

**THE NEW KALEO-NAA'S PALACE AT KALEO, UPPER WEST REGION,
GHANA; AN EMBLEM OF DAGAABA TRADITIONAL
ARCHITECTURE.**

BY:

ANZAGIRA LEE FELIX

BSc. Architecture (Hons.), KNUST

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ABSTRACT

A palace is the official residence of a chief, the traditional administrative head of a village. The palace primarily provides accommodation for the chief as well as space for activities related to the traditions and culture of the people. In many villages in Northern Ghana, the disposition of the palace reflects the eminence, power and respect the chief commands. It also is a mark of how much significance the people attach to the traditions.

The Kaleo Naa's Palace as the largest building in the area shall be a masterpiece of Dagaaba heritage revival architecture, ranking among the best examples in the Sub-Saharan Africa. The Palace shall illustrate regionalism in totality: use of on-site or locally available materials; harmony with the surrounding landscape; strong ties to local architectural traditions; and the appearance of having been constructed by native craftsmen using primitive tools

This thesis therefore describes in detail the creation processes of this Dagaaba heritage resource and dwelling place of the Paramount Chief of the Kaleo Traditional Area, Naa Bananwini Sandu II and which is opened to people of all traditions and cultures; indigenes, tourists and the public in general.

DEDICATION

This thesis is wholeheartedly dedicated to my siblings; She, Che, Lea, Leo, and Allan: may the Lord bind us together as always.



ACKNOWLEDGEMENT

Everything starts as a professional and personal goal; but after all I realized that the development of a thesis project is the product of a team work with the participation, in one way or another, of every person that has influence in my life. The presence and contribution of every single one of them has made possible the culmination of my architectural studies.

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To my family; I say special thanks for their love as well as financial and moral support.

My warmest gratitude also goes to the Chief (*Naa Bananwini Sandu II*), and Elders, of Kaleo; for readily admitting me to the palace and offering me all the necessary information.

To Mr. Andrew Kuudaar, and staff of A & Q'S Consortium Ltd., I am grateful for all your assistance.

To my loved one, Sheila B.D, and all of my friends and colleagues: Chris Paaga, Daniel Telly, Felix Agbaku, Michael Naah, Betrand Zielley, Leonard B., Vitus D, etc for their inspiration, assistance, and sense of humour. It would never be as good as it is without wonderful people around me.

Anzagira Lee Felix

BSc. Architecture, KNUST

May, 2007.

DECLARATION

Candidate's Declaration:

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

Name & ID:

Anzagira Lee Felix (20040089)



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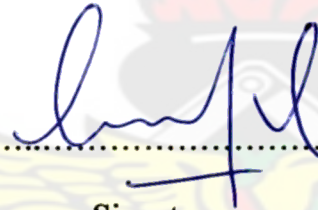
Student

Signature

Date

Certified by:

Prof. G. W. K. Intsiful



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Supervisor

Signature

Date

Certified by:

Prof. G. W. K. Intsiful



26-08-09

Head of Department

Signature

Date

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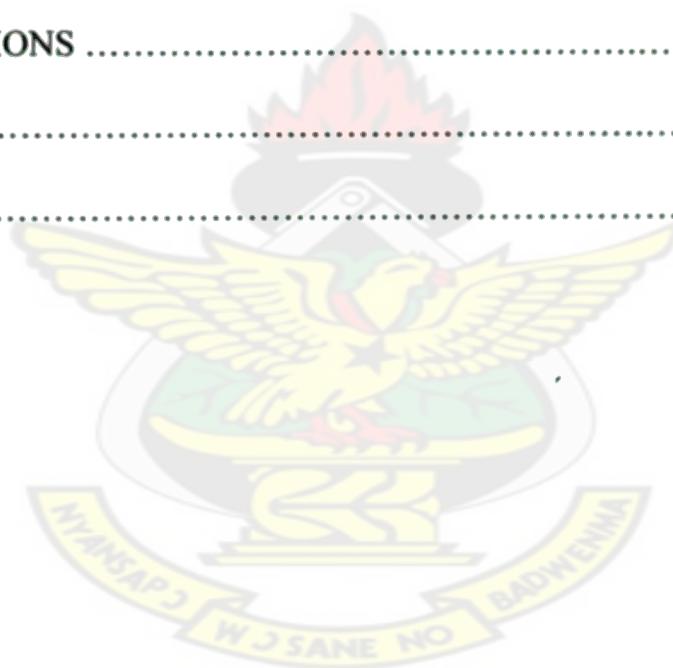
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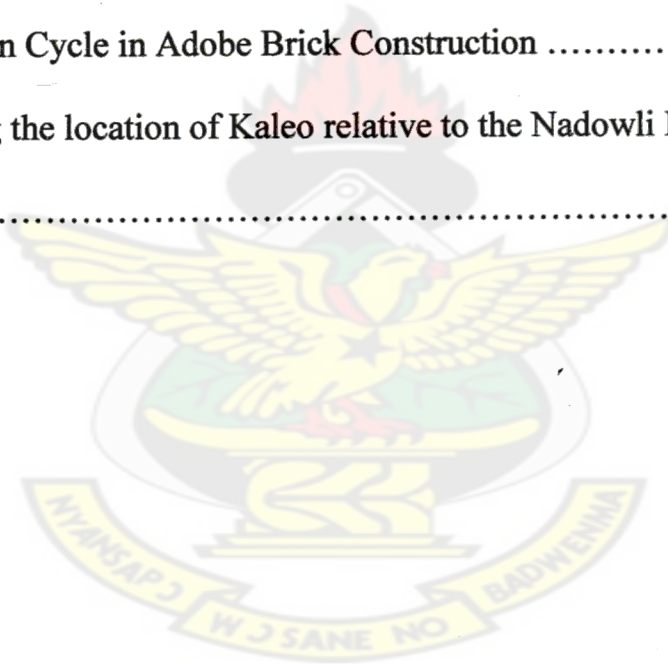
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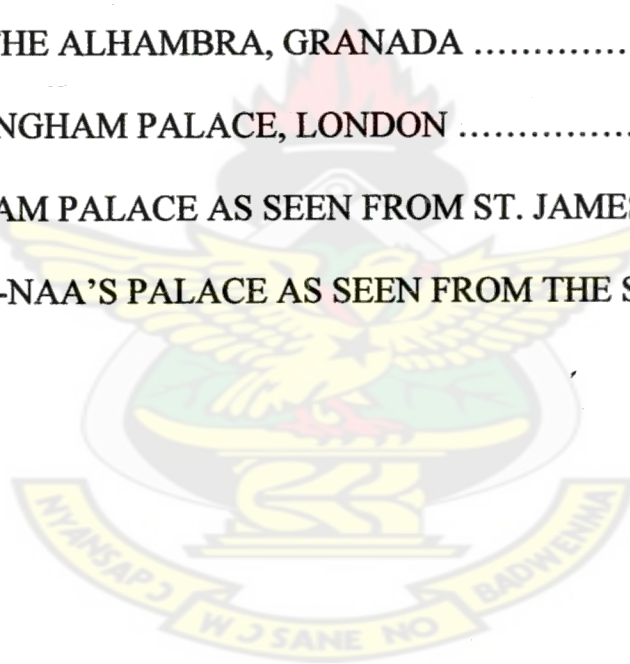
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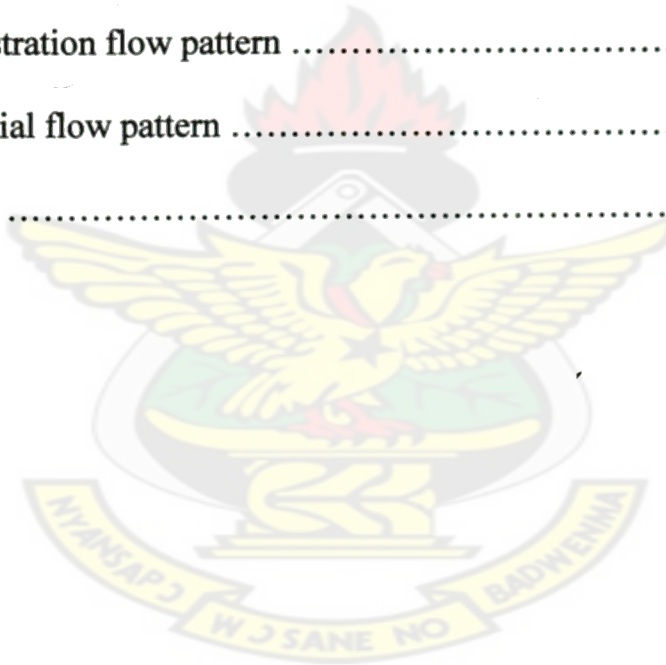
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CHAPTER ONE

1.0 INTRODUCTION

1.1 PREAMBLE

Following a dissertation submitted at the BSc. level on “the Kaleo Naa’s Palace: a study of the development of palaces among the Dagaaba of the Upper West Region of Ghana”, a number of creative expressions both traditional and imaginative were discovered. The author discovered among others that, *“considering the increasing and changing needs of the local traditional authority and activities within the palace today, the facilities provided are woefully inadequate. This has been linked to the arbitrary changes that have taken place in the building fabric of the palace”¹*.

A critical recommendation made in the presentation of the research work states that, *“the old palace is inadequate and there is an urgent need for relocation to a more expansive location to make for all the facilities which are visibly absent from the present palace”²*.

This thesis is therefore intended to respond to this far cry of the research recommendation. Palaces in northern Ghana form the hub around which the communities develop and the disposition and size of the palace reflects the eminence, respect and power the chief commands. It also is a mark of the significance the people attach to their traditions.

It therefore is imperative to build a structure that will facilitate this course of culture identification of the Dagaaba as well as that which will reflect the architecture of the people of northern Ghana especially the Dagaaba.

Amongst other things, this research shall seek to achieve the following;

- i. To promote the culture and architecture of the Dagaaba by research and design.

- ii. To enhance the smooth and efficient running of the Kaleo Traditional Council by the provision of a comfortable environment.
- iii. The physical form of the palace is to portray the eminence and richness of the traditions of the Dagaaba. It shall also be an emblem of the people reminding them of who they are.
- iv. As a tourist destination, it will cause the development of related facilities like hotels, restaurants etc; it will therefore create employment opportunities in Kaleo and bring foreign exchange.
- v. The Palace shall be an exhibition of regionalism in modern context; both form and material. This will serve as an icon for young architects and students as well.

1.2 PROBLEM STATEMENT

The Dagaaba culture is losing out in its heritage practices, socially, religiously and architecturally. In the years past, public buildings that share the cultural and architectural characteristics of the Dagaaba have gone to sleep and there is a total drift to the 'strange' modern building materials, hence stunting the growth of the local architecture. Unfortunately, traditional palaces which are the hubs around which the communities develop, which contain the spirit of the people, and which are the "handshakers" of the areas are the worst culprits of this crime.

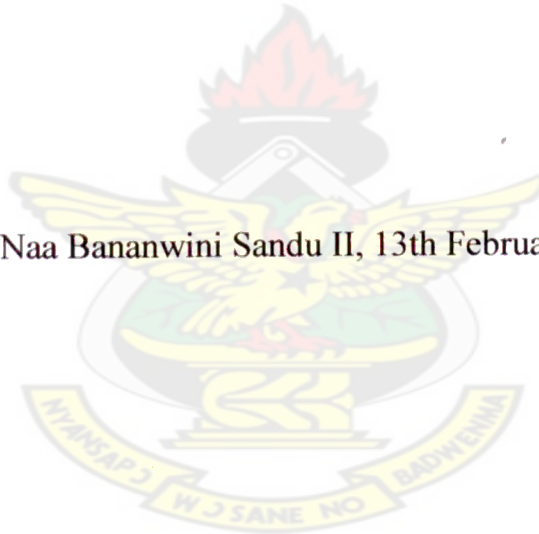
The Kaleo Naa's Palace as the handshaker of the Kaleo Traditional Area/Paramouncy must take the lead to arrest the heritage practice loss of the Dagaaba.

1.3 SCOPE

The thesis will involve the detailed research documentation of the creation processes of a new traditional palace and all its ancillary facilities which will exude traditional Dagaaba and "northern" architecture and culture.

REFERENCES

1. Anzagira, Lee Felix, *The Kaleo-Naa's Palace; A study of the development of palaces among the Dagaaba of the Upper West Region of Ghana*. Unpublished Dissertation, May 2005. (p.54)
2. *ibid*, p.55
3. Interviews with the Chief, Naa Bananwini Sandu II, 13th February, 2005



CHAPTER TWO

2.0 LITERATURE REVIEW

In this Chapter, a review of relevant literature which formed the theoretical background or framework for the thesis is given.

2.1 DEFINITIONS

Palace is a roman word derived from the Palatine Hill Rome, where the Roman Emperors built their residences. The New Encyclopedia Britannica, Macropaedia Ready Reference defines a palace as: “a royal residence and sometimes a seat of government or religious centre”.¹ Palaces play a major role in society due to the fact that they represent the epitome (or in some cases, extreme examples) of the architectural and social values of the culture and age in which they were built. This according to volume nine (9) of the 15th Edition of the New Encyclopedia Britannica² can be attributed to the power of the patron and the money and labour available for their construction.

Other definitions that have been given for a Palace include;

“A large and stately building”³

“A large ornate exhibition hall”⁴

“Official residence of an exalted person (sovereign)”⁵

“A fine and costly residence, particularly of a great official; the residence of a high dignitary of the Christian church”.⁶

After the Middle Ages, the ornate houses of the nobility of all ranks in England, France, and Spain came to be known as palaces (as did the residence of the exiled Popes in Avignon), and eventually the name was applied to a number of large and imposing buildings, both public and private.

2.2 CHIEFTAINCY IN GHANA

Article 277 of the 1992 Constitution of Ghana defines a chief as a person, who, hailing from the appropriate family and lineage has been validly nominated, elected or selected, and enstooled, enskinned or installed as a chief or queen mother in accordance with the relevant customary law and usage.⁷

In pre-colonial times, chieftancy constituted the axis for the exercise of executive, legislative and judicial powers. Even though Ghanaian governments lost power in rapid succession on account of, at times, military interventions, it is a notorious fact that the chieftancy institution has demonstrated amazing resilience and still remains a key player, not only in local administration, but also in national life. Even though the key role of chiefs as repositories of local political authority has been dented for several reasons, the institution is still revered, especially in communities where chiefs have carved niches for themselves by spearheading local development.

2.2.1 THE CHIEFTAINCY INSTITUTION IN GHANA

Naa Prof. Nabila – Wulugunaba (Chairman, Research Committee of National House of Chiefs) gave the following description of chieftancy in Ghana at a workshop on “Decentralisation and Traditional authorities in Ghana” held at Volta Hotel, Akosombo from 16th-18th August, 2006.⁸ He spoke on the topic, ‘Decentralisation within the Traditional System of Authority in Ghana’.

i. Types of chieftancy Institutions

Two main forms of traditional authority existed during the pre-colonial era. These are the non-centralised or fragmented and the centralised systems. The non-centralised which some anthropologists referred to as acephalus societies where the head of family was the rallying point

of authority as exemplified by the Talensi, Kokomba and Ga communities of Ghana. The centralized system on the other hand exist with clearly defined hierarchy of authority with the King or Paramount Chief at the apex of traditional authority as practiced in most Akan states in southern Ghana, Mole, Dagbani and Gonja of Northern Ghana.

ii. Hierarchy of Chiefs or Structure of Chieftaincy

Naa Prof. Nabila identified that major activities of chiefs are carried out within the chief's court, traditional councils, the regional houses of chiefs and the national house of chiefs. According to him, there exist a hierarchy of chiefs in the various traditional areas where the lowest may be the Village chief (Odikro) and the highest as the paramount chief.

iii. Succession of Chiefs

On succession to stools and skins, he cited the process of nomination, enstoolment or enskinment as the case may be, and the participatory approach (as traditional) and the check on the powers of the chiefs that demonstrate the level of democracy and decentralisation within the system.

The power to nominate and elect are the preserves of the queen-mother and the kingmaker in most traditional communities in the south while it is vested in the overlord and his council (elders who may be chiefs) dependent upon the level of chiefs to be so nominated, elected and enskinned.

Apart from the qualification criteria of individuals to be nominated as being hailing from the "appropriate family" other families within the community are also "opportuned" to become royals since the chief is permitted to marry from any family within or without the royals provided the family is of good conduct. According to the presenter, the policy of non-restriction of the chiefs in establishing marital relations constitutes the openness of the system to all persons

in the community to get access to the throne (stool or skin) and to participate in and enjoy from it. Once elected the chief becomes the spiritual and secular leader of the community.

According to the presenter, the democratic participation of the public or the subjects is guaranteed in all areas and the chief is accountable to the people and can be removed for bad conduct.

iv. The Structure of Traditional Administration

He emphasised that it is within the hierarchical structure of the institution of Chieftaincy that one can speak of decentralisation of traditional and administrative authority. He indicated that the devolution of authority is from the paramount chiefs to the divisional and sub-chiefs or village chiefs and in some cases the head of families. These levels of chiefs below the paramount chief are allowed the authority/power and responsibility to perform functions in the areas of culture, mediation, arbitration, land administration among other without undue interference from the paramount chief being the highest authority in the designated traditional area. However, in some cases the actions or decisions of the sub-chiefs would have to be ratified by their superiors.

He indicated that different titles and names are designated for the different levels of authority within the hierarchy of the institution of chieftaincy based on their respective function and level of authority within the hierarchy. For instance, the palace of the chief is made up of elders who form the inner council of advisors for the chief and perform specific functions with levels of relevant authority. These functions include;

- Central administration,
- Finance,
- Farming,
- Development

- Public relations (spokesperson /okyeame)

- and except where some chiefs perform specific religious functions, there exist some families who perform all religious functions at the various levels of the hierarchy as priest and chief priests.

He also cited that in practice as demonstrated in most traditional areas in the country, chiefs encourage the existence of civic organisations. These include the women organisations, youth organizations (Asafo companies) and the association of artisans and diviners with their own leaders appointed or confirmed by the chief.

He emphasised that the ability of the institution at any level to perform its function of social mobilisation and supervision for community development is as a result of the clearly defined decentralised positions or ranks and roles within the system.

v. Traditional Councils and Houses of Chiefs

The presenter identified the composition of the councils and the houses vis-à-vis their respective powers and functions as epitome of the practice of decentralisation within the traditional authority in Ghana.

He indicated that the traditional councils as composed of divisional and some sub-chiefs and headed by the Paramount chiefs serve as links between the people and the District Assemblies and are with powers to discuss and determine matters on education, health and transportation within the areas of jurisdiction. The councils have their judicial committees with powers to determine chieftaincy matters except where the paramount chief becomes the subject matter.

The Regional House of Chiefs (RHCs) as composed of paramount chiefs and in some cases some divisional chiefs have the powers to determine matters relating to nomination, election, selection and installation or disposition of a chief. The National House of Chiefs as the highest authority is also composed of five paramount chiefs elected by their respective Regional Houses with specific functions for the promotion of the institution and enhancing life of the people of their

respective traditional areas without undue interference in matters of the respective traditional councils.

According to the presenter, the clearly defined structures of authority and roles in the national governance of the institution by itself demonstrates the nature of representation and devolution of authority as required in modern day governance of modern states of which the institution of chieftaincy is part and can best play as a partner.

He concluded that: “The hierarchical structure of the institution established by our forefathers has inbuilt system of decentralisation. This has invariably given legitimacy to the [institution] within each traditional area in the nation as a whole”

He however admonished that the survival of the institution and its existing structures depended on the chiefs themselves as they were expected to ensure transparency, credibility and accountability in the domain of the institution as being capable to attract respect from the members of the communities, the civil society, government and the donor community as well as how the various activities were organized without unnecessary undermining the authority of the various cells within the institution.

Some of the succeeding central governments recognised the status, role, and economic base of the institution and tried severally to regulate trends in the institution as well as court the friendship of the institution. This recognition was not gained on a silver platter. It was the culmination of astute political brinkmanship by leading chiefs, and the wish of most subjects to let the age-long institution remain intact.

For example, chiefs have had to contend with various governmental legislations aimed at regulating stool lands, its acquisition, and the proprietary ownership. For instance, the PNDC promulgated the *Land Title Registration Law 1986 (PNDCL 152)*, among other reasons, “to give

certainty to land titles and to facilitate the proof thereof and also to render the dealing with land more simple and economical” (See the memorandum accompanying PNDCL 152).

The Chieftancy Act (Act 370) of 1971 assented to by the Parliament of the Second Republic under the Progress Party government of K.A. Busia, repealed the *Chieftancy Act, 1961 (Act 81)* and the subsequent amendments to the Act including the *Chieftancy (Amendment) Decree, 1967 (NLCD 128)*. The overriding motive for Act 370 was “to amend the statute law on chieftancy in order to bring it into conformity with the provisions of the Constitution and to make other provisions relating to chieftancy” (See the Preamble of Act 370). Thus among other provisions, it created the National House of Chiefs in addition to the already existing Regional Houses of Chiefs and the Traditional Councils. In conformity with Article 154 (3) (a) of the 1969 Constitution and to enhance the adjudication of chieftancy matters, the Act created the judicial committees to hear and determine any “cause or matter affecting Chieftancy”. Clause 22 (1) of Act 370 states:

The National House of Chiefs shall have appellate jurisdiction in any matter relating to chieftancy which has been determined by the House of Chiefs in a Region from which appellate jurisdiction there shall be an appeal with the leave of the Supreme Court or the National House of Chiefs to the Supreme Court.⁹

Indubitably, this was a revolutionary step aimed at recognizing the essence of chiefs in judicial matters affecting chieftancy. This was in contradistinction to earlier enactments that did not recognize the capabilities of chiefs to deal with matters affecting their own institution. It is not surprising therefore that Act 370 has stood the test of time and thus remains the basic law on chieftancy up to date.

The National Redemption Council (NRC) that overthrew the Busia regime initially courted the chiefs to stabilize its usurpation of power but that did not blind it to the perennial problems of who controls the land and the revenues that accrue from land. Further, the polarizing nature of land litigation came to the fore and the NRC which later became the Supreme Military Council (SMC) never hesitated to enact the necessary legislation to check this canker. Thus, to ensure security to land titles, the government enacted the Limitations Decree 1972, NRCD 54 and the Conveyancing Decree 1973, NRCD 175. Whilst the former decree aimed at ending or, at least, minimize the costly and avoidable litigations over land, the latter streamlined the modalities for the transfer of interest in land.¹⁰

It is clear then that chiefs have been fighting to maintain not only their regal status but also the economic source of their livelihood which is land. Act 370 of 1971 and some provisions of the 1979 Constitution made sure of that. More significantly, the 1979 constitution safeguarded the chieftancy institution, guaranteed its existence, and also restored its economic basis. Article 177 (1) emphatically stated that “the institution of chieftancy together with its traditional councils as established by customary law and usage is hereby guaranteed”. In pursuant of this, subsection 2 stated, “Parliament shall have no power to enact any legislation:

- a. which confers on any person or authority the right to accord or withdraw recognition to or from a chief; or
- b. which in any way detracts or derogates from the honour and dignity of the institution of chieftancy.”

In addition, chiefs were represented on the district councils and the Lands Commission (See Articles 183 and 189).

In a nutshell, unlike the First Republic during which every conceivable effort was expended by the government to cut the chiefs to size, the swing of the political pendulum later favoured the chieftancy institution.

2.1.2 The Changing Roles of Chiefs in Local Administration

From a historical perspective there has been very little consistency in the roles carved for chiefs in local administration. Even though the 1957 Constitution thought it fit to reserve one-third membership of local government units for chiefs, the penchant of the then ruling government to enhance the trappings of party power and party officials at various levels at the expense of chiefly authority, led to the banning of chiefs from local government through the *Local Government Act of 1961*. Although the government of the day harped on making local administration more representative with the election of members of the various councils through the Act, the reality was that the places reserved for chiefs were taken by CPP appointed members. The 1969 Constitution reversed the trend and did not only establish the National House of Chiefs but also reserved one-third of the membership of District Councils for chiefs. Additionally, a provision was made for the inclusion of not more than two chiefs from the Regional House of Chiefs in the Regional Council. The 1979 Constitution ensured that membership of District Councils included one-third chosen from traditional authorities in the district in accordance with traditional and customary usage (Art.183 (ii)). Not more than two chiefs from the Regional House of Chiefs were to be members of the Regional Councils (See Art. 185).

However, the *Local Government Law (PNDCL 207)*, of 1988 restructured the composition of the District Assemblies that came as part of the decentralization process. Therefore, chiefs lost their

one-third membership. The main reason was that “the PNDC government regarded the representation or active participation of chiefs in decentralized institutions, such as the District Assemblies (DAs), or the organs of power, as undemocratic and counter-revolutionary. In other words, “the PNDC decentralization reforms did not set aside a place for chiefs within the structures of local government”¹¹ (Ayee, 2000).

Article 242 (d) of the 1992 Constitution made provision for two chiefs from the Regional House of Chiefs (elected by the chiefs at a meeting of the House) to serve on their respective Regional Coordinating Councils. The *Local Government Act (Act 462)* of 1993, section 5 (d) makes similar provision. However, neither the constitution nor Act 462 makes a provision for Chiefs to be automatic members of the District Assemblies.

One may ask why such constitutional-legal provisions that seem to preclude Chiefs in the day-to-day administration of the community were promulgated. This may be due to the desire to restrict chiefs to the performance of their purely traditional functions. It is also argued that such provisions are made to insulate the Chiefs from the attrition of partisan politics. This I think is well intentioned since it would ensure that Chiefs are politically neutral with the ability and mental toughness to work with all, irrespective of political persuasion.

It is worth noticing that, the occupant of the Kaleo-Naa's Palace which is the subject of this write up, Naa Bananwini Sandu II is the current Vice-President of the National House of Chiefs as well as the Paramount Chief of the Kaleo Traditional Area.

2.3 THE HISTORY AND DIFFERENT FACES OF PALACES

According to the Encyclopædia Britannica, the earliest known palaces are those built in Thabes by king Thutmose III (1504 – 1450BC) and by Amenhotep III (1417 – 1379BC) of Egypt.¹² Excavations of Amenhotep's palace reveal a rectangular outer wall enclosing a labyrinth of small, dark rooms and courtyards, a pattern broadly repeated in eastern palaces of later ages. In Assyria, for instance, much larger palaces were built at Nimrud, at Nineveh and at Khorsabad, where the palace of Sargon II (721 – 705BC) extended over more than 23 acres, built on a platform within two sets of city walls and containing two huge central courts and a disorganized mass of a smaller courtyards and rooms.¹³

The architects of ancient Babylon achieved greater symmetry, using hallways and repeated groupings of rooms. In the 6th, 5th and 4th century BC, vast Persian palaces were built at Susa and Persepolis, where the residences of three kings (Darius I, Xerxes I and Artaxerxes III) perch on three low platforms raised upon a main platform that was within the city walls. Minoan palaces on Crete at Phaistos, Knossos (where one staircase rose three stories), and elsewhere achieved even greater grandeur.¹⁴ It was in the city of Rome and the Roman Empire however, that palaces in the sense of centres of power reached their peak. At Constantinople (now Istanbul) the sacred palace is a conglomeration of Byzantine churches, schools, and residences that covers an area of 334,000 sq. metres.¹⁵

2.3.1 Knossos

The Minoan Palace of Knossos lies at a distance of five kilometers from the town centre of Iraklion along the road to Archanes.



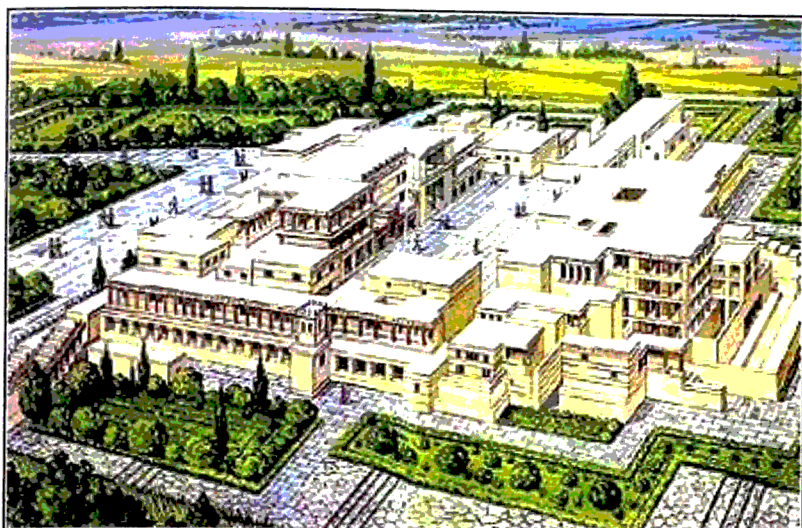
(SOURCE: Encarta Encyclopedia, Wolfgang)

Plate 1; Palace of King Minos

The imposing Palace is built on the hill of "Kefala" next to the river "Kairatos", in a site which was admired for its natural advantages, the strong position, good water supplies, access to the sea and proximity to a large fertile forest, the forest that produced the "Cephalonian Pine" a tree that supplied the beams and the columns for the construction of the Palace (see Plate 1).

Excavations showed that the area was inhabited since the Neolithic times (6000 BC and perhaps even earlier) and verified that the Neolithic levels of Knossos are amongst the deepest in Europe. An important Pre Palace already existed on this Neolithic site as far as 3000 BC. while the first Palace was built around 2000 BC and destroyed 300 years later.

The Palace of Knossos now lived and prospered until the next disaster of around 1450 BC connected to the volcanic eruption of Santorini. Following this event, it was restored once more and used by the Achaean sovereign until at least 1380 BC although other city states in Crete had already been destroyed.



(SOURCE: www.dilos.com/location)

Plate 2; the Palace of Knossos Today

Knossos survived through the historical times as a great city - state until the first Byzantine times. Its central court divides the Palace of Knossos into two wings, the West and the East. The West wing where the visitor enters today is where the religious and official staterooms are found while domestic rooms and workshops occupy the East wing.¹⁶

East Asia's more recent palaces, such as those in the Forbidden City in Peking and the Imperial Palaces of Japan, also consist of a series of buildings of low pavilions mostly of highly decorated wood construction within vast gardens(see Plates 3 & 3a below).

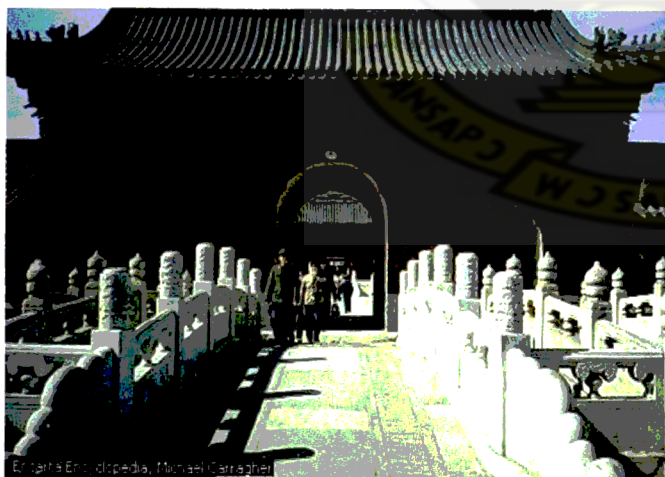


Plate 3; Palace in Forbidden City, Peking

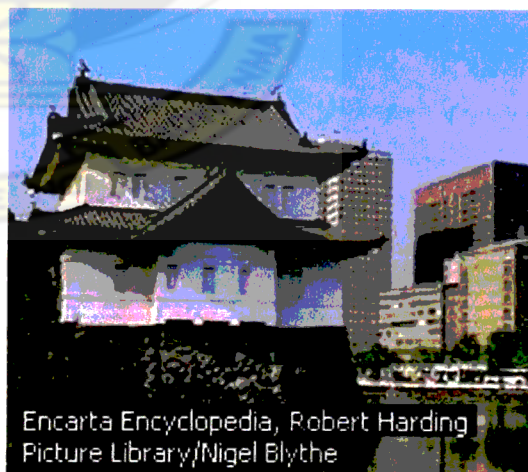


Plate 3a; Imperial Palace, Japan

(Source: Encarta Encyclopedia, Michael Caragher and Robert Harding Picture Library/Nigel Blythe)

In the New World, palaces tended to be less complex, such as the Mayan governor's palace at Uxmal (AD900) and the Zapotec palace at Mitla (AD1000), which were one-storied carved structures with many rooms. As in the east, though, palaces were the centres of government as well as the residences of the cultures leaders.¹⁷

In western Europe after the Middle Ages (when palace building declined in favor of castle construction), palaces tended to be single buildings, ornately designed and decorated in the style of the era, and often but not always set in richly landscaped gardens. In renaissance Italy, every prince had his royal Palazzo, such as the Pitti Palace in Florence and the many splendid palaces lining the Grand Canal in Venice. France built royal Palais throughout the country (notably the Louvre [1546] and Versailles [1661], and Spanish Palacios include El Escorial (1559-84) outside Madrid and the Alhambra (1238-1358) in Granada (see Plate 4 below). The British have three royal palaces—Buckingham, St. James and Whitehall- all of which are today symbols and residences rather than true seats of government.¹⁸

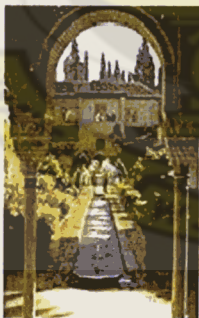


Plate 4; Views of the Alhambra, Granada. (SOURCE: www.greatbuildings.com/alhambra)

2.4 THE BUCKINGHAM PALACE

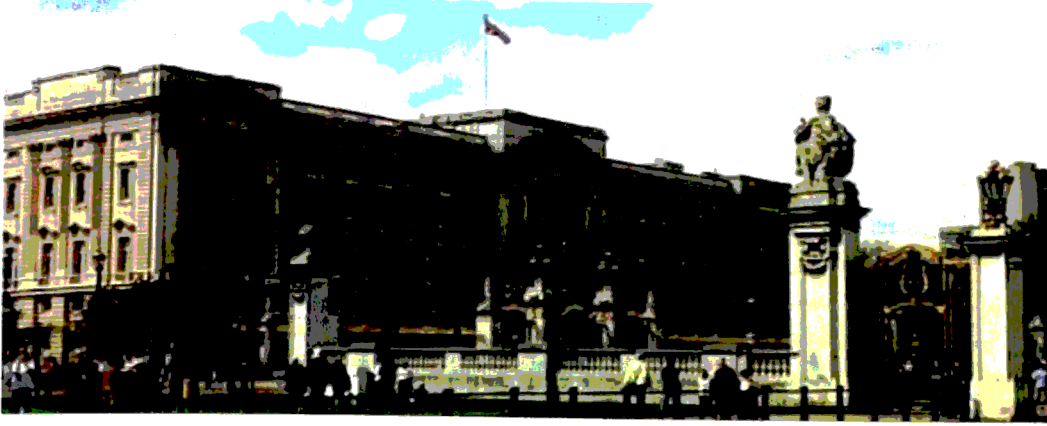


Plate 5; the Buckingham Palace, London (SOURCE: www.buckingham-palace.co.uk/history)

2.4.1 Palace History

Britain's monarchs have changed their official residences throughout the centuries from the Tower of London to Westminster to Whitehall to Kensington and St. James's and finally to Buckingham Palace. Buckingham Palace is now the official London residence of the reigning monarch. The Royal Residences or Palaces were individually tailored to suit each monarch, consequently subjecting the buildings to virtually incessant remodeling, rebuilding and repairs.

Buckingham House, named for the original red brick structure, was built in 1703- complete with mulberry garden for silk production- by the Duke of Buckingham and Chandos. The manor attracted the eye of King George III; and because of its close proximity to St. James' Palace, the king bought it as a dower house in 1762 for the 17-year-old Queen Charlotte. Buckingham house was then renamed Queen's House in 1774 and all but one of George III's 15 children were born there.¹⁹

Five years after George IV's ascension to the throne in 1820, the king hired architect John Nash to transform Queen's House into a palace of the *pied-a-tarre* style. The new palace exterior was constructed of honey-hued Bath Stone in the Neo-classical French design favored by George III and boasted a marble arch, the centerpiece of the enlarged courtyard that was built to commemorate the British victories at Trafalgar and Waterloo. King George IV died the following year, never having lived in his newly reconstructed palace.²⁰

William IV then employed Edward Blore to complete the palace left undone by the termination of John Nash. When Parliament was nearly completely destroyed by fire in 1834, King William IV offered the new Buckingham Palace as the new Parliament building, but his offer was declined.

Queen Victoria was the first sovereign to take up residence in Buckingham Palace in July 1837 and her June 1838 coronation was the first State procession to leave from there. Due to the lack of any nurseries and an insufficient number of guest rooms, Victoria and Albert hired Edward Blore to build a 4th wing on to the palace in 1840. This addition necessitated the removal of the marble arch to the northeast corner of Hyde Park, where it stands today. Most of the expansion project work was financed by the liquidation of George IV's Royal Pavillion in Brighton. The construction was completed well under budget in 1847.

The forecourt of Buckingham Palace, where the Changing of the Guard takes place, was formed and Victorian memorial wrought iron gates and railings were commissioned in 1911. The north center gate secures the everyday entrance to the palace while the center gate provides entrance for state occasions or officials. George V subsequently employed Sir Aston Webb to reface the crumbling Bath Stone of the east facade in 1913 with Portland Stone. It required 12 months to

prepare the stone, yet only 13 weeks to complete the refacing. The gates and refacing were completed in 1914. Buckingham Palace has endured few changes since. Sir Aston Webb is the architect primarily responsible for the palace's current aspect of reserved grandeur.²¹

The Palace interior and grounds also underwent a gradual metamorphosis into the stately, 600 room royal palaces of today. The Palace boasts a 40 acre garden, movie theatre, swimming pool and the queen's private art collection (opened to the public in 1962.). In addition, the Royal Mews, designed by Nash in 1825, house the state carriages and royal ceremonial apparel.

2.3.2 The Palace Today



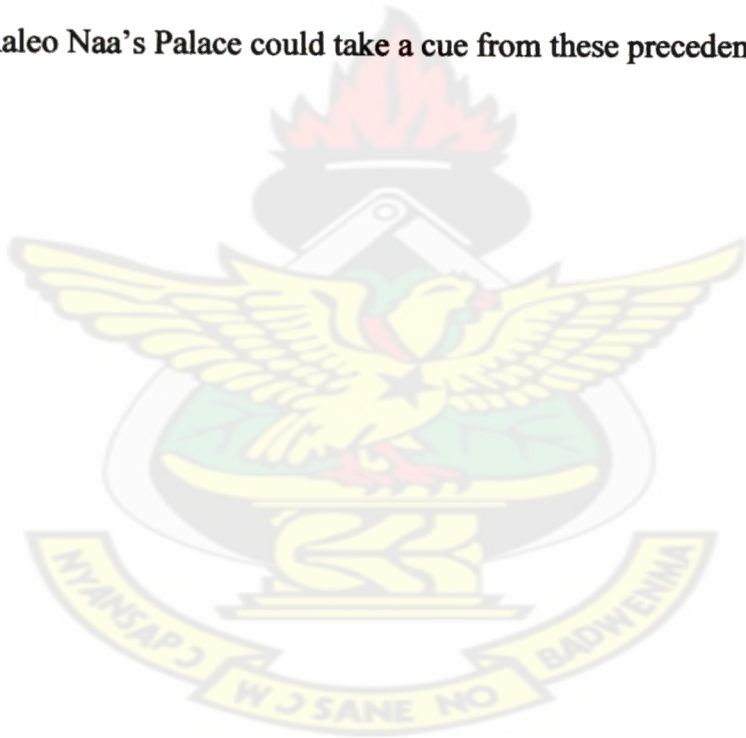
Plate 6; Beautiful Buckingham Palace as seen from St. James' Park (SOURCE: www.buckingham-palace.co.uk/history)

The Palace is surrounded on three sides by parks, St. James' Park, Green Park and Hyde Park. There are also 40 acres of gardens on palace grounds, complete with statuary, pool and fountain. Queen Elizabeth's own private suites overlook Green Park, a lovely, tree-lined preserve virtually overflowing with daffodils in the spring.

Between St. James' Park, and Green Park lies The Mall. The Mall begins at the gates of Buckingham Palace and ends at Trafalgar Square. It is the route most commonly taken by royal processions on state occasions.

2.4.3 Implications

From the foregoing study, it can be observed that, royal residences were individually tailored to suit each king/monarch. As such, different architectural styles were used at different times. They were ornately designed and decorated in the style of the era. The Neo-Classical style was largely employed as it traces its ancestry to these times. The study also revealed the use of on-site materials of Red Brick and stone. This is particularly encouraging as it captures the spirit and lives of the people by identifying with them. Additionally, the function of the palace from the study was enhanced by the use of several courtyards and open spaces. These and many other positive elements from other studies shall form the pond of ideas from which my thesis shall stem. The proposed Kaleo Naa's Palace could take a cue from these precedent studies.



CASE STUDIES

2.5 THE MANHYIA PALACE

In an unpublished dissertation report titled; The Changing Faces of The Manhyia Palace Complex, Mettle²² gives the following account of the evolution of the palace in the nineteenth century.

Manhyia was built in the early 19th century to accommodate the increasing number of Asantes when the need arose for a meeting. Hence the need to move from Adum to the present grounds.

On entering the palace complex from the Antoa road, is a large expanse of land called the Dwaberem (durbar grounds) with its royal daises.

The main entrance to the palace opens unto a compound house with four large patios around a courtyard. This place was used for oath swearing ceremonies and enstoolment of chiefs whilst one of the patios served as a store for the palace drums.

From this compound, another doorway led one into another courtyard with four patios on its side which served as a court for hearing serious cases.

A third courtyard adjoins this courtyard and served as a court for hearing serious cases which involved Kumasi subjects. These two courtyards however served other functions especially on rainy days.

The Abenase was the next component and was the only structure built of stone. It was a storey building and used as a store for the Asantehenes cloths, sandals, head bands “danta” and the

dwete kудuo which the Asantehene took along with him everywhere. Occupants included barbers, nail clippers among others.

Next was the Asankorase, the main residence of the Asantehene. This was a storey building which had rooms to accommodate about four to six (4-6) attendants. It also had a living room where the Asantehene could receive dignitaries, a bathroom and a store.

From the Asankorase, one entered the Ahenemadanmu where the Asantehene's children resided. Close to this compound was the Nsumankwaafieso, a large compound house with room for the "Nsuman", the Asantehenes medication. Behind, was the Kyinhyiam, another compound house which served as an alternative accommodation for the Asantehene with two (2) bedrooms provided for some attendants.

Next to the Kyinhyiam was the Dampongmu where the paraphernalia were kept. Items of regalia and treasury are stored here. There was a bedroom for the Asantehene, which was mostly used as a changing room with the occupants being hunchbacks.

2.5.1 ABROSANAASE (ASANTEHENE'S OFFICIAL RESIDENCE)

The Asantehenes official residence was put up to enable the old residence of Prempeh II (palace Museum) to be kept as a museum to exhibit the regalia and paraphernalia used by him and Prempeh I. there was also the need to put up a larger facility to fully accommodate the increasing needs of the then Asantehene, Otumfuo Opoku Ware II.

This facility was a two storey building which is in the International Style. The ground floor consisted of a carport, lounge, executive lounge, conference room, office, store, dining area,

kitchen, and a waiting area. The main entrance was graced with a flower garden, and an array of columns. Adequate provision was made for visitors parking.

For the residents' semi-private use, right up the stairs was a lounge, which also served as a waiting area and reception. A double door leads one from the smaller lounge into the executive lounge. In extreme cases where dignitaries had to dine with the Asantehene, provision was made for easy access to the dining area with its adjoining kitchen and outdoor cooking area.

Privately, right from the carport was a stairs behind the small lounge that led to a corridor. From the corridor, one could access the top floor by means of a staircase. Other areas such as the executive lounge, visitors washrooms office and conference room could be accessed from the corridor.

The second floor also consisted of a terrace and a smaller lounge. The stair to the top floor led one onto a corridor. The door to the left led to a smaller terrace, from where, one could get into the private lounge of Asantehene. From this lounge one could get access to the larger terrace overlooking the main entrance to the facility, which took its support from the columns celebrating the entrance on the ground floor.

2.5.2 NKONTIMSE (ASANTEHEMAA'S PALACE)

The inhabitants are usually wives, daughters, and nieces of sub chiefs who have been sent there to be educated. This structure has a larger number of domestic accommodations. From the Antoa road, is a junction which leads to the Asantehemaa's palace and residence. Right in front one came across the Sumpie, the royal daisy that is a four-sided structure. From the Sumpie, one entered the palace under a door, which led to Pramakan. This Pramakan was a courtyard bounded on three sides by bedrooms. At the far end of the entrance is the Soodo which was the

cooking space where all meals were prepared and served under the supervision of the Soodohemaa.

2.5.3 HIAA (THE ROYAL WIVES HAREM)

This is the residence for the royal wives, the wives of deceased Asantehenes. The unit has about seven compound houses and connected by short walls that show the extent of one's territory. It is close to the Asantehene's residence for easy access.

2.5.4 PALACE MUSEUM

Behind the Old Palace is the Palace garden which covers an area of about 180 sq. metres with a variety of flowers. Opposite this garden is the palaces museum. This museum dates back to 1924 when it was originally used as a residence for the then Asantehene Prempeh I. it was converted into the palace museum in the 1970's by Asantehene Otumfuo Opoku Ware.

2.5.5 Comments for Study of the Manhyia Palace

The Palace is very imposing and therefore easily identified. Public spaces are clearly segregated from private area. Provision was made for both outdoor and indoor meeting spaces.

Public toilet facilities have been made easily accessible to the public. Provision of landscape and recreational facilities are commendable as this idea is lost in most palaces.

The administrative sector of the Palace is quite elaborate. It is well equipped with modern facilities such as a banquet hall, state rooms, conference rooms, a museum etc. which help to enhance the image of the palace.

The well organized nature of the Palace has a positive psychological influence on the entire town and the Ashanti kingdom as a whole.

In terms of security, the Palace is securely fenced all round and in sections and one has to go through tight security checks before entering the palace grounds. The king's residence is away from the public areas thus giving the king maximum protection and security.

KNUST



2.6 THE WA-NAA'S PALACE

The Wa-Naa's Palace is a two hundred (200) years old monumental piece located in Wa, the capital town of the Upper West Region of Ghana. It is the official residence of the Wa-Naa, the overlord of the Wala state founded by Naa Pelpuo I. This Palace has been designated by the Ghana Tourist board as a heritage site for tourists because of its rich and traditional architecture.

It was observed in a technical survey that, the Palace in its present form was not built entirely during a single building campaign and also that the present plan form of the palace evolved through subsequent additions and alterations to its original past.²³ It was also observed that, three types of construction can be identified in the palace building. These different types of construction have different styles although employing the same principal materials namely; mud, and bush poles.

The Palace has two main entrances on the south façade. Both entrances are not in use at the same time during the lifetime of a Wa Naa. The entrance, which a particular Wa Naa uses during his lifetime, is closed after his death and the new Naa opens the other entrance.

2.6.1 Architectural Disposition

To many an observer, the visual impact of the Wa-Na's Palace is so powerful that its practical aspects could easily be overlooked. The basic essentials of a palace e.g., bedrooms, meeting halls, cooking areas, courtyards etc. together with the necessities of enclosure such as windows, walls, floor and roof combine intriguingly forming parts of a complex sculptural piece.

The visual composition of the building (Unity) is conspicuously displayed. It is both simple and complex. Simple at distance with powerful vertical buttresses and massive walls giving a bold and simple image. The repetitive arrangement of the buttresses along the façade introduces verticality

into an otherwise horizontal composition. The visual composition of the palace is further enhanced by the contrast of colour. The black painted plinth is contrasted by the white body of the walls and the black pots capping the pinnacles of the buttresses. The fenestrations form an interesting geometry. The two main entrances (as by cultural principles) along the south façade are harmoniously related to the small sized windows as they run along the walls and rhythmically play with the buttresses. (See Plates 7a & b, and Fig. 1 below)



Plates 7a & b; the Wa-Naa's Palace as seen from the South.



Fig.1; South Elevation

The expressiveness of Palace architecture is often characterized by a hierarchy of spaces. Spaces are clearly defined for public, private and sacred purpose. This in the Wa-Naa's Palace is somewhat weakly expressed as public spaces flow into private areas. The main entrance leads one through an entrance hall and into the first courtyard which is the public courtyard.

Visitors are normally not allowed beyond this courtyard. The public courtyard is bounded on the west by the reception hall and bedroom of the Wa Naa. The reception hall has a verandah attached to it which faces the public courtyard. The Naa sits on this verandah to watch small performances during festivals.

On the eastern end of the public courtyard is another set of bedrooms and reception hall. Adjoining to this hall in the east are 2 big rooms, which are the sleeping rooms of two attendants of the Wa Naa. From the public courtyard, access to other parts of the palace is either through the reception hall of the Naa, or a covered space where the Naa's horses and other domestic animals are kept. This space opens at the eastern end to a small courtyard of the Naa's favourite wife. It also opens onto a long narrow courtyard in the west of the palace where the other Naa's wives, the attendants to the Naa, his relatives and their families live. (See Fig. 2 below)

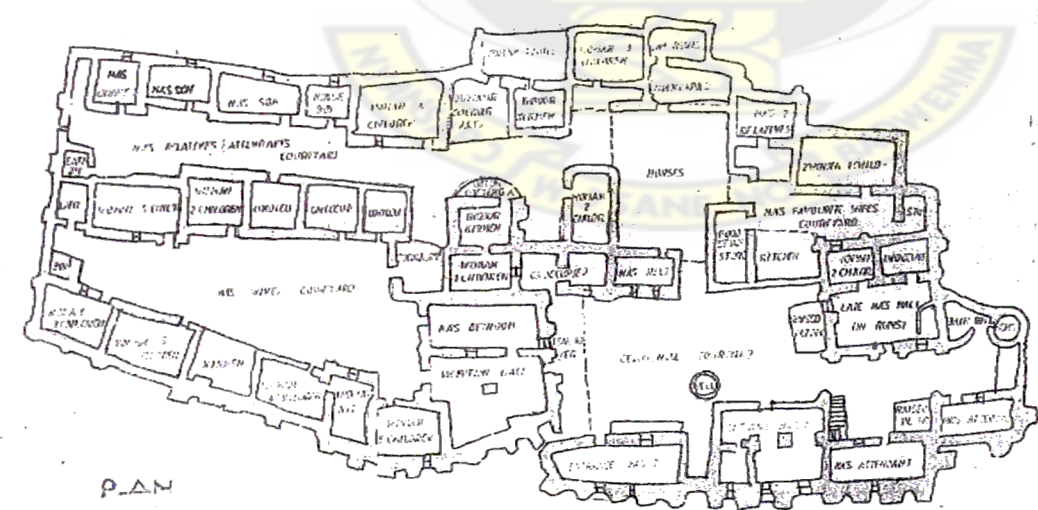


Fig.2; Ground Floor Plan (SOURCE: archived brochure, Ghana Tourist Board)

The function of the palace, like its unity, is very strongly conveyed by the massive appearance of the mud walls and buttresses which supported by forked timber columns holds the flat mud roof in place. The roof is laid to a thickness of 280mm on a grid of lightweight timber, supported in turn on timber beams and poles fixed horizontally at 450-900mm centres. The thickness of the mud wall (450mm) particularly maintains the temperature inside the Palace and gives a feel of security within. The massive buttresses lend support to the thick walls and rises slenderly to about 800mm above the parapet of the flat roof. They are distinguished from the ordinary houses by black clay pots capping the pinnacles. The total massiveness of these elements of wall and buttresses all round provides a sure durability and permanence. It is therefore not surprising the Wa-Naa's Palace on record dates back as far as 200 years and is a heritage resource. The use of mud and timber further indicate without ambiguity, the palaces' place in time.

2.6.2 Implications

A number of positive factors from the case studies shall influence the outlook of the New Kaleo Naa's Palace.

It was observed in all instances of the study that the builders of the time paid attention to the visual composition of the Palace using the vertical element of the buttress. My design shall adopt and give more meaning to this element. Also the functionality of the palace was enhanced by the use of the courtyards as observed above. My design shall use this feature as a core point since it is the living area of the house. Also, it was observed in all instances of the study that apart from the traditional spaces, it was necessary to also have a civic area and guest accommodation. This is mainly due to the changing needs roles of the chiefs and kings. Educated and well informed

leaders are also coming into the scene with development initiatives. There is therefore the need to create administrative offices to allow such developments.

The modern Chiefs will want to have such spaces as study rooms, bars and lounges to entertain their guests; thus the need to provide these facilities in the official residence. There is also the need to protect the Chief by ensuring maximum security within the Palace.



2.7 THE EXISTING KALEO NAA'S PALACE

Located in Kaleo, a village in the Nadowli district of the Upper West Region, the Palace houses the “Na Kpeng” (Paramount chief) of the Kaleo Traditional Area (KTC). Its architecture depicts the Sudanese style of architecture in similarity with the buildings in the locality.

2.7.1 General Observations

The Palace is characterized by a series of buttresses which adorn the main façade as is characteristic of palaces among the Dagaaba. The buttresses are capped at the pinnacles with black clay pots. This is a distinguishing feature between the buttresses at the palace and that of an ordinary house among the Dagaaba. The palace has a generous open space for ceremonial purposes in front of it.

The Palace and the Dagaaba indigenous architecture have common characteristic of rectangular forms, small windows, large courtyards as well as flat roofs built of mud with timber stakes.

There are two main entrances both on the south façade of which only one is traditionally in use for official and ceremonial purposes in the lifetime of a Naa.

The Palace is organized around two large compounds which are described as public and private courtyards. The first courtyard has an area measure of 146.2m^2 and is flanked south by the ‘Zangu’ (central chamber), entrance lobby and residence (for the senior most elder), to the north by 3 x 4.5m wives bedrooms and west by the 6.7 x 2.8m central wives kitchen/brewery.

Also to the north-east of this courtyard block is located a one storey block the ground floor of which serves as the reception hall of the present Naa. This also houses two guest rooms to accommodate visitors to the palace. The first floor of this block serves as the residence of the Naa.

Within the second courtyard and located very close to the Naa's residence is a 42m² room which serves as the skin room. Here the skins and tails of several animals and other costumes for other purposes are kept here under the close watch of the Naa.

The whole of the south façade other than a meter high of bitumen paint is painted white and stand out conspicuously in the tropical sun. The rest reflect the local material of mud. The white and black south facade is one of the distinguishing features of palaces among the Dagaaba. An alley (1840mm) wide separates the residences to the east end of the courtyard and the residences and courtyards of the elders, relatives and other royals of the Naa.

2.7.2 Implications

The use of indigenous architecture in the design is imperative for regionalism and shall be considered in my design of the Palace. The arbitrary changes of material at certain portions to modern/foreign materials is not cost effective as well as out of context since it does not reflect the true spirit of the people. Hence in the design of the new palace, this shall be considered.

The Palace is limited in space and as such the clear distinction of spaces for residential and administrative purposes is missing. Also it is not security conscious for the same reasons as above. The new palace has to make an attempt at defining and maintaining a hierarchy of spaces for the different activities within and according to the different roles of the Naa.

At present, photographs taken at durbars and important functions are all in the personal care of the Naa and therefore not accessible to the public. Other artifacts which face the danger of extinction such as the gourds, horns, earthenware pots, cowries, xylophone etc. as well as their pictures need to be housed as a collection and referenced to in my design.

The palace building with a life span of about forty (40) years is a delight to look at especially from the south façade as it abuts the open space like a huge piece of sculpture. The pinnacles of the buttresses rising about 800mm from the top of the parapet wall are decorous to look at against the tropical sky. This as the “hand shaker” of the Kaleo Traditional Area serves as the true icon of the Dagaaba architecture and must be a heritage reminder.

2.8 SURVEYS ON DAGAABA CULTURE

2.8.1 Cultural Activities and General daily life

The indigenous daily activities of the people include funeral rites, marriage ceremonies, festivals (*zumbenti, bagre, wilaa*, etc), out-dooring ceremonies, farming, hunting, animal rearing, and petty trading. It is worthy of notice that, pito brewing and drinking form part of the daily life of the land. Sacrificial offerings at the shrines are also part of the traditional day-to-day administration of the land. In recent times, formal activities of teaching and education, banking, and health services delivery at the clinic have become part and parcel of activities of the land.

2.8.2 Totems and Taboos

Toteism among the tribes of the Dagaaba is generally coupled with exogamy. Among the Dagaaba, there is a prevailing view that an ancestor of a clan was saved by an animal of a sort during the migratory periods. This animal is thus recognized as sacred by all members of such clan and preserved. The rule then is that, any such animal must not be killed or eaten by members of the clan or it attracts the ancestral punishment for disobedience. Because of the Patrilineal system of inheritance among the Dagaaba, such totems are passed on from father to son. Some clans within the traditional area and their totems include; *Imo – Red Dove, Iwe – Royal Python, Iwai – Cat or Leopard, Iko – Dove, Iso – Porcupine, Iche – Alligator etc.*

Some of the taboos included; not using a broom to hit someone, not eating tuozaafi (t.z) from a mortar, no crossing of stretched legs of another person seated, no drinking of water from a lady in her period, no whistling in the night, no calling aloud by name at night etc.

2.8.3 Art and Artifacts

The dagaaba culture can boast of numerous arts and artifacts that form part of the daily lives of the people. These include xylophone, drums (different types), smocks, huts, bows and arrows, several skin and leather products, clay mouldings, wood carvings, brooms, clay sculptured statues, carved idols, folklore and tales etc.

2.8.4 Implications

This survey would influence my design of the palace as a Dagaaba heritage in several ways; Totems and their replicas would be used as murals in furnishing and finishing some parts of the palace. For example, the floor finishing would largely depict the replicas of these totems. Also, the totems as well as fossil remains would be collected as exhibits in the museum.

The arts and artifacts would particularly be useful in my attempt to remind the people what they up of by displaying these rich arts all over. Also, these artifacts would be molded as balustrades and given architectural prominence. Furthermore, these artifacts would be sculptured and added to enhance the landscape of the Palace.

Finally, Pito brewing and consumption as a part of daily life would be incorporated in the design. Space would be allocated to this activity and the women in the palace do it as an economic activity. This would also attract more people to the palace.

2.9 INDIGENOUS ARCHITECTURE OF KALEO

The people of Kaleo being Dagaaba practice the patrilineal system of inheritance where a child belongs and inherits from the father. They also practice the extended family system which is defined to include all relatives; grandparents, parents, children, nephews and nieces, uncles and aunts etc. This structure of the society has influenced greatly the spatial needs and organization of the house as a unit in Kaleo.

The indigenous architecture of Kaleo is characterized by the flat-roofed architecture of the Sudanese style; basically rectilinear plan forms, with massive walls, strengthened by tapering buttresses, and flat mud roofs, supported mainly on forked timber posts and timber beams.²³ Houses in Kaleo consist mainly of a cluster of rectangular or square plan forms arranged to form a series of courtyards composed of several households (see Figs. 3 & 4 below). These are normally connected by short unbroken walls. There is normally an entrance hall which is roofed and houses a grinding stone and sometimes granaries. This leads into a main courtyard and to the individual rooms. Within the courtyard is a shelter for animals. These external facades have a few fenestrations which are comparatively small. Also prominent are small window openings and projecting beams on exterior walls

The materials of construction are mostly mud with flats roofs and timber battened windows and doors. In some cases, gable roof of corrugated zinc sheets has been used lately, in the 1990's.

Other artifacts are earthen ware pots placed at the corners of the courtyards for water. There also exist hearths made of moulded clay within the compound for cooking in the outdoor. Access to the flat mud roofs which mainly were used for drying is by a forked timber log which leans on the wall with steps cut out on it.

Several reasons have been given to the kind of architecture here. These include; the climatic conditions, security from marauders, and religion. Given the fact that Kaleo was one of the first points of call for the Roman Catholic missionaries who came to preach togetherness, the people of Kaleo are mainly Roman Catholics which also explains why they built together. Older sons married and moved out a few meters to build forming another courtyard in addition to the old house.

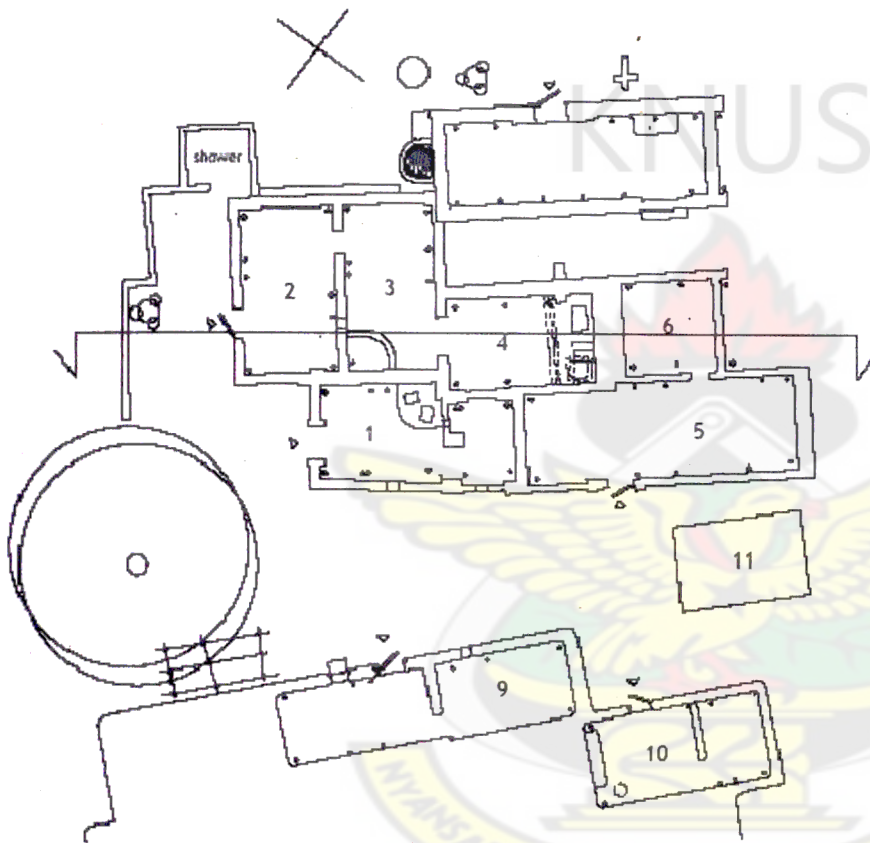


Fig. 3; Typical compound layout in Kaleo (Source: On-site measures AutoCAD drawing)

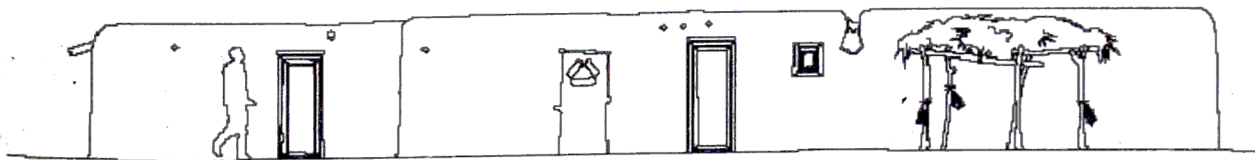


Fig. 4; Elevation of typical household in Kaleo (Source: On-site measured AutoCAD drawing)

2.9.1 Building Materials and Methods

The materials include lateritic clayey earth used in landcrete blocks or rammed into walls. Stabilizers such as cow-dung and grass are used to strengthen the earth. Post and beam system of structural support is employed and the wall thickness ranges between 300 – 450mm in order to manage heat transfer from outside to inside.

In conclusion, the unique Architectural style (Sudanic), with its influences from the structure of the society and the spatial arrangement of spaces with courtyards shall be employed and given modern interpretation in the New Kaleo-Naa's Palace.

2.10 TECHNICAL STUDIES

2.10.1 Adobe Brick Construction

Adobe is a sun dried earth brick that is the traditional building material found through the southwestern United States, as well as in Mexico, North Africa and other arid regions around the world. The oldest structures in earth dating back to at least 8300 BC are in adobe, as well as some buildings around 900 years old, which are still in use. "Adobe" is the Spanish name derived from the older Arabic "al-tob", dating from the Moorish occupation of Spain.²⁴

There has been a lot of research on this technique with the result, that rational engineering solutions can now be applied to structures in Adobe bricks. Since 1998 the technique is accommodated in the New Zealand Earth Building Standards.²⁵

In countries with a big demand, adobe bricks are produced mechanically in commercial brick making yards or there is the option of hiring a brick making machine to make adobes on site. In New Zealand it wasn't possible to buy commercially made adobes until the setting up of an adobe brick manufacturing yard in Nelson in 1992.

Modern adobe bricks are usually stabilized with cement. These bricks are laid in courses, set in place with an earth/sand/cement mortar. Adobe walls are typically 16 inches wide. When left exposed, these walls become a compelling design element.

2.10.2 Advantages of Adobe bricks

Making use of Adobe bricks is probably one of the simplest forms of earth building. Adobe walls have a number of advantages and relatively few disadvantages. As with other forms of earth construction, adobe bricks are a fireproof, durable yet biodegradable, non-toxic building material which provides sufficient thermal mass to buildings to ensure excellent thermal performance. Other benefits include low sound transmission levels through walls and a general feeling of solidity and security.

With adequate supervision this technique is highly suitable for owner builders, as no costly tools or equipment are necessary and the essential know-how can be easily acquired on a training workshop and through hands-on experiences.

One of the biggest advantages of the Adobe system is that it allows the individual units or bricks to shrink before they are placed in the wall. The risk of extensive shrinkage and cracking, which would otherwise occur in soils of high clay content in a large monolithic wall, is prevented.

Also, the bricks can be cast from a wider range of soils and can cope with higher clay content than is suitable for in-situ techniques.

In addition to the above, Adobe bricks are more durable and stronger than rammed earth or pressed bricks. These latter techniques can be made stronger than Adobe with the addition of cement. However, the addition of cement has numerous disadvantages including higher cost, less user friendly material to work with and more limited with regards to earth wall finishing.

Due to the production process and the nature of clay, Adobe bricks have good water resistance. Nevertheless it is very important to provide adequate weather protection of the earth walls, especially in exposed situations. This is normally done with the provision of adequate eaves.

The small Adobe units provide great flexibility in the design and construction of earth buildings. Adobe bricks can be easily cut for fitting and can be provided with holes for reinforcing and services.

Finally, many people find the pattern and texture of Adobe walls very attractive. These several advantages shall be adopted since the principal material of construction of the New Kaleo-Naa's Palace shall be Adobe brick.

2.10.3 The Technique

Adobe bricks (mud bricks) are made of earth with fairly high clay content. If produced manually, the earth mix is cast in open moulds onto the ground and then left to dry out. Adobe bricks are only sun-dried, not kiln-fired.

When used for construction they are laid up into a wall using an earth mortar. Before drying out, the finished walls are smoothed down. Often a clay render is applied as a surface coating.

Depending on intended use, the bricks range from 8 to 13 cm (3 to 5 inches) thick, 25 to 30 cm wide, and 35 to 50 cm long. Before they can be used, the bricks must be "air" cured, which usually takes at least two weeks in arid climates. The addition of fibre is solely to prevent the bricks from cracking during the curing process.

Adobe walls are normally built on a solid, waterproof foundation of stone or concrete; otherwise the capillary action of groundwater may cause the lower courses to disintegrate. The bricks are laid in a mortar of the same material, then finished with a coat of adobe or with lime or cement

plaster (See Fig. 5 below). With proper construction and maintenance, an adobe wall may last centuries.

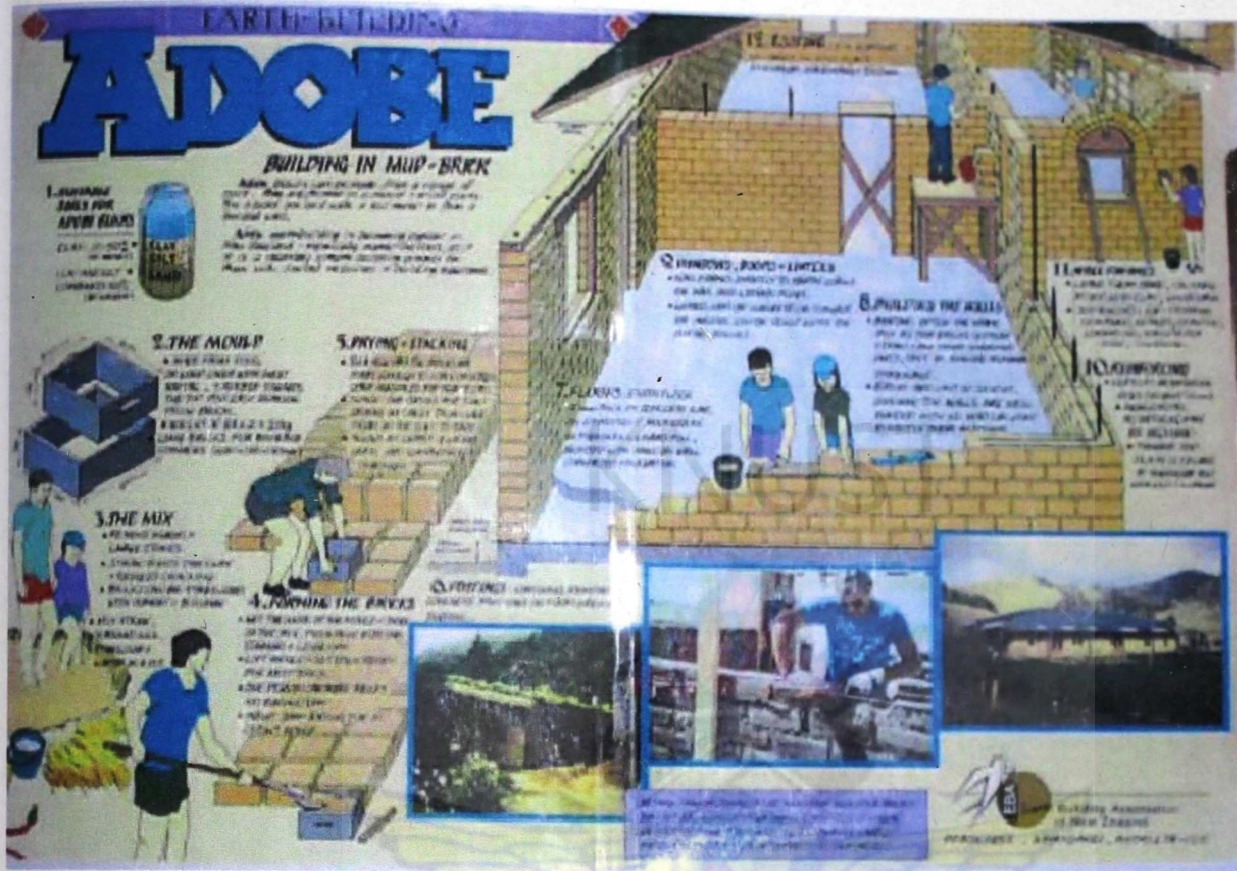


Fig. 5; the Production Cycle in Adobe Brick Construction

2.10.4 Handicapped Accessibility

The public areas within the palace should be designed for all classes of persons including the handicapped persons in society. Spaces shall be designed to be able to accommodate wheel chairs and allow sufficient space for moving around in safety. Access paths should be 1.20 - 2.00m wide and be as short as possible. Ramps should ideally be straight; with a maximum incline of 5.7% and should be no longer than 6m. Corridors should be at least 1.30m wide; with a clear opening of doors of 0.95m and height of light switches and electrical sockets located at about 1.0 – 1.05m above the floor.²⁶ (Neufert 3, pg 298).

REFERENCES

1. *The New Encyclopaedia Britannica*, Micropaedia Ready Reference. Volume 9. 15th Edition
2. *ibid*
3. www.cogsci.princeton.edu/cgi-bin/webwn
4. *ibid*, *The New Encyclopaedia Britannica*,
5. *ibid*
6. richardgingras.com/devilsdictionary/p.html
7. Republic of Ghana (1992), *The 1992 Constitution*, Tema: Ghana Publishing Corporation.
8. Naa, Prof. Nabila (2006), "*Decentralisation within the Traditional System of Authority in Ghana*". Paper presented at a Workshop on the theme Decentralisation and Traditional Authority in Ghana organized by the National House of Chiefs, Ghana, 16th – 18th August, 2006.
9. *ibid*, 1992 Constitution of Ghana
10. Boafo-Arthur, K. (2000), "*Chieftancy and the Prospects for Democratic Consolidation in Ghana*" Paper presented at a symposium on the theme "Chieftancy and Development" organized by the Institute of African Studies, University of Ghana, Legon on June 14, 2000.
11. Ayee, J. R. A. (2000), "*Chieftancy and Modern Politics: Chieftancy and the New Local Government System*". Paper Presented at a Symposium on the theme Chieftancy and Modern Politics organized by the Institute of African Studies, University of Ghana, June 7, 2000.

12. *ibid*, *The New Encyclopaedia Britannica*,
13. *ibid*
14. Sir Banister Fletcher. *A History of Architecture*, Twentieth Edition. Architectural Press (1996)
15. *ibid*, *Fletcher*
16. *ibid*, *Encyclopaedia Britannica*
17. Op Cit, *Fletcher*
18. Op Cit, *Fletcher*
19. www.buckingham-palace.co.uk/history
20. *ibid*, *Fletcher*
21. *ibid*
22. Victoria Naa Mettle, *The Changing Faces of the Manhyia Palace Complex*. Unpublished, July, 2000
23. Department of Architecture, UST, Kumasi, *Traditional Forms of Architecture in Ghana*. Compilation of Study Reports by the Department, 1974. P.43
24. New Zealand Earth Building Standards
25. *ibid*, New Zealand
26. Ernst and Peter Neuferts, *Architects Data*, third Edition, Blackwell Science Ltd, 2000. p. 298

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 METHODOLOGY

First, an extensive literature review was conducted to provide background information on the meaning and evolution process of Palaces in general as well as the evolution processes of the chieftaincy institution in Ghana. This literature review includes research on the nature and design of some historic palaces such as the Buckingham Palace in Britain, published work on design and architecture among the Dagaaba, published work on the use of Adobe earth as a building material, and research into the traditions and lifestyle of the Dagaaba which would influence the outcome of the thesis.

In addition, research case studies were conducted on existing Palaces including the Wa-Naa's Palace, the Manhyia Palace and the existing Kaleo-Naa's Palace. These were chosen and analysed and conclusions drawn. Case studies are frequently used in professions and fields of practical activities such as architecture, planning and environmental engineering. A case is a phenomenon of some kind, which emerges in a limited context and determined in social, spatial or temporal terms (Johansson, 2001).

Furthermore, on-site surveys and analysis are also conducted to give an indication of the location, weather conditions, and what exactly exists within the site which would influence the outcome of this thesis.

3.2 DATA COLLECTION

Data triangulation was used to increase the reliability and validity of information collected. Data triangulation refers to using several sources to collect information/data about the same phenomenon (Johansson, 2001). The different methods used include:-

(i) Key person informal interviews

- Interviews with the Kaleo-Naa (the Principal client and main occupant of the New Kaleo-Naa's Palace) and some Staff of the Palace.
- Interviews with the Chief of Staff, Manhyia Palace in Kumasi

(ii) Archival records/documentation

- Various reports and documents on the National House of Chiefs of Ghana.
- The 1992 Constitution of Ghana.
- Published and Unpublished books and articles as well as information from the internet formed the basis of the discussion in the literature review section of the thesis.

(iii) Direct observations, on-site technical surveys, measurement and documentation of existing features of the existing Palace and proposed site for the New Palace.

(iv) Sketches, photographs, and AutoCAD produced data were also employed to give graphical evidence of the relevant information.

3.3 PROBLEMS ENCOUNTERED

Access to adequate information in Ghana, as in other developing countries, proved to be a big hurdle. Either the required information was not documented or getting official access by way of permissions from top officials proved to be rather bureaucratic and time consuming. Though this was evident from virtually every group encountered, I am grateful for the information that the

following were willing to share: staff of the existing Kaleo-Naa's Palace and the Chief of Staff of the Manhyia Palace in Kumasi. This is not to say that I did not encounter problems with the above.

For instance, it was not possible to get documented technical details and specifications for the Wa-Naa's Palace in Wa and the Manhyia Palace in Kumasi.

Additionally, time and financial constraints encountered by the author meant that the duration and extent of the thesis could not be increased. The author's intentions of supporting this thesis with 3-dimensional simulations and animations could not be achieved for this reason.

Also many of those contacted were willing to comment on general issues, but when it came to specifics, there were hesitations. Some areas within all the Palaces the author visited were considered 'sacred' and restricted and accessible to only a few people. As such, there is limited information on the Skin rooms for the Wa and Kaleo Palaces as well as the Stool room of the Manhyia palace.

However, despite these odds and problems encountered, the author has managed to get the information contained in this thesis. It will be interesting to compare the issues raised in this thesis with the results from further studies.

CHAPTER FOUR

4.0 FINDINGS AND DISCUSSIONS

PART I: SITE STUDIES

4.1 LOCATION

The Kaleo-Naa's palace is located in Kaleo in the Kaleo Traditional Area. Kaleo is a village located in the Nadowli district of the Upper West Region, north of Ghana. It is about eight (8) kilometers to the north of Wa, the regional capital and lies between latitudes $9^{\circ}45' - 10^{\circ}25'$ and longitudes $1^{\circ}40' - 2^{\circ}50'$ west of the Greenwich meridian. (See fig. 6 below). The site for the Kaleo-Naa's palace is situated in the heart of the village which also happens to be the heart of the Kaleo Traditional Area since it is the centre of activity and the focal point of the surrounding villages. The site covers a land area of $43,200\text{m}^2$. The site is bordered to the West by the existing palace, to the East by mixed use facilities, to the North by the village market and South by residences.

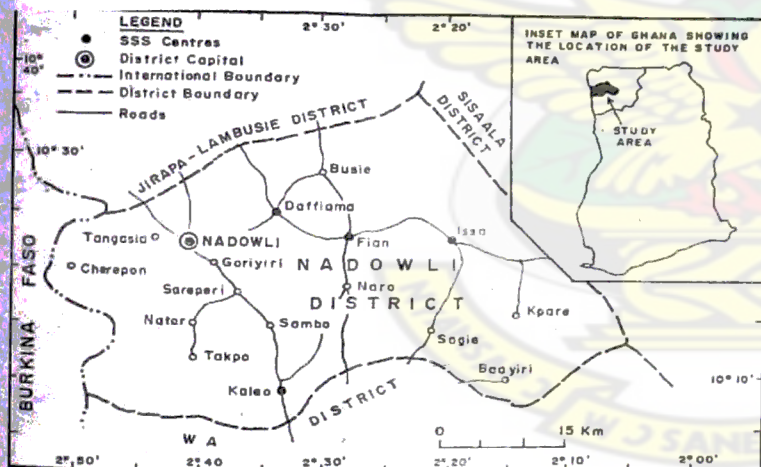


Fig. 6; Locational map of Kaleo relative to the Nadowli District, Wa, U/W/R

4.1.1 Physical Environment and Existing Architecture

The savannah woodland belt covers the environment within which is located the site for the palace with scattered trees and bushes. Lee (May 2005), writes that, bush burning, indiscriminate felling of trees and animals have greatly contributed to the sparse vegetation cover found in the

area.¹ Some economic trees found in the district are kapok, shea, baobab, mango and dawadawa and these are both resistant to both fire and drought. Houses around the site are built in the folk architectural style with a few changes to modern trends in building.

The existing palace to the west end of the site is built in the architectural style of the area characterized by the flat roofed architecture and buttress adorned facades of the Sudanese style. A few arbitrary changes have been done to the building fabric of the palace such the use of zinc and cement-sand blocks for some parts.

The market to the north-west end is mainly of modern materials of cement and sandcrete blocks. The dominant architecture however is local, fashioned as a response to the environment.

4.1.2 Climate

Kaleo has a tropical northern savannah climate with long dry seasons (6-9 months). Annual mean rainfall values vary between 770 – 1200mm. Rains are experienced from April onwards increasing in intensity in June and July. From November to February, a dry and dusty wind called the harmattan blows from north to north-east. During this season, the weather is very hot and dry with considerable drop in temperature during the night. Average temperatures read about 19°C at night to 37°C during the day. Mean temperatures during the dry season vary between 40°C day temperatures to 27°C night temperatures. Average relative humidity all year round is about 70%-90% during the rainy season 44% but sometimes go as low as 12% in the dry season. Sunshine is high all year round at a mean value of 300lumens/hr. The rains last from June – November with the heaviest in September.

4.1.3 Choice and Justification of Site

The site was selected by recommendation of the Kaleo Naa in consultation with the 'tendaamba' and other traditional authorities. It's proximity with the Existing palace makes it priority. The



Map 3.2; Site Analysis

4.1.6 Site Peripheral Study

The adjoining village market would provide a lot of patronage to the pito bar in the palace. Proximity of existing palace shall provide accommodation for a greater number of the elders and other relatives of the Naa. The architecture would also add to the folk architecture the palace seeks to promote. Electricity and telephone services that run along the site peripheries shall be tapped into the site.



Map 3.2; Site Peripheries

PART II: PLANNING AND DESIGN

4.2 Concept and Philosophy of the Design

The Kaleo Naa's palace as the largest building in the area shall be a masterpiece of Dagaaba heritage revival architecture, ranking among the best examples in the Sub-Saharan Africa. The palace shall illustrate regionalism in totality: use of onsite or locally available materials; harmony with the surrounding landscape; strong ties to local architectural traditions; and the appearance of having been constructed by native craftsmen using primitive tools.

Although the palace's primary significance is architectural, three other aspects of regional significance are worth noting. First, the palace is a keystone in the administrative history of the Kaleo Traditional Council. Second, the palace holds the spiritual hope and aspirations of the people and is a symbol of hope to the Dagaaba youth. Third, the palace shall stand as a monument and a source of civic pride to the hundreds of local young men and women of the Kaleo traditional area who would cut and shape the timbers, form the thousands of adobe bricks, and erect the building, as well as to the skilled young and budding architects and student who would put in the mechanical systems and contribute to the other aspects of the finished product.

4.3 Functional Relationships

The palace is a spiritual, administrative and residential facility. As such, the three main groups will have to be considered and their functional relationships established to ensure security and safety as well as ensure the comfort and convenience of the users and other target group users. The main users include; the Naa, residents of the palace, workers of the palace, and visitors and other target groups. Functional relationships to depict the hierarchy of spaces that exists have been divided into;

- a. General flow diagram
- b. Administrative flow

c. Residential flow diagram

GENERAL FUNCTIONAL DIAGRAM

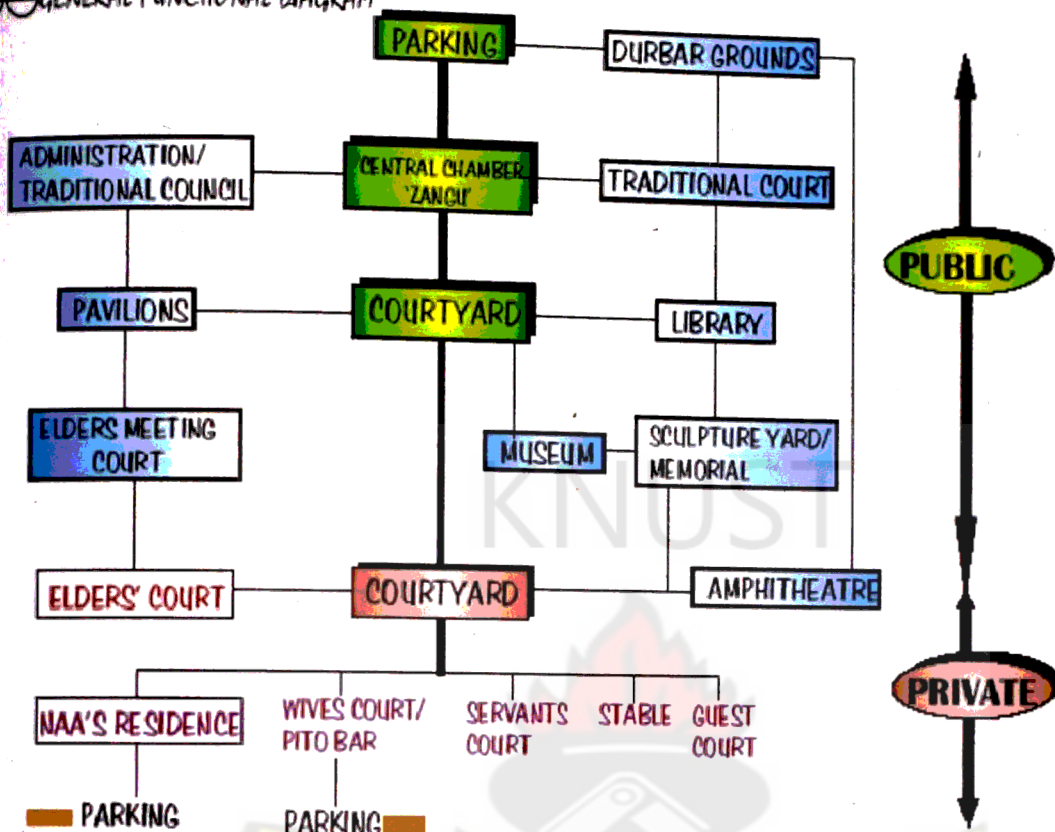


Diagram 4.3a; General flow pattern within the facility

ADMINISTRATION FUNCTIONAL DIAGRAM

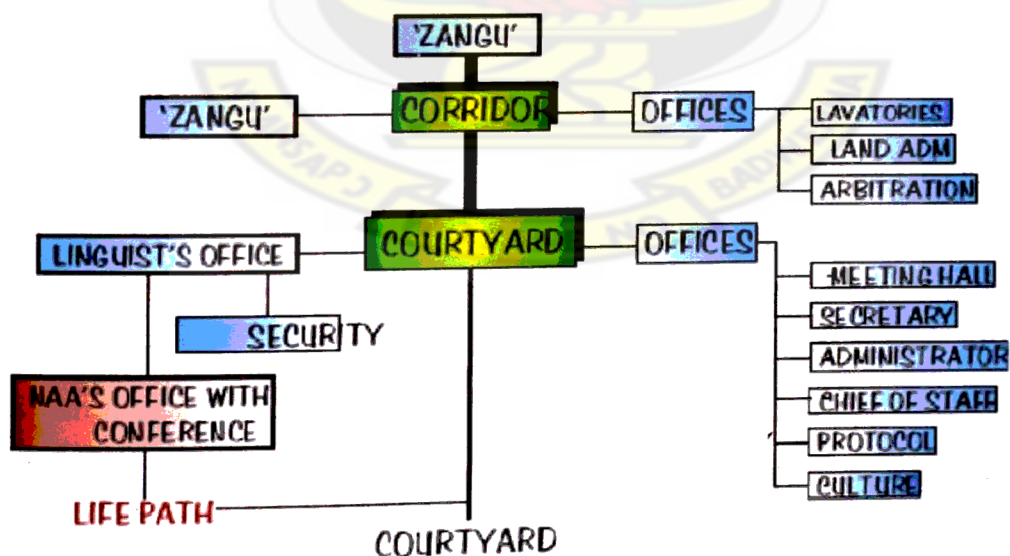


Diagram 4.3b; Administration flow Pattern

RESIDENTIAL FLOW DIAGRAM

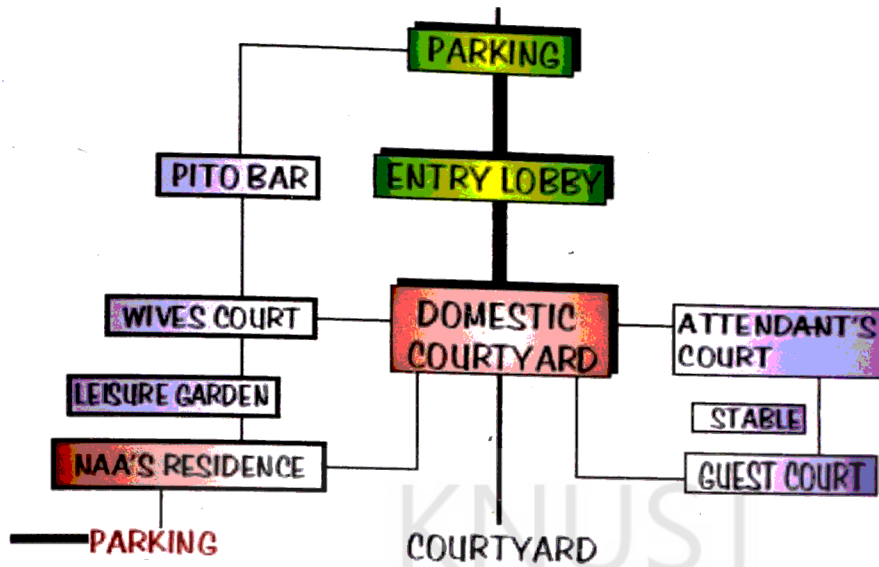


Diagram 4.3c; Residential flow Pattern

The entire feeling of the palace complex is Dagaaba traditional and architectural reverence. The buildings are in adobe mud brick covering an area of 43,200m² and built with the native rectangular shaped plan forms around a central courtyard. The layout and general spatial configuration are romantically reminiscent of a Dagaaba traditional compound. *See conceptual site plan 1 below.*

In a conceptualized layout, the architecturally dominant section of the building is two stories in height. This is located to the west end of the facility and houses the impressive administrative facility comprising an entrance lobby also described as the Central chamber, the Offices for the Naa, and some offices tucked back toward the central courtyard. The remainder of the west end comprises a one storey building which houses meeting places for the elders as well as residential facilities for them. The west wing also has as part of it the Naa's official residence which is a one storey building with a generous provision for car parking. It is also advantageously located to connect to the wives courtyard via a leisure garden and in proximity with the existing palace for security reasons. *See conceptual site plan 1 below.*

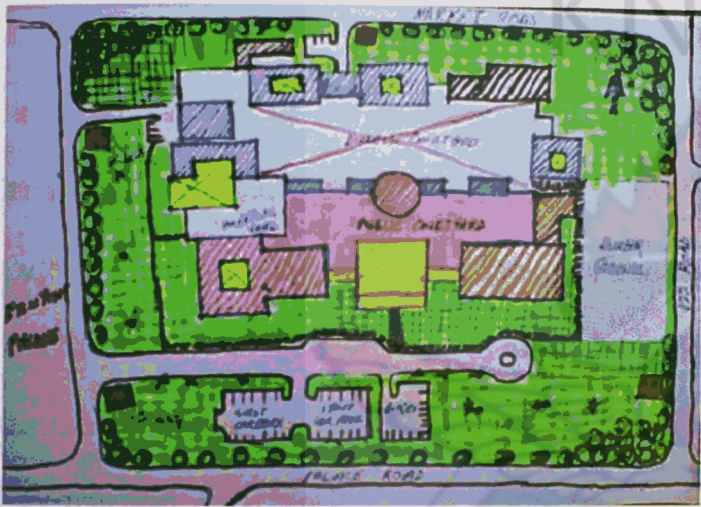
The eastern end of the complex houses the traditional court and library facilities. Adjoining the library and located within the domestic courtyard is the guest courtyards to accommodate guest and officials to the palace. At the north eastern end is located the stables to house the horses of the Naa. This shall be a spectacle for most visitors to the palace since horses in present day are not common hence the location in proximity to the guest residence. Abutting the guest residence and to the extreme east is the durbar grounds with the amphitheater. This shall serve the backhouse recreational needs of the palace. Since this is highly traditional, it shall give the guests a better reason to utilize the balconies provided in the guest residence.

Located centrally and in the heart of the design are the museum and the pavilions. These are located within the south courtyard which is the public courtyard. This courtyard is accessible to all and sundry. The location of the museum depicts the traditional granary to house the hopes and aspirations of the Dagaaba as well as keep them in touch with their past. Its circular form and roof form is in sympathy with the other northern forms of architecture that exist such that, one experiences a completeness of northern architecture after a brisk tour of the palace. Also its height provides for an observation tower which towers above all other structures within the complex. From this tower the visitors can enjoy a panoramic view of the entire village and its beautiful architecture.

The domestic courtyard which is surrounded by the residential facilities of the Naa, his wives, his attendants and the guests is large and shall aid almost all domestic outdoor activities such as naming ceremonies and small traditional functions. It shall also house an underground reservoir to contain Rainwater harvested from the flat roofs to run the basic non-consumable services

within the palace. The Naa's wives courtyard is so located in proximity with the pito brewery so as to be accessed easily from the market since the market shall form the core base of patronage to this facility. Also noise from the market shall not actually be a nuisance to the pito bar since it is a noisy area in itself.

However, the administration is so placed so as to maintain the quite and serene that it deserves as well as make it easily accessible to the public who could transact business there without actually venturing into other parts of the palace.



Conceptual site plan 1

4.4 The New Kaleo Naa's Palace by Description of the Essentials

4.4.1 Approach and entrance

The main entrance into the building is at the south end, through a security gate which is largely regional in character and symbolizes the totem of the people of Kaleo, the traditional centre of the KTC. From the security gate, an asphalted drive leads the visitor to a car or bicycle park depending on the category that one belongs from hence a flagstone path leads one to the front doors. The double doors are flanked by massive buttresses, again mimicking the Sudanese

architectural style which is characteristic of palaces in this area. The doors each have twelve inset panels, sandblasted and marked with saws to appear as if they had been constructed with primitive tools. This attention to fine detail is evident throughout the structure. A large hewn lintel spans the opening above the door. The wall surface of this main entry is recessed from the buttresses and surrounding walls and painted a cream color emphasizing its indentation. The entry leads into the central chamber or "Zangu" where the Naa sit daily to receive visitors and greetings from the natives and visitors.

4.4.2 Central chamber/ "Zangu"

Important features of the chamber include the impressive hewn beams of the ceiling; the hammered-tin chandeliers that light the cool, dark space; the hand-carved furniture of dagaaba traditional design; and the lighted painting of a renowned sculptor, Mr. George Song-aabo of the first Naa of the village that hangs in the lobby in an eight-foot by nine-foot recess at the end of the room opposite the doors. This chamber has to its west and east ends doors with carved panelling and grille work leading to a concourse that connects the office block and traditional courts respectively. This chamber is a most impressive entrance, and sets the tone for the other fine architectural spaces of the complex building.

4.4.3 Administration block

The conference room and the offices of the Kaleo traditional council are as well imposing spaces. The high ceilings of the conference room, again embellished with tin chandeliers, receive natural light through the French doors accessed from the courtyard. The pale finish of the massive hand-carved furniture contributes to this lighter feeling. Most noteworthy of these is the

office of the regional director, at the north end of the hall. The architectural details such as the exposed vigas, window sills two feet thick, and the decorative details including the Navajo rugs, hand-carved furniture, and Dagaaba pottery give the room its feeling of importance. The doors open to a portal and a small patio. Upstairs, a 9 metre long corridor provides access to the offices of the counseling, arbitration and directorate units.

The other offices throughout the building tend to be more utilitarian in nature. Many have ceilings of exposed vigas interspersed with coved plaster on metal lath. In other rooms the ceilings have insulation board attached to the underside of the viga, giving the appearance of a flat, plastered ceiling. Doors providing access into the courtyard from the offices are multi-light wood frame. Doors on interior walls are often heavy (three-ply) vertical board wood doors. Nearly all have original hardware.

4.4.4 Courtyards

Other amenities incorporated into the building's design contribute to its appeal. The courtyards, for instance, are roofless spaces that exemplify the indoor-outdoor quality of this style of architecture. The focal point of the south/public & central, for instance, pavilions, the museum, and the sculpture/memorial yard in the north corner. The pavilions are outdoor spaces where the Naa uses to entertain small groups of visitors to the palace.

Within the south courtyard, are a series of planters in the northwest and southwest corners and all are edged with bancos (built-in benches). The abundant vegetation and convenient benches have historically made the courtyard a place for employees to congregate during breaks, lunches, and special gatherings. Besides this main courtyard, the building has several other small courtyards--

in the northeast corner, in the center of the east wing, and at the south and west sides of the main complex.

The sociological significance of these courtyards which add to their special appeal cannot be overemphasized. Informal arbitrations, family celebrations and funerals are celebrated in the south/public courtyard whereas children play, stories are told, and cooking is done within the domestic courtyards. In the palace in particular, royal children need to be brought up in the ways of royalty. The Courtyard facilitates this as it offers them the opportunity to do things together, as well as have ample opportunity to hear and watch adults, become fluent in speech and custom at an early age.

4.4.5 Furniture and furnishing

The entire palace complex is richly textured with movable and built-in decorative elements: hand built furniture and hammered tin fixtures of dagaaba traditional design. The furniture and light fixtures shall be designed traditionally to complement the architectural design of the building. The furniture is of mortise-and-tenon construction with spindles carved in spiral designs.

Of all furniture the major pieces are the conference room tables and chairs, which shall be patterned with the skins of different animals according to the seating arrangement of the various sub-chiefs under the Kaleo Naa, since each chief uses a different skin name skin type.

4.4.6 Parking Spaces

Parking lots for bicycles, motor bicycles and cars for employees and visitors are on the south and west ends of the palace complex. These are edged with adobe walls and, form a unique part of the original design. Adobe walls, one with an entrance sign, flank the entrance road following a gentle curve into the visitor parking areas. These walls provide spatial definition – the visitor senses that he is entering a compound.

PART III: MATERIALS AND CONSTRUCTION

4.5 Structural System

The palace complex is built entirely on the principle of post and beam structural system. The thickness of the wall (250-300mm) makes the wall structurally sound to support cross beams that carry roof. The wood (logs) or beams of average diameter 110-150mm are arranged closely at 300mm centres.

A mass concrete strip foundation with a sufficient depth (minimum 750mm) is employed for good structural stability. To further improve the structural stability of the complex, Expansion joints are placed at major joints of the various units that make up the entire complex. These will also prevent the damaging effects of expansion and contraction as well as differential settlement in the life of buildings.

4.6 Materials and Finishes

This project as an attempt to arrest the fading architecture and culture practices of the Dagaaba shall depict regionalism as far as possible. Visitors to the palace complex should experience the richness and unique architecture and culture of the Dagaaba. Thus, the exterior shall be finished to reflect the setting in which it is sited. As its custom with palace among the Dagaaba, the south/main façade shall be finished in black bituminous base and white coral emulsion top. The other entities shall be finished naturally.

The palace as the spiritual centre of the people must have a cultural touch; hence the integration of culturally oriented materials would enhance the physical look.

The furniture, fixtures, fittings, interior and exterior décor shall be of standards of the state of the art. In the palace, there must be a clear distinction between royal seating and ordinary seating.

The furnishings and fixtures attached to the walls must be robust, and mobile furnishings shall be easily movable on wheels. The skins of different animals shall be employed to give the furnishings a royal charm. Walls and ceilings shall be of materials in the natural state and would easily and rapidly clean. Floors shall be finished with high quality with materials that are durable and easily cleanable. Interior plantings provide a healthy and relaxing environment; hence provisions would be made for that. Soft landscaping in the form of planting and water shall be used to reduce heat and beautify the environment.

4.6.1 Central Chamber ('Zangu')

The 'Zangu' or the Central chamber is the first point of call for visitors to the palace. It is also a space that the chief sits to receive homage every day of the week except Fridays and Saturdays. As such it must make a lasting impression on the minds of visitors. Floor finish shall reflect the culture in the form of the different totems and symbols of the Kaleo area. Walls shall have different texture finishes in the natural state with wall paintings of all past Naa's to the present Naa. The ceiling shall be finished to showcase the cultural elements in the form of gourds and calabashes.

Lighting fixtures shall have cultural inclination. All chandeliers shall be housed in specially carved calabashes. Seating in this area shall be locally carved. The Naa's seat shall be housed on a raised platform here. It shall be carved of timber and stuffed with cushions and finished with the skin of a horse.

The reception desk would be finished to complement the rest of the space. The skirting within the space shall be made of red stone.

4.6.2 Administration

The administration block shall house offices for the Naa, elders and officers of the palace administration and the Kaleo Traditional Council etc. This is a serious working space and shall have a formal setting. Floors here therefore shall be of hard wearing reflective terrazzo. Ceilings shall remain finished to its structural components upon which light fixtures are placed. Most parts of walls would be painted white to enhance luminance. All timber elements shall be finished in their natural state. All desks especially in the Naa's office shall be lined with skins. The courtyard within this space shall have a shade tree under which staff can relax out of the offices. The courtyard shall have a soft landscape of grass to minimize the heat. The balustrades shall be crafted to represent the cultural artifacts that abound the area.

4.6.3 Traditional Court

The Naa sits here to hear cases on Tuesdays, Wednesdays and Sundays. Elders also conduct open fora etc on developmental issues and government policies here. Hence audio and visual clarity shall be a primary requirement. To achieve this, a system of dual controlled sound, video, projector and a projection screen shall be used. Excellent detailing shall be used to conceal all services. Ceiling shall be treated to simple polished timber battens. Timber panels shall be employed with locally woven mat to finish the walls. Other parts of the wall shall be furnished with motifs and murals. Floors shall be treated to ceramic tile finish which is easily cleanable.

4.6.4 Museum

This is the "granary" or store house of the culture of the palace complex. As such, it must reflect culture in totality. A visit to the museum must have a lasting impression on the minds of visitors

hence, the reception or waiting area as the first point of call shall have a floor finished with terrazzo in the form of totem and symbols. Seats here shall be fixed and characterize the local "palaver ground". The reception desk would be of timber in the natural state. The shop shall be furnished to glass and exposed natural earth.

The exhibition and gallery areas shall have floors finished to hard wearing reflective terrazzo. Columns shall provide support for casement fittings. Walls shall be furnished mostly with motifs and murals. There shall be provision for sufficient lighting for the arts and artifacts and photos.

The round shape of the museum is in sympathy with other northern architectures and gives the visitor an overall experience of northern Ghana architecture and serve as a one-stop point for architectural experience.

4.6.5 Pito Bar

The Pito bar shall have an exposed ceiling to reveal the beautifully woven bamboo rafters and purlins in their natural state. The lighting and sprinkler systems shall be beautifully incorporated with cultural elements. The floor of the pito bar will be ceramic tile with stone furnish skirting. Local woven mats shall be used to shade the wide openings in times of rain and other weather storms. The roof shall be of thatch.

4.7 Water Supply

The palace for security reasons has its own water supply system. As such a borehole is dug within and mechanized to pump water to storage tanks. Both the direct and indirect systems are employed. Safety requirements including the provision of filters attached to all water outlets

shall be observed. Since about 90% of roofs are all parapet, receptacle are provided at the base to collect rain water from the roofs to an underground 5000gallon capacity reservoir. This water is pumped up to serve the sanitarries and for other non-consumption purposes.

4.8 Emergency electricity supply - Solar Energy

In the event of failure of the main supply as in being experienced by the country currently, the palace complex should not be affected. With the abundance of sunshine in the area, solar panels shall be installed on the flat roofs to harness the sun energy to support the lightening and energy needs of the palace. There shall be an automatic change-over switch with the time lag of 2-5seconds.

4.9 Landscape

The palace complex is landscaped to enhance the needed beauty and to create a microclimate against the harsh weather conditions.

4.9.1 Soft landscaping

The few trees in the site are incorporated into an overall landscape with the introduction of more greens. The north –western side has a thick belt of trees and shrubs to reduce the impact of the noise from the market. Avenue trees adorn the southern hedge of the palace to give the much needed royal charm. Parking areas would be provided with shady trees

Trees of cultural significance are provided as part of the landscape package. This is to reinforce the sense of place and role of the palace. Water ponds and fountains flowing from the sculptural pieces shall add barely to the landscape. Earthen ware pots and jars are used as flower pots for

both the interior and exterior where necessary. The courtyards would be landscaped to a garden effect with fountains and plants as well as seating for visitors.

4.9.2 Hard landscaping

Easy maintenance, durability and aesthetic appeal shall be considered in my choice of hard paving elements. The driveways shall be surfaced with asphalt while the car park and pedestrian walks shall be finished with interlocking concrete paves interspersed with grass. The pavers shall blend with the rest of the landscape in both colour and texture. This is aimed at reducing heat loads, glare and by the principle of rhythm and repetition to achieve a better design.



CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The purpose of this thesis is; to promote the culture and architecture of the Dagaaba by design, to enhance the smooth and efficient running of the Kaleo Traditional Council by the provision of a comfortable environment and the physical form of the palace is to portray the eminence and richness of the traditions of the Dagaaba. It shall also be an emblem of the people reminding them of who they are.

The new Kaleo Naa's palace complex shall further boost the confidence of the people to revisit the building culture of the Dagaaba which by far has proven to be less costly than the counterpart 'modern buildings'. This shall be done taking into consideration a proper integration of the cultural dynamism.

Furthermore, the new Kaleo Naa's Palace shall be a tourist destination, it will cause the development of related facilities like hotels, restaurants, etc. This will therefore create employment opportunities in Kaleo and bring foreign exchange.

For first timers to the palace complex, it shall be seen as a one stop centre for a rich Dagaaba architectural experience cutting across all sections of the Dagaaba land.

5.2 Recommendation

The concerns raised are best achievable by the active participation of all stakeholders. In the construction process; from inception to completion, all procedures must be followed to the letter. To capture the spirit and letter of the design, the natives must be made to feel a greater part of the process.

Also, it shall be recommended that, the project be carried out in phases;

Phase 1: the Central chamber and Administration Block

Phase 2: the Residences for the Naa, Wives and Elders.

Phase 3: the Traditional court, Library and Museum

Phase 4: the Guest Residence and Amphitheatre

Phase 5: the Pito bar, Security Posts and Stables

Phase 6: the Landscaping and Courtyard elements

KNUST



BIBLIOGRAPHY

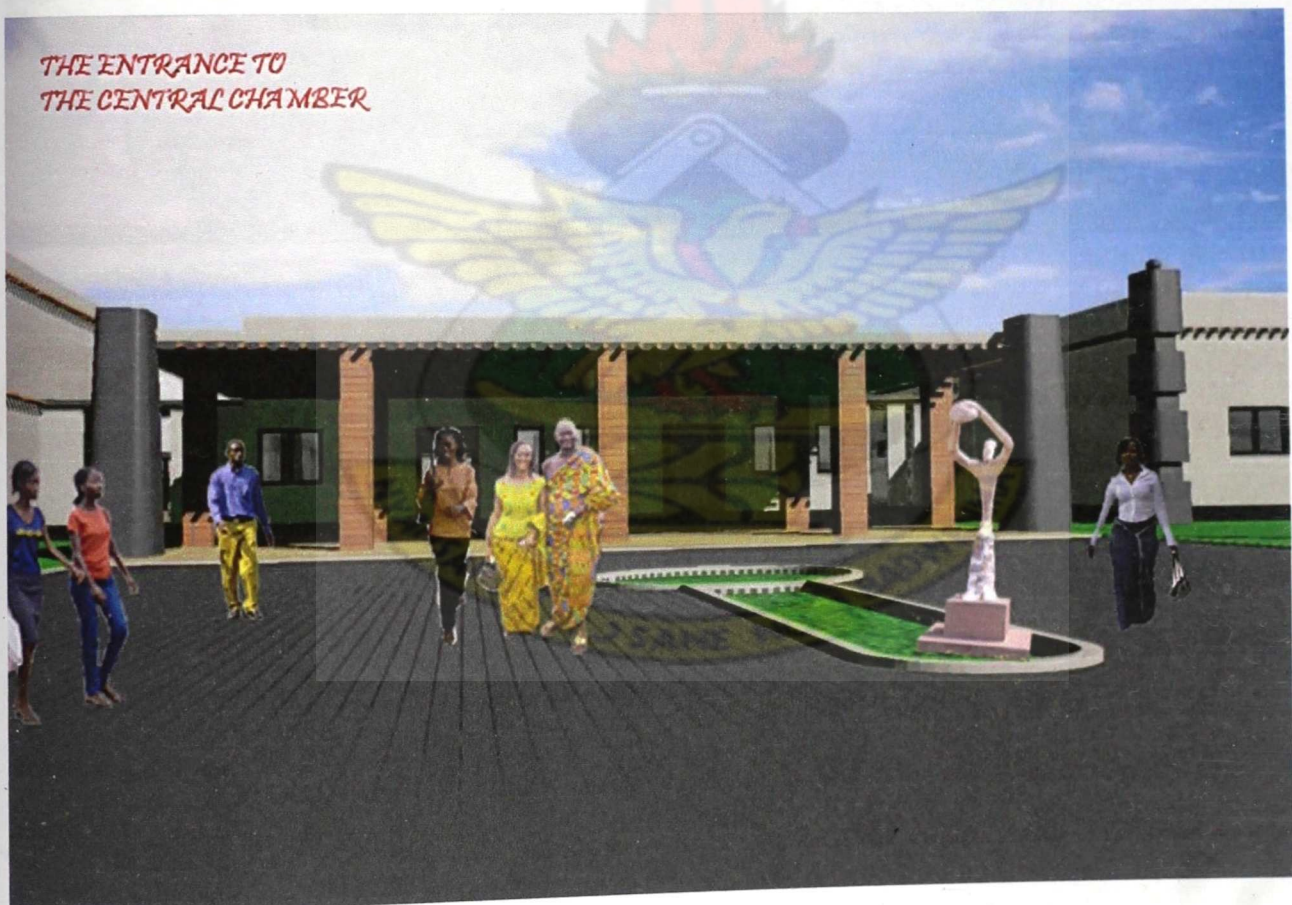
1. Ayee, J. R. A. (2000), "*Chieftancy and Modern Politics: Chieftancy and the New Local Government System*". Paper Presented at a Symposium on the theme Chieftancy and Modern Politics organized by the Institute of African Studies, University of Ghana, June 7, 2000.
2. Bofo-Arthur, K. (2000), "*Chieftancy and the Prospects for Democratic Consolidation in Ghana*" Paper presented at a symposium on the theme "Chieftancy and Development" organized by the Institute of African Studies, University of Ghana, Legon on June 14, 2000.
3. Department of Architecture, UST, Kumasi, *Traditional Forms of Architecture in Ghana*. Compilation of Study Reports by the Department, 1974. p.43
4. Dictionary, *Macmillan Student's Dictionary*, Second Edition. Macmillan (1996)
5. Dictionary, *Oxford Advanced Learners Dictionary*, Special Price Edition (Oxford, 2001)
6. Ernst and Peter Neuferts, *Architects Data, third Edition*, Blackwell Science Ltd, 2000. p. 298
7. Gabriel Tuurey, *An Introduction to the Mole- Speaking Community*,
8. Lee Felix Anzagira, *The Kaleo-Naa's Palace; A study of the development of palaces among the Dagaaba of the Upper West Region of Ghana*. Unpublished Dissertation, May 2005. p.54
9. Naa, Prof. Nabila (2006), "*Decentralisation within the Traditional System of Authority in Ghana*". Paper presented at a Workshop on the theme Decentralisation and Traditional Authority in Ghana organized by the National House of Chiefs, Ghana, 16th – 18th August, 2006.

10. NZ Earth Building Standards
11. Republic of Ghana (1992), *The 1992 Constitution*, Tema: Ghana Publishing Corporation.
12. Sir Banister Fletcher. *A History of Architecture*, Twentieth Edition. Architectural Press (1996)
13. Stephen Loree, *Reign of the Chiefs in Kaleo*, Unpublished (December 1981)
14. *The New Encyclopaedia Britannica*, Micropaedia Ready Reference. Volume 9. 15th Edition
15. Victoria Naa Mettle, *The Changing Faces of the Manhyia Palace Complex*. Unpublished, July, 2000
16. www.cogsci.princeton.edu/cgi-bin/webwn
17. richardgingras.com/devilsdictionary/p.html
18. www.buckingham-palace.co.uk/history

APPENDIX 1A.

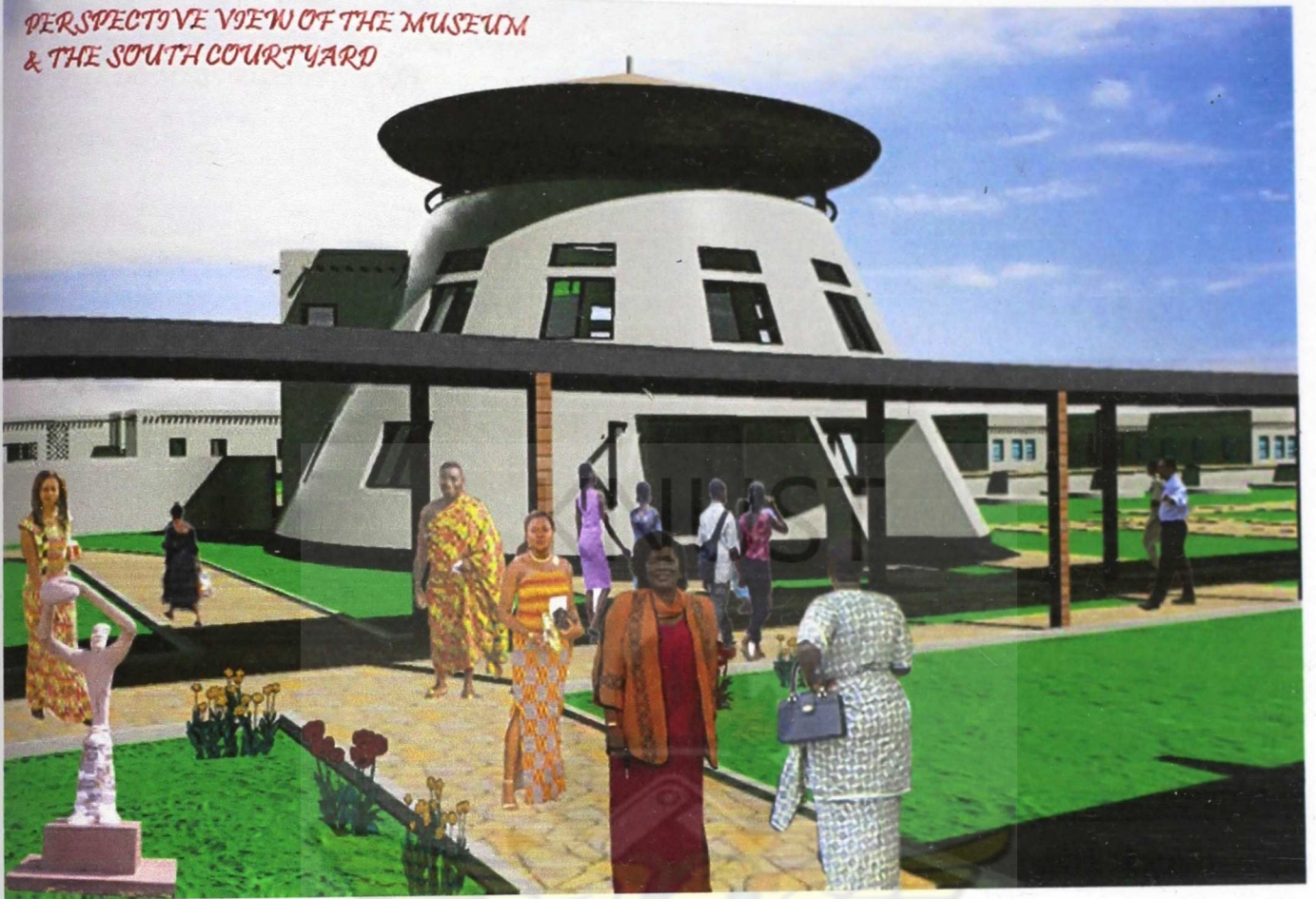


APPENDIX 1B.



APPENDIX C

*PERSPECTIVE VIEW OF THE MUSEUM
& THE SOUTH COURTYARD*



APPENDIX D

*VIEW OF GUEST RES WITHIN
THE DOMESTIC COURTYARD*



*VIEW OF THE WIVES RESIDENCE
& POTO BAR*



VILLAGE MA
COMMERCIAL

100 SECTION/
RESIDENTIAL

800 SECTION/
RESIDENTIAL

EXISTING MAAT'S
HOUSE/ RESIDENTIAL

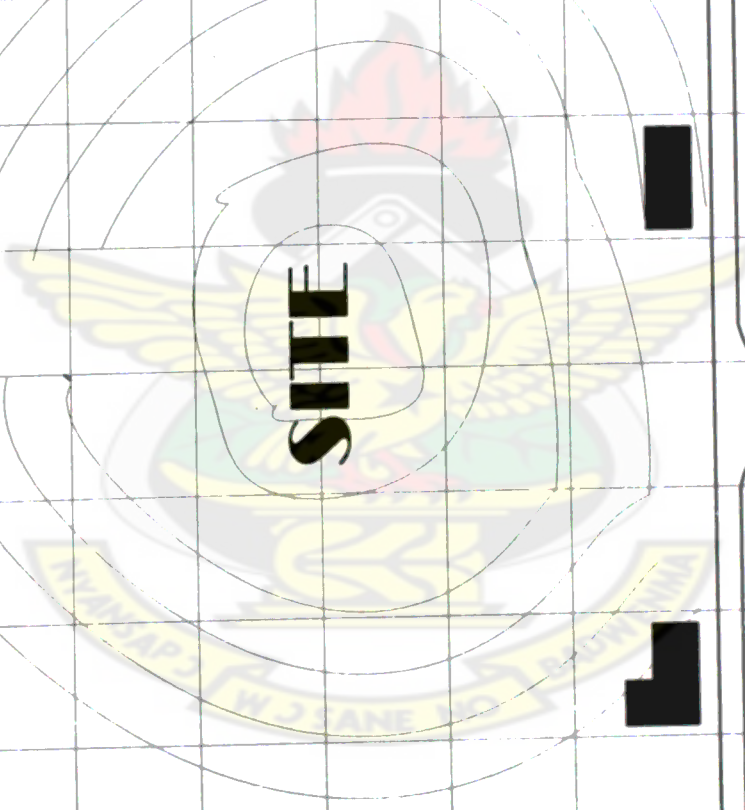
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HOUSE/ RESIDENTIAL

MAISON SECTION/
RESIDENTIAL

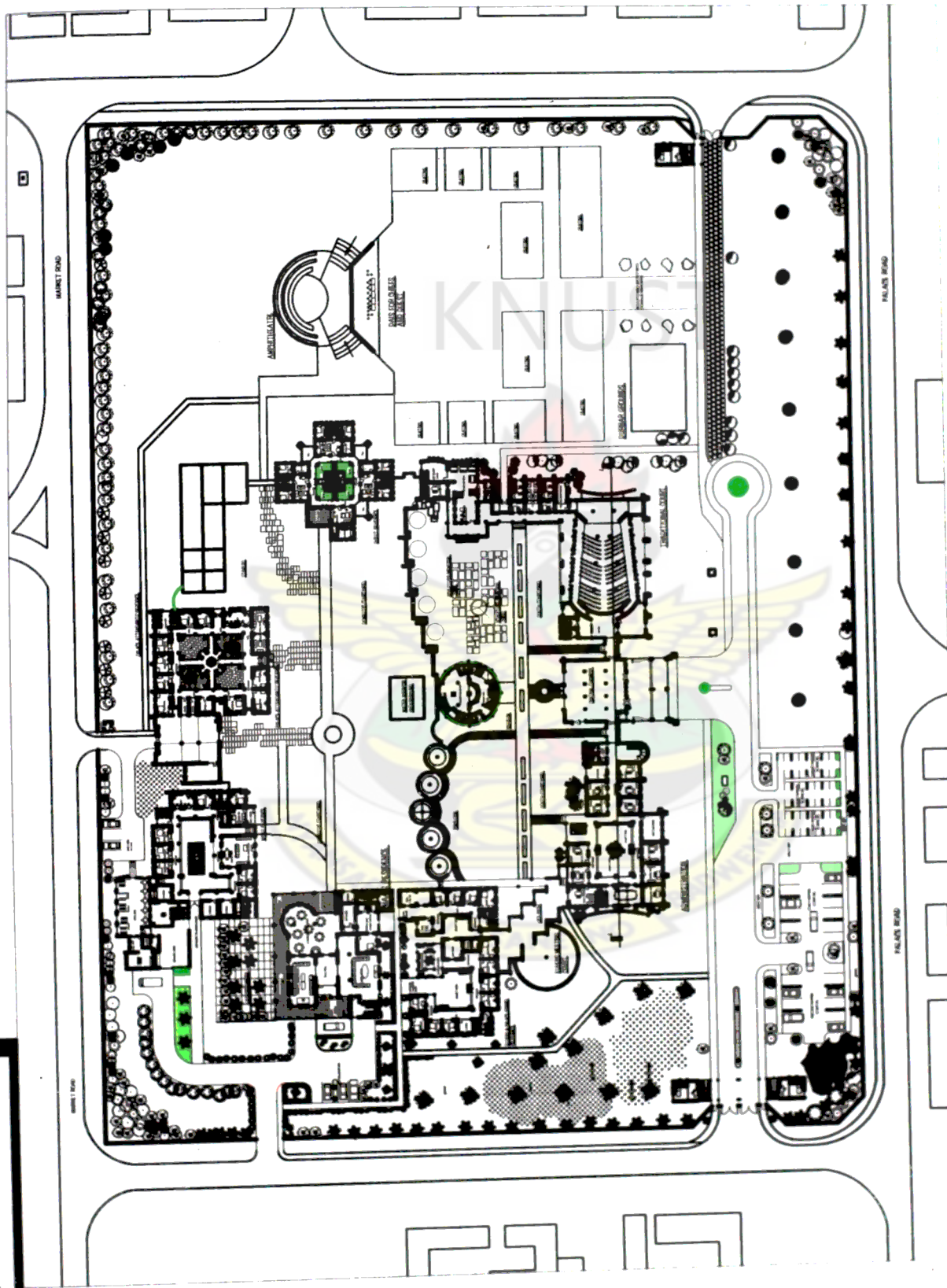
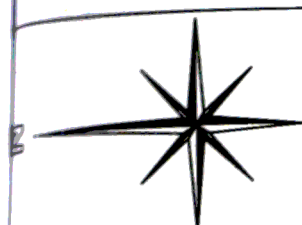
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SITE

KNUST



SPICE LAYOUT



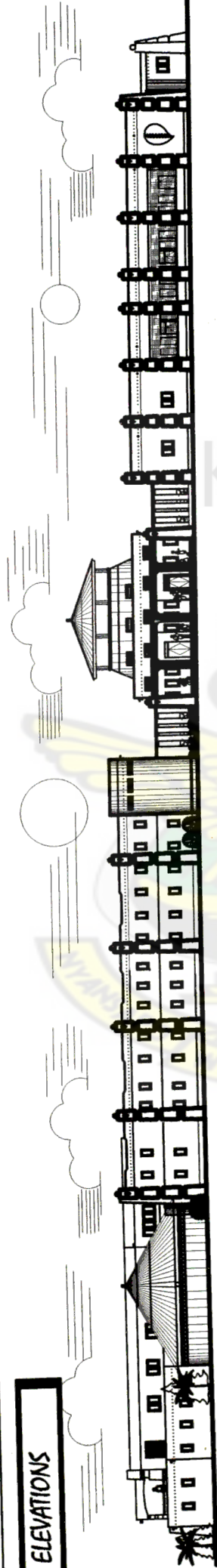
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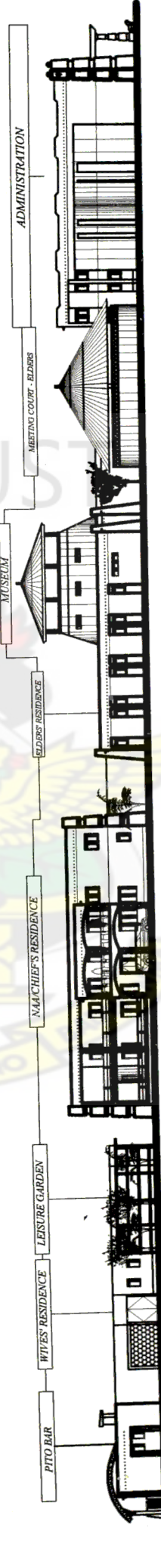
APPENDIX 3A

ELEVATIONS



SOUTH ELEVATION

SCALE 1:400



WEST ELEVATION
SCALE 1:400

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NAME OF ARCHITECTURE & NAME
PROJECT TITLE
DATE OF SUBMISSION
PAGE NO.

PROPOSED KALEO NAA'S PALACE - KALEO, U/W/R

LIBRARY
KUMASI-GHANA
SCIENCE AND TECHNOLOGY

APPENDIX 3B

ELEVATIONS



NORTH ELEVATION

80' SCALE 1:400



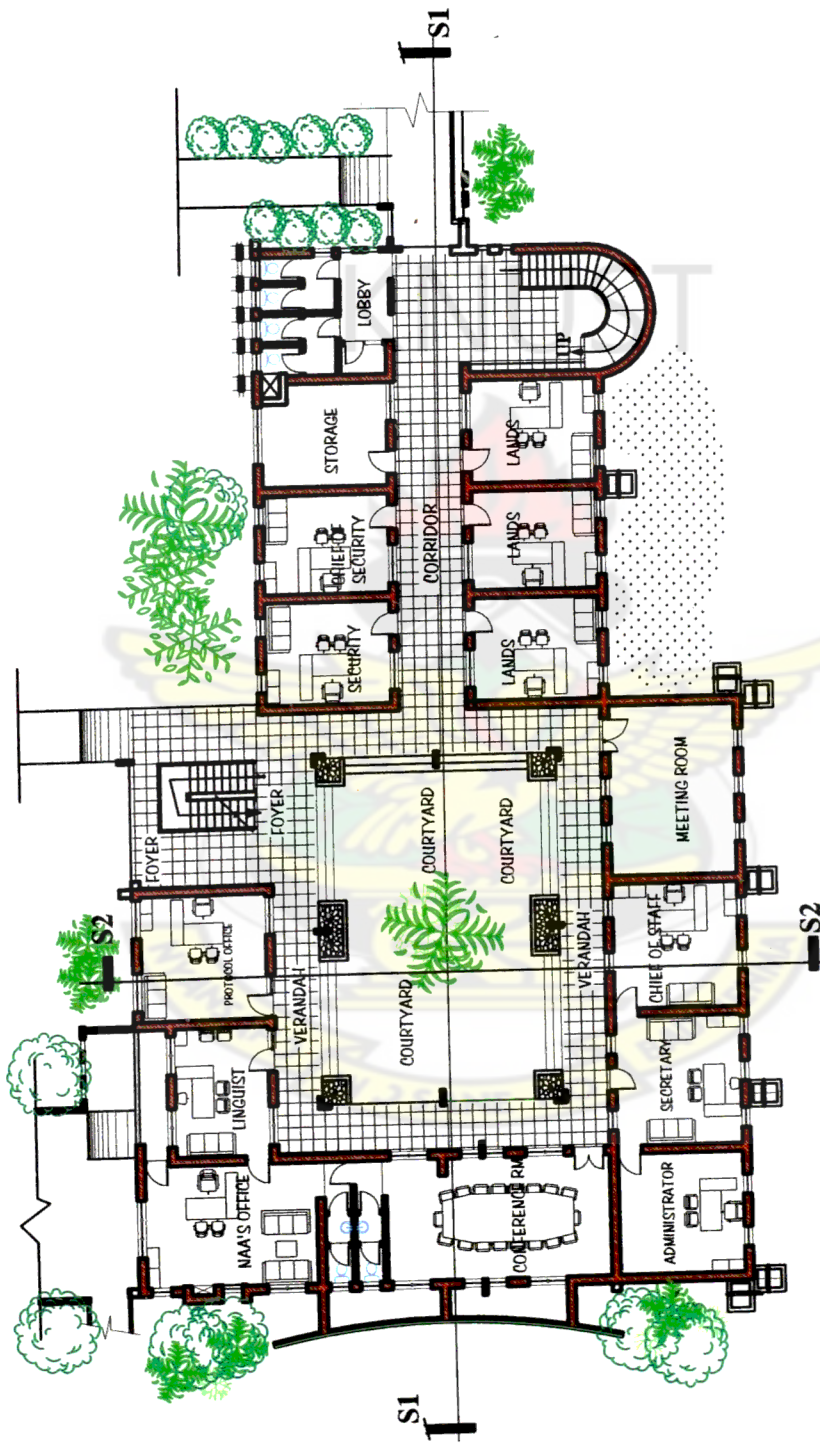
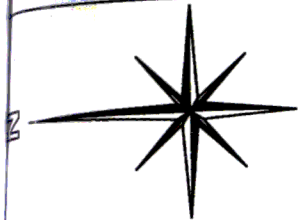
EAST ELEVATION

80' SCALE 1:400

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ARCHITECT
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FIRM: [illegible]
DATE: [illegible]
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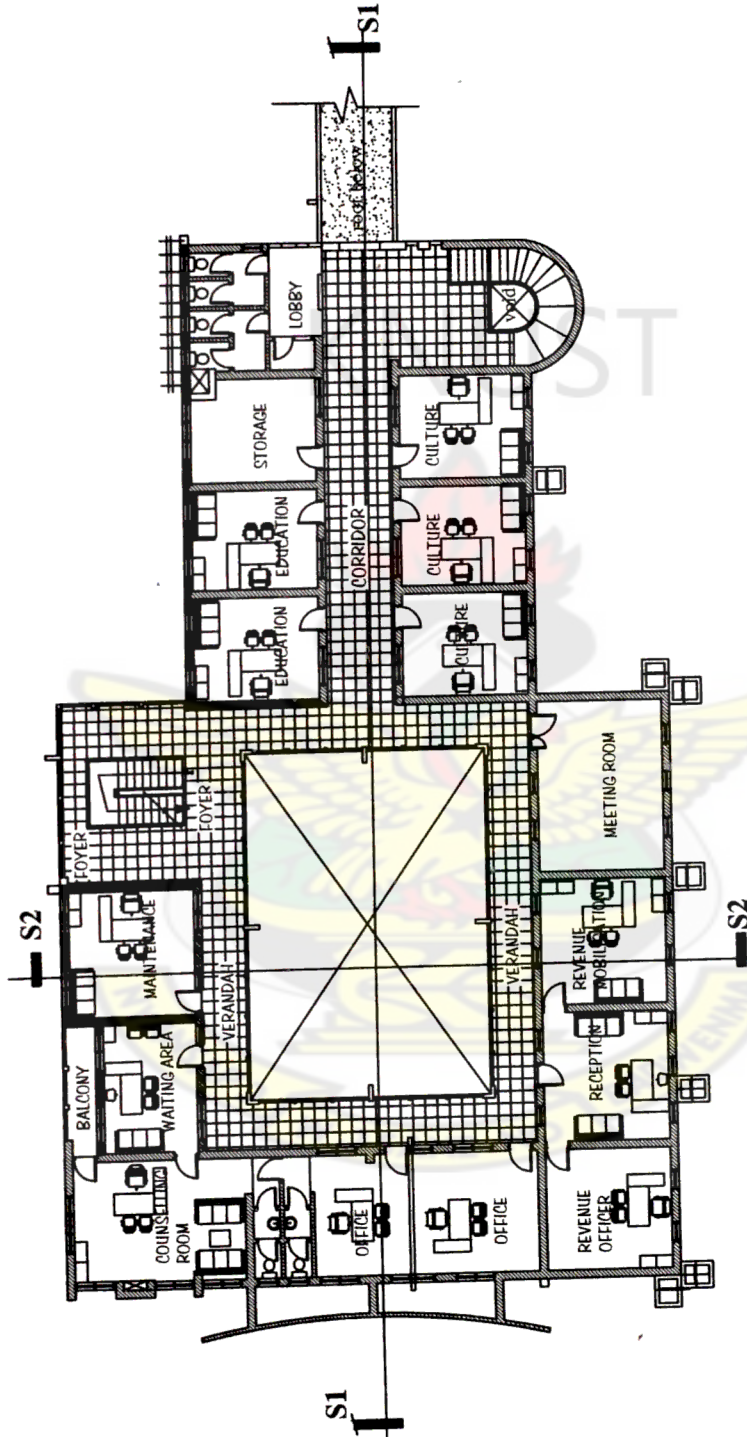
ADMINISTRATION BLOCK



GROUND FLOOR PLAN
SCALE 1:100

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ADMINISTRATION BLOCK



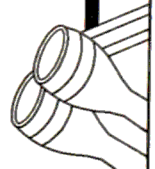
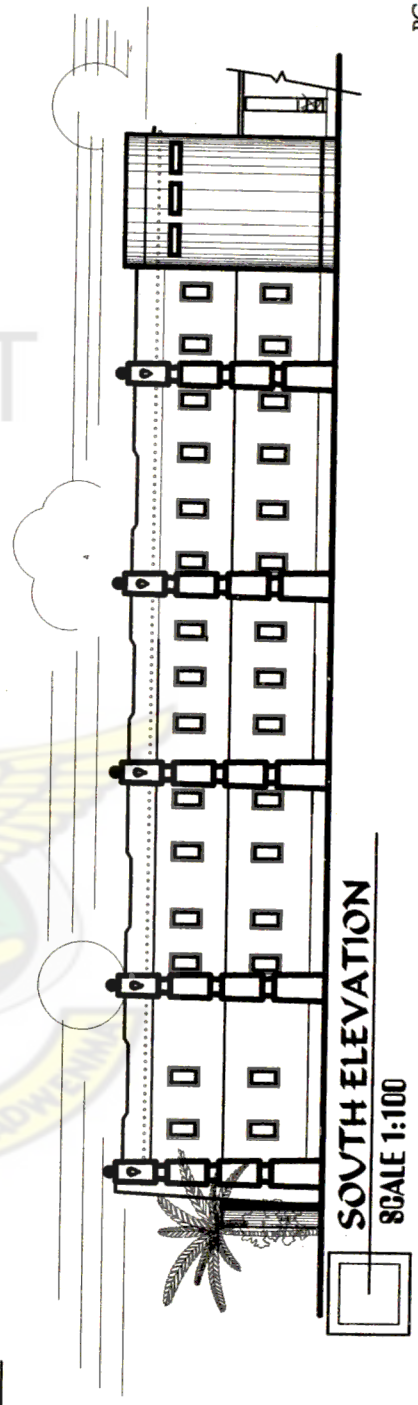
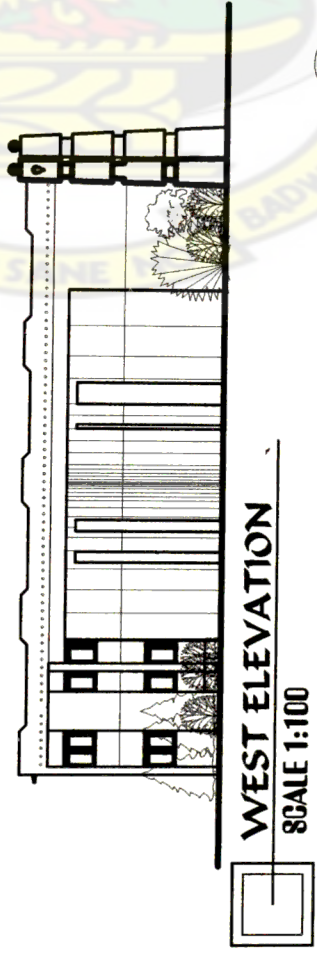
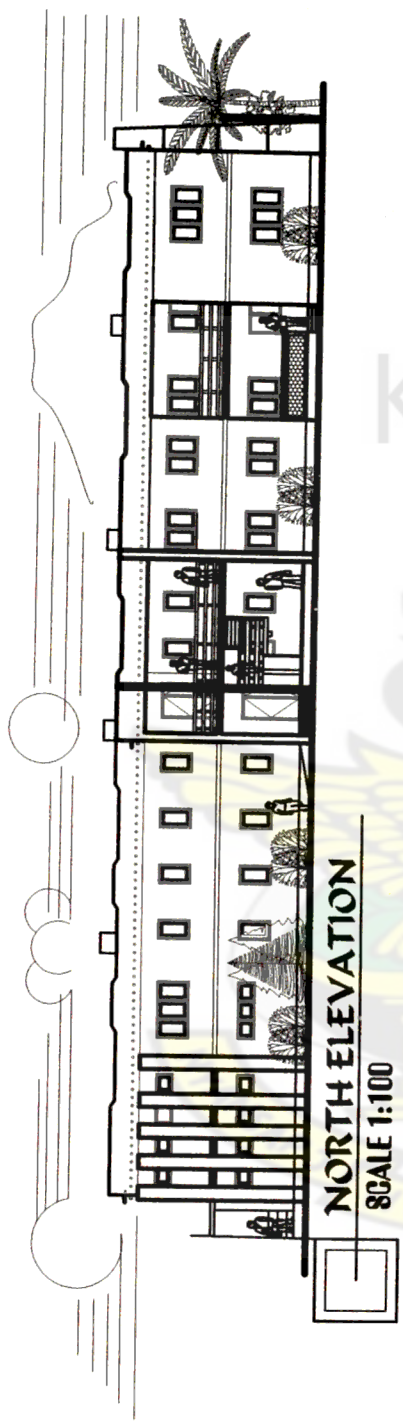
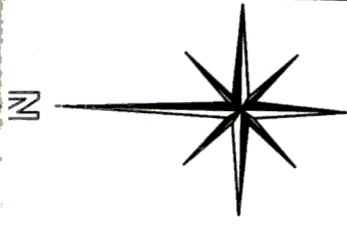
FIRST FLOOR PLAN

SCALE 1:100



PROPOSED KALEO NAA'S PALACE - KALEO, U/W/R

ADMINISTRATION BLOCK

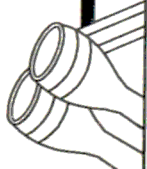
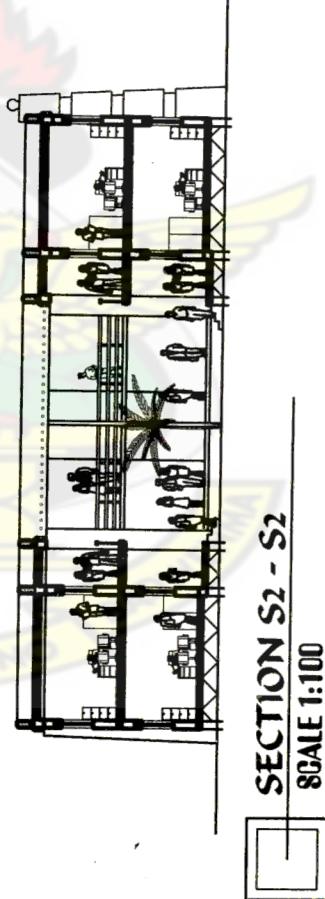
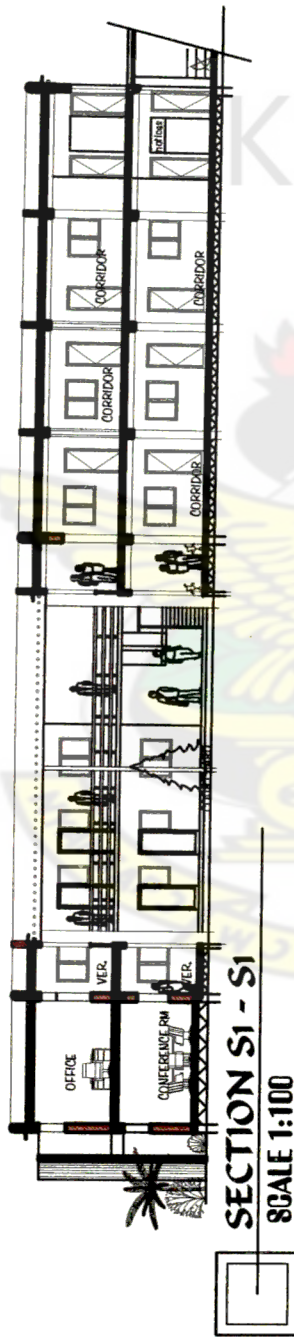
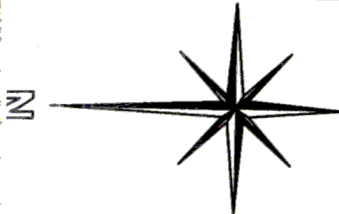


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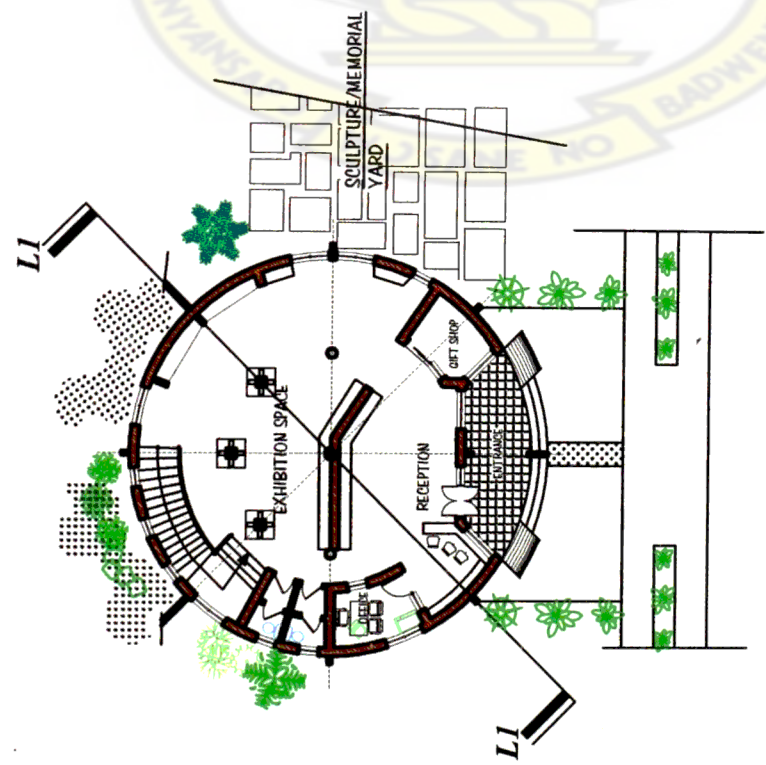
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ADMINISTRATION BLOCK

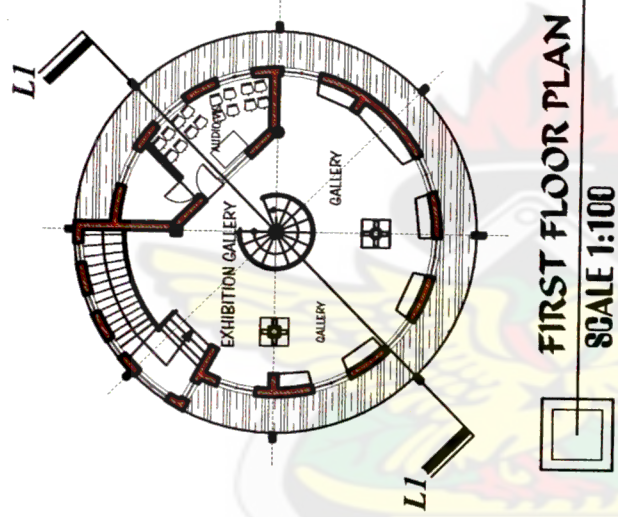


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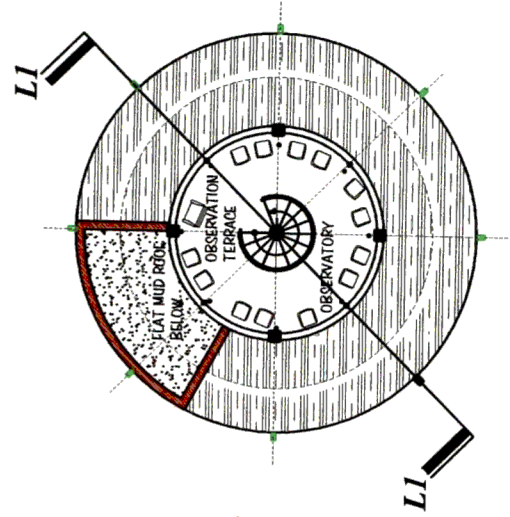
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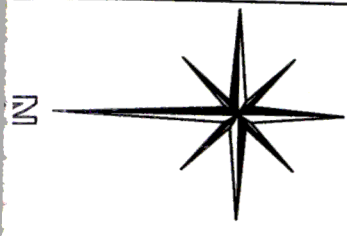
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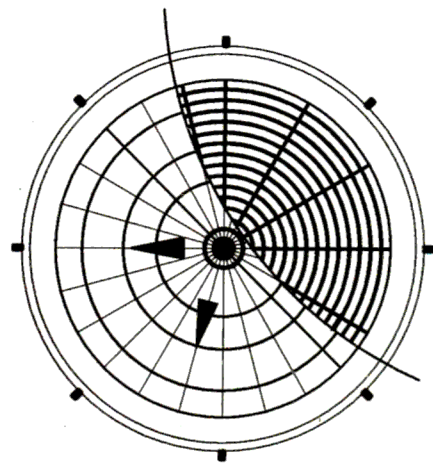
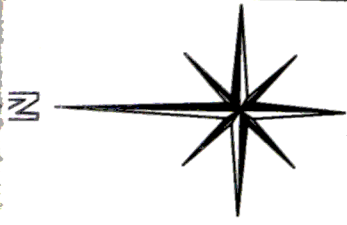
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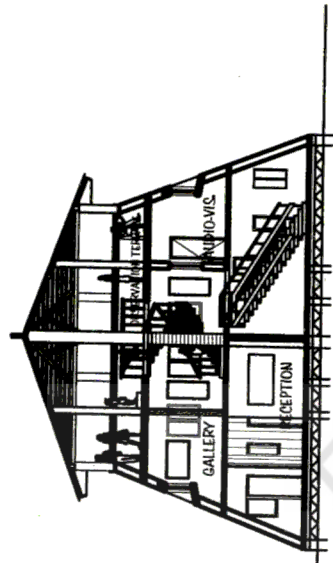
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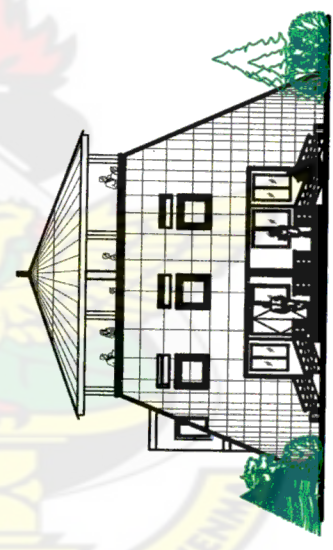
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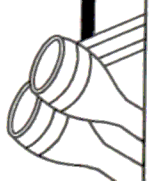
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SOUTH ELEVATION
SCALE 1:100

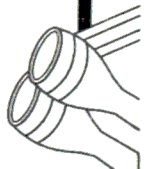
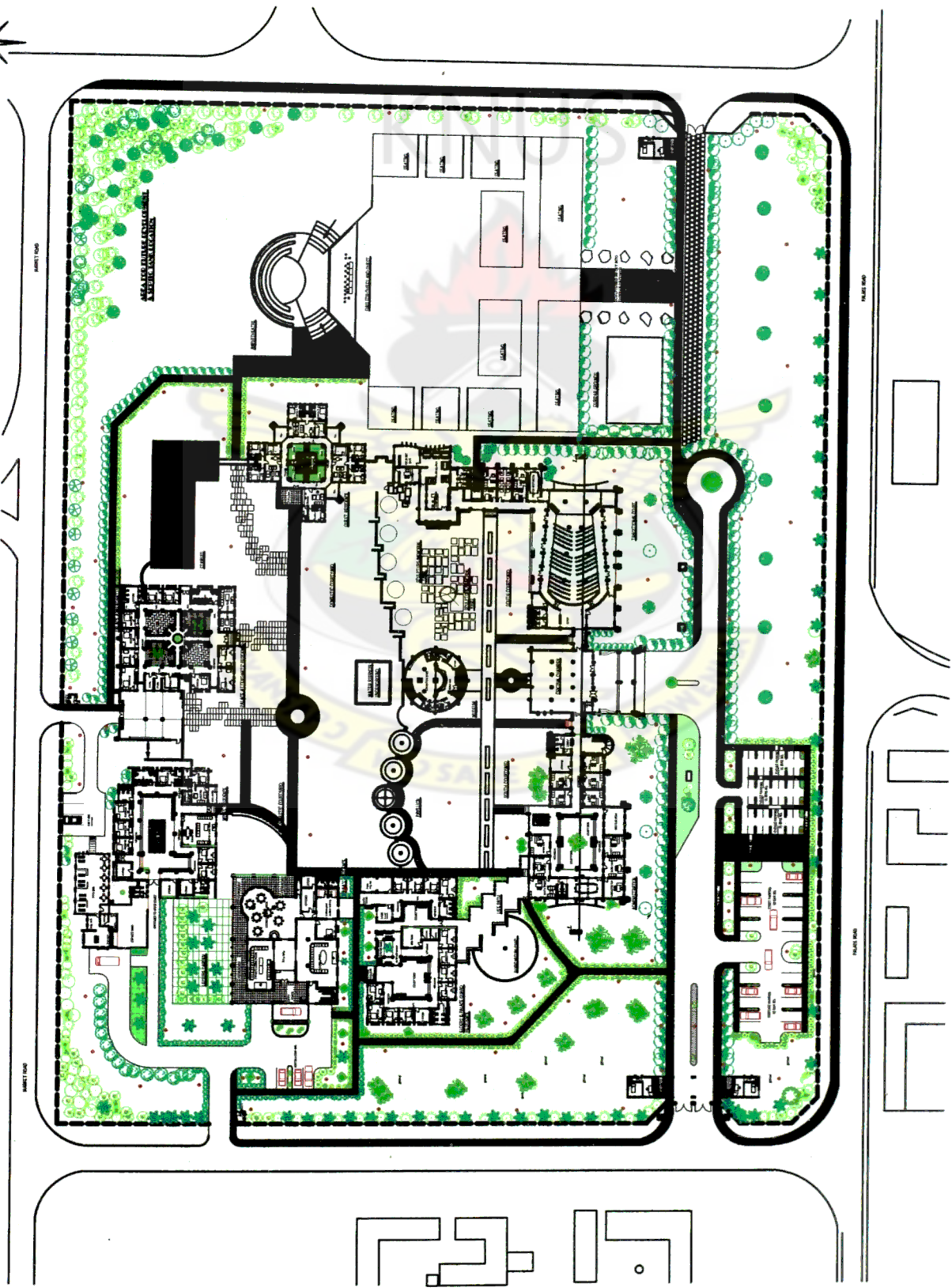


LANDSCAPE PLAN



LEGEND

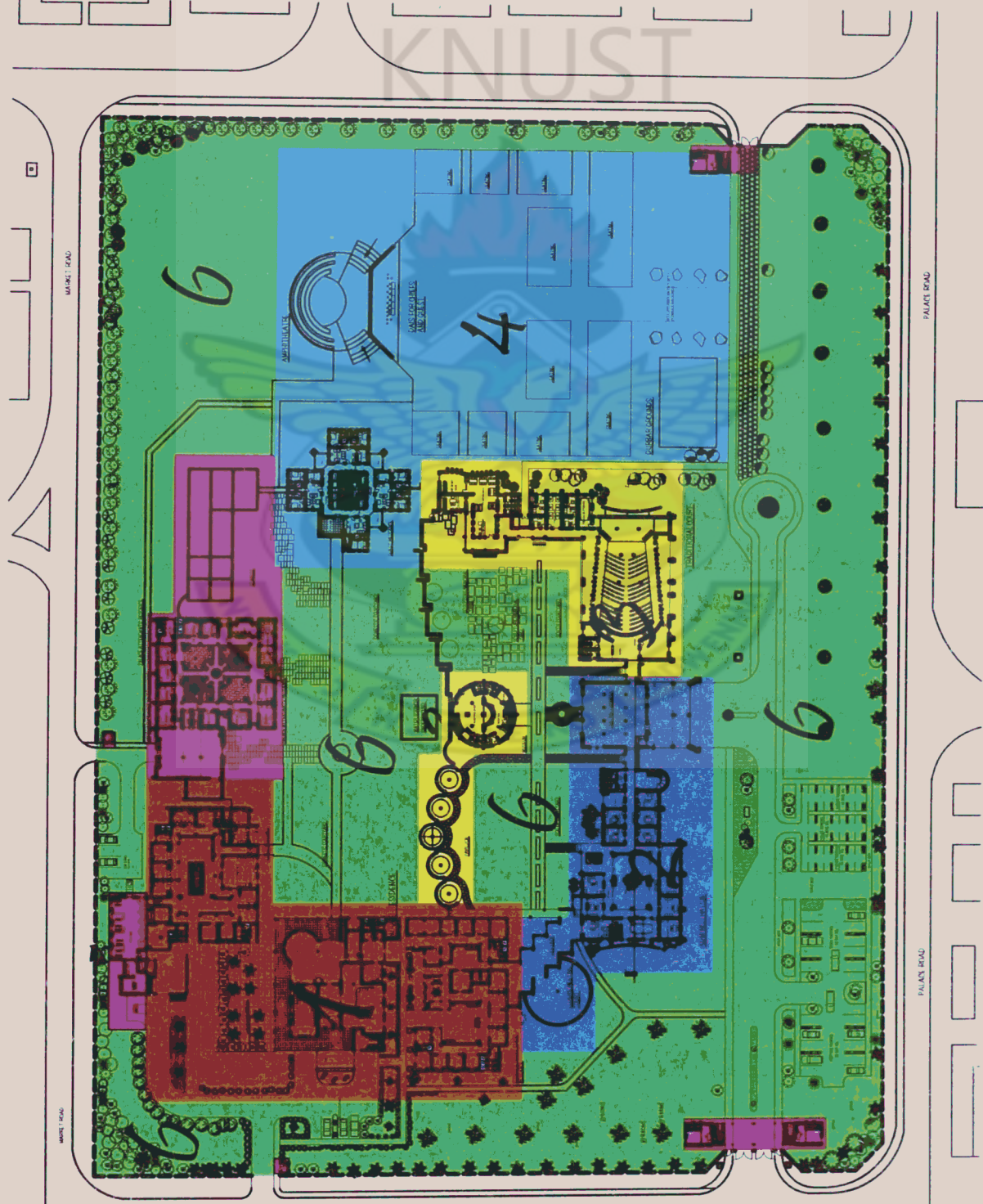
SYMBOL	DESCRIPTION
	Duranta sp.
	Ficus benjamina
	Hibiscus spp
	Plumeria sp.
	Pithecolobium saman
	Hibiscus spp
	Plumeria sp.
	12 volt Path Light
	Sculptured Statue
	Pond/fountain/water feature
	Turf grass
	Tarred road
	Precast concrete pavers



PROPOSED KALEO NAA'S PALACE - KALEO, U/W/R

LEGEND

<u>SYMBOL</u>	<u>DESCRIPTION</u>
	CENTRAL CHAMBER & ADMINISTRATION BLOCK
	RESIDENCES for the Naa, Wives & Elders
	TRADITIONAL COURT, LIBRARY, & MUSEUM
	GUEST RESIDENCE & AMPHITHEATRE
	ATTENDANTS RES., PITC BAR, SECURITY POSTS & STABLES
	LANDSCAPING & COURTYARD ELEMENTS



PROPOSED KALEO NAA'S PALACE - KALEO, U/W/R