



**UNIVERSITY OF NAIROBI**

**SCHOOL OF THE ARTS AND DESIGN**

**BDS 413: PROJECT PAPER**

**(Interior Design Specialization)**

**AKAMBA CULTURE AND RECYCLED GLASS TO CREATE AN APPEALING  
INTERIOR DESIGN FOR RESORT RESTAURANT, NAIROBI.**

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**Project paper submitted in partial fulfillment of the requirement for the Bachelor of Art in  
Design Degree, submitted to the school of the Arts and Design, University of Nairobi.**

**Date: 14<sup>th</sup> APRIL 2020**

## **DECLARATION**

I Willy Mwendwa Tom declare that this is my original work and also affirm that to the best of my knowledge, this project paper has not been presented in this or any other university for examination or any other purpose.

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## **DEDICATION**

To my Lovely parents; you brought me up well. You taught me great life principles, independence and self believe. You sparred in me the desire to be successful in life. For this am forever grateful.

Thankyou.

## **ACKNOWLEDGEMENT**

I thank God for giving me health, perseverance and knowledge to successfully accomplish this endeavor. My deepest gratitude to my fellow classmates and lecturers, particularly Dr. Lilac Osanjo and Dr. Michael Munene for their positive criticism, motivation, guidance and encouragement throughout this degree course. To the owner and staff of resort restaurant, your cooperation and help during the research period was highly appreciated.

## **ABSTRACT**

For centuries, the earth's limited resources have been wastefully exploited in their distribution and uses, causing irreversible changes on the environment. The concept of sustainability and green design calls for the respect of the planet's resources by its inhabitants. Designing aims at satisfying a need within a set of limits and sustainability being a need in itself demands serious consideration during the design process and in manufacturing. People must strive to engage in activities that minimally affect the state of the planet, striving to leave it the same way they found it in order to ensure resources are left for future generations. Therefore, each stage of the design process requires the consideration of a product's life cycle to really implement sustainable practices in the product's design. Products need to be durable, reusable, recyclable and biodegradable, minimal and efficient use of energy and waste management need to be observed during raw material harvesting, transportation, packaging and disposal and energy should be sourced from renewable sources. These guidelines act as constraints that transform the design process into a more engaging and challenging process rather than designing to put a product into the market. A designer hence needs to acknowledge the fact that sustainability is a need whose consequent constraints are non-negotiable and vital for the healthy existence of every living thing.

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## **OPERATIONAL DEFINITION OF TERMS**

## **CHAPTER 1**

### **1.1 INTRODUCTION**

This chapter highlight the background of the study, the problem statement, objectives, significance, limitations and scope of study.

### **1.2 BACK GROUND OF STUDY**

The Kenyan culture is full of life that is impacted through its diversity in tribes, wildlife, climatic regions, its art and its sense of individualism. The furniture, ceramics and as well as sculpture have lost the richness of the African culture. It has not grown in the context of the Kenyan traditional culture. It has instead implemented the western culture. The crafts have deviated from creating concepts that can be identified with the Kenyan culture and moved to what is trendy and will generate fast income.

There is an importance to Kenyan art and show its relevance of design to the general public. It is from these designs that one can find vital answers to the problems experienced in terms of materials, design concepts and also problems that affect the Kenyan community at large. African cultures have mainly used environmentally friendly materials and designs.

Users' expectations have evolved together with the design field. Users expect functionality of a product. In addition, they are expecting products that are more than functional and usable. Users want to experience pleasure as they use the product subconsciously stimulated their senses. We want the products we use to trigger a positive emotion in us. Aesthetic design is crucial to satisfy these needs. Aesthetic design matters not only to make the first impression, but also to keep strengthening the bond with the user. The design of a product or space needs to be aesthetically pleasing consistently across the whole product and user journey.

The resort restaurant has not embraced recycling of their waste glass. This creates an opportunity to use the glass in the areas of interior design more specifically in the landscape,

interior architecture, exhibition and display as well furniture designs. Colors of the Kamba culture which are warm can be used to enhance the ambience can be used to been mostly considered to inspiring emotional interior solutions for restaurants. It is also important to note that the space will also cater for the physically challenged in the aspects of accessibility.

### **1.3 PROBLEM STATEMENT**

Resort restaurant has not adequately applied the aspects of accessibility to cater for the physically challenged.

### **1.4 MAIN OBJECTIVE**

To determine how the application of recycled glass and Kamba patterns in respect to universal design principles can be applied to create an appealing interior design for the resort restaurant.

#### **1.4.1 Specific objectives**

- To determine the level of accessibility in terms of universal design principles that has been applied to the space and if it can be further improved.
- To investigate how universal design and sustainability has been achieved through recycling of glass by different exemplars.
- To ascertain on the suitability levels of the facility's materials and furniture in terms of ergonomics ,functionality ,comfort and interactions with the users.
- To propose the use of the Akamba patterns in its interior spaces to achieve an appealing interior design.

## 1.5 RESEARCH QUESTIONS

- What is the level of accessibility in terms of universal design principles at the site?
- How has universal design and sustainability been achieved through recycling of glass by different exemplars?
- What are the suitability levels of the facility's materials and furniture in terms of ergonomics functionality comfort and interactions with the users?
- How can the Akamba patterns be incorporated in its interior spaces to achieve an appealing interior design?

## 1.6 SIGNIFICANCE OF THE STUDY

The study will identify how sustainability, aesthetics and universal design principles can be effectively and efficiently blended together to achieve a modern look as through incorporating recycled glass and emphasizing on functionality.

This study is important because it aims to capture aspects of our identity as Kenya and as the Kamba community. Its targets is to implant identity into products and spaces that will in turn will affect the perception of those that experience the space.

## 1.7 LIMITATION OF STUDY

There are numerous of limitations to this study.

- **time constraint.** Owing to the extent of the workload, time may be limited in order to generate lasting solutions. And even if the solutions are generated, implementation of the solutions may take more time than is available.
- **Cost .** the transportation to and from the site location frequently proved to be expensive.

- **Rigid mind set.** To change this perception and influence people to appreciate their rich cultural background is hard. This is major limitation as changing people's perception is something that takes time.

## 1.8 SCOPE OF THE STUDY

### 1.8.1 Geographical

The study will take place at resort restaurant located in Matasia, Ngong Kajiado county

### 1.8.2 Conceptual

The scope of the study is mainly confined to the four thematic areas which are ;interior architecture and landscaping exhibition and display and furniture design aspects of the restaurant.

### 1.8.3 contextual

In addition, the researcher will establish the viability glass as an eco-friendly material ,usage and potential availability of recycled glass as a furnishing and finishing.

## 1.9 CONCLUSION

Our identity is the one authentic thing we have. This also reflects in art and design where It all shows our culture and heritage. we should take pride in our culture because in is rich and unique in many ways. We should also embrace it in our interiors as a way of championing our culture.

## CHAPTER 2

### 2.1 Literature review

In this section a summary on sustainable design and universal design which will be tackled by the researcher as well as showing their relationship with other design elements and inspirations to achieve an aesthetically appealing space. This paper will explore the basic explanation of

### 2.2 universal design and sustainability

from which will form the guiding principles of the research project. It will also provide instances in sites that have employed the guiding principles in their designs and have been used as inspirations for this study. The study will also highlight the aim of the research, the research questions, and the significance of the study. In addition to this, a brief introduction to the research methodology.



Figure 2.0 1man on a wheel chair

*Source : google*

In 2012, the definition of the principles of universal design to include social participation and health and wellness. Entrenched to the indications of based design, the goals of universal design were established which include; Body Fit, Comfort, Awareness, Understanding, Wellness, Social



Integration, Personalization, Cultural Appropriateness. They include both human oriented and social participation goals.

### **2.3 Sustainability**

Sustainability has been defined as how biological systems endure and remain diverse and productive. But in today's time, meaning of goes beyond these limitations. It refers to the necessity to develop the sustainable models necessary for both the human race and planet Earth to survive.

### **2.4 History of Glass**

Obsidian, a naturally occurring volcanic glass was used in many stone age societies for the production of sharp cutting tools. It was considered as a very valuable commodity of trade due to its unavailability and lack of knowledge on how to manipulate it at the time. True glass was discovered before the 2000B.C in Mesopotamia (modern day Iraq and Syria).

The earliest known glass ware were beads of which were perhaps created accidentally as byproduct of metal working, or during the production of "faience", this is a pre-glass vitreous material made by a process similar to glazing.

In the early days of its discovery, it was used to create small objects through the casting of molds and use of simple tools. In the 16<sup>th</sup> century, craftsmen began making hollow vessels by gathering molten glass around a temporary core. This is known as the core forming technique. The core was made of clay and was shaped to the desired shape which was to be achieved in glass. Threads of glass were trailed onto the surface for decoration and later smoothed by marbling while the glass still remains hot and pliable. The core is later removed after the glass has been given enough time to anneal.

Glass makers in the Syro-Palestinian coast in the 40B.C which was then part of the Roman Empire discovered an easier method to the core where they invented a blow pipe. This basically formed the foundation of the glass blowing technique. This technique was explored during the Roman

reign and some of these techniques are used to date. Roman glass crafters incorporated glass blowing with the use of molds to come up with creative shapes for vessels. In addition to this they also experimented with metals. They tried fusing gold and silver with glass to produce appealing pieces.

Ancient roman and Egyptian glass is classified under soda-lime glass. This was made from silicon, sodium and calcium oxide. Although glass making was invented in 3000 B.C , in the 9<sup>th</sup> century in the Islamic world, a number of glass makers produced raw glass partly from locally available materials. They made glass for local consumption and for exportation to other glass production centers.

Luxury glass flourished at a high rate during the renaissance period especially in an island called Murano in Italy. The glass blowers in Murano made ‘crystallo glass’ it is a thin colorless glass that has a resemblance to rock crystals. In the 16<sup>th</sup> century, the glass artifacts made from this glass was exported to many parts of Europe and the Islamic east states.

Bohemian glass makers in the 17<sup>th</sup> century made a successful effort to imitate the quartz rock crystals using glass. They achieved this by inventing a potash-lime glass from the use of chalk . this glass was efficient when it came to engraving of detailed designs. This was achieved by pressing the hot glass against copper wheels that had the designs by turning the wheel rapidly.

The art of glass fusing started around 2000 BC. Between, Romans and Egyptians used kiln glass fusing as their primary glassworking method. After this, *patte de ver* and glassblowing became the primary glassworking methods.

In 1935, warm glass began to reemerge, through began using enamels on window glass in ceramic kilns. It wasn’t long before pioneers like Maurice Heaton began creating lighting fixtures and dishes the same way.

Then came Francis and Michael Higgins, who moved fused glass from a serviceable craft and into modern art. They invented the “dropout”. As they continued to innovate, warm glass became more and more popular.

A wildfire was started. As fused glass workshops and studios emerged in the 1970's and 80's, and now kiln-fired crafts became popular form of fine art, commanding a powerful presence in galleries around the world

## **2.5 Recycling**

Recycling has been a common practice for most of human history, with documented proponents as far back as Plato in the fourth century BC. At periods when materials are limited and hard to come by, archaeological surveys of ancient waste dumps indicate fewer household waste (such as dust, damaged axes, and pottery) involving more waste in the absence of new material.

## **2.6 Trends in recycling practices**

The term recycling has existed for many years, as the practice of converting used products to higher value. Many countries suffer from a universal problem of limited resources. However, in the recent past, developed countries have started paying attention to recycling from a commercial perspectives due to its marketability and the lowered cost of raw materials.

## **2.7 Glass recycling**

Glass recycling is one of many ways that we can help to reduce emissions and waste. A lot of waste is generated every day and glass highly accounts as a part of it. It is important to encourage recycling of this product other than piling them up which eventually poses as an environmental hazard.

Drinking glasses and glass fiber are examples of which glass products can be recycled to. It can be broken down and made into many different forms. When the glass is shipped to a manufacturing or processing facility, it is broken up into smaller parts called the cullet. It is then crushed, sorted, cleaned, and prepared to be mixed with the addition of other raw materials like soda ash and sand. In a forge, the raw materials and glass fragments are heated and then molded into molds to create new bottles in varying colors and sizes. This way, new reused bottles and jars are made recycling of glass.



Figure 2.2glass sculpture made from recycled glass

## 2.8 Advantages

- Recycling cost savings is in the use of fuel. Cullet melts at a lower temperature compared to making glass from raw materials for the first time. So we can save the fuel that the glass requires to melt.
- Glass made from recycled glass eliminates air pollution by 20% and water pollution by 50%.
- Recycling glass eliminates landfill space, because recycled containers and glasses will take up space.
- The reuse of glass ensures that there are less plastic items in the garbage or tank.**2.9**

## EXEMPLERS

### 2.9.1 John Clark

Scottish artist John K. Clark is a glass artist that has explored glass in various forms over the years of his career. He studied stained glass and mosaic at the Glasgow School of Art. He later became lecturer for the Glasgow School of Art Murals and Stained Glass Department.

In 1984, he established his own studio. Most of Clark's work has been commissions for stained glass and architectural glass

John Clark mostly creates designs for specific locations, projects, and themes, and usually within a set budget and time frame. This is because most of his work are commissions

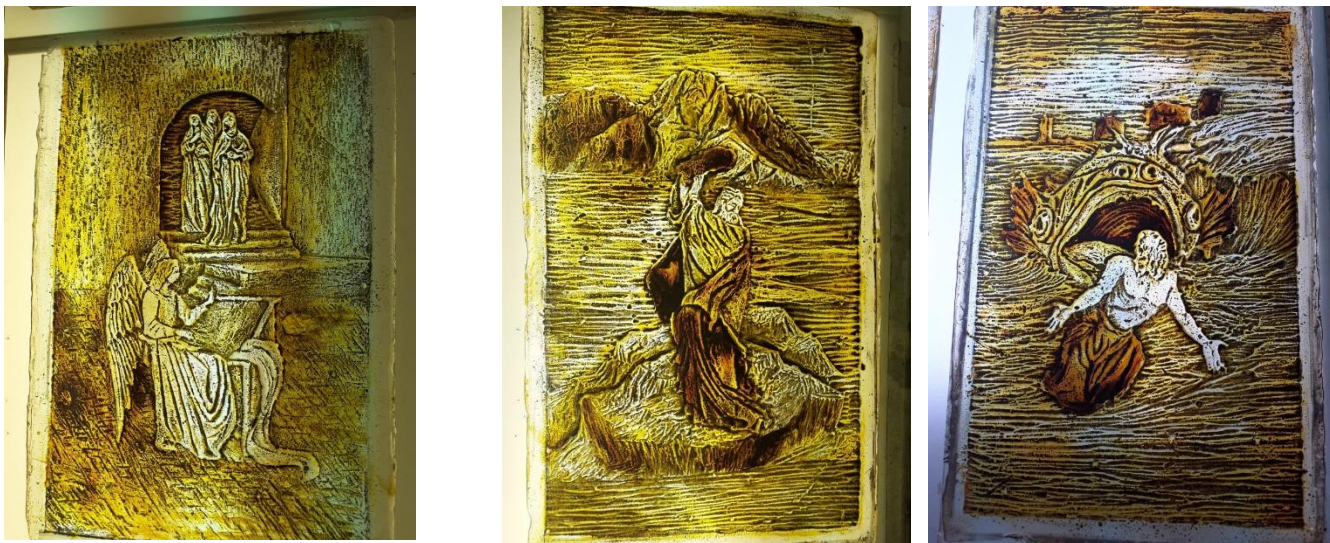


Figure 2.3 glass painting by john clark

## Walter Harris Callow



Figure 2.4 Walter Harris

He went down history books as the first person to invent the accessibility bus for veterans returning from the second world war. He designed and managed the *Walter Callow Wheelchair Bus*, while he himself was blind, quadriplegic and, eventually had both legs amputated. He planned trips for disabled veterans, tours of the countryside, picnics, sporting events, art classes among other activities.



Figure 2.5

Walter Callow Wheel Chair Bus (2013), Halifax, Nova Scotia

Source; google

## 2.10 AFRICA

Most African history was not written until the 1900's. this was highly facilitated with the coming of the Europeans and other colonizers. The events before then were almost entirely ignored. The major contributions to this was that many African communities were preliterate traditions of which entirely had no encouragement for written documentation unlike many western communities. The Europeans viewed the most African cultures and way of life from a bias point of view and termed our way of life as primitive and barbaric. This led to them nicknaming our African continent as "the *dark continent*."

As much as most of the African communities had preliterate traditions, some communities had some literate form of keeping records. Egypt was one of this communities. They had one of the earliest ever discovered forms of literacy in the world. It is termed as the Hieroglyphic writing. It was invented in about 3000B.C. they comprise of vivid and intricate pictures. This is just a small ray that shows how great the African civilization was.

The Kushitic civilization found south of Egypt in the ancient city Meroe also had its own form of literal writing around five centuries before the birth of Christ. ( *John Lampher, Aspects of early Africa. pg. 65*)

Most African communities remained essential even without literal means of recording history before the colonial period. They mostly preserved their history through Oral methods. Oral tradition in this case, must be considered highly as a representation of reality.

Different communities in Africa have different traditions which might on one case be similar to the next and in other cases differ extensively from each other. In communities that had a centralized hereditary political type of governance, Oral tradition was entrusted to selected member of the community who's role was to memorize and pass down the traditions and history of the community from one generation to the next. This was done through various means which also differed from one community to the next. For instance, the Griots of West Africa were entrusted with this kind of task and passed the traditions through melodies with the assistance of a traditional string instruments.

In the communities that did not have a centralized form of governance and political system, oral tradition was passed from one generation to the next without consideration of task distribution to a specific member of the community. Any member of the community had an obligation to pass the tradition to the next generation. This task however fell to the older members of the society through subconscious methods. The narrator would often pass the traditions through their personalities in a manner they found best for them to tell. ( John Lampher, Aspects of early Africa.)

### 2.10.1 Migration

Migration was a hedge influence in the spread of ideas and technology as well as birth of new societies in Africa. African communities were influenced through interaction of communities from which new cultural expressions emerged.

### 2.10.2 Bantu

Bantu is a term of linguistic classification. The Bantus speakers occupy the southern and central parts of Africa and some originate from the root “ntu” that is translated to mean ‘human being.’ The Bantu comprise of over 400 language groups. Their vocabularies and grammatical structure are to some extent similar hence one community can to a certain degree understand or comprehend as the other speaks. It is often thought of that the Bantu speaking languages is distinct from other African languages. (*A history of Africa by William Tordoff. Pg 21-22*)

There is evidence to support the fact that the Bantu speaking communities migrated from gradually from the Equatorial forests of central Africa from their cradle land of Benue cross region. The Equatorial forest played as a large contribution to the isolation of these communities from outside influences. Their economic activities revolved around Root crops and fishing. Some bantu communities later took up iron smiting in the early 6<sup>th</sup> century B.C as well as pottery technique termed as “Urewe Ware” of which the inspiration was probably drawn from the iron making city of Meroe in modern day Sudan.



The Bantu agriculturist communities carries the smiting techniques with them and spread it to most parts south of the equator. (*Aspects of Early African history, John Lamper pg 79*)

### 2.10.3 The Kamba

Design has the power to influences peoples tastes and preferences. In a time when we seem to be drifting away from our culture, if Kenyan designers decided to do something culturally relevant it would increase the level of cultural appreciation among Kenyans. In interior design it's important that we put the Kenyan cultures into consideration. Embrace who we are as designers.

Create products and designs that do not just accommodate for our day to day needs.

The Kamba community is a bantu speaking community that entered Kenya through the southern side from the present day Tanzania. They occupy the eastern part of Kenya, they are among the main tribes out of the forty-two tribes found in Kenya, they make up about 11% of population in Kenya. The Akamba lived with the Nyamwezi of Tanzania for a while before proceeding to Kenya. Their main reason for the migration was due to the increase in population. They described this as “Mengiva matanisia” which can be directly translated as ‘they increased in number and split.’ (The kitui Akamba by Michael F. O'Leary. Pg. 19)

The Kamba political system is based on family. They live in villages known as “Kraal” of which had around fifty inhabitants which had an overall head known as “Mwato Mwere”

Before marriage, a man must pay a bride price which was made in form of cattle, sheep and goats, to the family of the bride. In a rural Kamba community, the man, who becomes the head of the family, undertakes an economic activity such as trading, hunting or cattle herding. He was referred to as ‘Tata’ or ‘Asa’.

Traditionally, it is the mother's role to raise the children. Very little distinction is made between an individual's own children and the children of their sister or brother. Children address their uncle or aunt as tata (father) or mwaitu (mother). They often move from one household to another with ease, and are made to feel at home by their parents' siblings. Grandparents (Susu and Umu) help with the less strenuous chores around the home, such as rope making, weaving,

basketry, tanning leather, cleaning calabashes and making arrows. Older women continue to work the land as their source of food, independence and economic security.

Long before the arrival of the Europeans, the Akamba were great traders and organized caravans that brought ivory to the Arab traders in the coast. There they exchanged the ivory for copper, bracelets, beads, rolls of cloth and salt.

The artifacts mentioned within this text, will form the basis of my design. I consider this culture to be rich enough to meet the need I have. Kamba people are inspiring in the amount of art work they have within their culture.



*Figure 2.6*



*figure.2.7*



*figure 2.8*

Figure 2.6 ; A drinking vessel covered with braided beads of the Kamba patterns

Figure 2.7 ; a Kamba traditional medicine doctors' bag

Figure 2.8 ; Kamba traditional jewelry made of iron

## DESIGN PROCESS

Through all these, the researcher notes how all artists undergo a certain design process. In relation to interior design, the researcher will see which process to undertake depending on the task at hand. Design process is here by refers to the steps that are required to be followed in order to achieve the desired results.

**Problem identification-**The designer points out or identify a need or purpose in a given situation.

**Design brief-** After identifying the problem the designer writes a short design brief. This brief explains the problem or wants and needs of the client and how the client would like their problem to be tackled.

**Task schedule-**This is a list of all major areas of works that has set times and deadlines within which each task is to be conducted.

**Brief analysis-**This is the process that involves the designer formulate research questions from the brief.

**Research-** This is the process whereby the designer collects information relevant to the problem or analysis of the design brief.

**Specification-**At this point the designer produces a list of design requirements found from the research that relevant to the brief.

**Generating ideas-**The designer at this stage generates a range of different possible solutions that satisfy the specifications. This can be done through the process of brain storming with a group of other designers.

### **The ideas should;**

- **Meeting functional need**-it refers to a clients' primary objective. Which is to use the restaurant space to maximize its potential in attracting customers and also offer the customer a comfortable and appealing environment
  - **Enhancing productivity and safety**-employers want to facilitate employee's productivity and reduce compensation issues. For example, better lighting in a room to reduce eye fatigue
- **Choosing solutions**-This is when the designer selects the better ideas generated for solving the problem and presents these selected ideas to the client for the final selection. These ideas are usually in the forms of sketches or models done by the designer to give an impression of how the final product would look like.
- **Developing solution**- During this stage the designer considers various methods of implementation such as developing proposals, prototyping: making models this process involves generating details necessary to make the solution or final product. This is preceded by the choice the clients make on what they want as their final product.
- **Making the solution**- This is the point where the designer creates the final product.
- **Testing the solution**-This is the final stage of the design process. At this stage the designer compares the final product against the brief and specifications to ensure the product is as it is intended to be. Testing if all needs are not meant then some modification could be done to the final product until its completion.

## **Conclusion**

“Sustainability is the intention and ability to continue the economic, social, institutional and environmental aspects of human society while meeting the needs of the present without compromising the ability of future generations to meet their own needs.” (Dayna Beumeister,2013). The references above evidently show that and recycling resonate with the independent variables highlighted above. The aim of sustainable design is the to ensure the continuity of the human species through green design.

## **CHAPTER 3**

### **3.1 RESEARCH DESIGN AND METHODOLOGY**

This chapter is going to show the kind of research methodology that was use for the study. For this research, quantitative and qualitative approach will be used. The quantitative approach will focus on numerical data and will be used together with observation method while qualitative approach will form the descriptive form of the study. The study will employ the combined approach in order to tackle the limitations of both approaches.

### **3.2 Research design**

Research is an inquiry to discover real facts. This will be archived by studying and investigation which follows some logic sequence and generate new knowledge. Research design is the way a study is planned and conducted, the procedures and techniques employed to answer the research problem. It shows strategic

methodology in line with the type of research chosen A good research design is flexible and efficient. In order for the researcher to reach a clear objective for the research, some guidelines should be followed to have little to no error. These guidelines include: seeking expert advice, including ethnographic methods, build in time and budget for an iterative process, quantify critical hypothesis and finally reviving the methodology (Laurel, 2003). First step involves picking the brain of an expert who knows the category the researcher is focusing on. In this case, the focus will be on Eco design, uses of upcycled products and incorporating Bambara textile patterns into the four areas of interior design. The researcher will learn what the experts perceive to be the important concern in the study. Second step involves direct observation, which is important for providing context. Third step involves making the process flexible enough to accommodate changes to the initial hypotheses. In this stage, additional questions may come up from the areas of inquiry. In the fourth step the researcher will use qualitative methods to provide experiential, visual and contextual information. Quantification allows the researcher to test the scope of learning from qualitative rounds. In this stage the researcher may find that the minority

opinion may turn to be an important part. Finally, the researcher will have to cross check the list of critical hypotheses to make sure that the chosen method addresses all areas that are needed to be confirmed.

### 3.3 Target population

This is a group of elements by which the researcher makes inferences by using the sample statistic. Target population will be the owner and the workers of the restaurant. It is advantages in this way but it has some limitations such as some of the individuals may have time restriction. For this study the researcher will use the facility of a restaurant mainly comprising of owner and staff. There are also support staff.

### 3.4 Sample population

Sample population is a section of the population, like the one talked about above. Sampling is the process of selecting units like people or organizations from a population of interest by studying the sample to generalize our results back to the population from which they were chosen.

- **sampling** is considered advantageous, as each individual of the population will have an equal chance of being selected, so results are less likely to be biased and can be generalized to the larger population of individuals. That is the restaurant employees and stake holders. There are various ways of sampling but in this study **Random**.

Other ways of sampling are:

- **stratified sample** which involves a researcher dividing the population into groups based on characteristics, and then the researcher randomly selects from each group based on its size;
- **quota sample** which involves a researcher deliberately setting up a requirement to ensure a particular group is represented;
- **Purposive sample**: this is when a researcher purposefully focuses on a particular subset of a population
- **Convenience sample**: is selection of the sample is based on ease of accessibility.

<b>Category</b>	<b>No. Of members</b>
Main employees	14
Subordinate staff	5
Owner	1
Manager	1
Total	<b><u>21</u></b>

Table 3.1

### **3.5 Data collection instruments**

In order for the to obtain information, there is a need to develop instruments that are necessary for collecting data. The process by which the researcher collects information can vary in order to answer research questions. Some of this data collecting instruments include Questionnaires, Interview schedules, observational forms and standardized tests. For this study the researcher will use the following data collection procedures:

#### **3.5.1 Observation**

This method of data collection is where the researcher does not participate in the interactions.

The researcher utilizes an observation form to record what he or she observes in the field. Example of things that can be included in this observation checklist may be like what type of vegetation is present at the site or is the parking



paved or not. for It is often also helpful to make 'field notes' during and immediately after each interview about observations, thoughts and ideas about the interview, as this can help in data analysis process. (M., 1991). The data collected using this procedure is first-hand and untampered.

### 3.5.2 Use of still photography

Taking photos of the site is a good way of bringing work to life, and helps convey what is being learned in the field. This information is useful since the photos taken spot the problems that need to be rectified on the site and cannot be argued. For this study the researcher will need to focus on the four areas of interior design, taking photos of the landscape design, interior, furniture and exhibition design.

### 3.5.3 Interviews

An interview is an oral presentation of a questionnaire and requires face to face encounters. The questions set can either be of a structure or unstructured feature. There are various rules when it comes to conducting an interview and they include being pleasant and knowing beforehand who the respondent is and what kind of individual they are. (*Mugenda, 2003*).

### 3.5.4 Questionnaires

This is a set of question designed to elicit information filled by all the participants. It is either collected through an oral interview or written on the questionnaire form. This form can also have either structured or unstructured questions. Structure questions provide a list of alternatives for the respondents to select while unstructured questions provide the respondent with freedom of response to view their opinion (*Mugenda, 2003*). Both types of questions have their own advantages and disadvantages. The researcher will use both the structured and unstructured questions to try and obtain more information.

### 3.6 Description Remarks

<b>lead to Observation</b>	There can be misinterpretation of situations that irregular information
<b>Taking photos</b>	Information is useful since the photos taken spot cannot be argued.
<b>Interviews from employees</b>	More information can be obtained more than Questionnaires
<b>Recording</b>	The poor audibility can lead to incorrect Information
<b>Questionnaires</b>	General information is obtained from use of multiple choice questions

**Table 3.2**

### 3.7 Data analysis tools

This is the: “Process of making sense and meaning from the data that constitute the finding of the study” (Merriam, 1998). It is also the breaking a whole into its separate components for individual examination. The goal of analysis is to clarify problems, recognize alternatives, and provide a sense of direction. These are the methods used in evaluating and accessing the data collected: Videos and photographs sorting, Calculations, A proportion and percentages. Proportion describes the relative frequency of each category and is calculated by dividing each frequency by the total number. Proportions and percentages can be easier to understand and interpret than examining raw frequency data. For data collected using questionnaires and

interviews the researcher will use coding. Coding is the process of assigning numbers to subject's responses and analyzing then using appropriate statistical procedures.

DESCRIPTION	DATA ANALYSIS	DATA PRESENTATION
Unstructured personal interviewing	Coding	Narrative
Audiovisuals	Transcribing	Narrative
Observation	Theoretical sampling	Narrative
Taking photos	Transcribing notes	Photographs

**Table 3.3**

### **3.8 Data presentation methods**

The researcher will then present the data collected and analyzed through Tables, graphs and photographs. For this study, tables will be used to make a representation of the statistical data for the purpose of interpretation, graphical method such as Bar graph, Pie charts will also be used, and finally screenshots of videos and photographs. Photographs were used to describe the actual presentation of the site.

### **3.9 Conclusion**

In this study both the quantitative and qualitative approach was used. Data collected using the quantitative approach focused on obtaining numerical findings and was used together with the observation. The interview on the other hand, was used to make up the qualitative approach of

the study as this focuses on personal accounts, observations and description and individual insights of the interviewees. Other data collection instruments included photography and use of questionnaires. The study employed the combined approach so as to overcome the limitations of both approaches.

## CHAPTER 4

### 4.1 SITE ANALYSIS AND INTERPRETATION OF FINDINGS.

#### 4.1.1 Qualitative Analysis.

##### *4.1.1.0 Geographical analysis.*



*Figure 4.1 Resort Restuarant along forestline road*

*Resort restaurant is located along forestline road just before Matasia Town*

*Source; google*

There are residential houses, shops and small businesses in the area. The lounge can be accessed by both cars and pedestrians. Public transport enroute to Kiserian town from Ngong town can be used to access the lounge.

#### 4.1.1.1 Weather and Climate.

*\*\*Since there is no weather station located within the area, the researcher gathered sources from the internet. The climate and weather of this location is most compared to the weather patterns of the Ngong area. \*\**

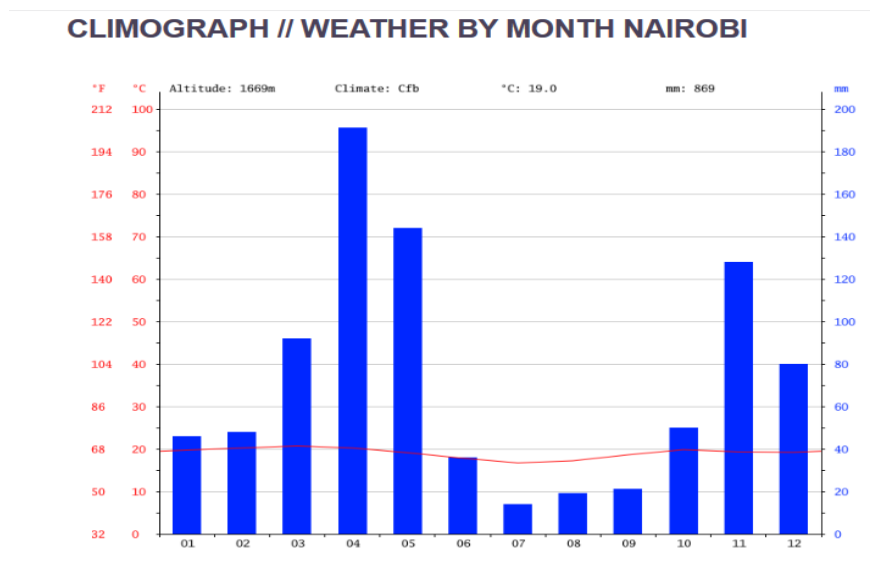


Figure.4.2 Climatic condition of surrounding area

Source: google

**Climate Pattern:** This weather chart provides the climatic conditions of the region where the restaurant is located. The resort restaurant is located in ngong area. The warmest month of the year is March, with an average temperature of 20.7 °C. July has the lowest average temperature of the year. It is 16.7 °C.

### 4.1.2 Site Analysis.

Resort restaurant has a main restaurant, a separate smoking zone and outdoor sections. The landscape, the interior bar and restaurant. This study mainly focuses on the interior of the main restaurant and the landscape of the site.

#### *4.1.2.1 Analysis of the Existing Landscape.*

A path way made of natural stone leads to the entrance of the lounge. The restaurant has two entrances. The main entrance is a metallic double door. A live fence forms as the parameter of the restaurant of the light at night. Storm water drainage has not been provided.



Figure 4.3 restaurant parking lot

The landscape is mostly made up of grass and hardcore at the parking area. The landscape has private seating areas. The landscape, which serves as the seating area for guests who come to enjoy a barbecue, it consists private dining areas. The tables are made of wood which are covered with a plastic protective cover. The chairs are made of wood and plastic. The some of the landscape furniture is not outdoor friendly hence is moved when it rains. The lighting fixtures do not produce efficient light at night. The furniture does not contribute to the ambience of the lounge and it's landscape.



Figure 4.4 outside sitting area

A butchery, barbecue area and an outdoor sitting cubicles sections that accommodate private numbers of up to a maximum of eight.



The landscape does not have sufficient lighting. The space also offers a children's play area that seems to be in a dangerous condition due to its inactiveness.



Figure 4.5 play ground area

There are a few design issues at resort, lighting and ambience being their main problem. The furniture has had to be replaced since they are not durable. Some of the furniture in the outdoors are not meant for the landscape thus they need to be moved when it rains. To improve efficiency, they need more storage at the lounge bar so that staff does not have to make multiple trips to the kitchen. There is need for durable furniture thus cutting costs.

### **The main restaurant**



Figure 4.6 main restaurant

The restaurant serves as a club at night providing features like a performance stage, DJs booth, and VIP area. A stone bar serving cocktails and other alcoholic drinks.

#### ***4.1.2.2 Analysis of existing interior architecture***

The main restaurant has support beams made from wooden posts that help in the support of the roofing of the main restaurant. The condition of the posts is poor due to lack of proper maintenance. Termites have attacked some of the posts rendering them useless.

#### ***4.1.2.3 Analysis of Existing Furniture.***

The furniture at resort are mostly functional. They consist mainly of tables, chairs and light fixtures. These tables and chairs are different according to their purpose. Main restaurant space mainly has lounge chairs and tables as well dining chairs and tables. The lounge tables are made from MDF boards and the lounge chairs are made from faux leather, which are not durable.



Figure 4.7 main restaurant space

#### ***4.1.2.4 Analysis of the Existing Exhibition and Display***

The exhibition and display comprises of the bar area and the drinks display behind the bar. The bar has m-pesa till payment method for customers to pay for their services and a service center. When in use, the bar is used to display alcoholic drinks. It is also used to display glassware. This creates clutter on the bar during their peak hours. The front facing the counter bar is the musical stage. one cannot enjoy the live band when at the VIP area because a wall acts as a burrier. There is insufficient lighting at the bar, which have decorative features.



Figure 4.8 pool table

#### ***4.1.3.1 Quantitative Analysis.***

In this section, analysis of interviews and observation shall be presented in order to get an in depth look at the population profile, activities of guest ad staff and identity design problems at the resort restaurant and it's landscape. This information gathered will be used to make recommendations of changes that need to be made.

#### ***4.1.3.2 Staff Interviews Analysis.***

A total of 7 staff members were interviewed. Of the 7, 6 were waiters and bartenders and 1 was a cleaner. Of these, 4 waiters and 2 bartenders were interviewed.

All the waiters complained about being tired after their shift due to too many movements made.

Some of the drinks and food they order have to be gotten from the kitchen outside thus the service is delayed.

The bartenders complained about back pain if they worked for long hours. There also no enough storage and appliances to hold drinks to be served throughout the night. Multiple trips have to be made to the store.



Figure 4.9 restaurant bar area



#### ***4.1.3.3 Owner Interview Analysis.***

Their menu caters for breakfast, lunch and dinner. They have fewer guests coming in the morning. During lunch hours, majority of the people at the restaurant are working men and women. 3.00pm -1am are their busiest hours as people come to enjoy their cocktails and drinks. Majority of the guests during these hours are between the age of 25 to 70. Most of the guests who use main restaurant. Young people who enjoy music and dancing

The VIP area is in reasonable condition.

## **4.2 CONCLUSION**

The interior walls most of which are permanent need improvement and be levelled, the floor is not varnished, poor condition of the ceiling which isn't of aesthetic value, the lighting fixtures within the offices needs improvement, as it is not pleasing to the eye. The furniture is outdated and an introduction of another type to replace the existing one is required and the exhibition and displays needs to be improved.

## **CHAPTER FIVE**

### **5.1 Introduction**

This chapter is a summary of the research project and findings. It will also draw down to the recommendations for the interior spaces in terms of; lighting, ceiling finishes, wall cladding, window treatment, floor finishes, furniture, landscape, exhibition and display. The aim of the study being to enhance the appearance in a sustainable manner infusing the Kamba culture and patterns in the designs, that will be reflected and presented in this chapter.

### **5.2 SUMMARY OF FINDINGS**

This research sought to investigate the potential that recycled glass has from which could be implemented into the redesigning of the restaurant its interior décor and furniture as well as its landscaping. The materials to be used ought to promote a sustainable environment while enhancing the aesthetic value of the restaurant space. Universal design was to be considered as the aim of the researcher is to make sure that the space can be enjoyed by every person comfortably regardless of age or disability. The materials employed will aim to sustain the environment by using materials that don't promote degradation of natural resources. offering a functional, appealing products and spaces will be the overall mission of the researcher. Through this, we result to implementing the use of recycled glass in redesigning the Resort restaurant interior and exterior spaces in order to make the space more appealing. The data collection methods were used to bring forth relevant information from both primary and secondary sources. These methods were convenient, time saving and the most relevant for this study.

## **5.3 RECOMMENDATIONS**

In consideration as well as in line with this this documents information, the researcher proposes the following design solutions in the resort restaurant space and land scape. These recommendation are meant to offer maximum comfort to the end user in line with the following design principles;

### **1:Equitability**

The design is useful and marketable to people with diverse abilities.

Guidelines:

- Provide the same means of use for all users: identical whenever possible; equivalent when not.
  - Avoid segregating or stigmatizing any users.
- Make provisions for privacy, security, and safety equally available to all users.
  - Make the design appealing to all users.

### **2: Flexibility in Use**

The design accommodates a wide range of individual preferences and abilities.

Guidelines:

- Provide choice in methods of use.
- Accommodate right- or left-handed access and use.
- Facilitate the user's accuracy and precision.
- Provide adaptability to the user's pace.

### **3: Simple and Intuitive Use**

Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration

level. Guidelines:

- Eliminate unnecessary complexity.
- Be consistent with user expectations and intuition.
- Accommodate a wide range of literacy and language skills.
- Arrange information consistent with its importance.
- Provide effective prompting and feedback during and after task completion.

#### **4: Perceptible Information**

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities. Guidelines:

- Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.
- Maximize "legibility" of essential information.
- Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).
- Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

#### **5: Tolerance for Error**

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

Guidelines:

- Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.
- Provide warnings of hazards and errors.
- Provide fail-safe features.
- Discourage unconscious action in tasks that require vigilance.

#### **6: Low Physical Effort**

The design can be used efficiently and comfortably and with a minimum of fatigue.

Guidelines:



- Allow user to maintain a neutral body position.
  - Use reasonable operating forces.
  - Minimize repetitive actions.
  - Minimize sustained physical effort.

## **7: Size and Space for Approach and Use**

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility. Guidelines:

- Provide a clear line of sight to important elements for any seated or standing user.
  - Make reach to all components comfortable for any seated or standing user.
    - Accommodate variations in hand and grip size.
- Provide adequate space for the use of assistive devices or personal assistance.

### **5.3.1 Interior Architecture**

Interior architecture refers to the design of a space which has been created by structural boundaries. It aims at investigating how the space considers all aspects of human needs and how they interact and complement each other. The main areas in consideration in interior architecture are, ceiling, wall and floor finishes, lighting, ventilation and window treatments and doors.

The researcher recommends the following;

1. Ceiling
2. Wall ( specify each wall)
3. Floor finishing
4. Window treatment
5. Doors

### 5.3.1.1 Space layout

The researcher recommends the following space lay outs depending on each room;

#### 1. Main space for the restaurant

The main space will be partitioned into sections that will offer more privacy while sitting.  
The partitions will be designed and made of recycled glass.



Figure 5.1

Recycled glass partition

Source; google

#### Pathways

Recommendation for pathways are that they should be large enough to allow movement of people with consideration to wheelchair movement as well with comfort.



Figure 5.3

#### ***5.3.1.2 Flooring***

In order to create a warm relaxing environment, while still maintaining a cool chilled feel, floor tiles that make a statement, bold and that blend with the space.

The researcher recommends the following flooring;

1. Bamboo tile flooring.



Figure 5.4 Bamboo flooring

*Sorce; google*

## 2 Glass block floor lighting made from recycled materials



*Glass light block tile 1*

*Figure 5.5*

*Glass light block tile  
source; google*



*glass light tiles on floor 1*

*Figure 5.6*

*glass light tiles incorporated into the floor  
source; google*

### ***5.3.1.3 Ceiling***

The ceiling of the design studios is in a poor condition there for prompting the researcher to propose the following:

1. Reinstalling the ceiling with the use of gypsum



*Gypsum ceiling 1*

**Figure 5.7 Gypsum ceiling** Source; gypsum

2. Use of metallic trusses for its advantage in durability and low maintenance.



Figure 5.8 Metallic trusses

*Source; google*

#### **5.3.1.4 Lighting**

Due to the large windows there is enough natural light illuminating the main restaurant.

Although there is no natural lighting at the bar area as well as the VIP area.

The lighting recommendations by the researcher are

1. chandeliers hanging from the highest ceiling point of the main restaurant space.



Figure 5.9 Recycled glass Chandelier

*source:google*

2. The researcher also recommends spotlights in the gypsum ceiling towards the edges all round, to illuminate the room well. They should illuminate yellow light and be able to be adjusted from dim to bright. This ensures the room has a warm and cozy effect especially during the night.



Figure 25.0 LED spot lighting

*source:google*

3. wall lighting so that during the night the ceiling lights are switched off hence providing sufficient lighting.



Figure 26.0

Recycled glass wall lighting

*source:google*

4. Floor glass lighting to illuminate pathways in the restaurant space

#### 5.3.1.6 Color

As a result of the researcher's inspiration, the following color scheme is recommended soft mid-toned colors which encompass softer yellow or brown green and red which are inspired by the Kamba bead work which was done in mostly the above colors. The recommended color scheme can help in providing a relaxing environment.



furniture design 1

#### 5.3.2 Furniture Design

Based on anthropometrics one ought to consider a standard size when considering the furniture design since not all furniture can fit everyone. The researcher recommends the furniture.

1. The furniture should be friendly to people of different age groups. It should comfortably accommodate children from a least 6years as well as the elderly and disabled comfortably.
2. The furniture should be inspired by the Kamba culture in order to blend with the restaurants theme.
3. The furniture designs should accommodate comfortably the restaurant layout in order to create harmony.

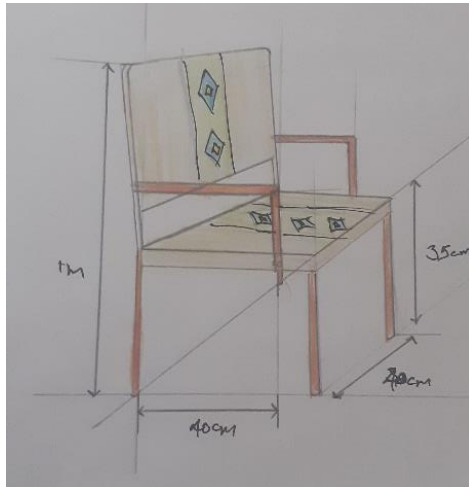


Figure 27.0

Sketch of proposed furniture

*Source: photo*

### 5.3.3 Exhibition and Display

The researcher will mainly focus on the VIP area for the exhibition and display where Kamba inspired patterns will be incorporated into the interior walls and some furniture. lighting in the VIP area will be included which will offer an appealing appearance due to its design and L.E.D features that allows the change of color in the lighting.





Sketch of proposed VIP lighting 1

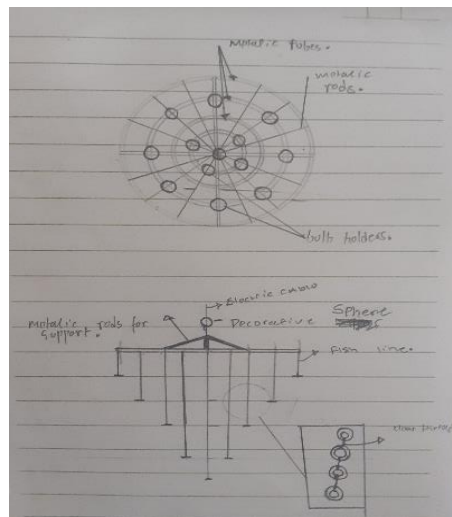


Figure 28.0

Sketch of proposed VIP lighting

*Source: phot*

### **5.3.3.1 Signage**

Due to lack of signage to locate the offices, the researcher proposes a sign to identify the office from the buildings outside through a signage at the gate and the reception area. It ought to be both visual and tactile for all to see. The characters should be bold enough and in upper case so as to be read from a far and the background color to be dark.

### 5.3.5 Landscape

Landscapes have the potential to provide spaces for better interaction of customers as well as offer recreational facilities. It provides a calming effect hence enabling one to enjoy the serenity.

Below is a sketch of the proposed layout design.

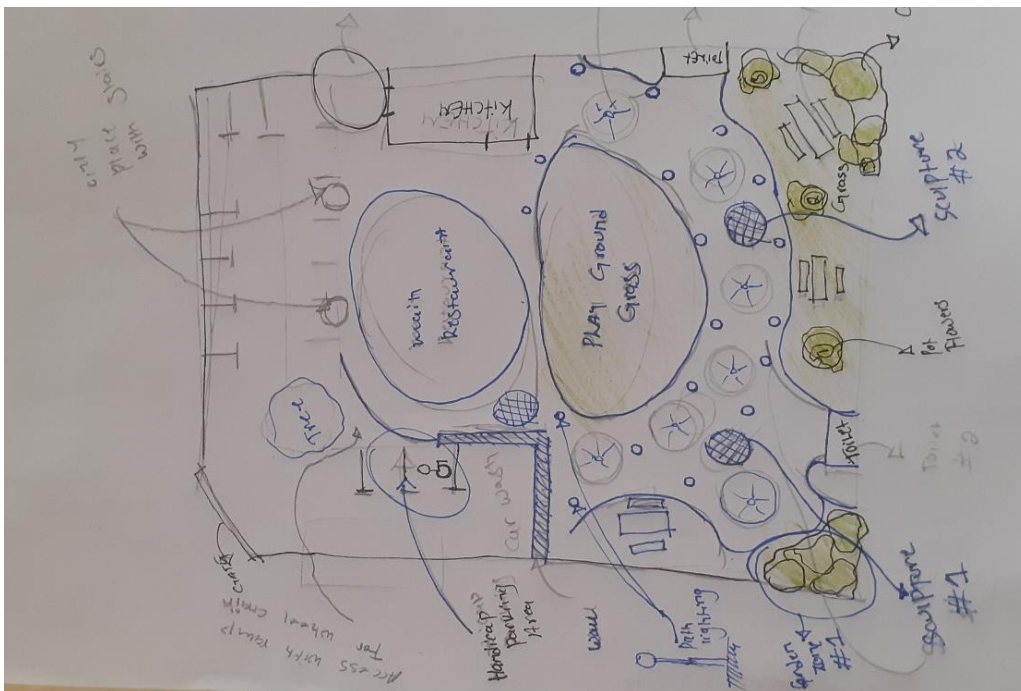


Figure 29.0 Sketch of proposed landscape layout

Source: photo

#### 5.3.5.1 Pathways

The researcher recommends wider pathways to be created to allow room to walk comfortably without any inconvenience.

### 5.3.5.2 Exterior Furniture Design

The researcher recommends garden benches to offer for more interactive seating, also service booths can offer more seating area in the compound. The furniture arrangement will be arranged in a manner there will be space for mobility as well as privacy. The researcher recommends installation of pagolas

### 5.3.5.3 Vegetation and drainage

No furniture will be found on the grass as it was a factor hindering proper growth of the grass. The researcher better fencing for the bushes and flowers. The drainage should be incorporated near the bushes and flowers in order to save on water in terms of irrigation.



Figure 30.0

Sketch of proposed furniture

Source: google

## **5.4 CONCLUSION**

After research both in primary and secondary sources, the researcher learnt a lot about the principles of universal Design especially in designing the interiors and exteriors following the design processes. Design is a problem-solving activity where problems like the use of spaces concerning the interior spaces of any environment are put into consideration when solving the problem and this was the main aim of the research.

It is based on this qualitative research that the researcher recommends the above recommendations and solutions that can be applied to the resort restaurant space to provide an accessible, comfortable, aesthetic and appealing to enable social interaction.

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## APPENDICES

### QUESTIONNAIRE TO THE MANAGEMENT AND STAFF OF RESORT RESTAURANT

Thank you for taking time to fill in this questionnaire.

This Questionnaire is for a research purpose which is being carried out by a Fourth Year Design student at the University of Nairobi, College of Architecture and Engineering, School of the Arts and Design. The information given will be used by the researcher carrying out the study **for academic purposes only.**

1. Please give a brief description of the mission, vision and core values of the of the restaurant.

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2. What do you thing are the strong hold points of the restaurant in comparison to its competitors in the market?

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3. Please give a brief description of the resort restaurant's space and design. Which criteria of people are in attendance on a daily basis? (Number of attendances, gender, age bracket, occupations)

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4. What are some of the suggestions you can give to improve the main restaurant space

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5. What theme works for the space, African or western theme?

YES..... OR NO.....

6. If western theme what's your take on the introduction of the western theme to the space?

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7. If African theme, what's your take on the introduction of an African theme to the space?



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8. What challenges do you encounter in your daily activities and what recommendations would you give inorder to improve the citation?

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