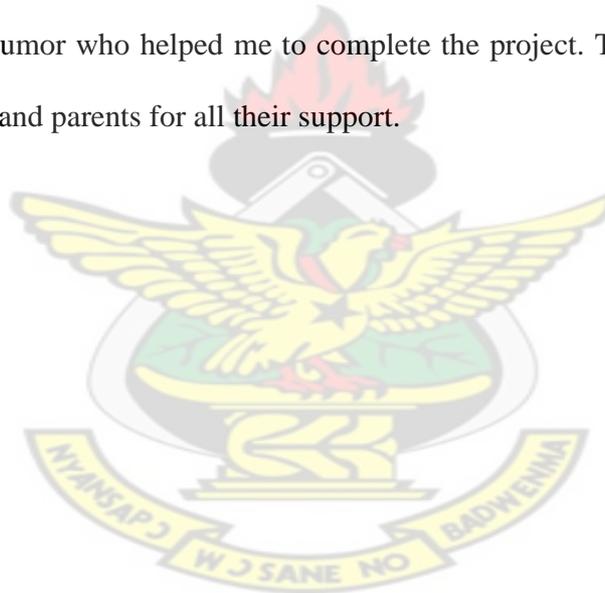


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God bless you.



ABSTRACT

Commemorative objects are objects meant to serve as memorial to someone or events. It is therefore logical that the most important events are remembered for what they are. Based on this fact, a ceramic mural has been made to commemorate the Africa Cup of Nations (Ghana 2008). Ceramic murals form an integral part of architecture. In modern times, they do not only perform the function of just aesthetics but they also educate. This project therefore, when erected at Baba Yara Sport Stadium, will decorate the place and also educate the public.

To achieve the objectives, attempts were made to come out with the appropriate drawings of scenes of activities of Africa Cup of Nations- Ghana 2008 event. After reviewing the related literature for the topic which was conducted through library studies, internet, reading of newspapers, the necessary tools and materials needed assembled. To also achieve a successful result for the main project, experiments were conducted in order to secure the appropriate clay and glazes. Tests for the clay included moisture absorption and linear shrinkage. For glazes, tests were done for the right colour and prevention of flaws. An acrylic paint and gold finger were finally used to finish the work in a unique style.

A Ghanaian traditional symbol (Adinkra) “funtunfunafu denkyem-funafu, won afuru bom nso worididi a na wore fom” has been repeatedly incorporated in the design of the mural to portray unity. It was also intended to preserve and promote the Ghanaian cultural Heritage. The extensive use of the photographs and illustrations is intended to educate people who wish to take up similar projects.

TABLE OF CONTENTS

Contents	page
Certification	i
Dedication	ii
Acknowledgement	iii
Abstract	iv
List of Plates	viii
List of Figures	x
List of Tables	xi
List of Appendices	xii
CHAPTER ONE:	
INTRODUCTION	
1.1 Background to the Study	1
1.2 Statement of the Problem	2
1.3 Research Objectives	3
1.4 Importance of Research	3
1.5 Definition of Terms	4
1.6 Abbreviation	5
1.7 Arrangement of Text	5
1.8 Scope of the Study	6
1.9 Facilities available	6
1.10 Limitations	7
CHAPTER TWO	
REVIEW OF RELATED LITERATURE	
2.1 Definition of Mural	8
2.2 Background History of Mural	9
2.3 Types of Mural	10
2.4 Background History of Africa Cup of Nation Tournament	12
2.4.1 Africa Cup of Nations	12
2.4.2 History	13

2.4.3 Qualification	17
2.4.4 Trophy	18
2.5 2008 Africa Cup of Nations	18
2.6 Profile of participating countries	19
2.7 How the countries qualified	27
2.8 Regulations for the tournament	33
2.9 Economic and social importance of CAN2008 tournament	36

CHAPTER THREE

METHODOLOGY

3.1 Library research	37
3.2 Experimental method	37
3.3 Observational method	38
3.4 Descriptive method	38
3.5 Tools and Materials	40
3.6 Clay composition, test and tiles preparation	41
3.7 Preparing the tiles (kneading & rolling of clay)	44
3.8 Temporary drying of slab	44
3.9 Beating of slabs	44
3.10 Cutting of the tiles to size using the template	45

CHAPTER FOUR

TECHNIQUES IN CERAMIC MURAL PRODUCTION

4.1 Designing a commemorative ceramic mural	46
4.2 Designs for the project	47
4.3 Production of Africa Cup of Nations (CAN2008) ceramic mural	51

CHAPTER FIVE:

RESULTS

5.1 Findings	60
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5.1.1 Inventory of items in the mural	60
5.1.2 Analysis	61
5.1.3 Interpretation of work	61
CHAPTER SIX:	
SUMMARY, CONCLUSION & RECOMMENDATIONS	
6.1 Summary	63
6.2 Conclusion	64
6.3 Recommendations	64
REFERENCES	65
APPENDIX 1	68
APPENDIX 2	69

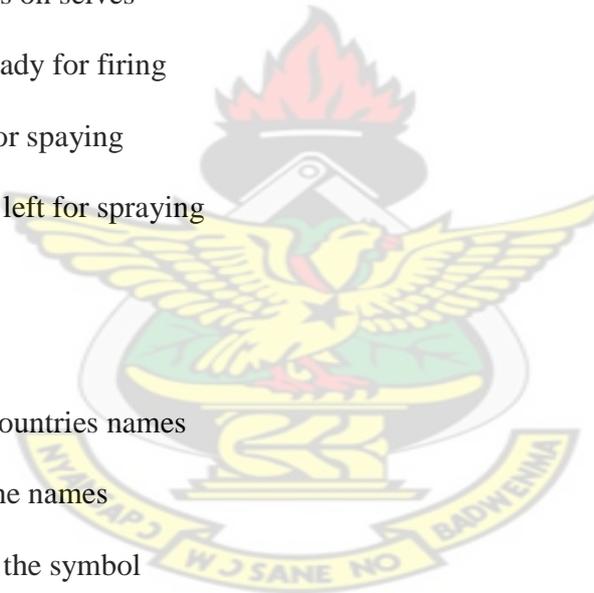


List Plates

	Page
Plate 1:1 Homage to Shigaraki-Ceramic	1
Plate: 2.1 Jataka tales from the Ajanta caves	9
Plate: 2.2 Oil Painted Mural	10
Plate: 2.3 Plaster reliefs by John Flaxman and John Felix Rossi	11
Plate: 2.4 Earthenware “painted” by Heber Matthews (1907-59)	12
Plate: 2.5 The “Black Stars” & Plate: 2.6 Ghana Flag	20
Plate: 2.7 The “Brave Warriors”& Plate: 2.8 Namibia Flag	20
Plate: 2.9 The “Syli Nationale”& Plate: 2.10 Guinea Flag	21
Plate: 2.11 The “Atlas Lions” & Plate: 2.12 Morocco Flag	21
Plate: 2.13 The “Eagles” & Plate: 2.14 Mali Flag	22
Plate: 2.15 The “Elephants”& Plate: 2.16 Cote D’Ivoire Flag	22
Plate: 2.17 The “Squirrel”& Plate: 2.18 Benin Flag	23
Plate: 2.19 The “Super Eagles”&Plate: 2.20 Nigeria Flag	23
Plate: 2.21 The “Indomitable Lions”& Plate: 2.22 Cameroun Flag	24
Plate: 2.23 The “Pharaohs”& Plate: 2.24 Egypt Flag	24
Plate: 2.25 The “Chipolopolo”& Plate: 2.26 Zambia Flag	25
Plate: 2.27 The “Nile Crocodile” & Plate: 2.28 Sudan Flag	25
Plate: 2.29 The “Palancas Negras & Plate: 2.30 Angola Flag	26
Plate: 2.31 The “Teranga Lions” & Plate: 2.32 Senegal Flag	26
Plate: 2.33 The “Bafana bafana”& Plate: 2.34 South Africa Flag	27
Plate: 2.35 The “Carthage Eagles” & Plate: 2.36 Tunisia Flag	27
Plate: 3.1 Kneading of clay	44

Plate: 3.2 Rolling of clay into slab	44
Plate: 3.3 Lumps of rolled clay ready for beating	44
Plate: 3.4 Slab of clay been beaten into tile	45
Plate: 4.1 Modeling the relief work on the tiles	53
Plate: 4.2 Doing the detailed work on the tiles	53
Plate: 4.3 Cutting through the figures on the tiles	54
Plate: 4.4 Separating the individual tiles	54
Plate: 4.5 Separated tiles	54
Plate: 4.6 Drying the tiles on selves	55
Plate: 4.7 Packed tiles ready for firing	55
Plate: 4.8 Marked tiles for spaying	56
Plate: 4.9 Covered areas left for spraying	56
Plate: 4.10 Sprayed tiles	56
Plate: 4.11 Glazed flags	57
Plate: 4.12 Tracing the countries names	57
Plate: 4.13 Cutting out the names	57
Plate: 4.14 Template for the symbol	58
Plate: 4.15 Template been hammered on tile	58
Plate: 4.16 Embossed symbol	58
Plate: 4.17 Bisque mural	59
Plate: 4.18 Painting of the mural	59
Plate: 4.19 Finished work	59

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Lists of Figures

	Pages
Figure 1: Sketch 1	48
Figure 2: Sketch 2	49
Figure 3: Sketch 3	49
Figure 4: Sketch 4	50
Figure 5: Final Sketch	50



List of Tables

	Page
Table 1: Group 1	28
Table 2: Group 2	29
Table 3: Group 3	29
Table 4: Group 4	29
Table 5: Group 5	30
Table 6: Group 6	30
Table 7: Group 7	30
Table 8: Group 8	31
Table 9: Group 9	31
Table 10: Group 10	31
Table 11: Group 11	32
Table 12: Group 12	32
Table 13: Best runners-up (groups 2-11)	32
Table 14: Linear shrinkage and Moisture absorption test conducted at 1050°C	42
Table 15: Linear shrinkage and Moisture absorption test conducted at 1100°C	42
Table 16: Summary of Moisture absorption percentage test result at 1050°C and 1100°C	43
Table 17: Summary of Linear shrinkage percentage test result at 1050°C and 1100°C	43

List of Appendices

	Page
Appendix 1: Some existing murals seen in Ghana (specifically Accra and Kumasi)	68
Appendix 2: The various clay deposits and reserves in Ghana	70

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

The word “mural” comes from the Latin word “murus” which means wall. Murals therefore, are any decoration done directly on a wall. History has revealed that mural painting began in the prehistoric era. Example of this can be seen in the Altamira in Spain and Lascaux in France. Mural art is seen and practiced all over the world. Painting murals are very popular compared to ceramic, sculptural and textile murals. Japan is particularly noted for producing and using ceramic murals in decorating their buildings.



Plate 1:1 Homage to Shigaraki-Ceramic. 8'9" x 24'6"
(The largest ever made glass glaze ceramic murals in the world, this piece was produced in Shigaraki, Japan).

In Japan, an entire building or an area could be decorated with ceramic mural. In Ghana, murals are used for decorative purposes as well as to keep records of activities within the environment. Murals are usually found on large public buildings or institutions, companies and hotels. These murals are usually paintings and those made in ceramics are few.

1.2 Statement of the Problem

Conventional murals use acrylics, oil colors and tempera for painting directly on walls but modern murals use varied materials be it wood, cement or clay.

A mural serves several functions, among these are:

- Murals are used for relaxation and pleasure. In some developed countries such as America and Europe, they serve as a backbone to fulfill the psychological and emotional needs of the people.
- Murals are also used as decorations for aesthetic purposes; this is so because of their artistic nature. They beautify the buildings on which they are found.
- Lastly, they also keep records of activities within the environment.

Appendix 1, shows existing murals seen in Ghana (specifically in Accra and Kumasi).

A look at various government and private buildings within the major cities in the country reveals less use of clay as a material for mural compared to cement, wood and oil paint for modern murals. Some of these materials either deteriorate with time or are also expensive. Mural paintings for instance, peel off with time because of the harsh weather conditions in Ghana. Also, prices of some materials such as cement and oil paint are not to be stable, these make the cost of producing cement and painting murals high whenever prices of such materials go up.

The basic raw material for ceramic mural is clay. Clay, which is usually abundant everywhere has the unique property of being easily fashioned into a variety of forms. After clay objects have been fired, they are fused into a hard and durable material and unless shattered, they can survive several thousand years of severe weather conditions. Clay objects have therefore helped to determine the existence of cultures that otherwise would be completely unknown.

Ghana is however blessed with numerous clay deposits. Kesses (1985) shows the various clay deposits and reserves in his book “Mineral and Rock resources of Ghana.” This is summarized in Appendix 2.

Ghana is a soccer nation and its people are so passionate with the game. In 2008, Ghana hosted Africa’s highest and most important football event (CAN2008). Activities of the tournament need to be recorded and preserved for posterity. It is upon this basis that the researcher wants to design and produce a ceramic mural for the CAN2008 Africa cup of nation’s tournament to record the events aesthetically with a permanent material like high fired clay.

1.3 Research Objectives

- To develop a design from the scenes of CAN2008 tournament
- To produce a commemorative ceramic mural for the CAN2008 event.
- To write an illustrative report of the project.

1.4 Importance of Research

The research is to promote, sustain and transmit the Country’s cultural heritage, as an artist and for that matter ceramic muralist, document various sceneries to depict some aspects of the social life, economic set-up, educational and cultural values and to educate the citizenry. Since murals play significant functions in the society as a means of spreading state propaganda and documenting history, the record of the events on the sport stadium wall will stimulate public awareness and serve as a historical fact for the incoming generations. Besides, one of the vital roles this mural is expected to play is its psychological and educational impact on the entire populace

to patronize the sports stadiums which are doted in the Regional Capitals of the Country.

The core of this project aside its historical, educational and cultural value is to add beauty to the architectural design and to aesthetically create the people's sense of appreciation of beauty. The project would be erected at the Kumasi Sports Stadium (Baba Yara).

1.5. Definition of Terms

The definitions were used in context with the project report:

Adinkra symbol	It is traditional representation in form, figure or anything to convey a message to those who come into contact to it.
Aesthetic	Something that relates to beauty.
Air bubbles	Small pockets of air trapped in clay.
Antique	Objects that have survived the olden times till now.
Bisque	Ceramic green wares which have been fired to earthenware temperature between 900-1000° C.
Clay	It is a type of the earth soil that is soft and sticky when wet and hardened when dry or fired.
Body composition	A mixture of different clays and other materials.
Design	A developing plan of an artwork.
Finishing	The surface treatment of ceramic ware.
Embossment	A technique of decorating or creating motifs on ceramic wares to give the work a raised surface or relief effect.
Firing	A process of making clay products permanent through heat in a kiln or in the open.

Grog	Hard fired clay which has been crushed and ground to powder added to clay to reduce shrinkage and to prevent cracking.
Kiln	Equipment used in firing ceramic wares.
Kneading	A technique of working on clay with the hand to remove air pockets.
Mural	Any piece of artwork done directly on wall, ceiling or other large permanent surface.
Semi abstract	Design or Idea which is almost realistic.

1.6 Abbreviation KNUST

MFA	Master of Fine Art
KNUST	Kwame Nkrumah University of Science and Technology
BRRI	Building and Road Research Institute
TCC	Technology Consultancy Centre
CFA	Confederation of African Football
CAN	Africa Cup of Nation
BCE	Before Common Era
CE	Common Era

1.7 Arrangement of the Rest of Text

Chapter one is the introductory chapter which deals with the statement of problem, objectives of study, important of the study, limitations, definition of terms, abbreviations used and arrangement the rest of the text. Chapter two is the review of related literature which deals with definitions, history of mural (ceramic) and African Cup of Nations (CAN2008).

The Third Chapter is the Methodology. It highlights and explains the various research methods, tools and materials and body composition and tests conducted in the study. Chapter Four looks at the exploitation and production of the ceramic mural. It describes the systematic procedures followed in creating the work. Chapter Five deals with the results that is, findings and analyses of the result. It reveals the inventory of items in the mural and interpretation of the work. Chapter Six, the final chapter entails the main findings of the study, summary, conclusion and recommendations. This chapter is followed by references.

1.8 Scope of the Study

The study focuses on the African Cup of Nations 2008 tournament and for that matter activity surrounding the event. The event had been chosen because it was hosted by Ghana, sixteen year since Ghana hosted the tournament in 1982.

1.9 Facilities Available

- Library -
 - 1.College of Art Library, KNUST, Kumasi
 2. KNUST Main Library, Kumasi
 3. Art Education Library, College of Art, KNUST
 4. BRRRI Library, Fomesua, Kumasi
 5. Personal Library
 6. Internet
- Studios -
 1. MFA Ceramic Studio at ceramic section, Dept of Industrial Art
 2. TCC Workshop, KNUST, Kumasi

1.10 Limitation of the Study

This work was constrained by a number of factors. Paramount to this is the lack of equipment such as test kilns at the Ceramics section in College of Art. Another limitation too was the fact that oxides and glazes, a major component of a ceramic project of this magnitude, were not readily available locally. Most of these oxides and glazes had to be imported from outside the country. However these constraints did not undermine the findings of the research.



CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Definition of Mural

The Longman Active Study Dictionary of English (1991) defines mural as “A painting which is painted on a wall”. The Cambridge International Dictionary of English (1995) also defines mural as “A large picture that has been painted on a wall of a room or a building”. The Pan English Dictionary (1980) defines a mural as “A painting on a wall or ceiling.” The Webster’s Third New International Dictionary Volume 2 defines a mural as “A picture applied to and made integral with wall surface. It also states that mural is a picture attached to and limited to a wall or cavity.”

The Webster Reference Dictionary (1971) states that mural is from a Latin word “Murus” which means “wall.” According to the Microsoft Encarta 96 “decoration of walls for aesthetic or didactic purposes is executed in any of several techniques. Murals are often used to decorate and they tend to be of large scale. They may portray religious, historic and patriotic themes significant to the public.”

All these definitions point to the fact that mural is closely linked to architecture and its decorative schemes. The word mural has come to have a wider meaning than the original wall painting. Mural is now done on a wide variety of surfaces. Indeed, these days, murals are done on wooden panels, canvas, metals, plastics, ceramics, and others mounted as wall installations. In her book, “Painting murals, Images, Ideas and Techniques”, Patricia Seligman says in her introduction that most art commentators agree that mural whether mosaic, collage, relief or even photograph is a work of art that is created for a particular site so that it is incorporated

into the architecture. In other words, the force of its surroundings influences its composition.

2.2. Background History of Murals

The interactive media encyclopedia (Encarta, 1995) says, a mural is an ancient art form found on walls of prehistoric caves, most notably in Lascaux cave in southern France, Altamira in Northern Spain and the Far East. During the pre-historic period, before any hunting was done, a drawing of the wounded animal was made on the walls of caves. Sometimes, the pre-historic men drew the animals and omitted some parts of the body such as the nose and the eyes. This they believed would deny the animal the ability to smell or see them when they go for hunting. The drawing also helped in the easy killing of the animals which made the primitive man to survive to the following day. These forms of mural were either engraved or painted using the fat from the animals and some colors obtained from tree barks and the soil. Scenes of hunting expeditions were painted in the walls of the caves not for aesthetic value but for spiritual influence on hunting.

In the Far East, mural painting began in China around 1700BC and spread to Korea. Between the 2nd and 7th century, a remarkable series of paintings on Buddhist Temples were done to cover the walls of caves in Ajanta and India.



Plate: 2.1: Jataka tales from the Ajanta caves, 200 BCE - 600 CE

Wall painting is one of the highly developed arts of ancient Egypt; the walls and ceiling of their tomb were decorated in tempera with figures and motifs signifying life and after death. The palace of Kuossos in ancient Crete was enhanced with brightly colored human figures and public edifices as well as private dwellings throughout ancient Greece were customarily decorated in tempera and encaustic; this tradition was carried on into the Hellenistic and Roman times or periods.

2.3 Types of Murals

A mural is determined by the method, technique and material of media used. The common one known includes painting, sculptural, mosaic, cement, textile, collage and ceramic. (Wikipedia-free encyclopedia, 2008)

Painting mural

Mural started as far back as the pre-historic era. This was given a high profile by the in the Renaissance period. They adapted the technique known as fresco. Canady (1980) asserts that “Fresco in one form or another has been employed since pre-historic time but reached its magnificent flowering in Italy in the fourteen, fifteen and sixteen centuries.

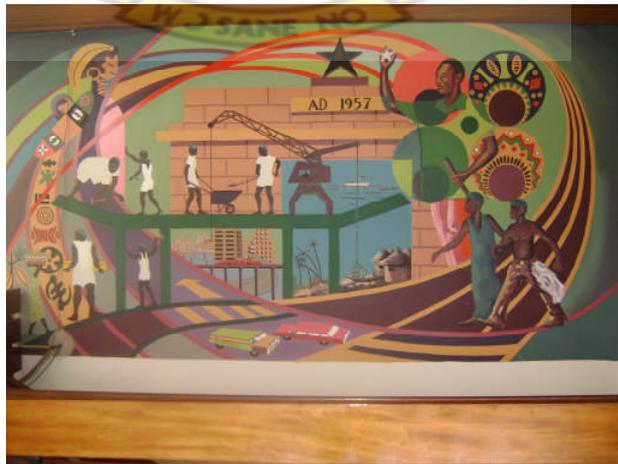


Plate: 2.2 Oil Painted Mural by unknown Artist Found in KNUST Great Hall lobby

Sculptural mural

Sculptural mural is a pictorial representation on a wall using relief techniques with any sculptural media like clay, cement, stone, plaster of Paris (P.O.P), among others. The figures can be directly modeled on to the wall or made in the form of panels and fixed to the wall. Swithenbank (1969) writing on traditional houses of the Ashanti portrays that figures and objects on Ashanti buildings are directly modeled on to the walls. He further espoused that murals are strongly modeled most commonly with a design made up of spirals, although there are variations. Sometimes however, some of the designs are represented in the form of birds, animals, leaf motifs, flowers, arrowheads and traditional symbols.



**Plate: 2.3: Plaster reliefs by John Flaxman and John Felix Rossi
Found in British Museum**

Ceramic mural

Ceramic murals are tiles or bricks designed with motifs or symbols. It can be in many shapes especially in basic geometric shapes like rectangle, triangle, circular, cylindrical, conical or half-spherical. It is either glazed or in terracotta and often installed to decorate interior and exterior walls, ceilings or floors of buildings. Ofori (1990) quoted that “Tiles manufactured for ceramic mural and other structural purposes have been in existence since the advent of man’s architectural life”

Furthermore, Bernard (1994) has stated that “ceramic murals are a form of art as old as the pyramids of Egypt. Pictures made of tiles and sculptured thousand years ago”. He also stated that “a tile with a design painted on it, cemented to a wall, becomes a mural decoration”.

Currently in modern Ghana, ceramic murals have assumed a wider dimension in the building industry. Notably in Accra and Kumasi, some public and private buildings are decorated with ceramic murals. Some of the places were mentioned in the introductory chapter. Ceramic murals are not very common in Ghana and in the world as a whole compared with painted or other murals. As a result much literature is not available on this topic.



**Plate: 2.4 Earthenware “painted” by Heber Matthews (1907-59)
Ceramic- found in British Museum**

2.4 Background history of African Cup of Nations Tournament

2.4.1 African Cup of Nations

The African Cup of Nations, also referred to as the African Nations Cup (ANC) is the main international football competition in Africa. It is sanctioned by the Confederation of African Football (CAF), and was first held in 1957. Since 1968, it has been held every two years in even numbered years. In 1957 there were only three participating nations: Egypt, Sudan and Ethiopia, South Africa was to compete, but was disqualified due to the apartheid policies of the then government in power. Since

that time, the number has grown to include almost every African nation, making it necessary to hold a qualifying tournament. The number of participants in the final tournament reached 16 in 1998 (16 teams were to compete in 1996 but Nigeria withdrew, reducing the number to 15), and since then, the format has been unchanged, with the sixteen teams being drawn into four groups of four teams each, with the top two teams of each group advancing to a "knock-out" stage.

The nation with the most cup wins is Egypt, with six, followed by Ghana and Cameroon, who have won four titles each. Three different trophies have been awarded during the tournament's history, with Ghana and Cameroon winning the first two versions to keep after each of them won a tournament three times. The current trophy was first awarded in 2002.

2.4.2 History

Early growth of the African Nations Cup competition

The origins of the African Nations Cup date back to June 1956, when the creation of the Confederation of African Football was proposed during the third FIFA congress in Lisbon. There were immediate plans for a continental nation's tournament to be held, and in February 1957, the first African Cup of Nations took place in Khartoum, Sudan. There was no qualification for this tournament, the field being made up of the four founding nations of CAF (Sudan, Egypt, Ethiopia, and South Africa). South Africa's refusal to send a multi-racial squad to the competition led to its disqualification and handed Ethiopia a bye straight to the final. As a result, only two matches were played, with Egypt being crowned as the first continental champion after defeating hosts Sudan in the semifinal and Ethiopia in the final. Two years later, Egypt hosted the second ANC in Cairo with the participation of these same three

teams. Host and defending champions Egypt repeated as cup winners, this time downing Sudan. BBC sport (2007)

The field grew to include nine teams for the third ANC in 1962 in Addis Ababa, and for the first time there was a qualification round to determine which four teams would play for the title. Host Ethiopia and reigning champion Egypt received automatic berths, and were joined in the final four by Nigeria and Tunisia. Egypt made its third consecutive final appearance, but it was Ethiopia that emerged as victors, after first beating Tunisia and then downing Egypt in extra time.

1960s: Ghanaian (Ghana as a force in the Tournament)

In 1963, Ghana made its first appearance as it hosted the event, and won the title after beating Sudan in the final. They repeated as champions two years later in Tunisia – equaling Egypt as two-time winners – with a squad that included only two returning members from the 1963 team. The 1968 competition's final tournament format expanded to include eight of the 22 teams entered in the preliminary rounds. The qualifying teams were distributed in two groups of four to play single round-robin tournaments, with the top two teams of each group advancing to semifinals, a system that remained in use for the finals until 1992.

The Democratic Republic of Congo won its first title, beating Ghana in the final. Starting with the 1968 tournament, the competition has been regularly held every two years in even numbered years. Cote d'Ivoire forward Laurent Pokou led the 1968 and 1970 tournaments in scoring, with six and eight goals respectively, and his total of 14 goals remains the all-time record for the event. The game was covered for television for the first time during the 1970 tournament in Sudan, as the host lifted the trophy after defeating Ghana – who was playing their fourth consecutive final.

1970s: A decade of champions

Six different nations won titles from 1970 to 1980: Sudan, Congo-Brazzaville, Zaire, Morocco, Ghana, and Nigeria. Zaire's second title in the 1974 edition (they won their first as the Democratic Republic of Congo) came after facing Zambia in the final. For the first and only time to date in the history of the competition, the match had to be replayed as the first contest between the two sides ended in a 2-2 draw after extra time. The final was re-staged two days later with Zaire winning 2-0. The forward player; Mulamba Ndaye scored all four of Zaire's goals in these two matches: he was also the top scorer of the tournament with nine goals, setting a single-tournament record that so far remains unequalled. Three months earlier, Zaire had become the first black African nation to qualify to the FIFA World Cup. Morocco won their first title in the 1976 ANC held in Ethiopia and Ghana took its third championship in 1978, becoming the first nation to win three consecutive titles. In 1980, Nigeria hosted the event and beat Algeria to capture its first honours.

1980s: Cameroonian and Nigerian domination

Ghana's fourth continental title came in the 1982 cup tournament; Ghana beat Algeria in the semifinals in extra time, and faced host Libya in the finals. The match ended in a 1-1 draw after 120 minutes and Ghana won by penalty shootout to become champions. Cameroon won their first title two years later by beating Nigeria and in the 1986 cup they faced Egypt – absent from the final since 1962 – with Egypt winning the title on penalty kicks. Cameroon reached its third consecutive final in the 1988 tournament and won their second championship by repeating their 1984 victory over Nigeria. In 1990, Nigeria lost once again as they made their third final appearance in four tournaments, this time falling to Algeria.

1990s: The Arrival of South Africa

The 1992 Cup of Nations expanded the number of final tournament participants to 12; the teams were divided into four groups of three, with the top two teams of each group advancing to quarterfinals. Ghanaian midfielder Abedi "Pelé" Ayew, who scored three goals, was named the best player of the tournament after his contributions helped Ghana reach the final; He was, however, suspended from that match and Ghana lost to Cote d'Ivoire in a penalty shootout that saw each side make 11 attempts to determine the winner. Cote d'Ivoire set a record for the competition by holding each of their opponents scoreless in the six matches of the final tournament (Gleeson, 1990).

The 12-team, three-group format was used again two years later, where the host Tunisia was humiliated by its first round elimination. Nigeria, who had just qualified to the World Cup for the first time in their history, won the tournament, beating Zambia, who a year before had been struck by disaster. Most of their national squad died in a plane crash while traveling to play a 1994 World Cup qualification match. Nigerian forward player Rashidi Yekini, who had led the 1992 tournament with four goals, repeated as the top scorer with five goals.

South Africa hosted the 20th ANC competition in 1996, marking their first ever appearance after a decade's long ban was lifted with the end of apartheid in the country and a failed attempt to qualify in 1994. The number of final round participants in 1996 was expanded to the current 16, split into four groups. However, the actual number of teams playing in the final was only 15 as Nigeria withdrew from the tournament at the final moment over security concerns. The Bafana Bafana won their first title on home soil, defeating Tunisia in the final. South African captain Neil Tovey became the first white player to raise the trophy.

The South Africans would reach the final again two years later in Burkina Faso, but were unable to defend their title, losing to Egypt who claimed their fourth cup win. The 2000 edition was hosted jointly by Ghana and Nigeria, who replaced the originally designated host Zimbabwe. Following a 2-2 draw game after extra time in the final, Cameroon defeated Nigeria on penalty kicks. In 2002, the Indomitable Lions became the first nation to win consecutive titles since Ghana did it in the 1960s. Again via penalty kicks, the Cameroonians beat first-time finalists Senegal, who also made their World Cup appearance later that year. Both finalists were eliminated in the quarter finals two years later in Tunisia, where the host won their first ever title, beating Morocco 2-1 in the final match. The 2006 tournament was also won by the host, Egypt, who reached a continental-record fifth title. The 2008 tournament was hosted by Ghana (Gleeson, 1990).

2.4.3 Qualification

Since the 1962 tournament, qualification matches have been held to determine the participants for the finals. From 1962 to 1990 the qualification matches were generally two-legged knockout ties, with the number of rounds depending upon the number of participants. From 1994 onwards teams attempting to qualify have been divided into groups, with teams playing each other on a round robin basis. Until 2006 the title holders and tournament hosts qualified for the finals automatically; from 2008 only the host nation qualifies automatically. The nature of the qualification groups varies from tournament to tournament. As of the 2008 tournament, qualification consisted of eleven groups of four teams and one group of three teams. Each group winner qualified, along with the three runners-up with the best records. BBC Sport. (2002).

2.4.4 Trophy

Throughout the history of the Nations Cup, three different trophies have been awarded to the winners of the competition. The original trophy, made of silver with a remarkable resemblance to the English League Cup, was the "Abdelaziz Abdallah Salem Trophy", which was named after the first CAF president, the Egyptian Abdelaziz Abdallah Salem. As the first winner of three Nations Cup tournaments, Ghana obtained the right to permanently keep the trophy in 1978.

The second trophy was awarded from 1980 to 2000, and it was named "Trophy of African Unity" or "African Unity Cup". It was given by the Supreme Council for Sports in Africa to the CAF prior to the 1980 tournament and it was a cylindrical piece with the Olympic rings over a map of the continent engraved on it. It sat on a squared base and had stylized triangular handles. Cameroons captain Rigobert Song had the singular honour of lifting the African Unity Cup for the last time in 2000. In 2001, the third trophy was revealed, a gold-plated cup designed and made in Italy. Cameroon, permanent holders of the previous trophy, was the first nation to be awarded the new trophy after they won the 2002 edition in Mali. Ghana, Egypt and Cameroun collectively share 14 Nations Cup victories. Egypt has won a record sixth Nations Cup title. Ghana and Cameroun have each won the title four times, with Ghana becoming the continent's first four-time champion in 1982 in Libya.

2.5 2008 Africa Cup of Nations tournament

The 26th Africa Cup of Nations tournament was hosted by Ghana from 20th January to 10th February 2008. Sixteen (16) teams or countries participated in the

tournament from four (4) cities (stadia) namely Accra, Kumasi, Sekondi and Tamale. In all thirteen (13) matches were played with goals.

Before the start of the tournament, as required by CAF two of Ghana's football stadia that is Baba Yara (Kumasi) and Ohene Gyan (Accra) had to be rehabilitated to meet the tournament standard, two new stadia namely Essipong (Sekondi) and Tamale were also to be constructed alongside other training pitches. In January 2007, the chairman of local organizing committee (LOC) Prof. K. K. Adarkwah announced that "funds were been sought for in developing some pitches" this includes Wesley College, Opoku Ware, and Paa Joe KNUST pitches (Boadu, 2007).

In March 2006, the demolition and rehabilitation of the Kumasi Sports Stadium to a 40,000 seat capacity started by a construction firm CONSAR limited. (Asare, 2006). The Essipong Sport Complex, a 20,000 seating capacity stadium was constructed by Shangai Constructing Group of China. It started in 2005 and completed in September 2007 (Otoo, 2006).

2.5.1 Profile of participating countries

Group A

1. Ghana

The Ghanaian team which was nicknamed "Black stars" was founded in 1957 and joined FIFA in 1958. The Black stars team has won four (4) successes since joining the Nations Cup namely 1963, 1965, 1978 and 1982 respectively. In CAN2008, the "Black stars" were coached by Claude LeRoy (France) and captained by John Mensah. They won Bronze or placed third in the tournament.



Plate: 2.5 The “Black Stars”



Plate: 2.6 Ghana Flag

2. Namibia

The Namibian team was founded in 1990 and joined FIFA in 1992. It was nicknamed “Brave Warriors”. In CAN2008 tournament, the team was coached by Ben Bamfuchile (Namibia). The team went out after the group stage.



Plate: 2.7 The “Brave Warriors”



Plate: 2.8 Namibia Flag

3. Guinea

The Guinean Team was founded in 1960 and joined FIFA in 1962. The team was nicknamed “Syli Nationale”. It was coached in the CAN2008 tournament by Robert Nouzaret (France). “Syli Nationale” has won the Amilcar Cabral Cup on five (5) occasions namely 1981, 1982, 1987, 1988 and 2005 respectively. They were the runners-up in 1976 Africa Nations Cup. It went out of the tournament at the quarter-final stage.



Plate: 2.9 The “Syli Nationale”



Plate: 2.10 Guinea Flag

4. Morocco

The Moroccan team was nicknamed “Atlas Lions”. It was founded in 1955 and joined FIFA in 1960. “Atlas Lions” has won the Africa Nations Cup once in 1976. It was coached in the Can2008 by Herni Michel (France) and went out of the tournament after the group stage



Plate: 2.11 The “Atlas Lions”



Plate: 2.12 Morocco Flag

Group B

5. Mali

The Malian team nicknamed “Eagles” was founded in 1960 and join FIFA in 1964. The “Eagles” have won Amilcar Cabral Cup on two occasions namely 1989 and 1997 respectively. The team was coached in the CAN2008 tournament by Jean-Francois Jodar (Mali) and Captained by Mohamadou Diarra. Mali went out after the group stage (first round).



Plate: 2.13 The “Eagles”



Plate: 2.14 Mali Flag

6. Cote D’Ivoire

The Ivoirian team was founded in 1959 and joined FIFA in 1964. The team was nicknamed “Elephants.” It won the African Cup of Nations in 1992. The “Elephants” were coached in CAN2008 by Uli Stielike (Germany) and placed fourth.



Plate: 2.15 The “Elephants”



Plate: 2.16 Cote D’Ivoire Flag

7. Benin

The Beninoir team was founded in 1962 and joined FIFA in 1964. It was nicknamed “Squirrels”. The “Squirrels” was coached in CAN2008 by Reinhard Fabisch and went out of the tournament after the group stage (first round).



Plate: 2.17 The “Squirrel”



Plate: 2.18 Benin Flag

8. Nigeria

The Nigerian team was nicknamed “Super Eagles”. It was founded in 1946 and joined FIFA in 1960. The “Super Eagles” has won the Africa Cup of Nations on two occasions namely 1980 and 1994. In the CAN2008 tournament, the “Super Eagles” was coached by Bertie Vogts and captained by Nwankwo Kano.



Plate: 2.19 The “Super Eagles”



Plate: 2.20 Nigeria Flag

Group C

9. Cameroun

The Camerounian team was founded in 1959 and joined FIFA in 1964. It was nicknamed “Indomitable Lions”. The Indomitable Lions has won the Africa Cup of Nations on four occasions namely 1984, 1988, 2000 and 2002 respectively. The team also won the Afro-Asian Cup in 2003, 2005, the CEMAC Cup in 1984, 1986, 1987, and 1989, the UDEAC Cup in 2000, Sydney Olympic Games Gold Medalists in 2000 and All Africa Games Gold Medalists in 1991, 1999, 2003 and 2007. In CAN2008,

the ‘Indomitable Lions’ was coached and captained by Otto Pfister and Rigobert Song respectively. The team placed second in the tournament.



Plate: 2.21 The “Indomitable Lions”



Plate: 2.22 Cameroun Flag

10. Egypt

The Egyptian team nicknamed the “Pharaohs of Egypt” was founded in 1921 and joined FIFA in 1923. The team has won the Africa Nations Cup on seven occasions namely 1957, 1959, 1986, 1998, 2006 and 2008. It also won the All Africa Games Gold Medals in 1987 and 1995. In CAN 2008, the “Pharaohs’ was coached by Hassan Shehata and captained by Ahmed Hassan. It won the 2008 tournament.



Plate: 2.23 The “Pharaohs”



Plate: 2.24 Egypt Flag

11. Zambia

The Zambian team was nicknamed “Chipolopolo”. The team was founded in 1929 and joined FIFA in 1964. “Chipolopolo” has chopped several successes. In 1977, 1998 and 2006, the team won the Cosafa Castle Cup; it also won the East & Central African Senior Challenge Cup in 1984, 1991, 2006. In CAN2008, Zambia

was coached by Patrick Phiri. The team went out of the tournament after the group stage.



Plate: 2.25 The “Chipolopolo”



Plate: 2.26 Zambia Flag

12. Sudan

The Sudanese team was nicknamed the “Nile Crocodile” and founded in 1936. It joined FIFA in 1948. The “Nile Crocodile” won the Africa Cup of Nations in 1970. It also won the East & Central African Senior Challenge Cup in 1980. In CAN2008, Sudan was coached by Mohamed Abdallah and got out of the tournament after the group stage (first round).



Plate: 2.27 The “Nile Crocodile”



Plate: 2.28 Sudan Flag

Group D

13. Angola

The Angolan football team was nicknamed the “Palancas Negras”. It was founded in 1979 and joined FIFA in 1980. The Black Panther has won the Cosafa Castle Cup on

three occasions namely 1999, 2001 and 2004. In CAN2008, the team was coached by Luis Oliveira Goncalves and got to the quarter-final stage.



Plate: 2.29 The “Palancas Negras”

Plate: 2.30 Angola Flag

14. Senegal

The “Teranga Lions” the nickname for the Senegalese team was founded in 1960 and joined FIFA in 1964. The team has the Amilcar Cabral Cup on seven occasions namely 1979, 1980, 1983, 1984, 1985, 1986, 1991 and 2001. In CAN2008, the “Teranga Lions” was coached by Henryk Kasprczak. The team was kicked out of the tournament after the group stage (first round).



Plate: 2.31 The “Teranga Lions”

Plate: 2.32 Senegal Flag

15. South Africa

The South Africa team was nicknamed “Bafana bafana”. The team was founded in 1882 and joined FIFA in 1924. “Bafana bafana” won the Africa Cup of Nations in 1996, the Cosafa Castle Cup in 2002 and the Afro-Asian Cup in 1999. At CAN2008

tournament, South Africa was coached by Carlos Alberto Parreira (Brazil). It got to the quarter-final stage.



Plate: 2.33 The “Bafana bafana”



Plate: 2.34 South Africa Flag

16. Tunisia

The Tunisia team was nicknamed “Carthage Eagles”. The team was founded in 1956 and joined FIFA in 1960. The “Carthage Eagles” won the Africa Cup of Nations in 2004. At CAN2008, Tunisia was coached by Roger Lemerre and captained by Riadh Bouazizi. It went out of the tournament after the group stage (first round).



Plate: 2.35 The “Carthage Eagles”



Plate: 2.36 Tunisia Flag

2.5.2 How the countries qualified

Forty seven (47) nations were divided into 11 groups of four teams and 1 group of 3 teams, with the 12 group winners and the best 3 runners-up from groups with four teams (originally groups 1-11, now groups 2-11 after the withdrawal of Djibouti from group 1) qualifying for the finals. Qualifying matches took place

between September 2, 2006 and October 13, 2007. The following CAF member national teams decided not to enter the African Nations Cup 2008 qualifying rounds.

Central African Republic Comoros
 Guinea-Bissau Somalia São Tomé and Príncipe

Table 1: Group 1

Team	Pts	Pld	W	D	L	GF	GA	GD
Côte d'Ivoire	10	4	3	1	0	13	0	+13
Gabon	7	4	2	1	1	6	5	+1
Madagascar	0	4	0	0	4	0	14	-14
Djibouti	0	-	-	-	-	-	-	-

On 17 August 2006, the Djibouti Football Federation announced that Djibouti was withdrawing from the qualifying tournament, without giving a reason. Djibouti withdrew prior to the start of qualification; all Djibouti matches were therefore cancelled. (BBC Sport, 2007)

- Djibouti v Côte d'Ivoire, 3 September 2006
- Madagascar v Djibouti, 8 October 2006
- Djibouti v Gabon, 25 March 2007
- Gabon v Djibouti, 3 June 2007
- Côte d'Ivoire v Djibouti, 17 June 2007
- Djibouti v Madagascar, 9 September 2007

Table 2: Group 2

Team	Pts	Pld	W	D	L	GF	GA	GD
Egypt	12	6	3	3	0	9	2	+7
Mauritania	7	6	2	1	3	9	10	-1
Burundi	7	6	2	1	3	6	8	-2
Botswana	7	6	2	1	3	3	7	-4

Table 3: Group 3

Team	Pts	Pld	W	D	L	GF	GA	GD
Nigeria	15	6	5	0	1	10	3	+7
Uganda	11	6	3	2	1	8	3	+5
Niger	4	6	1	1	4	5	11	-6
Lesotho	4	6	1	1	4	3	9	-6

Table4: Group 4

Team	Pts	Pld	W	D	L	GF	GA	GD
Sudan	15	6	5	0	1	13	4	+9
Tunisia	13	6	4	1	1	12	3	+9
Seychelles	4	6	1	1	4	3	14	-11
Mauritius	2	6	0	2	4	3	10	-7

Table 5: Group 5

Team	Pts	Pld	W	D	L	GF	GA	GD
Cameroon	15	6	5	0	1	13	4	+9
Equatorial Guinea	10	6	3	1	2	6	7	-1
Rwanda	6	6	2	0	4	10	11	-1
Liberia	4	6	1	1	4	6	13	-7

Table 6 Group 6

Team	Pts	Pld	W	D	L	GF	GA	GD
Angola	13	6	4	1	1	16	5	+11
Eritrea	9	6	2	3	1	5	8	-3
Kenya	7	6	2	1	3	6	7	-1
Swaziland	3	6	0	3	3	0	7	-7

Table7: Group 7

Team	Pts	Pld	W	D	L	GF	GA	GD
Senegal	11	6	3	2	1	12	3	+9
Mozambique	9	6	2	3	1	5	4	+1
Tanzania	8	6	2	2	2	4	7	-3
Burkina Faso	4	6	1	1	4	5	12	-7

Table 8: Group 8

Team	Pts	Pld	W	D	L	GF	GA	GD
Guinea	11	6	3	2	1	10	3	+7
Algeria	8	6	2	2	2	6	6	0
Gambia	8	6	2	2	2	6	6	0
Cape Verde	5	6	1	2	3	3	10	-7

Table 9: Group 9

Team	Pts	Pld	W	D	L	GF	GA	GD
Mali	12	6	3	3	0	10	1	+9
Benin	11	6	3	2	1	10	4	+6
Togo	9	6	3	0	3	7	9	-2
Sierra Leone	1	6	0	1	5	1	14	-13

Table 10: Group 10

Team	Pts	Pld	W	D	L	GF	GA	GD
Namibia	10	6	3	1	2	9	8	+1
Congo DR	9	6	2	3	1	8	6	+2
Libya	8	6	2	2	2	7	6	+1
Ethiopia	6	6	2	0	4	5	9	-4

Table 11: Group 11

Team	Pts	Pld	W	D	L	GF	GA	GD
Zambia	11	6	3	2	1	9	3	+6
South Africa	11	6	3	2	1	10	4	+6
Congo	7	6	1	4	1	5	6	-1
Chad	2	6	0	2	4	3	14	-11

Table 12: Group 12

Team	Pts	Pld	W	D	L	GF	GA	GD
Morocco	10	4	3	1	0	6	1	+5
Zimbabwe	4	4	1	1	2	4	5	-1
Malawi	3	4	1	0	3	2	6	-4

Table 13: Best runners-up (groups 2-11)

The best 3 runners-up from groups 2-11 who qualify for the finals.

Team	Pts	Pld	W	D	L	GF	GA	GD
Tunisia	13	6	4	1	1	12	3	+9
Benin	11	6	3	2	1	10	4	+6
South Africa	11	6	3	2	1	10	4	+6
Uganda	11	6	3	2	1	8	3	+5
Equatorial Guinea	10	6	3	1	2	6	7	-1
Congo DR	9	6	2	3	1	8	6	+2
Mozambique	9	6	2	3	1	5	4	+1
Eritrea	9	6	2	3	1	5	8	-3
Algeria	8	6	2	2	2	6	6	0
Mauritania	7	6	2	1	3	9	10	-1

2.5.3 Regulations for the tournament

The CAF tournament was guided by rules and regulations just like all tournaments organized by the mother body Federation Internationale de Football Association, or FIFA for short. The rules and regulations are commonly called “Laws of the Game.” They are as follows:

1. The Field

According to FIFA rules and regulations, the soccer field must be green, rectangular, and between 90 to 120 meters long; it must be between 45 to 90 meters wide and marked with the proper boundary lines. It must also have two goal posts, each 7.32 meters wide and 2.44 meters tall with one placed at either end of the playing area. www.Fifa.com

2. The Ball

The football used must be spherical and made of leather or an approved similar material. It must also have a circumference of 68 to 70 centimeters and weight between 410 to 450 grams. If the ball bursts during the course of a match, play is stopped, and the referee must introduce a new one. www.Fifa.com

3. The Players

Each team may have not more than 11 players (the goalkeeper and 10 others), and it may have no fewer than seven. Up to three substitutions may be made during the course of an official competition, and the players who will serve as the subs must be designated before the start of the game. Participating players must be wearing legal uniforms, including protective shin guards.

4. Length of the Match

Except on rare occasions, regulations call for a 90-minute match, evenly divided into two 45-minute halves. Like in most sports, there is a halftime break that lasts no longer than 15 minutes, and extra time may be added to make up for time lost during substitutions and injuries.

5. Coin Toss, Kickoff and Switching Sides

According to the rules and regulations, each match starts with a coin toss. The team that wins the toss chooses which goal to attack, while the other will take the start with the ball. In the second half, the team that won the coin toss will have the ball, and the two clubs will switch sides.

6. Scoring

Anytime a ball goes over one team's goal line, whether it goes fully into the net, it counts as a goal for the opposing team. The team that scores the most goals wins. If both teams end up scoring the same number of goals or none, the match is regarded as draw. 2007

7. The Goal

Although the width of the playing surface may vary, the goal itself must be exactly centered on the end-line. The distance between goal posts is 24 feet, and the crossbar is 8 feet high. The required depth of the goal is not specified, but most standard-size nets are set at least 6 feet back from the goal line.

8. The Penalty Area

The penalty area is also called the 18-yard box, or simply "the box," because it makes a rectangle that is 44 yards wide (along the end-line) and 18 yards long (extending into the field of play). If the referee whistles for a direct kick on a foul committed in the defending team's penalty area, the team whose player was fouled receives a penalty kick, which can be taken by any player on the field, not only the player who was fouled. The penalty area also marks the only portion of the field in which the goalkeeper may legally use his hands to control the ball. www.Fifa.com

9. The Goal Area

The Goal Area is a smaller rectangle inside the penalty area that is 20 yards wide by 6 yards long. Like the penalty area, the goal area extends onto the field of play from the end-line and is centered on the center of the goal. On goal kicks, the goalkeeper may place the ball anywhere in this rectangle before kicking it upfield.

10. The Penalty Spot

The penalty spot is a dot in the middle of the penalty area that is 12 yards from the goal line and directly aligned with the center of the goal. All penalty kicks including those in penalty shootouts must be taken from the penalty spot. During a penalty kick, the goalkeeper may move laterally on the goal line, but may not step forward onto the pitch.

11. Scoring a Goal

To score a goal in a football game, the entire ball must cross the entire goal line.

2.9 Economic and social importance of CAN2008 tournament

The tournament created both economic and social benefits for the country.

Some of these benefits are explained below:

1. The event created a lot of employment for the people especially Ghanaians. Examples are that “Zoomlion” (a sanitation Company) was contracted to clean all the stadia used for the tournament and also, various companies and individuals were involved in the manufacturing and sales of paraphernalia like T-shirts, flags, caps etc. for the tournament.
2. To meet the standard requirement to host the tournament, two existing stadia were renovated and two new stadia were also constructed.
3. Various Hotels, Motels and Guest houses were up-graded to meet the growing number of tourists coming in to the country.
4. Lastly, the tournament provided the social platform for cultural exchange among the participating countries.



CHAPTER THREE

METHODOLOGY

This chapter deals with the general research methods and procedures used to execute this project. Since this project is for the public place, several research methods were employed. Although there were several research tools, the researcher decided to use library research, experimental, descriptive and observational methods which seem appropriate. Macmillan and Schumacher (1998) stated that “research” is a relatively serious activity in the history of education. They define “research” as a systematic process of collecting and logically analyzing data for some purpose.

3.1 Library Research

The following libraries were used for the greater part of the information for this research. These are:

1. The Building and Road research Institute- Fomesua , Ashanti Region
2. KNUST Central library-Kumasi
3. College of Art library-Kumasi
4. Department of Art Education library- Kumasi
5. British Museum-UK

3.2 Experimental method

It is the type of research which seeks to describe what will be done when certain variable relationships are deliberately manipulated. Best John (1980) suggests that experimental research could be better explained by the following characteristics.

- Experimental research provides a systematic and logical method for answering a question.

- Experimental deliberately manipulates certain stimuli treatments or environmental conditions and observe how the conditions or behavior of the object is affected or changed. The researcher must be aware of other factors that could influence the outcome and remove or control them.
- Experimentation is the most sophisticated, exacting and powerful method of discovering and developing an organized body of knowledge.
- The immediate purpose of experimentation is to predict events in experimental settings.
- The ultimate purpose is to generalize the variable relationship so that they may be applied outside the laboratory or classroom setting to a wider population of related interest.
- After the experimentation, there is a need to describe the processes, analyze the results, interpret them and document what has been done by writing illustrated report on the project.

3.3 Observational Method

Observational research method involves the researcher or researchers making observations. There are many positive aspects of the observational research approach. These are usually flexible and do not necessarily need to be structured around a hypotheses. For instance, before undertaking more structured research may conduct observations in order to form a research question. This is called descriptive research. Trochim (2008) states that “validity is the best available approximation to the truth of a given proposition, inference, or conclusion”.

3.4 Descriptive method

The Descriptive method on the other hand involves collection of data or information in order to test a hypothesis or a question, concerning the current status of

objects, event, persons etc. Such studies determine and report on the way things are, what is there or what will happen. Sanuders, et al (1994) describes “descriptive studies as having characteristics that distinguish it from other research studies. Descriptive research therefore is the primary concern with portraying the present”.

According to Best and Kahn (1998) descriptive method is non experimental. Thus the researcher does not manipulate variables or arrange for events to happen as in the experimental research. It deals with what has already taken place or is taking place. This is highlighted from the points below.

- It involves description, recording, analyzing and interpretation of existing condition.
- It is non experimental, for it deals with the relationship between non manipulative variables in a natural rather than artificial setting. Since the events of conditions have already occurred or existed.
- It makes no attempts to manipulate variables but to compare and contrast and attempts to discover relationships between non-manipulate variables. Its concern is to either describe and interpret existing relationship, attitudes, practices, processes and trends or compare variable.
- It concerns formulation and testing of hypothesis and development of generalizations.
- It uses the logical methods of inductive-deductive reasoning to arrive at generalization; that is identification and definition of problem, formulation verification, rejection or modification of the hypothesis by the test of its consequences in a specific situation and drawing conclusion.

- It provides clues for subsequent research that is more specific and aims to solve a problem. These two methods complemented each other in the course of carrying out the project and documenting it.
- Description of the whole procedure involved an attempt to write an illustrated report on the project.

3.5 Tools and Materials and Equipment

Tools and Materials play a major role in executing any art work. To achieve this purpose a selection of tools and materials were considered.

Sack board: Wooden board lined with a jute sack on which clay slab is rolled

Guide sticks: Two sticks of an inch thickness used in guiding the rolled clay slab

Scraper: A metal tool with a wooden handle used in cutting the edges of the tiles

Plywood template A square wooden plate measuring 8x8 used in cutting the tiles to the same shape and size

Rolling pin: A cylindrical wooden pin used for rolling clay slab

Cutting wire: A wire used in slicing the slump clay into pieces to prevent air bubbles

Shelves: A wooden platform used for drying the tiles

Kiln: Equipment used for firing the tiles

Brushes: They were used in cleaning particles of clay from the slabs while working and also to paint glazes on the clay tiles

Knife: These are used for cutting the background designs on the tiles

Spatula: A wooden tool of various shape used for modeling in clay.

Fork: This was used for scouring the surface of the tiles for slip application

Concrete table: A concrete table used for beating the tiles

Heavy stick: This is used for beating the tiled into size

Pug mill: A machine used to blend clay and grog into workable consistency

Foam Synthetic sponge for cleanup of excess slip and finishing slice work or leather hard slab work.

3.6 Clay composition, test and tiles preparation

The clay from Mfensi; popularly known for its plasticity was mixed with grog for the project. Grog is a useful constituent because it can offset one of the limitations of clay as a material. Ron Warring (1974) says “the addition of grog to a clay body makes it possible to produce thicker sections which will not crack although it detracts from the quality and appearance of the clay”. The project was for outdoor; tests for shrinkage and moisture absorption were carried out.

Ceramic mural as defined in the related literature of this project talks of the making of art work for the wall using clay. Ceramic mural therefore comprises of raw materials and finish products as well as the methods of production. This chapter explores various techniques used in achieving an appreciable result. Since the tiles were going to be placed outside, its moisture absorption was very important.

Table 14: Linear shrinkage and Moisture absorption tests conducted at 1050°C

Mfensi clay 90%
Grog 10%

SAMPLE	WET LENGTH	DRY LENGTH	FIRED LENGTH	DIFFERENCE	FIRED WEIGHT	SOAKED WEIGHT
1	5	4.8	4.65	0.4	33.2	39
2	5	4.9	4.7	0.3	32.6	39.6
3	5	4.9	4.7	0.3	31.5	40
4	5	4.8	4.6	0.4	32.8	40.1
5	5	4.8	4.6	0.4	32.4	38.9
6	5	4.8	4.6	0.4	31.6	40
7	5	4.8	4.6	0.4	31.6	38.8
8	5	4.8	4.6	0.4	31.4	40.1
9	5	4.9	4.7	0.3	32.5	39.1
10	5	4.7	4.5	0.5	30.8	40.8
AVERAGE	5	4.8	4.63	0.38	30.2	39.5

Table 15: Linear shrinkage and Moisture absorption test conducted at 1100°C

Mfensi clay 90%
Grog 10%

SAMPLES	WET LENGTH	DRY LENGTH	FIRED LENGTH	DIFFERENCE	FIRED WEIGHT	SOAKED WEIGHT
1	5	4.8	4.6	0.2	34	41
2	5	4.8	4.5	0.3	33	40
3	5	4.8	4.5	0.3	33	41
4	5	4.8	4.5	0.3	33	40.1
5	5	4.8	4.5	0.3	33	38.9
6	5	4.8	4.5	0.3	34	40
7	5	4.8	4.6	0.2	31	38.8
8	5	4.8	4.5	0.3	31	40.1
9	5	4.8	4.5	0.3	32	39.5
10	5	4.8	4.5	0.3	31	40.8
AVERAGE	5	4.8	4.52	0.28	32.5	40

In calculating the moisture absorption the fired samples at the various temperatures were weighed and recorded. They were then placed in boiling water for about an hour and allowed to cool. The samples were removed and excess water wiped and their weight recorded.

$$\text{Moisture Absorption} = \frac{\text{soaked weight} - \text{fired weight}}{\text{Soaked weight}} \times 100$$

Therefore, at 1050°C the

$$\text{Moisture Absorption} = \frac{39.5 - 30.2 \times 100}{39.5} = \frac{9.2 \times 100}{39.5} = \frac{920}{39.5} = 23.3\%$$

At 1100°C the

$$\text{Moisture Absorption} = \frac{40 - 32.5 \times 100}{40} = \frac{7.5 \times 100}{40} = \frac{750}{40} = 18.75\%$$

Table 16: Summary of Moisture absorption percentage test result at 1050°C and 1100°C

Moisture Absorption test conducted on clay body at different temperatures

Temperature °C	Average Fired weight(gm)	Average Soaked weight(gm)	%Moisture Absorption
1050	30.2	39.5	23.3%
1100	32.5	40	18.75%

Table 17: Summary of Linear shrinkage percentage test result at 1050°C and 1100°C

At 1050 $\frac{4.7 - 4.63 \times 100}{4.7} = 1.48\%$

At 1100 $\frac{4.8 - 4.52 \times 100}{4.8} = 5.8\%$

3.7 Preparing the tiles (kneading and rolling of slabs)

The clay was kneaded into balls. With the help of sack board, guide sticks and a rolling pin, the clay slabs were prepared. The slabs were cut to the measurements of 8' x 8' and exposed to room temperature to reach the leather hard stage.



Plate: 3.1 Kneading of clay



Plate: 3.2 Rolling of clay into slab

3.8 Temporary drying of slabs

After cutting the slabs, they are put on the shelves to gradually dry. Occasionally, they are turned upside down to effect even drying and also to prevent warping. This is done for about two (2) days.



Plate: 3.3 Lumps of rolled clay ready for beating

3.9 Beating of slabs

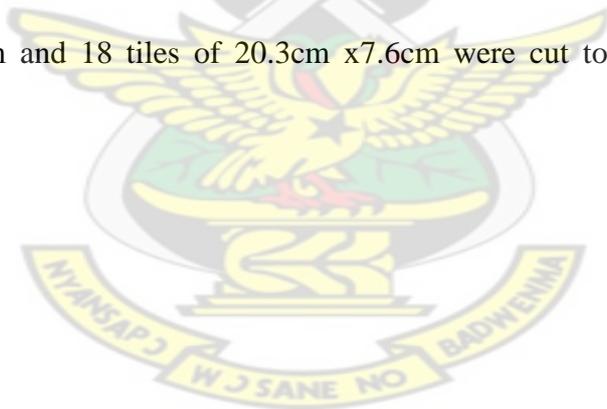
At the leather-hard stage, a flat wooden stick was use to beat the slabs one after the other on a concrete floor. This is to render the clay particles more compact and also remove any air bubbles trapped in clay to avoid breaking during firing. To have an even thickness the slab is placed between two guide sticks and beaten. This is done both sides of the slab from one end to another.



Plate: 3.4 Slab of clay been beaten into tile

3.10 Cutting of tiles to size using the template

After beating the tiles to the require thickness, they were cut to the measurement of 20.3cmx20.3cm. This is done by placing a wooden board of the same measurement on each tile and cut along the edges of the board with a scrapper. In all 108 tiles of 20.3cmx20.3cm and 18 tiles of 20.3cm x7.6cm were cut to an angle used for the project.



CHAPTER FOUR

TECHNIQUES IN CERAMIC MURAL PRODUCTION

Ceramic mural as defined in the related literature of this project discusses the making of tiles using clay. Ceramic mural therefore comprises of raw materials and finished products as well as the methods of production. This chapter deals with exploring various techniques used in achieving an appreciable result.

4.1 Designing a commemorative ceramic mural

In the work of art, design can never be left out. The word 'design' originated from the Latin word 'designare' which means to mark out a way or process of developing a plan or scheme. A design can be generated from the mind, imaginative drawing or model from the surroundings. This means that a design is basically a layout plan of action that is made by the artist and also the systematic way in solving a problem or executing an idea.

Designing therefore is a creative process or activity that involves translating an idea conceived by the mind into tangible form through the use of suitable tool/tools, medium/media and technique/techniques. Marshall (1984) stated that there are four basic principles of design namely: proximity, alignment, repetition and contrast. These principles are the fundamentals for every designer. In ceramics, designing is not only exceptional but the concepts or activities involves creativity just as in all disciplines of art. The idea of the design could be inspired from natural objects, daily activities, themes, imagination and so on which is then developed into a composition as in the case of the researcher's mural project. However, certain factors were considered when designing a ceramic mural.

These are shown as follows:

- In designing or making a ceramic mural, an appropriate theme is selected. A theme like the African Cup of Nations, 2008 in this case helps to explore the activities and style needed to accomplish the work.
- Designs for ceramic mural must be simple and bold. The design can be realistic, abstract or semi-abstract; this can be redeveloped to suit the selected subject and the appropriate technique.
- The design concepts must be developed based on elements and principles of design. This is to say that the interplay of lines, shapes and textures must be done in conformity to design principles such as rhythm, balance, repetition, harmony, variety and proportion to obtain good result of high aesthetic value.
- It is also important for the mural artist to bear in mind the types of media, tools and techniques to be used when designing a mural. This will help the designer to modify his or her subject or theme to suit the selected media and techniques. It will also help to limit problems that are encountered during production.
- The design is usually for public consumption therefore the design should be able to meet their standard of aesthetic appeal. Simplicity and harmony of the design is very essential.
- Finally, there is the need for the design to educate the public.

4.2 Designs for the project

The researcher came out with both realistic and abstract designs of some activities of the football game to compose an imaginative composition for the project. The sketches generated by the researcher involved objects relating to the

CAN2008 tournament which included the trophy, football players, flags/ names of participating countries e.t.c. the following were the various designs redeveloped for the project.

Sketches

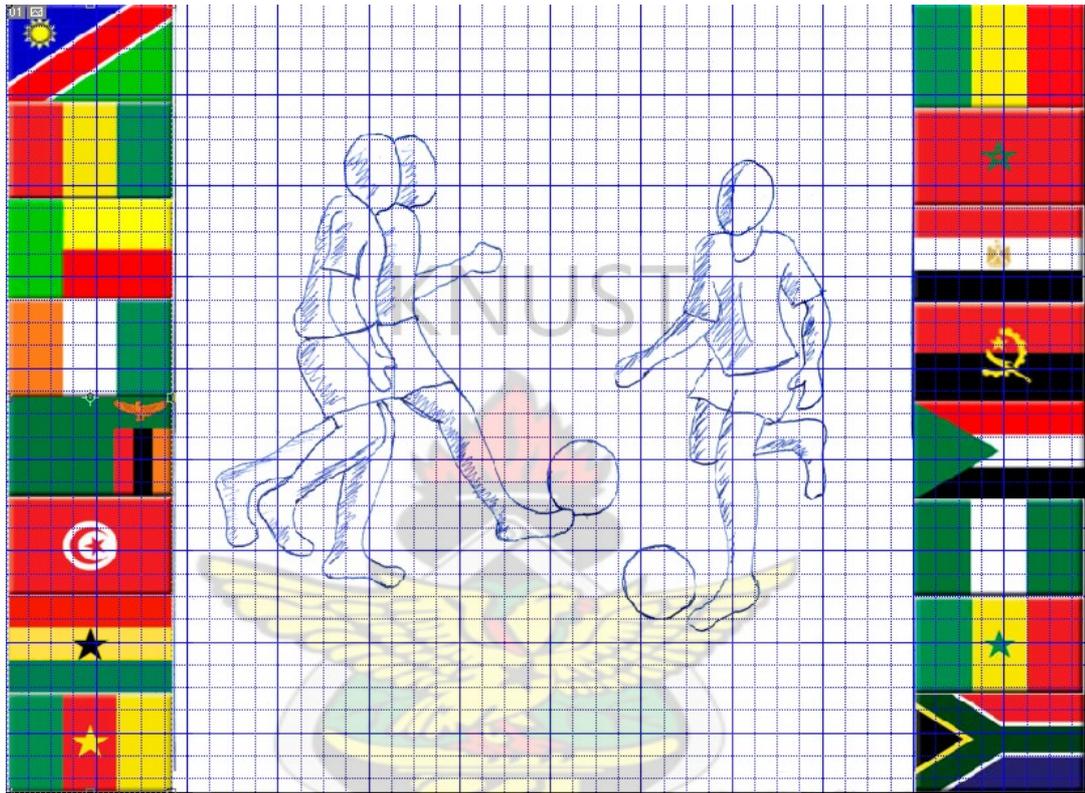


Fig: 1: Sketch 1

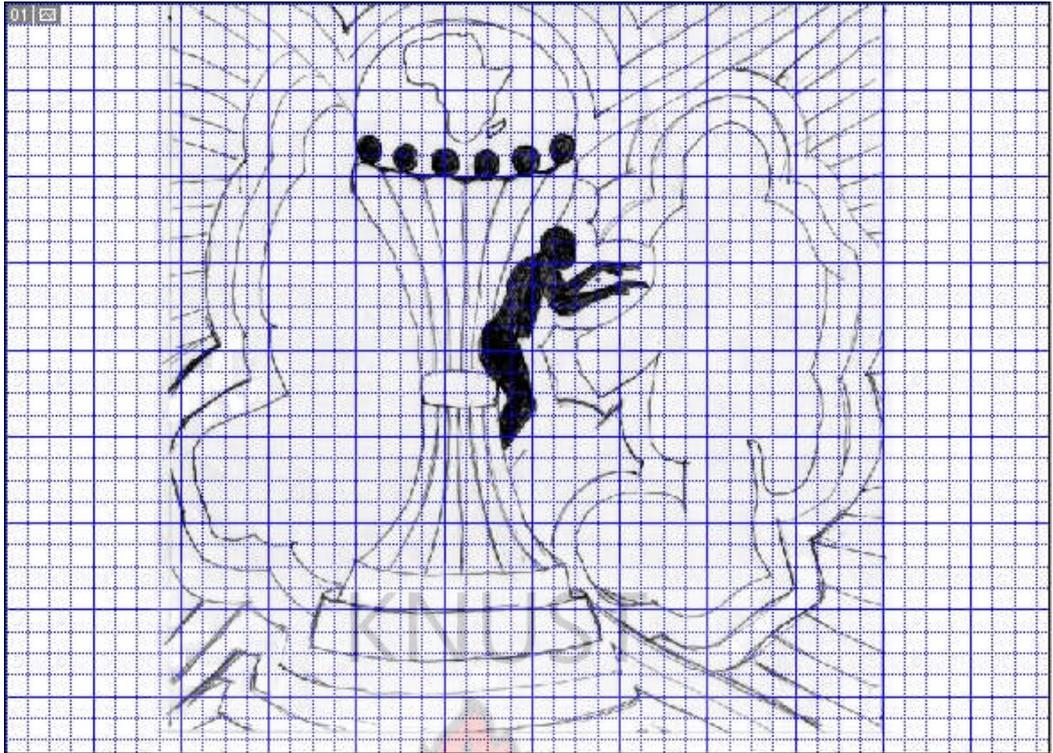


Fig 2: Sketch 2



Fig 3: Sketch 3

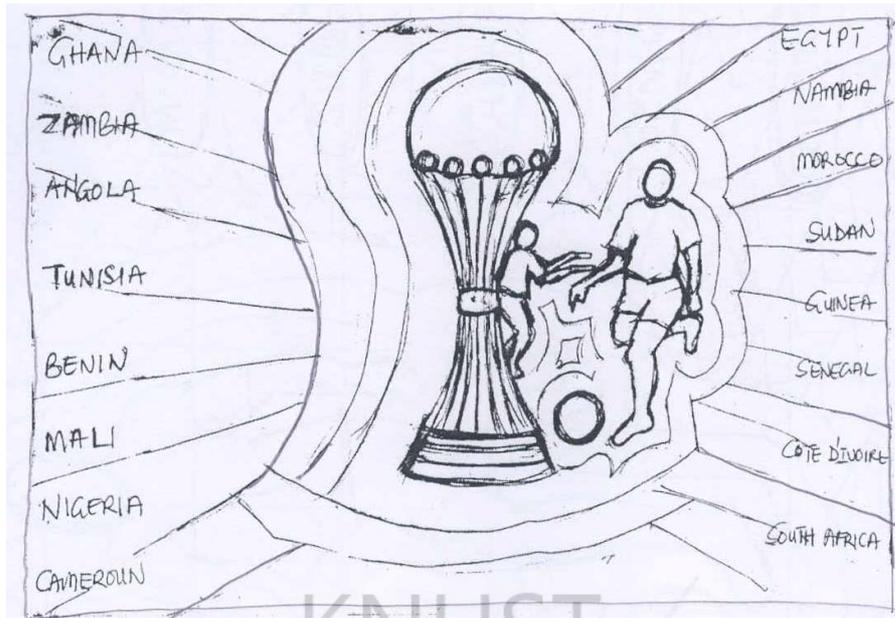


Fig 4: Fourth sketch

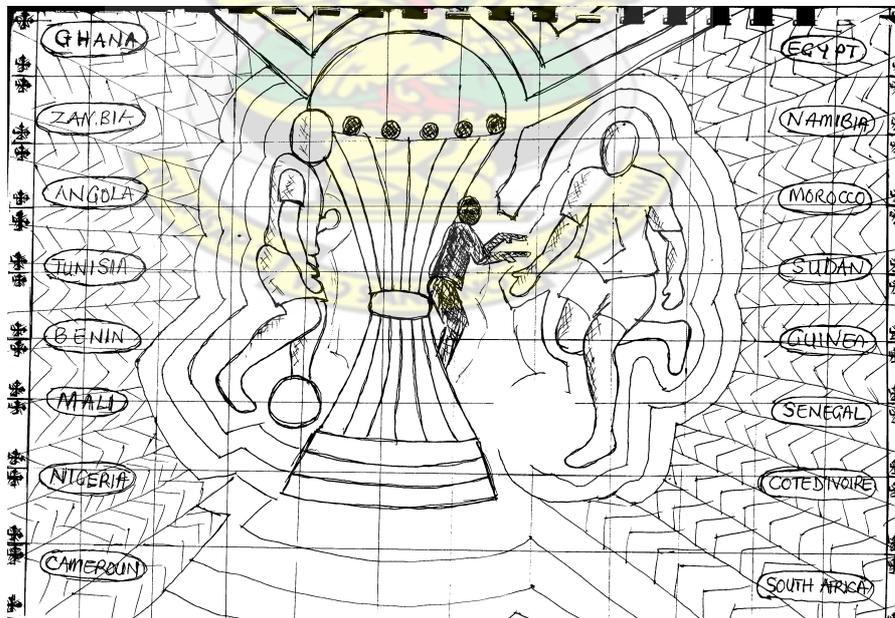


Fig 5: Final sketch

4.3 Production of Africa cup of Nation 2008 (CAN2008) ceramic mural

Working in ceramic and for that matter mural, demands high sense of creativity, balance, harmony and good arrangement. In this project the researcher made a frantic effort to explore techniques and materials to arrive at a suitable result. This section of the research describes the systematic procedure used in creating the project.

Procedure

The following processes were followed in creating the final project.

Stage 1: Design Concept

The design for the project was developed from scenes or activities of CAN2008 tournament. It consists of four human figures, three balls, a trophy and flags of participating countries based on realistic and semi-abstract concepts. The sketch shows three male figures playing ball, a giant trophy and flags of participating countries.

Stage 2: Drawing the design onto the arranged tiles

Looking at the original drawings or sketches, the researcher scaled the selected drawing on to a graph sheet in proportion to the tiles. This is carefully calculated on the entire layout and all the lines and figures drawn on the tiles using a used modeling tool. The original drawing had four (4) human figures, a trophy and three (3) balls but the researcher found it convenient with three (3) figures, two (2) balls and a trophy.

Stage 3: Incising and modeling of figures on arranged tiles

Two main methods were used to work on the drawings. These include incision and relief methods. First, the background lines were incised using a knife. For the

relief, each figure was scored; slip applied and fresh clay used to build up the figure. However, this is done stage by stage. After modeling the figures on the tiles, the details were done gradually and carefully one after the other.

Stage 4: Working on the trophy

The outline of the trophy was scored with clay slip. Additional soft clay was built on that area for a sculptural relief. After the clay had hardened, detailed work of the trophy was done. The small balls on the trophy were modeled, left to dry to a leather hard state, and then scooped. They were later fitted on the side of the big globe at the top of the trophy with the help of clay slip.

Stage 5: Working on the figures

Initially four figures were designed for the work but during production only three figures were used because two of the figures were overlapping and therefore created conflicting effect. First, the outline of the jubilating figure was cut out and the surface of the entire area scraped to a lower depth. The outline of the figures were scored with clay slip and soft clay built on. Details of the relief work were done after the clay had hardened. First the heads, hands, legs of the figures were done in an action depicting posture, then the folds for the shirts and shorts were worked out. The faces of the figures were left blank in order not to depict any personality.

Stage 6: Working on the footballs and boots

The relief technique was used for the balls and boots. The outlines of the balls were scored with clay slip and soft clay built on it. Later after hardening, the shapes for the balls and boots were modeled taking in consideration the designs on the balls and boots using the modeling tools.



Plate: 4.1 Modeling the relief work on the tiles



Plate: 4.2 Doing the detailed work on the tiles

Stage 7: Working on the background

To achieve a well balanced composition, the background of the mural was incised in lines (short, long, light and thick lines). These lines with the help of a knife were cut around the figures, trophy and the balls. They were done in a unique harmonic fashion.

Stage 8: Cutting through the figures on the tiles

Since the entire incision and the modeling were done on seventy-two (72) tiles, there was the need to cut through them. To do this, a modeling tool was used to mark out the lines of the tile. A scrapper with a broad blade and a sharp edge was used to separate the tiles. After this the tiles were numbered from one on the left to twelve towards the right (horizontal direction) till the last tile. These

patterns of numbering were to facilitate easy assemblage after firing for mounting on the wall.



Plate: 4.3 Cutting through the figures on the tiles



Plate: 4.4 Separating the individual tiles



Plate: 4.5 Separated tiles

Stage 9: Final drying of tiles

Drying ceramics tiles need to be controlled well to avoid warping. The tiles were arranged on the shelves with the back placed on the selves. These selves were placed in a warm airy room just to allow the tiles to dry gradually. The tiles were dried for almost a month.



Plate: 4.6 Drying the tiles on selves

Stage 10: Bisque firing of the tiles

Packing dry and fragile tiles or works calls for proper handling. The tiles were placed vertically close to each other on the floor of an electric kiln. This is to prevent the tiles from bending or sagging. To expel the excess water in the tiles, the kiln was preheated for almost 5 hours before it was set at full blast. It was then fired for 12 hours to a temperature of 1100 °C. The kiln was put off and allowed to cool gradually before the tiles were drawn out.



Plate: 4.7 Packed tiles ready for firing

Stage 11: Glazing of flags of participating countries

Enamel glaze was used for the project. To achieve consistency in different colours for the flags, these colours were sprayed. They included yellow, blue, black, red, green and white. A spraying gun with an air compressor was used for the purpose of having smooth glazing effect. Before a particular colour was mixed and sprayed, areas of the tiles that were not to receive that colour were covered or blocked with sheets of paper and masking tape.



KNUST



Plate: 4.8 Marked tiles for spraying

Plate: 4.9 Covered areas left for spraying



Plate: 4.10 Sprayed tiles

Stage 12: Firing of sprayed flags

The sprayed flags were placed flat on bats or kiln furniture and put in the kiln. They were positioned strategically to avoid touching each other. The flags were fired to a temperature of 950C to avoid running of the glaze.



Plate: 4.11 Glazed flags

Stage 13: Repainting of the glazed flags

After firing the glazed flags, it was noted that some colours did not appear as wanted. A colour like red did not appear as such. The researcher therefore re-painted the whole colours with a water base acrylic paint.

Stage 14: Working on the incised names of participating countries

After re-painting the flags, the researcher was still not satisfied even though the results were good. A new set of tiles were made and the names of the participating countries incised on them. Circular lines were incised around the names.



Plate: 4.12 Tracing the countries names



Plate: 4.13 Cutting out the names

Stage 15: Border Design

Tiles measuring 3’x8’ in size, numbering eighteen were used for the border design. The Adinkra symbol “Funtunfunafu denkyem funafu, won afuru bom nso worididi a na wre fom” was used to give the entire mural a traditional touch. The cut template of the symbol was embossed on the tile using a hammer. This was done to enhance the aesthetics of the work.



Plate: 4.14 Template for the symbol



Plate: 4.15 Template been hammered on tile



Plate: 4.16 Embossed symbol

Stage 16: Painting of the entire mural

The bisque fired mural was painted with acrylic paint. First, the entire surface was painted in black. Later gold finger was applied carefully over the black colour to enable all the corners and incised areas look dark. More gold finger was applied to the trophy to make it look brighter and more golden than the rest of the mural. To achieve a good finishing, a good brushing technique was used.



Plate: 4.17 Bisque mural



Plate: 4.18 Painting of the mural



Plate: 4.19 Finished work

CHAPTER FIVE

RESULTS

5.1 Findings

In the course of executing the project, it came to light that working on a project like mural needs a well prepared clay body composition of a high temperature preferably stoneware body. On the other hand, manganese could also be added to a single clay like that of Mfensi to achieve a good result. In the case of this particular project, grog was added to Mfensi clay due to unavailability of manganese. However, the end result was satisfactory. After glazing it was noted that most of the glazed colors did not appear. This is as a result of lack of test kiln to effectively test the glaze and also the uneven temperature distribution within the kiln. Due to the glaze problem encountered the final project was finished with acrylic paint and gold finger. The result of the project indicates that the mural can be fitted in any of the football stadia even though it is recommended that it is mounted on the wall at the Baba Yara sports stadium Kumasi to educate the public as well as to beautify the place.

5.1.1 Inventory of items in the mural

The entire mural is made up of animation of three human figures, a superb giant trophy, two inflated Olympic balls, artistic background lines and names of qualified participating countries from Africa. The two eminent figures are veteran football players with international recognition. Both of them are kicking a ball towards the giant trophy. There is also a silhouette jubilant spectator behind the trophy. Again, there is also a giant trophy of Africa Nations cup of the tournament between the two human figures. The entire background of the composition exhibits a variety of well arranged lines; linear, curve and curvilinear surrounding the figures,

trophy and balls. Finally, the names of the participating countries are carefully located on both ends of the mural that are aesthetically irresistible.

5.2 Analysis

The methods used to execute the mural include the preparation of clay body, tiles making, relief and incision techniques of sculpturing, spraying of glaze and oil painting. The texture of the work seems smooth but the painting finishing was achieved due to brush technique used. The figures and trophy in the composition were well organized. They are put together to show the competitiveness of the game of football in winning the trophy. The background lines were deliberately done to direct the viewer to focus on what is at the centre of the mural. However, the researcher decided to finish the work in gold color. The reasons are to show the golden nature of the trophy and also the rich culture of the people of Ghana. Above all, the richest gold that has become metonym for Africa.

5.2.1 Interpretation of work

The animated serene atmosphere created in the scene depicts the seriousness, skills, flair and all it takes to every football game acceptable within the scope of soccer rules. The two main figures with the balls explains that regardless of the number of teams participating in a tournament only two teams can be seen on the field of play at a time. Both eager to win the trophy, for each of them processing the ball the ultimate medium to victory is to immerge as winner. The silhouette figure behind the trophy shows the genesis of a popular celebration dance performed during the tournament by both supporters and players. The famous “Kangaroo dance” where the hands are stretched at the eye level with the fingers down and pointing forward while the person hops from one place to another. The silhouette figure depicts the

enthusiasm that marks every soccer tournament from both teams' supporters irrespective of losing. To the loser, the euphoria shows a deep sense of active participation in the tournament and belief that only one team is bound to win at a point in time.

One may wonder why the trophy at the centre of the mural is bigger than all the objects regardless of the principles of perspective. The answer is simple; the trophy is the most important object in the tournament therefore in order to show its significance, the trophy is projected much bigger. The anticipation of lines to form a pattern created a powerful effect on the viewer. Here the individual lines are not perceived but rather the dramatic forms they suggest with their direction conveying an aesthetic response. For any work of art to be fully appreciated for its aesthetic value, it must be capable of sustaining the interest of the viewer. And this is what the mural seeks to achieve.

The Adinkra symbol used for the border called "Funtunfunafu denkyem funafu, won afuru bom nsu worididi a na were fom" which literally means "two crocodiles sharing one stomach yet they fight over food". This is a symbol of Unity particularly where there is one destiny. The symbol is used to show that even though different countries from different regions with various social, economical, political and traditional backgrounds participated in the tournament, thus all their differences distil to one common goal, Africanism.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary

The main theme of the study is the use of ceramic mural as a tool in mirroring activities of Africa Cup of Nations 2008. Clay mixed with grog was used to produce tiles. A scene of a football game and a giant trophy was traced on the tiles, modeled in relief, cut and dried them on shelves. Fired bisque in an electric kiln. Rearranged, sprayed with a glaze and glost fired. The researcher then decided to finish the mural in gold finger on black acrylic paint.

The main objectives of the research were to:

- To design and produce a commemorative ceramic mural for the Africa Cup of Nations 2008 tournament.
- To write an illustrated report on the project.

In order to have a hold on the subject matter of ceramic mural and CAN2008, literature related to the project was reviewed. Irrespective of the scanty nature of literature on the subject, other information on forms of murals was also reviewed to explain the topic effectively. This was sourced out from the libraries in KNUST, unpublished thesis from KNUST ceramic section and the internet. Similarly, the various tools and materials for the project were carefully identified and described. The experimental, descriptive and observation methods of research were employed to give a valid account of executing the project. Preliminary, sketches were made and further developed into the final composition. The methods and techniques of the ceramic mural production have been outlined. The production procedure to the finished work

has also been photographically documented. In spite of the various problems encountered, the project was a success.

6.2 Conclusion

Considering the success attained in regard to this project, it can be concluded that every ceramic artist can equally produce a ceramic mural since this is the first time the researcher has undertaken such a project single handedly. The project report will enable future artists to research into the use of glaze colours for painting ceramic mural and encourage their use to avoid unforeseen circumstances that the researcher went through during gloss firing. In brief, ceramic mural must be developed as an integral component of modern architecture but this can only be achieved if more ceramic muralists are trained and work hand in hand with the architects.

6.3 Recommendations

The report will not be completed without the following recommendations

1. It is recommended that ceramic students should be exposed to mural design and production in all the art institutions including the senior secondary schools to patronize the aspect of ceramic that deals with the decoration in the Ghanaian building industry.
2. It would also be a great relief if the Ceramic Section of the College of Art and Social Sciences secures some important equipment like the test kiln and a tile pressing machine. This will reduce the burden students go through in manually producing the tiles and enable them to test fire the clay body and glazes to ensure their effect for better finishing.

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APPENDIX 1

Some existing murals seen in Ghana (specifically in Accra and Kumasi).

These are some existing murals seen in Ghana, [specifically in Accra and Kumasi]

- Ceramic mural at Cedi house, Accra, Messrs. Kofi Asante and J.K Amoah
- Cement mural at Electricity Co. of Ghana, Adum- Kumasi, artist Unknown
- Ceramic/painted mural at FORIG, Fumesua, Kumasi, Mr. K.K. Broni
- Swanmill, UAC headquarters, Central Accra, Messrs. W.C. Owusu and J.K Amoah
- Bank of Ghana, Accra, Mr. J.K Amoah
- Painting mural at Sculpture section, Students, College of Art, KNUST,
- Cement mural at New museum, Rural Art Students KNUST,
- Mosaic mural, Private residential building, Bomso, artist Unknown
- Ceramic mural at Roses Guest House, Kumasi, J.K Amoah
- Ceramic mural at Golden Tulip Hotel, Kumasi, G.Von
- Cement mural, Great Hall and Queens Hall, KNUST, Stoker

APPENDIX 2

The various clay deposits and reserves in Ghana

Greater Accra Region

- **Accra**

Alajo, Ashaiman, Prampram Plot A, Prampram Plot B, Prampram Plot C, Kpone, Oyibi and Kwabenya (south). Total amount of clay reserves in the Accra area is estimated to be 53,917,271 metric tonnes.

- **Tema**

Afienya (east), Afienya (west) and Mobole. Total estimated clay reserves are 44,709,575 metric tonnes.

- **Ada**

Kasseh/Bedaku and Big Ada have total estimated clay reserves of 93,904,383 metric tonnes.

Eastern Region

- **Nkwakwa**

Adihima/Asuoaya, Abepotia, and Framase have clay reserves of 9,896,579 metric tonne.

- **Kibi**

Tamfoi has clay reserve of 1,285,084 metric tonnes.

- **Anyinam**

Moseaso and Abomosu have clay reserves of 4,525,134 metric tonnes.

- **Asamankese**

Asamankese and Apinamang have clay reserves of 3,641,250 metric tonnes.

- **Akim Oda**

Akim Swedru, Akim Awisa and Akim Abonase have clay reserves of 39,019,888 metric tonnes.

- **Akwapim**

Adawso has clay reserve of 1,027,000 metric tonnes.

- **Somanya**

Okwenya has clay reserve of 34,862,223 metric tonnes.

Central Region

- **Cape coast**

Nkuntraw(Ankaful), Kakum Valley, Atrankwa have clay reserves of 19,569,968 metric tonnes.

- **Ajumaku**

Ochiso and Ampia Ajumaku have clay reserves of 15,636,702 metric tonnes.

- **Winneba**

Esuakyir No. 1, Esuakyir No.2, Simbrofo, Mprumem, Kasua/Oduponkpehe and Nyanyanu have clay reserves of 64,545,195 metric tonnes.

- **Gomoa**

Gomoa Brofo has clay reserve of 268,968 metric tonnes.

- **Komanda**

Domenase has clay reserve of 3,952,551 metric tonnes.

- **Dunkwa**

Subrin Valley has clay reserve of 162,000 metric tonnes.

Western Region

- **Sekondi**

Inchanban and Shama have an estimated clay reserve of 9,831,682 metric tonnes.

- **Takoradi**

Dixcove (Mfruma) has an estimated clay reserve of 9,469,979 metric tonnes.

- **Nzima**

Alenda Wharf, Aluku, Esiama-Kakam, Nkroful-Teko Bokazo, Nimzimrim, Bou-Bamakpolo, Bokazo, Nzima East have an estimated clay reserve of 712,450,936 metric tonnes.

- **Wasa**

Wasa Akropong, Asankragwa and Enchi have clay reserve of 9,469,779 metric tonnes.

- **Amanfi**

Manso Amanfi has an estimated clay reserve of 597,780 metric tonnes.

Ashanti Region

- **Kumasi**

Womasi, Kasi(Tuantem), Sissi, Kokobriko, Dichem Valley, Aboabo, Dichem-Aprapong Road, Satang No.1, Satang No.2, Mfensi and Subin Valley have an estimated clay reserve of 2,545,923 metric tonnes.

- **Obuasi**

Asokwa has clay reserve of 33,865,955 metric tonnes.

- **Nkawie**

Aferi, Jankoba, Ahatawsu(Mpasatia) and Awrenfena have an estimated clay reserve of 2,565,260 metric tonnes.

Brong Ahafo Region

- **Sunyani**

Sunsan Valley, Tanoso and Adantia have an estimated clay reserve of 17,392,053 metric tonnes.

Northern Region

- **Tamale**

Koblimahago, Kpaliga, Nyankpala, Kunkuo and Yapei all have estimated clay reserves of 10,036,888 metric tonnes.

Upper Region

- **Bolgatanga**

Gambibigo(Alamore) and Sumbrugu have clay reserves of 12,424,018 metric tonnes.

- **Navrongo**

Tono and Sobole have clay reserves of 9,127,330 metric tonnes in total.

Volta Region

- **Ho**

Adidome No.1 and Adidome No.2 have clay reserves of 8,225,119 metric tonnes.

- **Anfoega**

Tangidome, Nuzeme and Toga have estimated clay reserves of 59,860 metric tonnes.

- **Gbefi-Hoeme**

Kpetoe, Aveyiboe and Valexo have clay reserves of 73,000 metric tonnes.

- **Kudzra**

Aklamapata, Have, Agbeditive, Tuwotsive and Kalakpa have clay reserves of 529,093 metric tonnes.

- **Bowiri**

Amanfro/Anyinase has clay reserve of 2,000,000 metric tonnes.

- **Dayi**

Dayi River Basin has clay reserve of 997,900 metric tonnes.

- **Ketekrachi**

Woroto and Adankpe have clay reserves of 9,300,968 metric tonnes.

- **Hohoe**

Adutor has clay reserve of 35,854,085 metric tonnes.

- **Kadjebi**

Kpoglo and Kadjebi have estimated clay reserves of 107,156,561

