

KUMASI COMMERCIAL CENTRE- KUMASI

by

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KNUST

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DECLARATION

I hereby declare that this submission is my own work towards the Masters of Architecture 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 acknowledgement has been made in the text.

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DEDICATION

This research is dedicated to my dad, Rev. Peter Fianu, my brother, Agbe, my two caring sisters, Joyce and Jifa and my darling wife, Vera for their selfless commitment, dedication and encouragement throughout my education.

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My greatest acknowledgement goes to God almighty for holding and carrying me through all the difficult moments when my frail legs could not carry me.

I am exceedingly grateful to my supervisor and mentor for his immense contribution, in the form of criticisms, suggestions and encouragement. Thank you Prof. G.W.K Instifol for you are indeed, a stitch in time.

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I am indeed humbled by the overwhelming support of both administration of Accra Mall and Makola Shopping Mall in spite of their very busy schedule took me through their respective facilities and ensures that my needs were met.

I am also grateful to my selfless friends Esi and Maxwell for their timeless and endless support.

To my two beautiful sisters I say thanks a million for been my financial sponsors. Thank you, may God richly bless you.



ABSTRACT

Commerce dates back to the early days of man, the art of buying and selling (commerce) has developed greatly over the years. This rapid growth across the world has resulted in congestion and chaos in the Central Business District (CBD). This in turn lead to long hours of waiting and doing business, increased waiting time in traffic and increased discomfort. This was true with France, the United States and the Britain until they confronted it. Kumasi, on the other hand is no different. The need to create a shopping facility that seeks to address the need of shoppers, shop owners and other users is important. There have being several attempts in the past to solve issues related to shopping in Ghana, these interventions however, have all being concentrated in the capital, Accra. Some examples of such facilities are Swanzy Shopping Mall, Abundant Life Shopping Centre ("A" Life Shopping Centre), Makola Shopping Mall and more recently, Accra Mall.

Kumasi, as at 2004, had a population of 1,017,246 people with growth rate of 36% per annum. (Atta-Quayson, 1999). With this growth rate, Kumasi requires shopping facilities cited outside its Central Business District. The idea of concentrating all commercial activities in the Central Business District of Kumasi will further result in chaos, congestion and discomfort to users. However, creating satellite commercial areas off the Central Business District will ease the daily demand on it, thereby enhancing traffic situation and providing an effective means of shopping. This goes a long way to redistributing vehicular and human traffic among the satellite commercial areas surrounding it. This way, the problem of chaos, congestion, long hours in traffic can be reduced.

The following methods were used to undertake the research: case study, literature review, administration of questionnaires and interviews, observation and photography.

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CHAPTER 1

1.0 INTRODUCTION

Commerce, which is described as the art of buying and selling has been with man for a long time. A simple process involving the exchange of goods for goods or for services has grown to become so complex. This phenomenon that has grown over the years has given rise to the need for the development of well planned areas to take care of the basic needs of man. In the quest to achieve this, market systems over the years have grown to meet the changing needs of the dynamic man.

Developed countries such as the United States of America and the Great Britain have greatly advanced in this area, hence making buying and selling comfortable and delightful for its people. However, this is contrary to the condition in most developing countries such as Ghana, where traffic congestion is the dominant character in commercial centres.

Kumasi, in the Ashanti Region cannot boast of a commercial centre detailed to solve the craving needs of its people. It is in this regard, that the need for a commercial centre to be developed on the fringe of the Central Business District of Kumasi is important, to ease the stress caused by traffic congestion, poor planning and orientation; thereby enhancing commerce for the people of Kumasi and Ashanti Region as a whole.

1.1 PROBLEM STATEMENT

The Central Business District (CBD) of Kumasi is made up of Adum, Central market and Kejetia. Adum is approximately made up of about 75% stores, 15% offices and 10% residential¹.

Central Market on the other hand, is made up of 80% table top stores and 20% stores.

Finally, Kejetia is made up of 60% commercial parking/commercial vehicles, 30% stores, 5% offices and 5% residential. Kumasi is strategically located in relation to the whole of Ghana².

All major roads and rail way lines runs through Kumasi, making the city a commercial nerve centre and the second most important city in Ghana. The strategic location of the central business district of Kumasi attracts a lot of buying and selling activities from across Ghana. This influx of people from the neighbouring regions causes vehicular and human traffic. The effect of this congestion is stress, longer hours of doing business, longer hours in traffic and discomfort to shop owners and shoppers ³. It is in this regard that a shopping centre is recommended such that it is located off the Central Business District to reduce the stress on it.

There have being several attempts in the past to solve issues relating to shopping in Ghana, these interventions however, have all been concentrated in the capital, Accra. Some examples of such facilities are Swanzy Shopping Mall, Abundant Life Shopping Mall (“A” Life Shopping Mall), Makola Shopping Mall and more recently, the Accra Mall.

1.2 OBJECTIVES

This thesis is intended:

- To create a 24 hours shopping and service rendering facility, that seeks to create comfort, promote free movement of shoppers from one point to another.
- To create a facility that complements the Central Business District of Kumasi.
- To create a facility that is sensitive to the hot tropical climate.
- To create a facility that is friendly to the physically challenged.

1.3 PHILOSOPHY AND CONCEPT

The philosophical reasoning backing this research is largely to:

Create a shopping centre that will eliminate all the problems cited with shopping presently in the Central Business District of Kumasi. This will be done through proper orientation and

planning of the facility, the use of basic design tools such as courtyards, vertical and horizontal shading devices, and ventilated atriums. And finally, the use of natural elements such as day lighting, cross ventilation and landscaping.

1.4 SITE JUSTIFICATION

The site is located at Asokwa, Kumasi in the Ashanti region. It is directly opposite the millennium plaza and close to the Asokwa police station. Asokwa is a developing area and it is described as a light industrial area by the Town and Country Planning unit of Kumasi Metropolitan Assembly (KMA). The site is about 30 minutes drive from Adum. The facility is expected to attract shoppers from across Kumasi and the Ashanti Region as a whole. The site has basic infrastructural facilities such as water supply, electricity, telephone and has the prospect of having a dual carriage road in the near future.

1.5 CLIENT AND FINANCIER

Kumasi Metropolitan Assembly (KMA).

1.6 CLIENT BRIEF

The client brief is spelt out as follows:

- A multi-purpose block that consists of offices, two restaurants / bar and banking.
- An Entertainment arena that consists of cinemas, club and bar, games area.
- Food court, Shopping mall, Ware houses, and Children play area.

1.7 TARGET GROUP

This research seeks to benefit the people of Kumasi and Ashanti Region as a whole.

REFERENCE

1. Author, collation of data collected via questionnaires distributed, 2008.
2. Office of Kumasi Metropolitan Assembly, an interview conducted with Miss Patricia Appiagyei, 2008.
3. Office of Kumasi Metropolitan Assembly, an interview conducted with Miss Patricia Appiagyei, 2008

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CHAPTER 2

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

“The past, is the guide to the future, it prepares us for the unknown. As we build our past, we make known the future. The past as a window to the future should not be despised, as important as it is, it should be studied and lessons learnt from it” ¹. It is in this regard that a study and review of literature relevant to this research was made.

2.2 THE RELEVANCE OF LITERATURE REVIEW

The review of literatures relevant to a subject gives hindsight and creates a platform of information; this platform provides insight and understanding. Below are reasons why literature review is important in research:

- To identify gaps in the literature.
- To avoid reinventing the wheel; this will save time and prevent mistakes made in the past.
- To carry on from where others have already left off; reviewing the field allows the researcher to build on the platform of existing knowledge and ideas.
- To increase your breadth of knowledge of your subject area.
- To provide the intellectual context for your own work; enables the researcher to position his or her project relative to the work of others.
- To identify opposing views to put your work into perspective.
- To demonstrate that you can access previous work in an area.
- To identify information and ideas that may be relevant to your project.
- To identify methods that could be relevant to the researcher’s project ².

2.3 A BRIEF HISTORIC BACKGROUND OF SOME SHOPPING CENTERS

The historic development of markets, shops and other places where goods are exchanged for goods or services date back to the early man. This concept of exchanging goods for goods, however, is not so new. For example, The Agora of the typical city of ancient Greece was essentially a shopping centre in the heart of the business district. Simplified as it may have been those early days, buying and selling has become a complex activity ³.

The Emperor Trajan's architects, the Greek slaves, Apollodorus, built a shopping centre adjacent to the Roman Forum in AD 110; it had a two-level enclosed and naturally ventilated mall lined with open-fronted shops, amazingly this process is not far different from today's concept. The typical Arabian souk, or market, of the Middle Ages also had narrow, weather protected malls lined with open-fronted shops ⁴.

2.4.0 COMMERCIAL PLACES

Commercial activities earlier on did not require much defined spaces. These activities could take place under a tree, in a cave or under tents. The growth of these activities stimulated by man's unquenching needs and the constant introduction of new materials into the market domain has shifted most commercial activities indoors or places where comfort is ensured. ⁵

It is for these reasons that more and more interior pedestrian places are devoted to commercial use, usually shops. Interior places lend themselves to shopping activities, since they provide an environment that is conducive for the purchasing of goods, foods and services. In actual sense, buying and selling do not take place in the pedestrian places but, in the establishment associated with it. The interior only function as an integrator of shops. Hence, give itself the visible location to present itself to the public ⁶.

2.4.1 THE SHOPPING ARCADE

ARCADE: An Arcade can firstly be defined as a line of counterthrusting arches raised on columns or piers. Secondly, an arcade is defined as a covered walk with a line of counterthrusting arches on columns or piers along one or both sides. Finally, it is defined a covered walk, lit from the top, lined with shops or offices on one or more levels. ⁷

SHOPPING ARCADE

The shopping arcade could be described as a continuously covered walk passage, mostly lit from the top, lined with shops and offices on both sides for shoppers. The large walk ways between the stores and offices is devoted to shoppers. This design concept is suitable for the urban context. The customer upon experiencing the spatial phenomenon comprehends comfort, light, volume and a series of continuous flowing spaces. The delight of the continuous facades, natural lighting, inviting shop fronts and wide pedestrian walkways draws the pedestrian into the arcade. A further discovery of freedom from traffic and a comfortable interior encourage the shopper to return another time ⁸.

2.4.2 A BRIEF HISTORIC BACKGROUND OF SHOPPING ARCADE

The Arcade in the early nineteenth century was invented in Paris to cater basically for two peculiar problems: First, the streets were inhospitable to pedestrians; sidewalks were non existence and the volume of horses-drawn traffic created dirty and chaotic streets ⁹. Secondly, the rapidly increasing industrial development had produced large quantity of consumer luxury goods, which necessitated new means of marketing and selling them. The traditional markets could not meet the overwhelming demand of these goods and a better way of distribution,

faster sales, and better promotion. More so, the invention of steel and glass afforded new design opportunities ¹⁰.

2.4.3 CHARACTERISTICS OF ARCADES

The early arcade could be summarized as constituting of the following characteristics:

- **Symmetrical street spacing:** The facades of the arcades were of the urban elevations, with repetitions which make it look formal.
- **Sky lit space:** The large pedestrian walk ways were lit with either glass roof or clerestories to admit day light, hence, create a relationship between the outdoor and the interior space.
- **A system of access:** The arcade resembled a street in that; the space provided access to the various shops that lined the opposite sides of the arcade.
- **A form of organising retail trade:** The arcade is an association of independent shops.
- **A space of transition:** The arcade was always a passageway for pedestrians who promenade between commercial streets ¹¹.

2.4.4 SHOPS AND RETAIL

The traditional small retail shop, usually specialising in one or two products, however, has undergone fundamental changes in the last 50 years. ¹² In most cases villages and small towns had numerous individual shops and few larger department stores. In the United Kingdom, the first department store is believed to have been built in Bainbridge of Newcastle, c. 1838. Many north towns built shopping arcade in the late nineteenth century, to provide a better environment away from the bad weather and industrial smog. Newcastle and Leeds for instance still have several good arcades, often imitated on small scale in local centres ¹³.

2.4.5 SUPERMARKETS AND SUPERSTORES

Supermarkets and superstores were initially created out of town, in rural areas. Fundamentally, this concept altered shopping pattern a great deal. In the 1980s, in the United Kingdom, the government made a policy and encouraged the citing of these stores outside the cities despite the misgivings of many planners and architects. It is worth knowing that over 50 regional shopping centres were proposed in 1986 to 1988 alone. The resultant effect has been a significant decline in the High Street, with many local store unable to compete with the greater choice and lower prices offered by out of town shopping centres.¹⁴

2.4.6 SMALL SHOPS

The traditional corner shop and small specialist shop are normally into the selling of primary one product, such as groceries, pastries, fish and so on. However, their services have generally been in the decline since the 1970s. These shops are unable to compete on either price or variety with the local supermarket.¹⁵

2.4.7 DEPARTMENT STORES

Department stores are large complex shops, invariably extending over several floor levels, selling wide variety of goods, particularly clothing. Sales areas are grouped into departments corresponding to different categories of shops but are flexible in size and position. Departments may be operated directly by the store or let out to other traders and franchises. Main High Street Department Store usually has more than 20,000m² sales areas. Junior department stores in new shopping centres on the other hand are less than 10,000m² over two floors. **Note:** A Main High Street Store is a large department store with sales area not less than 20,000m². They are normally placed along the high streets to maximise patronage.¹⁶

2.4.8 SPECIALIST SHOP

The specialist small shop, particularly in the area of fashion, has become very popular, especially in affluent urban areas. Many of these shops are part of larger groups appealing to a particular sector of the population, and with very large markets budgets to promote their own image. Each shop is compelled to differentiate itself from other similar products been sold in numerous outlets, and the brand name is the primary method; that is, quality and price. ¹⁷

2.4.9 CURRENT TREND IN SHOPPING

Current trend in shopping over the years can be summarised into four categories. ¹⁸

- **Size:** stores are becoming larger.
- **Facilities:** most retail groups prefer to improve facility within stores rather than enlarge. For example, by providing more imaginative layout including restaurant, demonstration and entertainment areas.
- **Out of town citing:** in order to prevent vehicular and human traffic in the city centres most shopping centres are now being moved outside.
- **Internet development:** otherwise known as e-tailing, is a shopping process whereby shoppers order on-line and the store delivers to the homes of buyers. The longer term potential of this is still uncertain, but if it becomes very popular, areas in many stores will become redundant ¹⁹.

2.4.10 URBAN SHOPPING CENTERS

Many shopping interiors are closely related to retail activities in the city due to the need for free public access to facilitate sales. Through enclosure, this access space is made more conducive for shopping by creating a carefree and enjoyable space. The commercial success of suburban shopping centres is based on these realisations. Recently, a new urban shopping

centre has evolved with the interior pedestrian place as its prime attraction and spatial organisation. Characteristically, urban centres features a park-like atmosphere, that is a shopping centre that is pedestrianised, encourages freed move of people about a variety of retail stores, and in many cases, a food court.²⁰

2.4.11 BELOW ARE A FEW OF SOME OF THE COMMERCIAL CENTERS:

- **REGIONAL CENTRE**

This contains one to four department stores plus 50 to 100 or more satellite shops and facilities. Parking completely surrounds the building on the ground such that all the stores face inward to the mall with their “backs” to the parking.²¹

With today’s rising land costs and diminishing supply of suitable large tracts, there has been a trend toward double-decked parking to save land area. It is simply a matter of the relation between the land cost and the cost of the parking deck. There is also a strong trend toward double decking of the stores themselves so that the central pedestrian mall has two interconnecting levels. The double level mall is also important because of the need to keep horizontal shopping distances reasonable. Regional centres usually have floor areas ranging from about 300,000 to 1,000,000 square feet, occupying 30 to 50 acres.²²

- **COMMUNITY CENTRES**

In addition to convenience goods and personal services, community centres typically offer a selection of apparel and home furnishings. Anchor shops commonly consist of a junior department store and/or a large variety store in addition to one or more super market. The size ranges from 100,000 to 300,000 square feet of Gross Land Area (GLA) and the land area from 10 to 30 acres.²³

- **SUPPER REGIONAL CENTRES**

Similar to regional centres, but are bigger and draw upon a large trade area, super regional centres include three or more full line department stores and well over 100 tenants. They offer a wide variety of personal services. Food outlets are often in clusters and general merchandise. These outlets are both in soft and hard line. Super regional centres, which usually cover 50 or more acres, comprise at least a million square feet and some are larger than 2.5 million square feet. ²⁴

- **SPECIALTY CENTRES AND THEME CENTRES**

Generally appealing to a relatively narrow segment of the total market, specialty and theme centres are almost always anchorless and their tenants are mainly local stores rather than chains. Frequently, such centres are located in high tourist and or high income areas, and restaurants contribute greatly to their drawing power. They are sometimes located in historic landmark buildings or districts. They use existing or newly constructed space in unusually creative ways. Because their regular customers come from only a limited area, most are kept relatively small, usually less than 25, 000 square feet and often in the 50,000 to 70,000 square foot range. ²⁵

- **MIXED USE CENTRES**

Mixed use centres typically take advantages of three economic elements; namely, residential, shopping and entertainment and effectively combine all these into revenue generation. Retail, office, parking, restaurant, hotel, residential and entertainment facilities are elements of a mixed used centre. they may be built in suburban or urban areas, and in the latter often contribute significantly to the revitalisation of inner cities, in downtown areas, where land costs are high, a multilevel or high rise, single mass design is commonly use to minimise the land area needed. ²⁶

- **OFF PRICE CENTRES**

Not to be confused with outlet centres, off price centres sell branded merchandise that can be found in conventional specialised and department stores at higher prices. Usually, the merchandise is first quality – some manufacturers require that their merchandise be sold without labels in off price centres. The early off price centres usually had no decoration with minimal or no displays, basic lighting, and open dressing rooms.²⁷

2.4.12 NEW FORMS OF RETAILING

Retail warehouse parks, which may have larger showrooms, warehouse clubs and factory outlets are the major new forms of retailing currently emerging.²⁸

Shopping is now a leisure activity and huge amount of marketing is aimed at identifying customer trends and ensuring customer satisfaction. This is a means of injecting emotion rather than purely physical experience in shopping. By this customers are seriously encourage to spend, particularly in competitive environments, such areas require strategic psychological technique. It is important to note that by the end of the 1990s, simple shed like structures were no longer considered sufficiently inviting to customers.²⁹

2.5 CONCLUSION OF THE LITERATURE REVIEW

From the research conducted it is clear that a shopping centre will flourish with the combination of two or more shopping concept. Below are some concepts considered from the literature review:

SHOPPING ARCADE: The Shopping Arcade was chosen because it offers a large covered pedestrian shopping walk way between shops and offices that is devoted to shoppers. This particular concept present shoppers and shop users comfort, volume and series of continuous

flowing spaces. An advantage of this form of shopping is the effective use of sales space; depending on the architect, the sales space could be a combination of Small Retail Shops, Department Stores, Specialised Shops and Small Shops.

Department Store: The Department Store offers a high degree of flexibility in size, space, use and positioning of products. Because this shopping method encourages large open plan, it could be adopted as an anchor shop(s).

Specialist Shop: The Specialist Shop is a form of shopping that appeal to the affluent in the society. Specialised products in fashion, furniture and cars will attract rich shoppers to the facility.

Small Shops: the use of small shops will help increase patronage from traders who cannot afford the cost of large sales spaces. The small shops could be rented out or franchised to traders in the small or medium scale enterprise, as a way of encouraging them to patronise the centre.

2.6 ECONOMIC OVERVIEW OF KUMASI

2.6.1 BRIEF ECONOMIC BACKGROUND

Kumasi is strategically located in relation the whole of Ghana. All major roads and rail way lines converge in Kumasi and make the city a commercial nerve centre and second most important city in Ghana. The Urban economy of Ghana both comprises of the formal and informal sectors, and they coexist in the four interrelated areas of supply, production, distribution and consumption.³⁰

The city handles most of the produce from the surrounding hinterland; cocoa, timber, gold and foodstuffs on their first stage of their journey to the export markets. The city is also the major link between the south and the north of Ghana and countries in the northern West African Region use Ghana's sea ports for exports.³¹

2.6.2 COMMERCIAL STRUCTURE

Economic activities in the city can be categorized in to three main areas namely, agricultural, industrial, and services (which include commerce). The services sector employs about 72 percent. The agricultural and industrial sectors employ 5 percent and 23 percent respectively.³² The commercial sector is mostly concentrated in and around the Central Business District (CBD). Some Retail Shops can also be found in area such as Asafo, Bantama, Asawase, Ayigya, Ahinsan, Oforikrom and so on, forming an integrated system of urban markets sprawling from the Adum-central market precinct.³³

2.6.3 A BRIEF HISTORY OF RETAILING IN KUMASI

Modern retailing in Kumasi dates back to the colonial days when European trading companies established a lot of department stores and supermarket around the country.³⁴ Architectural edifices of these companies are still visible and continue to influence retailing in Ghana. Giant companies such as United African Companies (UAC), with its store chains such as, Swiss Africa Trading Company (SAT), Ghana Consolidated Machinery Trading company (GCMT), Ghana Pan Electric Company (GPEL), African Motors, Lever Brothers Ghana (LBG) were the main retail shops in the city. Peterson Zochonis (PZ), Edward Nassar and Company, as well as

a host of Lebanese and Indian trading companies were major shops that traded in a diverse range of merchandise.³⁵

After independence, the government of Ghana also set up some department stores, supermarket and other retail enterprises in the country to sell and promote made in Ghana products and Kumasi was not left out. Some of these companies include Ghana National Trading Company (GNTC). Throughout the 1970s and 1980s, Union Trading companies (UTC), Ghana National Trading Company (GNTC), and Kingsway stores were some of the major retail chains.³⁶

It is worth noting at this junction that by the early 1990s, most of these shops had either folded up or have reduced their retail outlet. This situation can largely be blamed on the economic hardships as at the time; this resulted in low patronage and sales. When the United African Companies (UAC) folded up its shopping space was occupied by Unilever Ghana. This is also true with the Union Trading companies (UTC), when it folded up its shopping space was occupied by a new retail shop; Abundant Life Supermarket ('A' Life Supermarket). In Accra, the huge Kingsway store has been converted into small shop units and operates as a shopping centre known as Swanzy Shopping Arcade. The United African Companies (UTC) in Accra has also split up into various units but maintains its old name. Some contemporary retail stores such as, Kwartsons, Lava, A-Life, and others still do business in the city each with only one major shop.³⁷

The concept of shopping centre is now catching up with Ghanaians especially with introduction of Makola Shopping Mall and Accra Mall. The Swanzy Shopping Arcade and the Maxmart also operate close to this concept; all in Accra.³⁸

2.6.4 RETAIL TYPES

- **TRADITIONAL MARKET IN KUMASI**

A typical market is a regular gathering place where people buy and sell goods. This is the open air sometimes covered market made up of stalls of standard sizes. Facilities in the market mostly include stalls, variety shops, storage, milling and grinding facilities and other service shops. There are other ancillary facilities such as health posts, drug stores and financial institutions which are sometimes found in bigger markets. These markets are mostly owned by the city authorities and are located strategically in all major suburbs in the city. The Kumasi Central Market one of the largest in West Africa is located in the central business precinct of Kumasi.³⁹

- **RETAIL STORES**

These retail types specialise in a variety of merchandise. They are mostly specialty shops which sell merchandise ranging from fashion to provisions as well as building materials and food. The merchandise sold largely depends on the location of such a shop. Retail Stores are the commonest type of retail type in the city.⁴⁰

They are mostly located between the ground and second floors of buildings along major or busy streets. Almost all shops within the Central Business District (CBD) apart from the purposely built shops are categorised under this retail type. Virtually all buildings along all major streets in Kumasi have converted their ground floor spaces into this type of shops. These can be found in places such as Bantama, Ashanti new town, Asafo areas.⁴¹

- **KIOSK**

The average size of kiosk is 6m². They are generally made up of wooden structures. A large percentage of this type of retail activity is unauthorized. The placement of kiosk in the city

without proper permit from Town and Country Planning is considered illegal. A few of these structures have permit, however, a lot of them are permitted to cite them in the city. The result of the unauthorized placement of these structures is congestion, filth, and unpleasant sight to the urban landscape. The trend is the introduction of steel containers which is gradually taking the place of the wooden kiosks.⁴²

- **SUPERMARKETS**

They are the major large space retailers in the city. Large super markets are located in the main Central Business District with smaller ones in the suburbs around the city. Most filling stations such as Shell, Goil and Glory Oil all have supermarkets at their stations.⁴³



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CHAPTER 3

3.0 METHODOLOGY

3.1 METHODS ADOPTED

The methods adopted in this research are; undertaking a case study, technical study, the administration of questionnaires and conducting interviews, taking photographs and collating data from personal observation, and most importantly, undertaking a review of literatures.

3.2.0 CASE STUDY

The facilities chosen for the case study are **Accra Mall** and **Makola Shopping Mall**. The way these facilities operates in response to the users and the used of materials to facilitate activities is worth studying.

3.2.1 JUSTIFICATION OF CASE STUDIES CHOSEN

3.3.0 ACCRA MALL

LOCATION: The Accra Mall is located off the Tetteh Quarshie Inter- change. The Accra Mall is bordered by two major roads; the Spintex road on one side and the Tetteh Quarshie Inter-change to the main entrance

3.3.1 REASONS FOR STUDING ACCRA MALL

The Accra Mall was considered and studied for reasons listed below:

- The Accra Mall is the newest consciously designed shopping facility in Ghana.
- The Mall enjoys a of lot patronage from the people of Accra and its neighbouring towns.

- The Mall incorporates facilities that are relatively new to the Ghanaian shopping industry such as motion sensing sliding doors, lifts for the physically challenged, the use of central air condition and generators that respond to power outage automatically.
- The demand on the Mall creates traffic congestion on the Tetteh Quarshie inter-change.
- The use of modern facilities, equipment and services are worthy studying.

3.3.2 MAIN ARCHITECTURAL FEATURES OF ACCRA MALL

The Accra Mall is a one storey facility with a basement and a raised entrance signage. It has a unique blend of steel and concrete, stone wall texturing against a smooth wall. It also has large parking lots both for the customers and staff and finally, the Mall is has a slightly curved roof hidden behind parapet.

3.4.0 MAKOLA SHOPPING MALL

LOCATION: The Makola Shopping Mall is located right in the heart of Accra. It can be found behind the Accra High Street and is directly opposite the Rawlings Park.

3.4.1 REASONS FOR CHOOSING MAKOLA SHOPPING MALL AS A CASE STUDY

The Makola Shopping Mall was considered and studied for reasons listed below:

- The Makola shopping mall is designed to satisfy the traditional market needs of the women of Accra.
- The Mall enjoys a lot patronage from the people of Accra and its neighbouring towns.
- The Mall employs a lot of natural ventilation and day light.
- The demand on the Mall creates traffic congestion on the Tudu-Circle road.
- The use of courtyards and voids to enhance natural lighting and ventilation in the Makola Shopping Mall is worth studying.

3.4.2 MAIN ARCHITECTURAL FEATURES

The Makola shopping mall is a three storey high facility with basement parking for both customers and staff. It has several horizontal shading devices and pitched clay tile roof.

3.5 TECHNICAL STUDY

The design of a shopping facility is quite complicated, an in-depth understanding is therefore important to understand the complexities of the design of a Shopping Centre. The issues of relevance in this case are directly compared to those of the case study and analyzed.

3.6 ADMINISTRATION OF QUESTIONNAIRES AND INTERVIEWS

A set of questions geared towards finding out about the issues relating to shopping in Kumasi and Ghana as a whole were catalogued in the questionnaires that were administered to the respective managers of the malls, shop owners and the shoppers who patronise these malls. Interviews were conducted to follow up the questionnaires administered.

3.7 PHOTOGRAPHY AND PERSONAL OBSERVATIONS

This method proved to be very beneficial during the documentation of the case study and other areas that could not be described were effectively captured photographically. The general conditions of the two malls studied were observed and sometimes captured photographically as well, otherwise, recorded and considered accordingly.

3.8 LITERATURE REVIEW AND INTERNET RESEARCH

Various literatures were studied to fully understand the history of shopping centres, the current trend, the way forward and how to achieve a good design. The internet information was also explored, data was collated and compared to that of literature and analysed.

CHAPTER 4

4.0 FINDING AND DISCUSSION

4.1 CASE STUDIES AND TECHNICAL STUDIES

Case studies are very important aspect of any good design, especially when the project is huge, complicated and relatively new or unfamiliar to the team of designers.

In this particular instance, in order that the design parameters are fully understood, the following places were studied for more insight: **Accra Mall and Makola shopping Mall.**



Fig 1. Accra Mall (Source: Author, 2008)



Fig 2. Makola shopping Mall (Source: Author, 2008)

4.1.1 ACCRA MALL

4.1.1.1 SPATIAL CONFIGURATION

The following spaces constitutes Accra mall:

THE ENTRANCE: The Accra Mall greets the shopper from a towering electronic sign. The Accra Mall sign hangs above the roof from a steel structure. The main entrance has a large glass door. The door is installed with a motion sensing device which opens upon approach.

THE PEDESTRIAN WALK WAY IN THE MALL: The Mall's main pedestrian walk way measures 10m in width and 8m high. The 10m width gives the shopper the sense of free space and volume. On both sides of the pedestrian walk are small shops that display various ranges of goods such as electronics, pharmaceuticals, cosmetics, jewellerys, clothing, and provisions.

ANCHOR SHOPS: The Mall has two main anchor shops, these are Shoprite and Game. The two anchor shops are provided with warehouses, whiles the smaller shops have storage room.

FOOD COURT: The facility has a central court yard surrounded by restaurants; this area is called the food court. The court has paved floor, a band stand and outdoor eating area.

AUXILIARY FACILITY: The facility currently has two banks and they are accessed from the outside.

Parking: The Mall has three main parking areas; these are the customers parking area, staff parking and service parking. The customer's parking is located in front of the Mall, whiles the staff and service parking are located at the basement and at the back of the Mall respectively.

SERVICES: In order that life might be made easier for those who own shops, service corridors were provided. This corridor allows those who own shops access their shops without necessarily going through the Mall's pedestrian walk way. A wide service yard is also provided behind the facility to allow in trucks during bulk breaking of goods.

4.1.1.2 OTHER AREAS OF THE ACCRA MALL

CIRCULATION

- **Horizontal circulation:** The pedestrian walk ways, circulation corridor, parking, service corridors and the open food court constitutes the main channels through which the facility is accessed on the horizontal level.

- **Vertical circulation:** concrete stair cases commute customers from the ground floor to the first floor where the coffee shop and cinema halls are located. For the physically challenged, a lift takes them to the first floor.

REFUSE MANAGEMENT: Along the pedestrian walk way, the Mall has litter bins made of hard wood and are lacquer polished. A disposable polythene bag is strap to the internal part; the bag is removed and disposed off by the end of the day, these bins are located ten meters apart. This forms one of the ways that litter within the facility is managed. Outside the mall, 240 litre plastic paladins with wheels are placed at every ten meters intervals. At the service yard, an open area defined with wire mesh is made to accommodate paper waste, while other non paper waste are collected in a 240 litre plastic paladin.

LIGHTING AND VENTILATION: Artificial lighting is the dominant source of lighting within the facilities. Not enough natural lighting is utilized even during the day. This is due to large floor areas as well the need to protect the goods from direct sun light. There are six standby generators that automatically complement the main supply from Electricity Company of Ghana (ECG). Artificial ventilation is also utilised; split unit and the central air condition systems employed in some areas. These areas include the shopping mall, the shops, the administration area, the cinemas, and the banking halls.

4.1.3 SECURITY

Closed circuit television (CCTV): Closed Circuit Television is a system of video communications system which involves the use of cameras connected electronically to televisions and computer monitors. This security system is employed at various part of Accra Mall, especially in areas of high theft (shop lifting). Another sensitive area which is closely monitored is the Mall's treasury.

Day and night security patrol: The day and night security patrol involves the use of trained security personnel to watch over areas that actually requires human presence. For example the visitor's parking area. In other instances the Mall employed the security personnel to complement the Closed Circuit Television; an example is the Anchor shops.

4.1.4 SWOT ANALYSIS OF ACCRA MALL

4.1.5 STRENGTHS OF ACCRA MALL: The Accra Mall has the following strength;

- Strategic location; the Accra Mall took advantage of the Tettey Quashie interchange, the nearness to the airport and the rich environment as a market force.
- Visible customer parking; as shoppers drive past or into the Mall, the parking for visitor can be seen clearly without obstacles. This makes shoppers comfortable knowing the problem of parking is solved.
- The facility is sensitive to the physically challenged by providing ramps, motion sensing doors, and lifts. These facilities enhances free move for the physically challenged.
- The elevated main sign which can be noticed from the distance is a way the Mall advertises itself to first timers (potential shoppers) who may not know expertly what is happening in there.
- Large pedestrian walk in the Mall promote freedom of movement and comfort.

4.1.6 WEAKNESSES OF ACCRA MALL

- The parking is too close to the main entrance thereby creating conflict between vehicles and pedestrians.
- The split units of some of the air conditions are placed in the roof gutters. This exposes the units to the vagaries of the weather, hence, accelerate the rate of deterioration. The gutters offer little room to work during repairs.

- The facility lacks proper shading, therefore exposing the facades to direct sunshine.

4.1.7 OPPORTUNITIES

- Facilities such as the provision of cinemas, restaurant, bar, large shopping arena, wide parking area tend to attract shoppers to the facility, hence, highly increase patronage, sales and make the Mall a pleasurable place to visit.

4.1.8 THREAT

- The citing of the Mall close to the Tetteh Quarshie Inter-change creates traffic congestion on the inter-change.
- The cost of using of artificial ventilation and lighting is eventually transferred to the customer this eventually sky rocket the cost of goods and services, this may discourage shoppers from patronising the Mall if not handled managed.

4.2.0 MAKOLA SHOPPING MALL.



Fig3.Makola, shopping arena.

(Source: Author, 2008)



Fig 4. Makola, service rendering arena.

(Source: Author, 2008)

4.2.1 LOCATION

The Makola Shopping Mall is located right in the heart of Accra. It can be found behind the Accra High Street and is directly opposite the Rawlings Park.

4.2.2 REASONS FOR STUDYING MAKOLA SHOPPING MALL

The Makola Shopping Mall was considered and studied for reasons listed below:

- The Makola Shopping Mall was designed with the traditional market in mind.
- The Mall enjoys a lot of patronage from the people of Accra and its neighbouring towns.
- The Mall employs a lot of natural ventilation and day light.
- The demand on the Mall creates traffic congestion on the Tudu-Circle road.
- The use of courtyards and voids to enhance natural lighting and ventilation in the design of a shopping Mall is worth studying.

4.2.3 SPATIAL CONFIGURATION

CORRIDORS: the facility employs intensively the use of both horizontal and vertical shading devices. The corridors and balconies have a dual purpose of providing shade to southern and northern facades, as well as being one major means of circulation.

VOIDS AND COURT YARDS: natural lighting into basement parking was made possible by the use small courts. The bigger courts yards created by the design form; “H” and “L”, make natural lighting and ventilation effective.

4.2.4 OTHER AREAS OF THE MAKOLA SHOPPING MALL

CIRCULATION

- **HORIZONTAL CIRCULATION:** the corridors, veranda and parking, constitute the main channels through which the facility is accessed on the horizontal level.

- **VERTICAL CIRCULATION:** concrete stair cases connect the various floors together.

The facility lacks facilities such as lifts and ramps for the physically challenged. It is important to note at this point that the design is insensitive to the needs of the physically challenged.

- **PARKING:** the basement provides parking for both the customers and staff. However this parking is not enough. Customers are therefore made to park their cars along the roads thereby worsening the traffic situation along the Tudu-Circle road.

REFUSE MANAGEMENT: the facility is sited close to the Tudu-Circle road without easement around it. The shopping wing of the Mall is open to all, and even those who do not use the place. This encourages loitering and littering. Due to the openness of the Mall, the people who litter the place cannot be checked. The office wing of the Mall however, has 240 litre bins placed strategically and are emptied at the end of the working day. The Mall hires the services of a private waste management company for its general cleaning in the morning before work commences and in the evening at the close of work.

- **LIGHTING AND VENTILATION:** The Mall employs a lot of natural ventilation and day lighting. The only place that utilises air-conditioning is the administrative unit, and the system employed is the split system. In the event of power failure, the windows are opened to allow in fresh air. The use of court yards, voids, and aluminium louver windows tremendously facilitates day lighting and natural ventilation. The use of these natural elements creates the problem of dust and the discolouring of packages; This is so because

- those who rent these shops move their goods in and out daily to display them, by so doing expose them to the weather.

4.2.5 SECURITY

- There are no surveillance cameras on the facility; however there are professional security guards who patrol day and night.

4.2.6 SWOT ANALYSIS OF MAKOLA SHOPPING MALL

4.2.7 STRENGTHS OF MAKOLA SHOPPING MALL: The Makola Shopping Mall has the following strengths:

- The facility makes use of natural lighting and ventilation.
- The facility has less energy consumption because of the less dependent on electricity for ventilation.

4.2.8 WEAKNESSES OF MAKOLA SHOPPING MALL

- There is no clear cut distinction between stuff and public parking.
- The interim parking can be very chaotic especially during the festive seasons.
- The use of natural lighting and ventilation perpetually causes the problem of dust and discoloration of packages as products are constantly being move in and out.
- The facility is very insensitive to the needs of the physically challenged.

4.2.9 OPPORTUNITIES

- The Facilities enjoys a lot of patronage, this so because it is cited in the Central Business District (CBD) of Accra, hence, increases the rate of business turnovers.

4.2.10 THREAT

- The Mall is cited close to the Tudu-Circle road. This proximity results in frequent vehicular-pedestrian conflicts and sometimes accidents.
- The Mall is not gated thereby encouraging a lot of littering and loitering.

4.2.11 CONCLUSIONS; LESSONS LEARNT FROM ACCRA AND MAKOLA

SHOPPING MALL

In conclusion, it is very important to consider:

- Where a shopping facility is to be cited as it attracts a lot of people to itself.
- The physically challenged. In the design of shopping facility it is important to consider the the physically challenged and ensure that all that they need to ensure their comfort is provided for. These include their stress free movement from one place to the other, user friendly doors and washrooms.
- The problem of employing absolute natural lighting and ventilation results in dust and discoloration of products; as the spaces are ventilated naturally the dust in the air settles on the goods. And the daily movement of goods in and out the shops affects the packaging with time.
- Separate the public parking from the staff parking. The separation of the public's parking from the staff's makes the management parking easy. A direct and separate entry as well as parking will facilitates staff's efficiency.
- Use court yards and voids to ventilate and light obscure corners such as the basement.

4.3.0 TECHNICAL AND SPECIAL STUDIES

4.3.1 FURNITURE

Shelving, Display and Aisle.

The relative anthropometrics of the following were studied:

- Cabinet- both wall units and counters, gondolas etc
- Clothing rails and cases
- Panels
- Security safes
- Display counters

4.3.2 ADVERTISING GOODS

SHOP FRONT: The shop front is the first point of call for the customer shopping for the first time. The ability to convincingly persuade a shopper without actually talking to them one on one, before actually entering the shop to buy some goods on display is an art. This is one major role the shop front plays. This is made possible by the use of clear large glass at shop fronts, colour combined from neon bulbs and signs.¹

4.3.3 SECURITY SYSTEM

4.3.3.1 ELECTRICAL SECURITY SYSTEMS

This includes communication security layout, sizing of electric equipment, and detailed consideration of system equipment specification.

WIRELESS COMMUNICATION SYSTEM

Wireless Private Branch Exchange (PBX): Mobile telephones similar to the public cellular phones used outside buildings also known as personal communications systems (PCS). Wireless pagers: may be radio or infra-red. Some can locate and identify shoppers automatically. Two-way radios: “walkie-talkies” used by security and Personnel enhance commutation in the Mall.²

WIRELESS MODEMS: Also called radio modems, are incorporated into laptop and Personal Computers for mobile computing. ³

DATA COMMUNICATION SYSTEMS

There are many types of special data combinations systems for automatic teller machines, point-of-sale devices, specialized systems for reservation, customer service and telemarketing centres (often integrated electronically with voice systems) control communications used for building management systems, telemetry and supervisory communications and data acquisition (SCADA). ⁴

VIDEO COMMUNICATION SYSTEMS

Video communications systems include closed circuit television (CCTV), cable television (CATV), master antenna television (MATV), and video conferencing systems.

A closed circuit television (CCTV) is a video magnification system consisting of a video screen interfaced with a video camera. Video magnification is achieved in two ways-the electronic conversion from the small camera imager to the larger display screen and the optical effect of the cameras zoom lens. ⁵

ALARM EQUIPMENT

PROTECTIVE SWITCHES: Used for unlawful opening of doors and windows. There are two types; mechanical and magnetic. The mechanical ones rely on physical force to operate the mechanism. Opening the doors removes the magnetic field and the contact opens to create the alarm situation. ⁶

WIRED PANELS: These are suitable for doors, windows, walls and eve ceiling. Magnetic protective switches are fixed to the door and window frames and the plunger magnet in the jamb. An unlawful removal of the plunger activates an alarm. ⁷

4.3.4 MECHANICAL SECURITY DEVICES

Security devices considered under these include;

- Roller grills; these are shutter doors made of small metal strips of horizontal connected together by a loose seam. The shutter is guarded by vertical grills. The roller grill is also called the roller shutter doors. They are best used as warehouse doors because of their lightness and they are durable since they are made of light steel.⁸
- Collapsible gates; as the name suggest, these are gates that are collapsible. The gate consists of several metal strips diagonally connected together by rivets. As you pull to the right or left the gate opens or closes. This gate is employed because of its security advantages. It is used behind main doors as a security buffer, warehouse, and openings which requires continuous natural ventilation, such as plant rooms for generators and air conditions.⁹

4.3.5 LIGHTING

4.3.5.1 DAY LIGHTING

Day lighting is an important element in aiding visibility, it is also considered important in the following way:

- **AESTHETICS:** the play of light from windows on surfaces and textures casting interesting shadows: the endless variety of mood and appearances due to the movement of the sun.
- **PSYCHOLOGICAL RESPONDS:** the sense of well being associated with day light and the sense of orientation that comes with being “connected” with the exterior.
- **ENERGY/COST:** reduction in electricity and related air conditioning loads from electric lighting.¹⁰

4.3.5.2 ARTIFICIAL LIGHTING

- The design of a shopping facility requires a well incorporated artificial lighting to complement day lighting. In no situation should supplementary lighting be considered an alternative. It should, on the other hand be considered as an essential features of good interior design. The following are some important ways in which supplementary lighting could use positively:
- To show goods on display as clearly and attractively as possible in a way that will attract customers' attention to merchandise.
- To employ colour in a manner that suits and compliments the display.
- To avoid glare.¹¹

The shop window: The degree to which a shop window should be illuminated depends on the general lighting level of the neighbourhood in which they are situated is high, medium or low. As a general guide, 600 to 900 watts per a unit window is suitable for high lighting levels.¹²

The interior: The requirements for interior lighting will vary according to the size, shape, type and character of shop. It is important to considered Ceiling, Walls, Displays and Showcases in placing a fixture effectively.¹³

Escape lighting: this is needed to enable the building to be evacuated quickly and safely in case of a disaster. They should be fed from power sources independent on the main lighting system. The following factors must be considered for the design of such lights:

- All escape routes and exit doors should be clearly visible.
- All changes in level such a stairs, ramps etc should be clearly illuminated.
- There must not be interference with the ventilation and sprinkler system.¹⁴

4.3.6 VENTILATION

Ventilation may be natural or mechanical. Natural ventilation requires effective temperature difference or wind to induce air movement. The methods which can be used for ventilation can be classified as follows:

- Natural inlet and extract: this applies to small shops where occupancy is low.
- Natural inlet and mechanical extract this method is for supplying fresh air but not for extracting smoke unless the supply of air is adequate to balance the volume, which has to be extracted.
- Mechanical inlet and extract: this method is capable of the widest application because distribution, pressure and temperature can all be controlled.
- Mechanical inlet and natural extract: this method delivers air to the interior through ducted systems, allowing extracted air to pass through door and openings. Facilities for filtering and heating air are usually in cooperation.¹⁵

4.3.7 AIR CONDITIONING

Air conditioning is the process of treating air in an internal environment to establish and maintain required standards of temperature, humidity, cleanliness and motion.

Situation where this system is employed includes:

- Stores where large crowds of people congregate at a time.
- Stores where natural ventilation is inadequate due to magnitude of the facility.
- Stores which experience considerable heat gains from solar exposure or incidental sources such as lighting, occupants and any heat producing equipment.
- Exclusive stores where the comfort of the customer is a major priority.¹⁶

4.3.7.1 TYPES OF AIR CONDITIONING SYSTEMS

Central plants: This is suitable for supermarkets and hypermarkets where there is one large space to be air conditioned. The elements in the system such as filters, refrigeration plant, heating coils, humidification parts and control system are all housed in the central plants.

Zonal system: In this method, the building is divided into units for conditioning. These units receive air to an average temperature and humidity from a central plant.

Self-contained units: They are designed either solely for the purpose of recirculating internal air or for drawing in fresh air through an intake. There is window small units as well as split system. The split system has a relatively small distribution and the central unit housed separately from the bulkier compressor unit.¹⁷

4.3.8 REFUSE DISPOSAL

There are three types of refuse namely; wet and semi-wet, dry crushable and dry and non crushable.

Wet and semi wet; Some shopping waste contains a lot of fluids for example fleshy fruits and un-empty water bottles and sachets. These waste items are described as wet. On the other hand, shopping wastes are partially wet and dry are referred to as semi-wet. Examples are, banana peels, and vegetables. These kinds of waste are generated from the kitchen.

Dry crushable and dry non crushable; Dry crushable waste are dry waste normally of empty boxes Styrofoam materials and plastics. They can be compressed to reduce their volume and size. On the other hand, dry non crushable wastes are dry waste which is difficult to compress at the shopping facility. Examples are bulky metallic and wood waste.¹⁸

CALCULATION OF REFUSE CAPACITY

- Commercial facilities required 2cubic meters of refuse is produce for every 1000m² gross floor area,
- Retail facilities Minimum of 4cubic meters of refuse is produced for every 1000m² gross floor areas.
- Restaurant /café Minimum of 1cm/m required/20 dinners. ¹⁹

REFUSE CONTAINERS

The popular forms of refuse containers are as follows:

- Paladins: Cylindrical containers on wheels, measuring 1220mm diameter x 1830mm high; their approximate weight when full is 70 to 90 kg.
- Box containers: Measurement: 1.0 x 0.5 x 3.0
- Dustbins: 460mm in diameter x 610 mm high, its approximate full weight is 15 to 20kg
- Disposal sacks: These are wet strength paper or plastic bags fixed to a metal ring with a hinged cover; they may be free standing or bolted to the well. They measure about 400mm in diameter x 750mm high; their approximate capacity is 0.10cubic meters. ²⁰

4.3.9 FIRE FIGHTING

Usually, large shops require extensive use of fire alarms and fighting appliances but for most shops ordinary hand held extinguishers are enough. In a shopping mall, a combination of various equipments will be required.

- **FIRE PROTECTION:** In order to reduce the risk of fire from spreading, the building can be divided into compartment not exceeding 1860m² with a cubic area not exceeding

7080m³. Escalators should be enclosed within fire proof construction and their openings protected by automatic fire doors. ²¹

FIRE FIGHTING EQUIPMENT AND SYSTEMS

- Fire extinguishers: They provide adequate fire protection and are cheap. Some of the most common types are the water based; dry powder or foam type and the ones that use carbon dioxide.
- Sprinklers: It extinguishes fire by soaking the burning material and charging the atmosphere with excessive water so that it will not support combustion. Sprinkler heads are supplied by water mains or by pressurised storage cylinders of 22.5 to 50cm³ capacity usually housed in the basement. ²²
- Fire hoses: Unlike sprinkler, which is indiscriminate, the fire hose is directional and controllable. They may be connected to the main water line where the pressure is adequate. Otherwise, tanks (usually, 1150litre capacity) are require to feed the hoses by gravity or pumps. The hydraulic requirements are that, the hoses should be able to deliver 22 liters of water per minute at a distance of 6metres from its nozzle and those three nozzles should be in operation at a time.
- Fire alarms: Fire alarms may be automatic or manually operated. ²³

4.3.11 SPATIAL REQUIREMENTS

SHOPS SPATIAL PLANNING AND LAYOUT

There are two basic planning guidelines for laying out a retail sales floor:

- use 100 percent of the space allocated
- do not sacrifice function for aesthetic

There are basically six typologies of plans that can facilitate the designer design intent. ²⁴

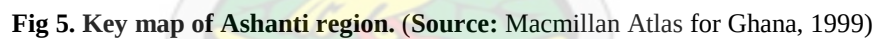
- Straight plans use walls and projections to create smaller spaces and are economical. It is a conventional form of layout which is economical plan to execute. It can be used for any shop type from gift to apparel.
- Pathways plan pulls patrons through the store to the rear without interruption by floor fixtures. The merits of such layout are that the path can take any shape and that it creates a design pathway. Virtually applicable to any store. It is however suited for larger stores of about 1500 square meters and on one floor.
- Diagonal patterns permits angular traffic flow and create perimeter design interest and excitement in movement. Central placement of the cash-wrap permits security.
- Varied plan illustrates added variety of forms, which can work to a designer's advantage.
- Geometric plan can establish interest without excessive cost, if the store's product can accept it. Ceiling and floors can be lowered or raised to create zones and department. People respond to circular and curved shapes than with the angular and square plan.²⁵

OFFICES LAYOUT: Offices can be speculative or custom design. Speculative offices are for let-table purposes and thus there is the need for flexibility to accommodate changes. Custom-built offices on the other hand are designed to occupy/satisfy a specific organization or need. Thus, the second option is not feasible for the project since most of the offices are to be rented out to different companies and organizations.

CINEMA: The cinema recommended for this design is a standard state of the art auditorium with an average 50-seated capacity. The auditorium aims at the following functional.

- Every member of the auditorium requires an unobstructed view of the whole picture area on the screen without visual and physical discomfort and picture distortion.
- Picture sharpness and luminance need to be uniform and satisfactory.
- An auditorium giving distortion free sound production.²⁶

4.4.1 SITE LOCATION



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The site is located at Asokwa, Kumasi in the Ashanti region. It is oriented towards the south of Adum the capital city of Kumasi; it is about 30 minutes drive from Adum. It is directly opposite the millennium plaza and close to the Asokwa police station. The site is bounded by two major road net works. The first road travels from Roman Hill through Labour of Asafo, then straight to Asokwa and continues to Atonsu, however, this road meet the second from Ahodwo to form a roundabout. The site houses six warehouses.

4. 4.2 SITE SELECTION CRITERIA AND JUSTIFICATION

Out of five different locations; namely, Anloga, Asuoeyeboa, Santasi, Airport, and Asokwa, Asokwa was chosen.

4.4.3 SITE JUSTIFICATION

Asokwa, a developing area is described as a light industrial area by the Town and Country Planning unit of Kumasi Metropolitan Assembly (KMA). The place offers a brilliant option of distressing the Central Business District. It is about 30 minutes drive from Central Business District. Asokwa to large extend, forms a reasonable centre to be identified with by its surrounding towns. It has the basic infrastructural facilities such as water supply, electricity, telephone. The town has the prospect of having a dual carriage road in the near future. Asokwa is a small town with the dream of a beautiful future and must be harnessed now.

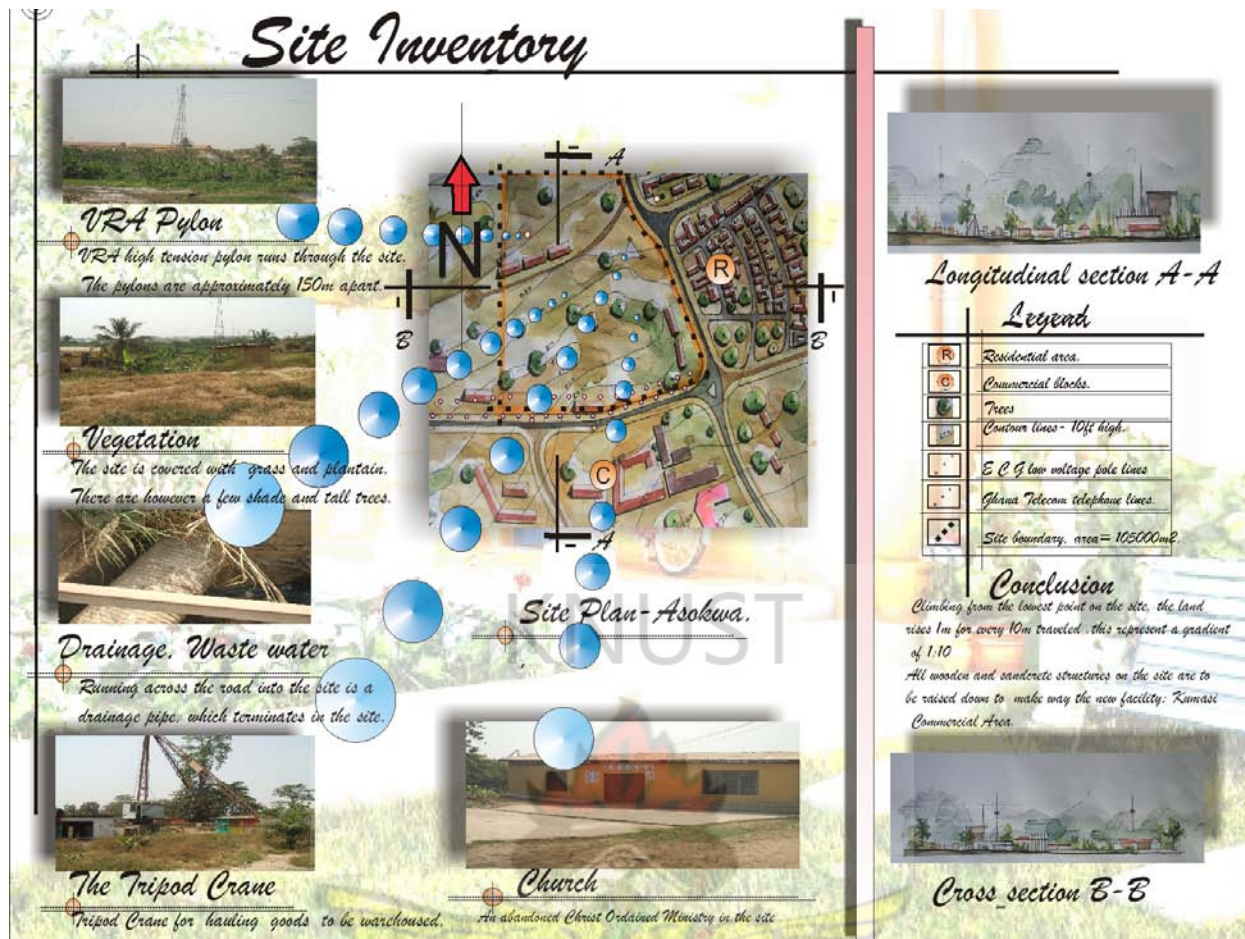


Fig 7. Site inventory. (Source: Author, 2008)

4.4.4 EXISTING SITE CONDITIONS AND INVENTORY

The site occupies an area of 10 hectares; the facility occupies about 45% of the site. The facilities found on the site include the following,

- A VRA pylon.
- An abandoned church.
- A tripod crane.
- A burst pipe.
- Six warehouses and some few trees.

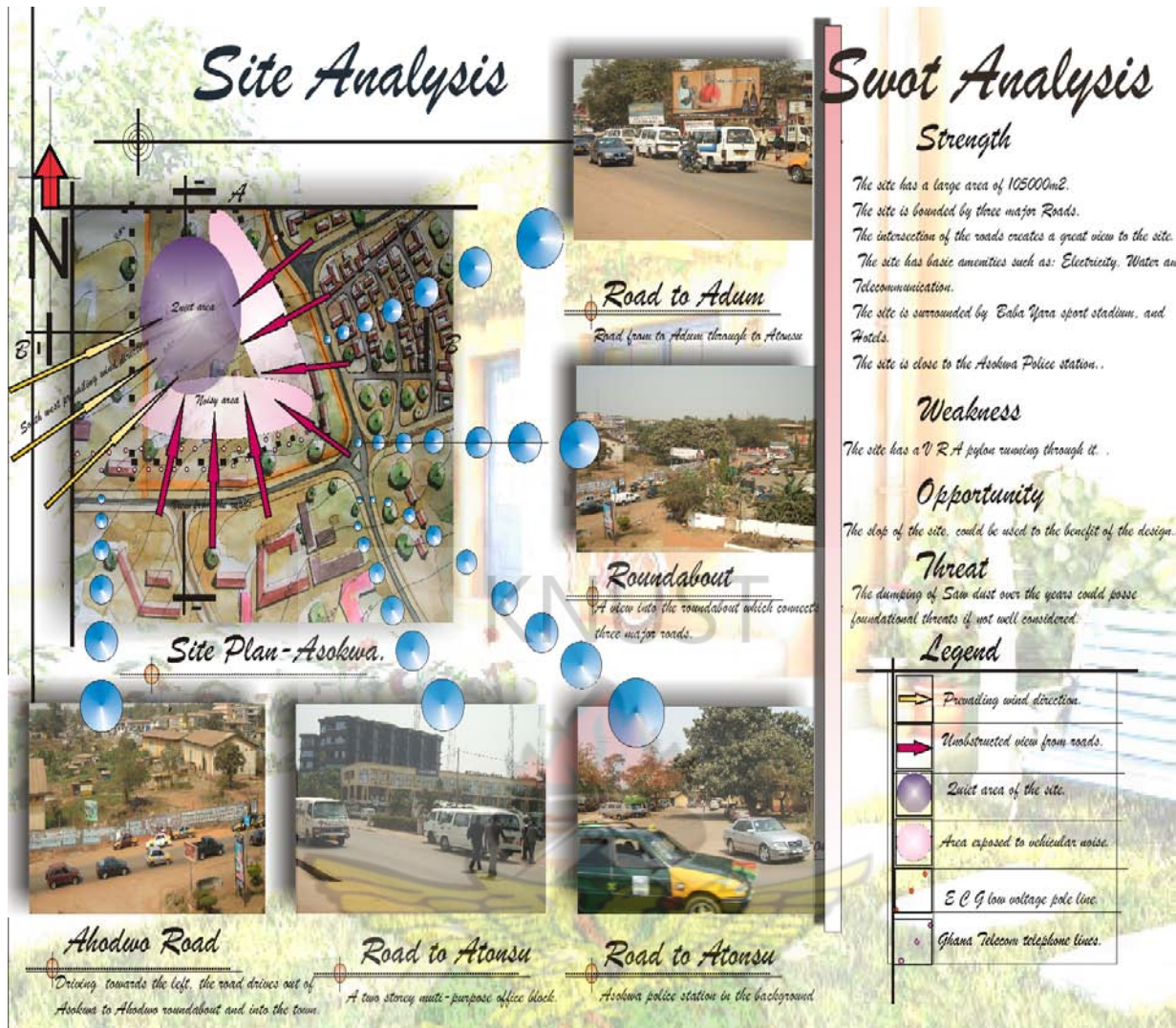


Fig8. Site analysis. (Source: Author, 2008)

• CLIMATE

Macro-climate: Generally, the climate of the region is warm and humid with prevailing winds from the south - west to the north - east direction.

Microclimate: Generally, the observation and experience on the site is a cool weather with an increment of temperature towards the southern section of the site.

• VEGETATION

The site is generally covered with grass, few shade trees and some plantain trees.

- **GEOLOGY**

By inspection, the soil on the site is loamy with stony areas south of the site.

- **RAINFALL**

Averagely there is rainfall about half the year with an average depth of 151mm.

- **TEMPERATURE**

Annual mean maximum is 31.6°C; Annual mean minimum is 22.2°C.

- **SUNSHINE DURATION**

The sun is up on the average of about 8 hours daily throughout the year.

- **TOPOGRAPHY**

The site slopes generally slopes in three different directions, the first; from north of the site to south. The second; it slopes from south to north. And the third slopes from the west to east.

- **SERVICES**

The site has access to all the utility services including water, electricity and telecommunication. Traffic lights are appropriately located at the junction.

4.4.5 SITE PERIPHERAL STUDIES AND ARCHITECTURAL CHARACTER

PERIPHERAL LAND USE

To the west and south of the site, is a mixed use of commercial, residential and industrial activities. However, to the east and north, it is mostly residential.

4.4.6 ARCHITECTURAL CHARACTER

The general architectural style of the area surrounding the site is court yard housing and office building designed in the modern style. The typologies of roofs across the area are Dutch and

Gable. On the other hand, the administration and recreational blocks reflect a post and beam type of construction. The environs of the site also portray a blend of the typical Ashanti courtyard building and modern architecture. Generally, the buildings are of sand cement blocks and concrete materials. The general material used for roofing is aluminium and are pitched with either gable or hipped ends.

4.4.7 MARKET RESEARCH

To establish the economic viability of the project, certain studies were undertaken to establish the population within reach and the market potential of the catchment area.

4.4.8 TRADE AREA

The trade area is the catchment area of the project. It is made up of three levels; primary, secondary and tertiary. For the purpose of this work, economic and market analysis will be concentrated within the primary trade area.

- **Primary Trade Area**

This area encompasses Oforikrom, Ayigya, Susuanso, Bomso, KNUST campus and Anloga. Travel time to the site from this trade area is within 5 to 10 minutes drive. As the area largely responsible for the survival of the project most of the study will be based on the primary trade area.

- **Secondary Trade Area**

This area encompasses Ayeduase, Kentenkronu, Boadi, Kotei, Twumduase, Deduako and Oduom. Travel time to the site from this trade area is within 25 to 30 minutes drive.

- **Tertiary trade Area**

This zone, which is usually not considered critical for a mall's survival, can be considered to include; areas beyond Oduom, and areas north, west and south of Kumasi, patrons from which may be attracted to the centre.

4.4.9 DEMOGRAPHY AS A MARKET FORCE (primary trade area)

The trade area needs to be sufficiently populated to ensure success of the facility. The total population of Kumasi, as of 2004, was approximately 1,017,246 with growth rate of 36% per annum. Currently, residential development (new site) is mostly towards Kumasi east.

4.4.10 INCOME LEVELS (primary trade area)

The income level of the primary trade area is as follows;

- High income areas: KNUST campus
- Middle income areas: Ayigya, Bomso, Susuanso, Partly KNUST campus.
- Low income: Anloga, Oforikrom, Partly Ayigya.

4.4.11 TRAFFIC AS A MARKET FORCE

It was also observed that there was a reasonable amount of traffic level on roads from Asafo through to Atonsu and that from Atonsu to Ahodwo and vice versa (these roads define the site on the eastern and southern boundary respectively).

4.4.12 PURCHASING PATTERNS

According to the responses of interviews conducted in the primary trade area:

- Most families within the middle-income belt shop once a week.
- Shopping takes place at Adum the main CBD of Kumasi.
- People within the low-income belt visit market every day.
- Goods bought frequently include foodstuff, provision, clothing, toiletries, cosmetics, groceries, confectionaries.
- They only buy from shops around for convenience.
- Women and children products forms the chunk of merchandise purchased.

KNUST

4.5 RESULTS

4.5.1 DESIGN EVOLUTION

4.5.2 BRIEF DEVELOPMENT

The final brief agreed upon by the designer and the client is spelt below.

GENERAL BRIEF.

- | | |
|---|--------------------------------|
| • Retail shops and warehouses. | • Children play area. |
| • Entertainment arena; cinemas, food court (restaurants; out and indoor restaurants and a rock garden). | • Offices. |
| | • Financial service providers. |

4.5.3 POTENTIAL USERS

USERS	TRAFFIC NEEDS
Civil servants (middle management)	own cars
Workers of various professions	own cars
Businessmen	own cars
Professionals	own cars
Employees	own cars
Civil servants (lower level)	public transport
Traders	public transport
Children	public transport
Young adults, students	public transport
Drivers	public transport

Table 1 – users and traffic needs. (Source: Author, 2008)

4.5.4 TRAFFIC NEEDS AND RESPONSES

ANTICIPATED RANGE OF VEHICLES

- Private cars
- Taxis
- Trotros
- Public buses
- Large goods vans
- vehicles
- Corporate and institutional vehicles

4.5.5 POTENTIAL TENANT

A survey was conducted on commercial facilities within the city as well as Accra to make certain the willingness of these shops to become potential tenants in the proposed shopping mall. The results of the survey have been summarized in the table below.

SHOPS	NUMBER VISITED	NUMBER INTERESTED
Super markets	10	8
Leading shops	20	15
Financial institutions	7	3
Other shops (store owners)	100	80
Market women	200	82
Entertainment operators	20	18
Restaurants and food stores	23	20

Table 2 – Shop visited vis-à-vis interested tenants. . (Source: Author, 2008)

COMMERCIAL TENANTS

Potential commercial tenants include the following:

- Anchor shops which include department store, multiple store and a supermarket. The other shops include :
- Drug and chemical shops
- Specialty shops
- Service shops

- Household and furniture
- Books and stationary
- Fashion and accessories
- Convenient shops
- Wholesale and storage

SERVICE

The following are possible service providers proposed for the facility.

- Restaurants
- Sports and recreation
- Information bureau
- Cash points
- Internet cafe

ENTERTAINMENT

Potential entertainment tenets are as follows:

- Cinema
- Night club, drinking bar and pubs
- Games room

BUSINESS AND FINANCE

The following entities are proposed financial institutions for the shopping centre design. Some will occupy purposed design spaces while others will occupy standardized let table office spaces.

- Banks
- Travel agencies



- Estate agencies
- Let table offices

4.5.6 SCHEDULE OF ACCOMMODATION

Retail and anchor shop: 9040m².

Three restaurants: 3312m².

Two 50 setter cinema halls: 5154m².

Children play area: 665m².

Open plan offices: 9283m²

One major bank and four ATMs: 263m²

Sum total of all spaces: 28655m²=3.5hecter (Source: Author, 2008)

4.5.7 PLANNING AND DESIGN

4.5.8 SPACE ALLOTMENTS

The following categories of space allotments were observed in the site planning process:

THE FACILITY

- Retail areas
- Service areas (HVAC plants, equipment storage, maintenance, etc.)
- Other commercial uses (offices, recreational, etc)
- Public uses, civic and social facilities (auditorium, children play area, etc)

PEDESTRIAN AREAS

- Malls, courts, walk ways, sidewalks and plaza

Automobile movement and parking areas

- **The public and staff;** surface parking and Lay-bys. Parking for staffs and shop owners.

Buffer areas

- Landscaped areas separating car storage areas from the public road system.
- Landscaped areas separating parking areas from one another.
- Landscaped areas separating parking areas from service areas.

Reserved areas

- Area allotted for future development.

4.5.9 SITE PLANNING PRINCIPLES

The allocation of space for these and possibly other uses should be guided by certain planning principles in order to achieve the desired result. Some of these principles include:

- Safeguarding the surrounding and the facility against any form of danger.
- Encourage absolute Pedestrianisation of customers through the facility.
- Separate various mechanized traffic types from one another and from foot traffic.
- Create a maximum of comfort and convenience for shoppers and merchants.
- Achieve orderliness, unity and beauty.

PEDESTRIANIZATION OF SHOPPING

This principle encourages the movement of customers from the parking area to the rest of the facility. This exposures the shopper to the sales shops as much as possible. Therefore, if any shopping facility is to prosper pedestrians must be encouraged to walk. Walking through the facility brings life and fosters customer interaction and hence, stimulates business.

In a shopping facility it is crucial to separating vehicular areas by means of low garden walls and providing wide walkways as well as sidewalks. This will help prevent human-vehicular conflict.

SERVICE: In planning the mall, every activity relating to services and warehousing are located in the basement. Permanent staffs and shop owners have been provided with adequate parking in the basement. By so doing, the ground floor is devoid of any confusion as much as possible.

4.6 CONCEPTS AND PHILOSOPHY OF DESIGN

4.6.1 PHILOSOPHY AND CONCEPT

The philosophical reasoning backing this research topic is largely to:

To create an all round one stop shopping and service rendering facility, which seeks to create comfort by been responsive to the climatic needs of the customers, and effectively embracing nature, thereby creating a balance the built and the soft region of the design.

The above philosophy is achievable through:

- Proper orientation of the facility.
- Basic design tools or elements such as courtyards, atrium etc.
- Natural elements such as day lighting, ventilation and landscaping.

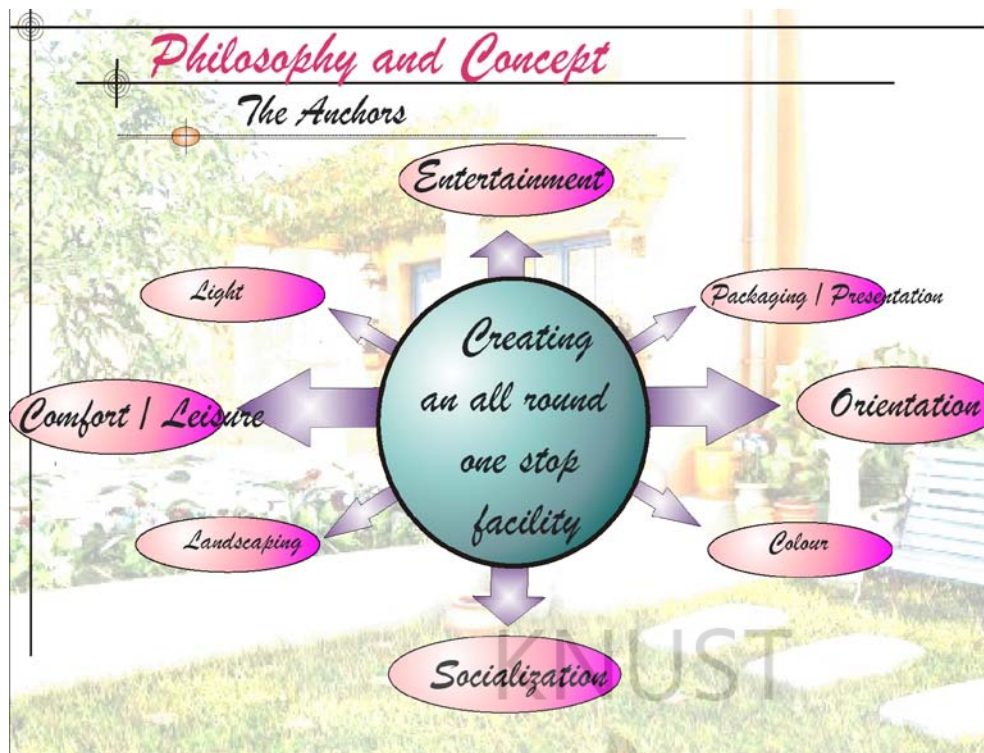


Fig 9. Concept and philosophy. (Source: Author, 2008)

4.6.2 CONCEPTUAL DEVELOPMENT AND PLANNING

4.6.3 CONCEPTUAL SITE PLANNING

4.6.3.1 STAGE 1

OPTION ONE AND TWO: In response to the client's intentions, a macro site zoning was worked out.



Fig 10. Option 1 (Source: Author, 2008)



Fig 11. Option 2 (Source: Author, 2008)

NOTE: The major design elements are disjointed and far apart; that is, the anchor shops.



Fig 11. Option 2, alternative 1.

(Source: Author, 2008)

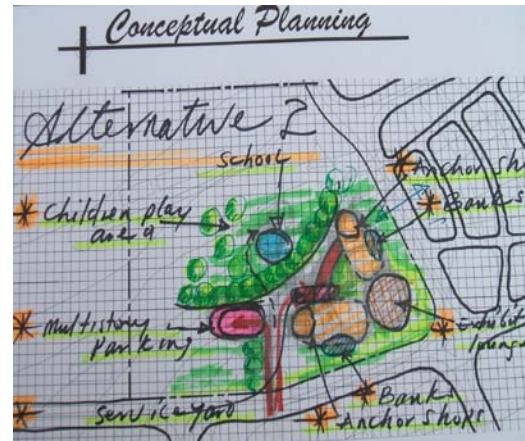


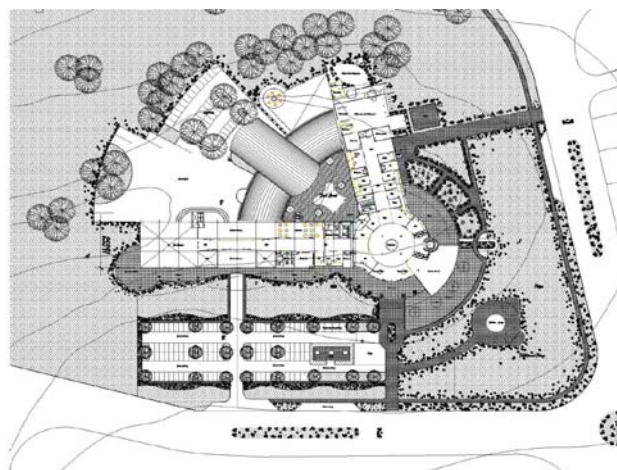
Fig 12. Option 2, alternative 2. **Selected.**

(Source: Author, 2008)

NOTE: In option 2, alternative 2, all design elements such as anchor shops, outdoor exhibition, banking, outdoor entertainment, parking and service have been relatively catered for. The facility has been properly oriented in the North-south direction.

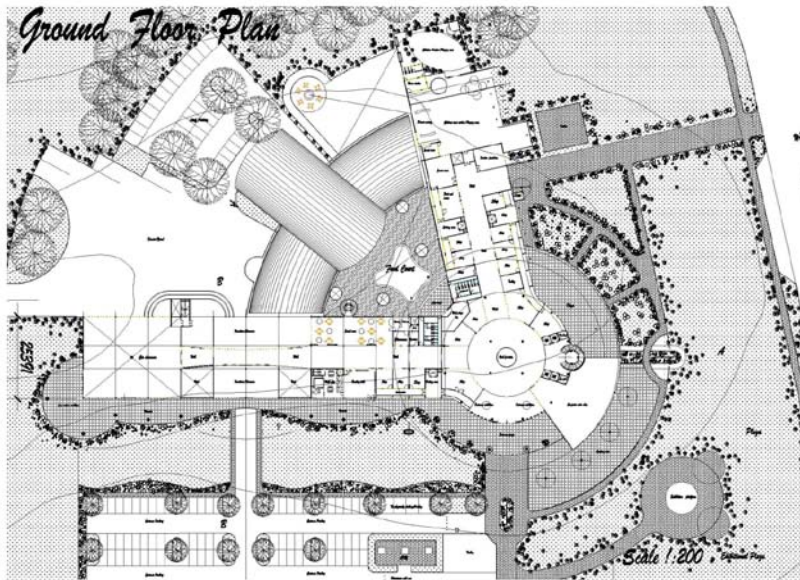
4.6.3.2 STAGE 2 (FINAL DRAWINGS)

The design, Kumasi Commercial Centre went through several processes such as documentation of facts gathered from case study and technical study, concept and philosophy, conceptual site planning, evolution of design through systematic processes and finally, the documentation (design drafting) of the design arrived at and presentation.



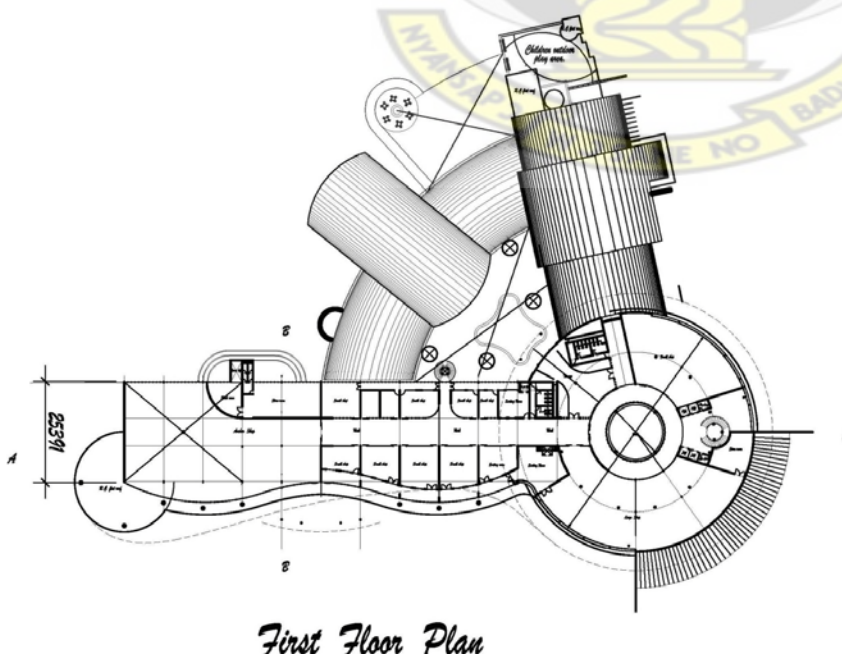
Site Plan Scale 1:400

Dwr1. The site plan (Source: Author, 2008)



Dwr2. The Ground floor plan. (Source: Author, 2008)

The design “Kumasi Commercial Centre” is of six levels: the basement, Ground floor, first floor up to the fifth floor. A closer look into the ground floor plan reveals the following spaces: the children shopping and play area, a car showroom, a furniture showroom, a bank a snack area and other smaller shops. Directly opposite the facility to the south, a 200 capacity car park to cater to the parking need of shopper. A primary and a secondary plaza are located to the east of the facility.



Dwr3. The First floor plan. (Source: Author, 2008)

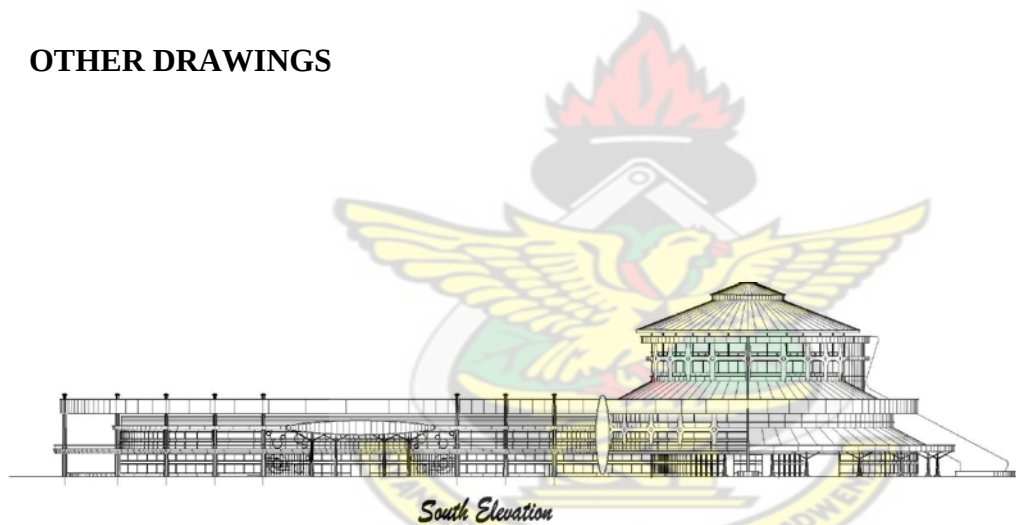
THE FIRST FLOOR: The First floor plans (the Men's Arena), basically consists of a large open plan fully dedicated to goods and items largely related to men. Other space that is associated with this floor includes an Anchor shop and other smaller retail outlets.

THE SECOND FLOOR: The second floor unlike the first houses mainly ladies trendy goods.

THE THIRD FLOOR: The Third floor has two executive cinemas, a general cinema halls and an open plan internet café.

THE FOURTH FLOOR: The Fourth floor has only offices in it. And finally **the Fifth floor** is basically a large area meant for eating and relaxation, winding down and enjoying a delightful view from that height.

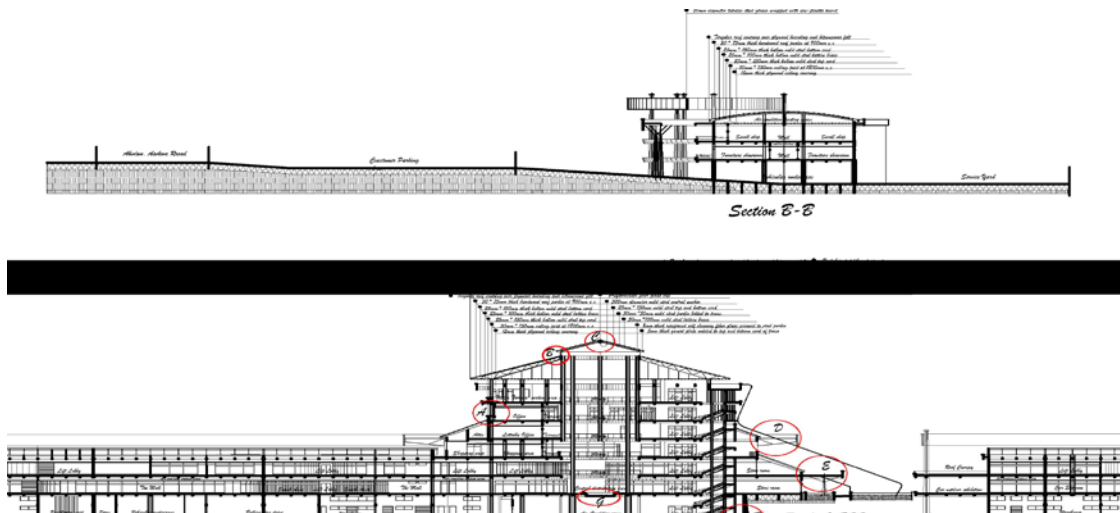
OTHER DRAWINGS



Dwr4. The southern façade. This façade represent formal face of the facility. (Source: Author, 2008)



Dwr5. The Eastern façade. This façade represent the casual face of the facility. (Source: Author, 2008)



Dwr6. A section through the facility reveals the vertical relationship between floors. (Source: Author, 2008)

4.6.4 PERSPECTIVES



Dwr.7 An aerial view of the facility showing the roof configurations. (Source: Author, 2008)

4.6.5 DESCRIPTION OF DESIGN ESSENTIALS

The success of shopping centres depends on the customers who patronise the facility. Most of these customers are women and children. This is because 80 percent of shopping trip and purchase decisions is made by women. The facility has therefore designed to meet the needs of woman at the centre. This indirectly means meeting the needs of the families. It is therefore important to strategically consider the needs of the entire family.



Dwr.7 A picturesque view looking towards south-east. **Source:** (Source: Author, 2008)

4.6.6 COLUMN SPACING

10m * 10 and in other cases 5m * 5m column grid were employed to enable large open plan design, this provides an uninterrupted space.

4.6.7 TENANT MIXES

The anchor shops utilize spaces with multi delivery areas. They occupy double volumes and basement service. They are designed to take advantage of dominant locations with good display. Openings to the outside are therefore used as advertising boards and display windows.

4.6.8 MERCHANDISING

The goods in the shops are strategically located to influence buyers. The shops were designed to focus more on the products. Hence, creating a better image for the shops and thereby enhancing the sales of goods and services.

4.6.9 LIGHTING

Lighting is a critical designer's tool to emphasize the product. If the lighting is diffuse, the product will appear common even if it is very expensive and unique. High-intensity lighting which is particularly effective has been employed to illuminate unique, single products, and fluorescent lighting, properly shielded with parabolic diffusers is used to effectively emphasize grouped common products.

4.6.10 FAMILY AND ENTERTAINMENT

The entertainment centre has been strategically located to operate as an anchor, providing a cinema, games pub, restaurant, food court and children games area.

4.7 SERVICES AND CONSTRUCTION TECHNOLOGY

4.7.1 SERVICES

4.7.2 ELECTRICITY

With the transformer located on the site, supply to the development will be adequately catered for. Underground cable supply to the various blocks from the transformer shall be along access

roads and shall terminate in the switch rooms from which point power will be distributed throughout the facility.

4.7.3 LIGHTING AND VENTILATION

- **VENTILATION**

As a measure of prudence in a developing country, the mall has been primarily designed around architectural principles which will enable a full operation on natural ventilation. Principles employed include; stack ventilation (low air inlet and high air outlets, high roof volumes, etc), solids and voids plan conception (strategic cavities on windward sides). However, central air conditioning systems are used for the large space stores and covered malls. Some offices and specialty shops require the central system. Entertainment areas such as the cinema also make use of the central ventilation systems.

LIGHTING

Natural lighting is used during the day for open-air areas, the market and service bays. However, some levels of artificial lighting will be required to supplement day lighting in some specific areas like the basement and some shops.

For overall artificial lighting, fluorescent lights will be used. Intensity of lights will be graded increasing towards the entrances and exits and courtyards. General lighting is design with a flexible switching system controlled from various points. Some of the lights will have automatic control system. There will be duplicate control buttons at the security control department. Special effects lighting will be used for advertising and signage. It will be also used for interior decorations and interactive multimedia purposes. Security lighting will be designed by arranging the switching of the light such that certain patterns of light can be left on

during non trading hours and be operated by separate and automatic time switches and circuit breakers.

Emergency lights within the mall will be provided by separate battery operated system and positioned at specific locations in accordance with fire regulations.

4.7.4 INFORMATION SYSTEMS

A central information centre is located within the mall for customer service and general information. The information centre will operate audio and visual information system. The audio system provides facility for amplification selection and distribution of music from radio and other sources. Microphone inputs and alarm signalling will be incorporated in the systems. Loudspeakers will be installed at vantage points in order to reach all shoppers and retailers. Audio booths are located within music shop to enable customers listen to music



prior to buying. The system will be used as a public address and advertising. The security control room will also be installed with an emergency public address system.

4.7.5 SECURITY CONTROL

Two forms of security are taken care of in the facility. These are petty theft, shoplifting and vandalism during the day as well as burglary during the night. During the shutdown times and at night, major entrances will be locked and wired with alarm system. During trading hours, closed circuit televisions are used for monitoring. Closed circuit televisions also enable management to be aware of incidents such as sickness, accidents and vandalism within the mall. It can also be used as a crowd control device. A central security department comprising of an administration headed by a security manager is located within the shopping mall. The security control room is specially designed with pedestal desks, incorporating night service switch boards, fire alarm detector panels and public address system. They are responsible for the monitoring of the security equipment.

4.7.6 FIRE

- **FIRE PROTECTION AND PREVENTION**

Fire controls systems such as smoke detectors and fire alarms systems are controlled from a central control board located at the basement. The electrical system where the building has been sectioned into independent load centres act as fire protection. Here, electrically induced fire outbreak can be prevented from one area to other.

Sprinkler heads and Hose reels supplied by mains are placed at strategic location within the shopping mall as a fire fighting measure. Automatic fire alarm systems are installed. These operate on the principle of heat sensing and smoke detection. Fire extinguishers also located at

ten meters intervals within the facility is an additional source of fire control. Fire hydrants are located strategically on site to aid fire service when the need arises.

4.7.7 WATER SUPPLY AND TELECOMMUNICATION

To facilitate continuous supply in times of repairs, the loop system of supply has been adopted. Underground water storage is linked by a booster pump into overhead water storage at the highest point of the facility. Telecommunication: Underground telecommunication cables are connected to the telephone switchboard within the facility. At this point, the internal connections are tapped.

4.7.8 SEWERAGE

Surface drains will take care of storm water. A network of covered and open drains along the slope will discharge into storm drains. Soil and waste are to be discharged by underground pipe work into a septic tank and filtration bed within the site.

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CHAPTER 5

CONCLUSION AND RECOMMENDATION

A commercial centre is an environment where the buying and selling of one form of goods and services takes place. The design of such an environment puts the comfort of all who work and patronise the place first. These include the administrators, shop owners, workers and shoppers.

A well designed commercial centre would consider the following to ensure comfort for the end users:

- The location (site) and the infrastructures surrounding it.
- The orientation of the facility.

- The comfort and safety of the users.
- Accessibility to the physically challenged.
- The protection of the goods from deterioration.
- Protection against fire.

RECOMMENDATION

For Kumasi Commercial Centre to be effective, the following have been recommended:

THE LOCATION: it is recommended that the facility is cited at Asokwa, a suburb of Kumasi, about 30 minutes drive from the Central Business District this will help ease the pressure to the Central Business District, minimise the time of doing business, minimise waiting time and minimise traffic congestion and make business pleasurable.

ORIENTATION: the facility should as much as possible place the facility in the North-South position. This will minimise exposure to harsh weather elements and reduce the surface areas of walls that will absorb heat, hence reduce the heating load. Design elements such as court yards, voids and long overhangs should be employed to improve the comfortability of the facility. In addition, the facility should be set back 25m off the main road; this will prevent the structure from imposing itself on the shoppers as they approach it.

COMFORT AND LEISURE: the facility should be designed with the end users in mind. **Shop owners;** should be comfortable with his/her space, have good access to the shop without creating scene in the mall; service routes and corridors.

Cleaners; should have locker rooms and store rooms to make maintenance easy.

Shoppers; should find the facility a delightful, welcoming, entertaining and pleasurable.

THE PHYSICALLY CHALLENGED: The physically challenged should find the facility welcoming and accessible. The design should ensure that the physically challenged are taken care of; their stress free movement (vertical and horizontal) from one point to the other. The facility should have user friendly doors and washrooms and entrances, shallow ramps, reserved parking slots and lifts to ensure their comfort.

PARKING: the issue of parking can be problematic in the design shopping facility, it is recommended that parking for shoppers and the staffs should be separated. This ensures efficiency and makes the management of parking easy.

PROTECTION FOR THE PRODUCTS: in order to keep goods looking good and dust free irrespective of the time spent on the shelf it is recommended that the shops are artificially ventilated and the windows curtain walled.

WAREHOUSE: the shops should be designed to have storerooms to accommodate daily sales. However, a main warehouse should be provided for with goods lift.

FINALLY, It is anticipated that as users enjoy the facility, the facility will thrive all year round. It is also hoped that, the client and all stake holders would come together to make this proposed facility a dream come true.

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APPENDIX

1.0 CONSTRUCTION TECHNOLOGY

1.1 STRUCTURAL SYSTEM

Generally, the facility is planned on a modular grid module of 10m * 10m and other areas 5m * 5m. The post and beam system of construction will mostly be employed. Where ambitious spans are required, waffle slabs, steel lattice roofs and trusses will be employed.

1.1.2 MATERIALS AND FINISHES

WALLS: Stone and concrete masonry as well as brickwork finishes are employed on retaining walls as part of external landscaping. Wall cladding makes use of combination of concrete masonry units.

CEILINGS: Basement ceiling are exposed concrete. Plasterboard ceiling will be used for shopping mall and offices. A Specialist approved acoustic materials will be employed for the cinemas.

FLOORS: Asphalt finishes and pavement blocks are used in varied ways for driveways and car parks. Pavement materials such as concrete blocks, stone finishes are employed.

Materials used for steps, ramps and retaining wall definition are consistent with general hard landscape finishes. Basement floors are exposed concrete with directional markings. Porcelain tiles will be used for shops and offices while specialist approved acoustic material will be employed for the cinema floors.

ROOFING: Flexible Shingles roof covering material is employed over steel trusses.

WINDOWS

- **GLAZED CURTAIN WALLING**

Even though conscious effort was made to use glass curtain wall only on north and south facades of the structure, control of solar ingress into the facility remains critical. Both vertical and horizontal shading devices have been used on the facades of the facility taking into consideration the calculated shadow angles of these facades. The material for the curtain walling is Zinc coated Aluminum oxide heat reflecting glass, which reflects about 70% of the solar radiation incident on it and converts the remaining 30% into a red bias light.

- **DOORS:** Laminated glass in aluminium frames and rolling grilles.
- **SIGNAGE:** The major advertising band that runs through the design is mounted on steel truss or girder.

Aluminum and plastic forms the cladding around the advertising truss to enable digital advertisement. Directional signs are all made of reflective green sticker and are mounted on stainless steel background.

1.2 LANDSCAPING: An important aspect of any good design is the conscious introduction of architectural landscaping elements. This important aspect was given careful thought and consideration. Architectural landscaping elements are in two folds: hard landscape and soft landscape.

1.2.1 HARD LANDSCAPE

PARKING: all the parking areas of the facility are treated with asphalt, because of its high resistance to wear and depression.

PEDESTRIAN WALK WAYS: the walk ways are treated with high grade concrete pavement blocks.

Garden: the Rock garden in the facility has specially crafted hardwood and concrete chairs. These combinations create a balance between the rustic and the polished surfaces.

Food court: the floor of the food court is finished with unpolished porcelain tile.

1.2.3 SOFT LANDSCAPING

Parking: Rextonia regia (the royal palm tree) are planted around the parking area to enhance the facility as well as provide clear view to the shopping area. Other areas of the parking have the blend of Bunfelsia americana (lady of the night), Moraya exotica (Moraya) and Duranta yellow (Duranta).

Cover grass: Paspalum conjugatum is used as ground cover because of its tolerance to shade, ability to control erosion, thrives in the dry season and is a quick growing cover plant.

The mall; the central void of the facility lights on to a rock fountain with small palm like trees and colorfully sweet smelling bed plants.

Courtyard: the courtyard has central swimming pool and 2m away it is surrounded by colorfully sweet smelling plants, such as Bunfelsia Americana (lady of the night) and African Lilly.

2.0 COSTING

An estimated cost of the facility is given below.

The cost per square meter of construction is \$350, that is Gh¢325.5

Hence,

Basement-----6250 m² x Gh¢325.5

= **Gh¢2,037,500**

Sub basement-----7850 m² x Gh¢325.5

= **Gh¢2,555,175**

Ground floor -----6250 m² x Gh¢325.5

= **Gh¢2,034,375**

First floor -----3750 m² x Gh¢325.5

= **Gh¢1,220,625**

Second floor -----2827.8 m² x Gh¢325.5

= **Gh¢9,024,048.9**

Third floor-----2827.8 m² x Gh¢325.5

= **Gh¢9,024,048.9**

fourth-----1256.8 m² x Gh¢325.5

= **Gh¢409,088.4**

Fifth -----1256.8 m² x Gh¢325.5

= **Gh¢409,088.4**

Service zone-----2530.6 m² x Gh¢325.5

= **Gh¢823,710.3**

Grand Total-----7809 m² x ¢3,255,000

= **Gh¢27,537,659.9**

3.0 QUESTIONNAIRE FOR THE MANAGEMENT OF ACCRA MALL AND MAKOLA SHOPPING MALL

3.1.1 THE POPULATION SIZE OF ACCRA MALL.

Accra Mall on a very busy day will approximately occupy 2000 to 2500 people; with its facilities fully booked.

Makola Shopping Mall on a very busy day will approximately occupy 1200 to 1800 people; with its facilities fully booked.

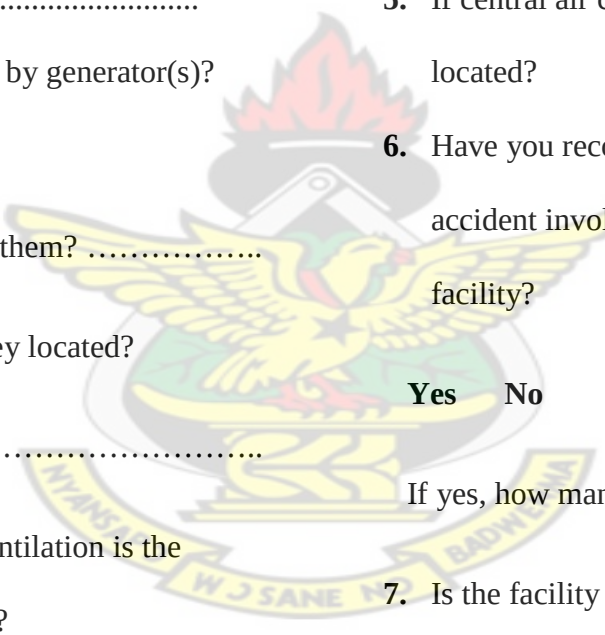
3.1.2 SAMPLING

The sample size was chosen at random. The sexes of the sample size were not considered.

3.1.3 THE SAMPLE SIZE

The sample size is 250 people. This represents 10% and 16% of the population size of Accra Mall and Makola Shopping Mall respectively.

3.2 QUESTIONNAIRE

- 
1. How many anchor shops do the facility have?
.....
2. Do you have stand by generator(s)?
Yes No
If yes, how many of them?
Where is it or are they located?
.....
3. What system of ventilation is the facility employing?
.....
- a. Natural
b. artificial
c. both natural and artificial
4. If artificial, is it
a. Split window unit system?
b. Split tower unit system?
c. Central air cooling system
5. If central air condition, where is it located?
6. Have you recorded any form of accident involving shoppers at the facility?
Yes No
If yes, how many of them?
7. Is the facility friendly to the physically challenged?
Yes No
8. Does the facility have ramps and lift(s) to aid movement of the physically challenged?
Yes No

9. Is the location of the administration
easily accessible?

Yes No

3.3 SHOP OWNERS

1. Is the shop big enough to for the
accommodation of your goods?

7. Do you have toilet facility in the shop?

Yes No

8. If yes, does it make life easy?

Yes No

Yes No

9. If no, would you have preferred a toilet
facility in the shop?

2. What is the size of your shop?

Yes No

.....

10. Do you access your shop from inside
the Mall?

3. Is the shop comfortable?

Yes No

Yes No

11. How does this affect your daily
activities in the shop?

4. If no, how would you have wanted it?

.....

5. Are your goods exposed or displayed in
the sun and dust?

12. Do you prefer storage facilities within
the shop or outside the Mall?

Yes No

Yes No

6. Do you always have to bring your good
out in the morning and send them back
on the evening?

13. If yes, how does it affect your daily
activity?

14. If no how does it affect your daily
activity?

15. Do you have an area where your
truck(s) of goods can easily off –load
goods?

Yes No

22. What do you like about the Mall?

23. What do you dislike about the Mall?

16. If yes, is the place large and accessible?

Yes No

3.4 SHOPPERS

17. Do you experience chaos in the area?

Yes No

1. What attracts you to the facility?

18. Is the front of your shop inviting?

Yes No

2. Is it easy finding what you are looking

19. Does your shop front have large clear
windows and doors?

for in the facility?

Yes No

Yes No

3. Is it comfortable shopping in the
facility?

20. Is your shop front colourful, pleasing
and inviting?

Yes No

Yes No

4. If yes, what makes (elements) shopping
in facility easy?

21. If no, how would you have preferred it?

.....
.....

9. Apart from shopping, what else do you
come here to do?

5. If no, what makes it uncomfortable?

.....
.....

10. Is shopping in the facility exciting?

Yes No

6. Is the facility friendly to the physically
challenged?

Yes No

11. If yes, what makes the facility exciting?

7. If yes, what elements in the facility
facilitate their movement?

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

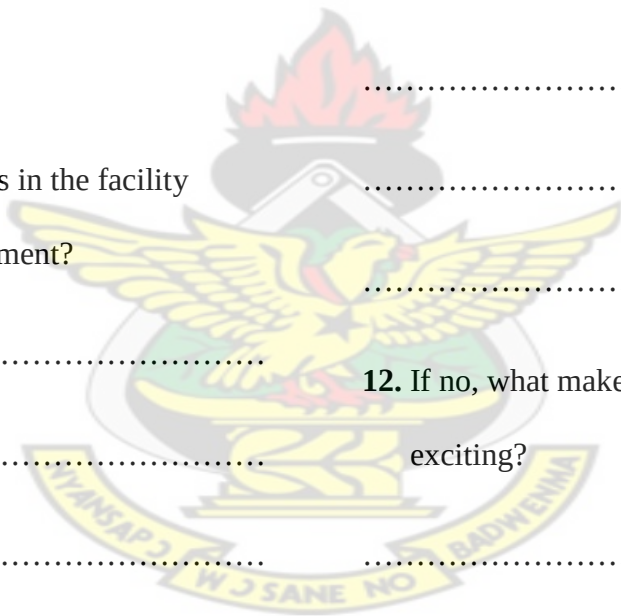
12. If no, what makes the facility not
exciting?

8. If no, what facilities are absent?

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

13. Do you have a place to park your car
each time you visit the facility?

Yes No



14. Do you have any problem with the way
cars are parked?

Yes No

15. Have you experienced any form of arm
of accident in parking area?

Yes No

16. Do you experience theft in the parking
area whiles you are shopping?

Yes No

17. Does this facility offer a better option of
shopping compared to the Central
Business District (CBD)?

Yes No

18. If yes, why?.....

19.

20. If no, why?.....

21. Is parking convenient in the facility?

Yes No

22. What are your favorite parts of the
facility?

.....

.....

.....

23. Does the facility have sanitary for

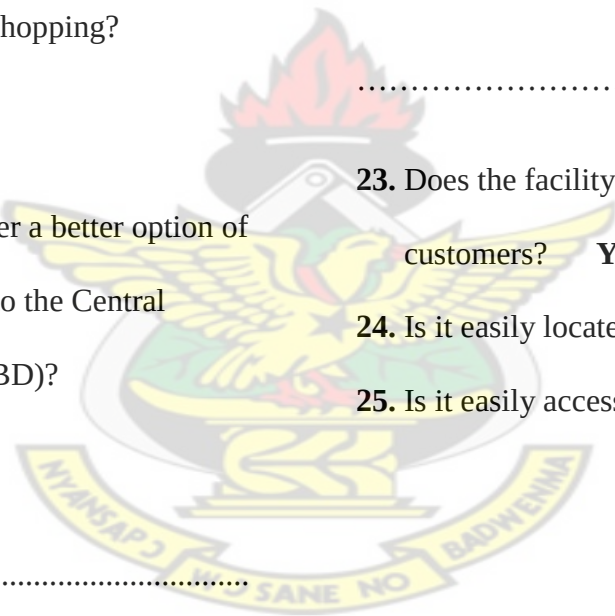
customers? **Yes No**

24. Is it easily located?

Yes No

25. Is it easily accessible?

Yes No



3.5 RESPONSE TO THE QUESTIONNAIRE

Out of the 250 questionnaires that was distributed only 180 questionnaires was retrieved and 120 was retrieved from Accra Mall and Makola Shopping Mall respectively. This was as a result of their busy schedule and their absence from work as at time of collection of questionnaires. However, some of the questionnaires were filled through interview and collected at the spot; shoppers, management, cleaners and some shop owners.

3.5.1 THE RESPONSE OF ACCRA MALL

3.5.2 The management of Accra Mall

1. How many anchor shops do the facility have?

Answer. 2 anchor shops; the Game and Shoprite.

2. Do you have stand by generator(s)?

Answer. Yes

If yes, how many of them?

Answer. 3 of them

Where are they located?

Answer. Service yard; to the south of the facility.

3. What system of ventilation is the facility employing?

Answer. Both natural and artificial

4. If artificial, what type is it?

Answer. Split window unit system for the offices and

Central air cooling system for the central mall.

5. If central air condition, where is it located?

Answer. The air condition is located in an air condition room to the south of the facility.

6. Have you recorded any form of accident involving shoppers at the facility?

Answer. No

7. Is the facility friendly to the physically challenged?

Answer. Yes, because of the provision of pedestrian ramps, lifts and shallow steps (100mm high for risers of steps).

8. Does the facility have ramps and lift(s) to aid movement of the physically challenged?

Answer. Yes

9. Is the location of the administration easily accessible?

Answer. The administration is located in the basement; more income generating space is needed for the customers.

3.5.3 SHOP OWNERS (30 shop owners responded to these questions)

10. Is the shop big enough to for the accommodation of your goods?

Answer. Yes, because one applies for the space he or she needs, and pays correspondingly.

11. What is the size of your shop?

Answer. The size of the shops varies depending on the space one applies for.

12. Is the shop comfortable?

Answer. Yes

13. Are your goods exposed or displayed in the sun and dust?

Answer. No

14. Do you always have to bring your good out in the morning and send them back on the evening?

Answer. No

15. Do you have toilet facility in the shop?

Answer. No

16. If yes, does it make life easy?

Answer. Nil

17. If no, would you have preferred a toilet facility in the shop?

Answer. Yes

18. Do you access your shop from inside the Mall?

Answer. No

19. Do you prefer storage facilities within the shop or outside the Mall?

Answer. We will prefer storage facility both in the shop and in a warehouse.

20. If yes, how does it affect your daily activity?



Answer. The shop within will reduce the time spent on moving from the warehouse each time there is the need.

21. Do you have an area where your truck(s) of goods can easily off –load goods?

Answer. Yes, the bulk breaking centre.

22. If yes, is the place large and accessible?

Answer. Yes

23. Do you experience chaos in the area?

Answer. No.

24. Is the front of your shop inviting?

Answer. Yes

25. Does your shop front have large clear windows and doors?

Answer. Yes

26. Is your shop front colourful, pleasing and inviting?

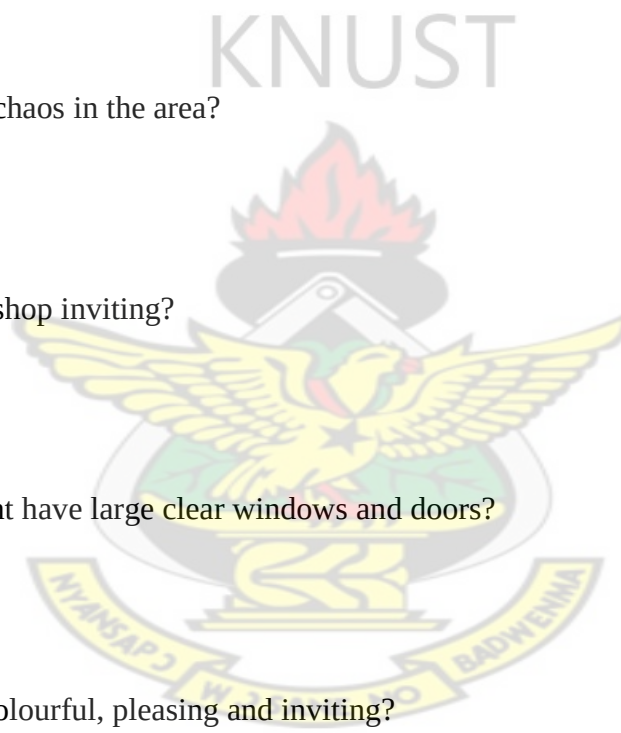
Answer. Yes

27. What do you like about the Mall?

Answer. People patronises the place at all time, money invested is not lost.

28. What do you dislike about the Mall?

Answer. The cost per unit area is high.



3.5.4 SHOPPERS (149 shoppers responded to these questions)

26. What attracts you to the facility?

Answer. The architecture, the availability of wide range of products.

27. Is it easy finding what you are looking for in the facility?

Answer. Yes

28. Is it comfortable shopping in the facility?

Answer. Yes

29. If yes, what makes (elements) shopping in facility easy?

Answer. The leisure of it, the window shopping, and the delight of experiencing the beautiful shop fronts.

30. Is the facility friendly to the physically challenged?

Answer. Yes

31. If yes, what elements in the facility facilitate their movement?

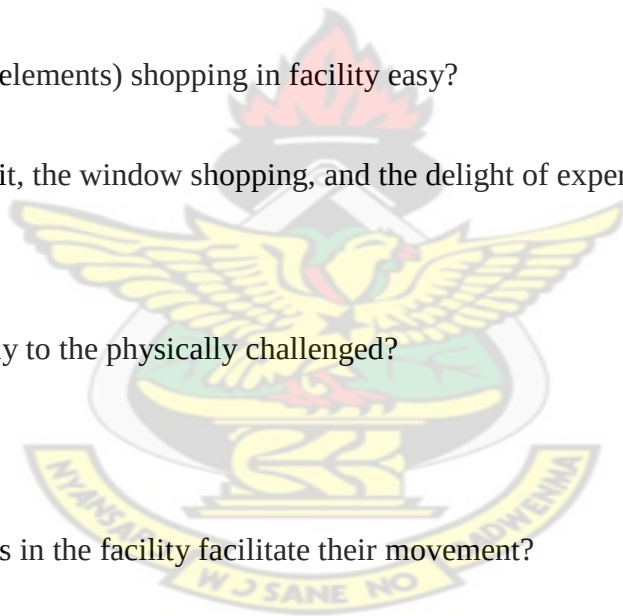
Answer. The ramps, lift for the physically challenged.

32. If no, what facilities are absent?

Answer. Nil

33. Apart from shopping, what else do you come here to do?

Answer. Eat, relax, and watch the latest movie.



34. Is shopping in the facility exciting?

Answer. Yes

35. If yes, what makes the facility exciting?

Answer. The freedom to move about and the stress free atmosphere.

36. If no, what makes the facility not exciting?

Answer. Nil

37. Do you have a place to park your car each time you visit the facility?

Answer. Yes

38. Do you have any problem with the way cars are parked?

Answer. No

39. Have you experienced any form of accident in parking area?

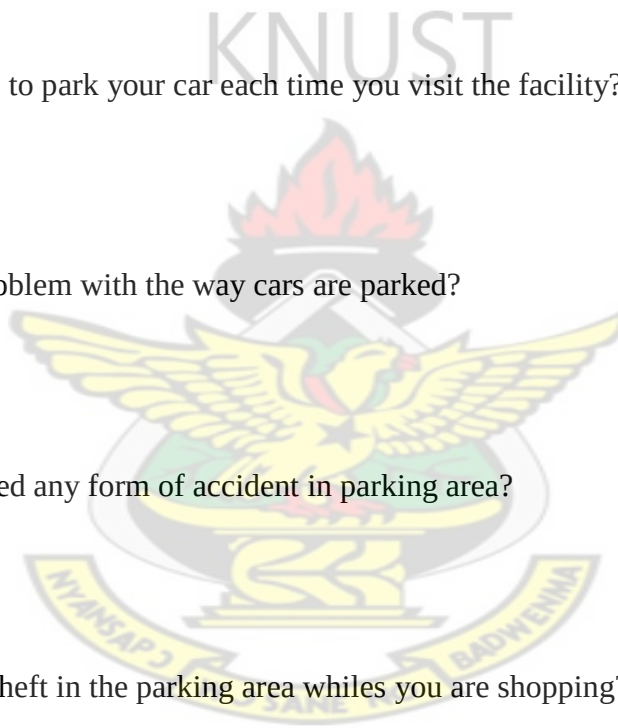
Answer. No

40. Do you experience theft in the parking area whiles you are shopping?

Answer. No

41. Does this facility offer a better option of shopping compared to the Central Business District (CBD)?

Answer. Yes



42. If yes, why?

Answer. The Central Business District (CBD) is too congested, the stress level in shopping is high and it is difficult to locate items of interest.

43. If no, why?

Answer. Nil

44. Is parking convenient in the facility?

Answer. Yes

45. What are your favorite parts of the facility?

Answer. The shopping hall and the cinema.

46. Does the facility have sanitary for customers?

Answer. Yes

47. Is it easily located?

Answer. Yes

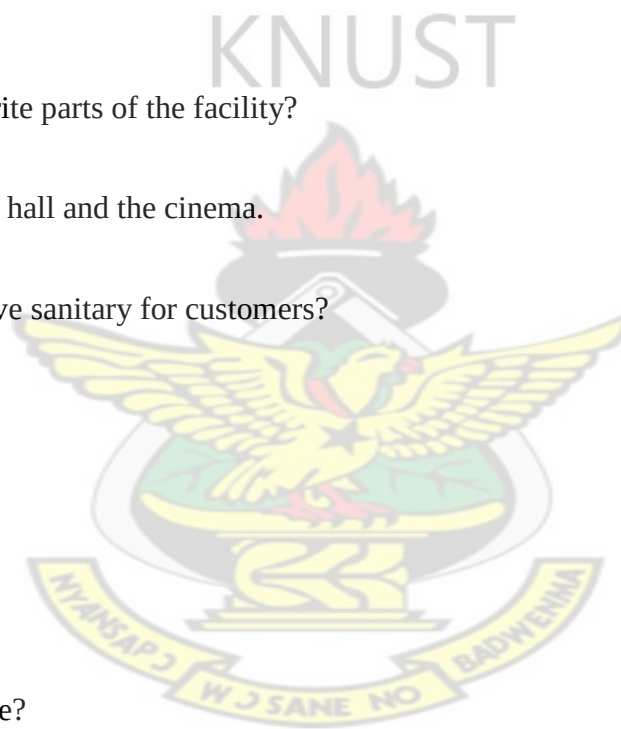
48. Is it easily accessible?

Answer. Yes

3.6.1 THE RESPONSE OF MAKOLA SHOPPING MALL

3.6.2 The management of Makola Shopping Mall

49. How many anchor shops do the facility have?



Answer. 2 anchor shops; the informer wing and formal wing.

50. Do you have stand by generator(s)?

Answer. Yes

If yes, how many of them?

Answer. 1 of them

Where is it located?

Answer. In the basement of the facility.

51. What system of ventilation is the facility employing?

Answer. Both natural and artificial

52. If artificial, what system is it?

Answer. Split window unit system for the offices and

Natural ventilation for the rest of the facility.

53. If central air condition, where is it located?

Answer. Nil

54. Have you recorded any form of accident involving shoppers at the facility?

Answer. Yes at the interim car park.

55. Is the facility friendly to the physically challenged?

Answer. No, because of the absence of pedestrian ramps, lifts for physically challenged, and all the risers of the steps are 150mm high.

56. Does the facility have ramps and lift(s) to aid movement of the physically challenged?

Answer. No

57. Is the location of the administration easily accessible?

Answer. Yes

6.3.3 SHOP OWNERS (26 shop owners responded to these questions)

58. Is the shop big enough to for the accommodation of your goods?

Answer. No.

59. What is the size of your shop?

Answer. The size of the shops varies depending on the space one applies for.

60. Is the shop comfortable?

Answer. No

61. Are your goods exposed or displayed in the sun and dust?

Answer. Yes, mostly those displayed in the verandah.

62. Do you always have to bring your good out in the morning and send them back on the evening?

Answer. Yes

63. Do you have toilet facility in the shop?

Answer. No

64. If yes, does it make life easy?

Answer. No

65. If no, would you have preferred a toilet facility in the shop?

Answer. Yes

66. Do you access your shop from inside the Mall?

Answer. Yes

67. Do you prefer storage facilities within the shop or outside the Mall?

Answer. We will prefer storage facility both in the shop and in a warehouse.

68. If yes, how does it affect your daily activity?

Answer. The store within will reduce the time spent on moving from the warehouse each time there is the need.

69. Do you have an area where your truck(s) of goods can easily off –load goods?



Answer. Yes, the bulk breaking centre, but the size has reduced because shop owners are now displaying their goods there.

70. If yes, is the place large and accessible?

Answer. Yes, but the size has reduced because shop owners are now displaying their goods there.

71. Do you experience chaos in the area?

Answer. Yes.

72. Is the front of your shop inviting?

Answer. No, but our goods invite customers.

73. Does your shop front have large clear windows and doors?

Answer. No

74. Is your shop front colourful, pleasing and inviting?

Answer. No

75. What do you like about the Mall?

Answer. People patronises the place at all time, money invested is not lost.

76. What do you dislike about the Mall?

Answer. The constant movement of goods in and out for the sake of display.

3.6.4 SHOPPERS (93 shoppers responded to these questions)

77. What attracts you to the facility?

Answer. The wide range of products.

78. Is it easy finding what you are looking for in the facility?

Answer. No, one has to comb round.

79. Is it comfortable shopping in the facility?

Answer. No, the crowd sometimes can be difficult to coup with.

80. If yes

Answer. Nil

81. Is the facility friendly to the physically challenged?

Answer. No

82. If yes, what elements in the facility facilitate their movement?

Answer. Nil

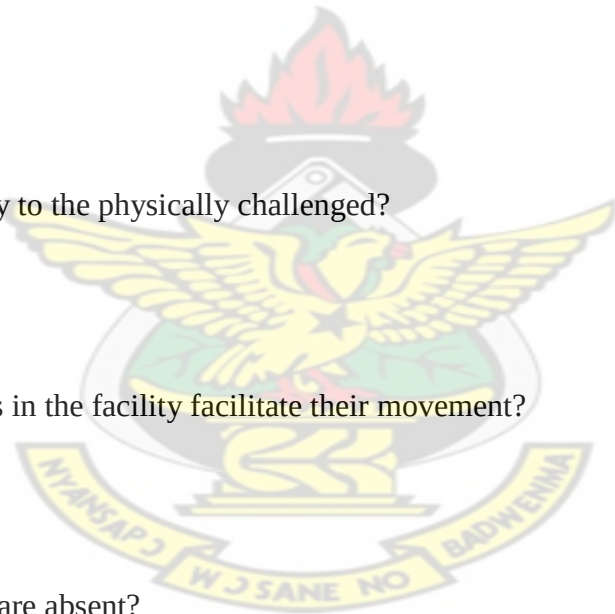
83. If no, what facilities are absent?

Answer. Ramps, lifts.

84. Apart from shopping, what else do you come here to do?

Answer. Nil.

85. Is shopping in the facility exciting?



Answer. No

86. If yes, what makes the facility exciting?

Answer. Nil

87. If no, what makes the facility not exciting?

Answer. The difficulty of locating goods, the crowd and the difficulty of parking.

88. Do you have a place to park your car each time you visit the facility?

Answer. No, the parking space is always filled up.

89. Do you have any problem with the way cars are parked?

Answer. Yes

90. Have you experienced any form of accident in parking area?

Answer. No

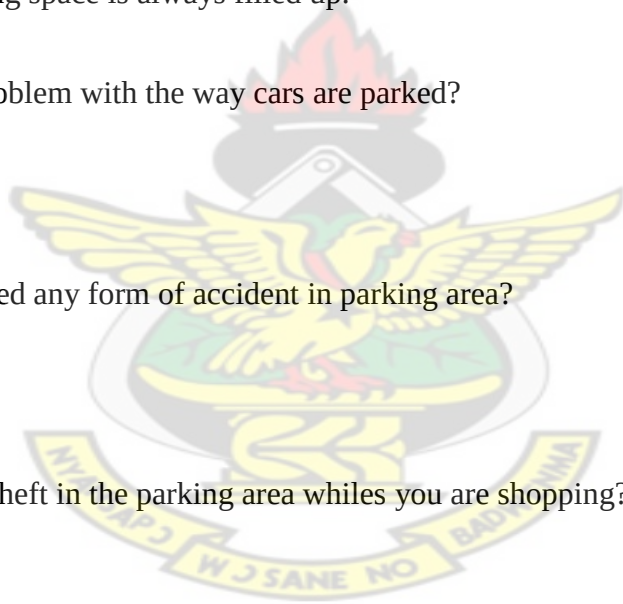
91. Do you experience theft in the parking area whiles you are shopping?

Answer. No

92. Does this facility offer a better option of shopping compared to shops out the Central Business District (CBD)?

Answer. Yes

93. If yes, why?



Answer. Because, as soon as you are in the Central Business District, whatever you need is at a walking distance from Makola Shopping Mall.

94. If no, why?

Answer. Nil

95. Is parking convenient in the facility?

Answer. No

96. What are your favorite parts of the facility?

Answer. The office block.

97. Does the facility have sanitary for customers?

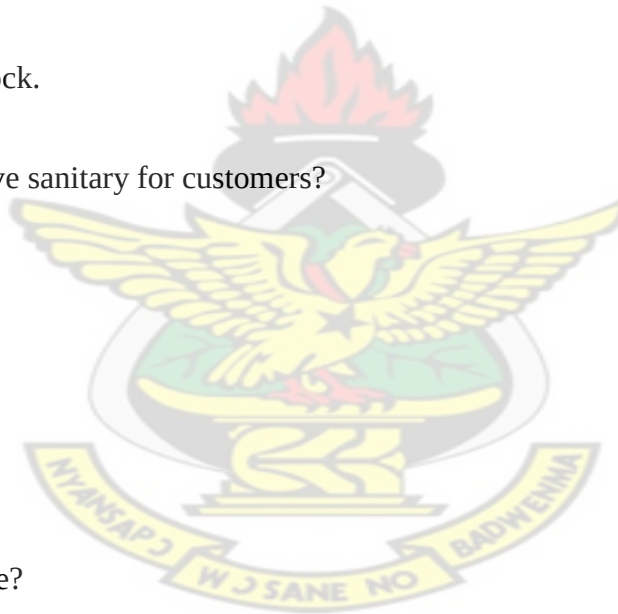
Answer. Yes

98. Is it easily located?

Answer. No

99. Is it easily accessible?

Answer. Yes



4.0 PERSONAL OBSERVATION

4.1 HUMAN TRAFFIC FLOW.

The human traffic flow is categorised into festive and non festive seasons. It was observed that the facilities enjoyed high patronage during the festive season like Christmas, Easter, and Valentine, and normalises or fall the rest of the year.

4.2 THE HUMAN TRAFFIC FLOW PER HOUR.

4.2.1 TRAFFIC (HUMAN) FLOW DURING THE FESTIVE SEASON.

Christmas season: Between 12pm and 1pm, 350 people per hour.

Easter and valentine season: Between 12pm and 1pm, 200 people per hour.

4.2.2 TRAFFIC FLOW DURING THE NON FESTIVE SEASON.

Between 12pm and 1pm, 70 to 100 people per hour.

4.3 DRAWINGS (A complete set of drawings. Turn to the next page).

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