



UNIVERSITY OF NAIROBI

College of Architecture and Engineering

School of The Arts and Design

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BDS 413: PROJECT PAPER

(Interior Design Specialization)

**INCORPORATING MOROCCAN ARCHITECTURE AND RENEWABLE  
MATERIALS TO CREATE LUXURIOUS INTERIOR FOR A HOTEL IN  
NAIROBI.**

**By:**

B05/41292/2016

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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.

2020

## **DECLARATION**

I declare that this project is my original work and to the best of my knowledge has not been presented in the past for the fulfillment of any degree course or certificate course in any other learning institution.

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## **ACKNOWLEDGEMENT**

This project would not have been possible without the inspiration and support of a number of wonderful individuals, my thanks and appreciation to all of them for being part of this journey and making this possible.

I owe my deepest gratitude to my lecturers and mostly my supervisors and mentors, Dr. Lilac Osanjo, Mr. Collins S. Makunda, Dr M. Munene and also to Dr. S. Maina. Without their enthusiasm, encouragement, support and continuous optimism this project would hardly have been a success.

Finally, my deep and sincere gratitude to my family for their continuous and unparalleled love, help and support. But of all, I give uttermost credit to the Almighty God for His relentless grace and the gifts he has blessed me with.

## **ABSTRACT**

The Integration of contemporary African cultural elements for sustainable interior spaces forms the basis of this research paper. This paper will seek to establish the application of Moroccan Architecture alongside renewable materials such as bamboo in the creation of appealing, contemporary and sustainable spaces for the Kenyan hospitality industry. The research will also examine the ability of design to promote African Cultural Heritage in the hospitality industry using locally available sustainable materials and at the same retaining appealing and contemporary designs.

The research paper will be divided into five chapters. Chapter one will describe the introduction and background leading to this study, problem statement, objectives and the research questions, significance of this study and the scope of the research, as well as the limitations of the study. Chapter two entails a critical analysis of theoretical literature on sustainability, sustainable design and Contemporary African Design and how it has contributed to appealing contemporary and sustainable interior design environment. Chapter three will outline the research design and Methodology used by the researcher to collect, analyze and present data of this study. Chapter four will contain a qualitative analysis research, the presentation and interpretation of findings then lastly, chapter five will be a summary of the findings, and the researcher's recommendations on the four major areas of interior design for the hotel with regard to previously employed techniques by renowned designers in the field of sustainable design and African design discussed in chapter two.

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## **OPERATIONAL DEFINITION OF TERMS.**

**Sustainability** is meeting the needs of the present without compromising the ability of future generations to meet their own needs. (Brundtland 1987)

## **CHAPTER ONE**

### **1.0 INTRODUCTION OF THE STUDY**

#### **1.1 Introduction**

This chapter will provide an overview of the research which will include an introduction to sustainable interior design practices and how it can be combined with other design elements and philosophies for commercial interior and exterior spaces design for the Kenyan hospitality scene. The reason for this research is because the sustainability is still a new concept for interior design in the Kenyan market since most fear the price it imposes initially, yet the non-sustainable approach is more costly due to the high maintenance they bring about. Sustainable design practices can help protect the natural environment when done correctly, hence this study will explore how sustainable interior design practices such as the use of renewable materials such as bamboo can be merged with Moroccan Architecture to create luxurious interior and exterior spaces for a hotel in the Kenyan hospitality industry.

Moreover, this chapter will also entail the background of the study, state the statement problem, highlight both the objectives and research questions guiding this research, the significance of the study, limitation encountered and the scope of the study.

#### **1.2 Background of the study**

Global warming and forest fires have taken the world by a storm over the last few years. These negative environmental changes have become alarmingly frequent and all too common. This environmental crisis has a couple of sources, the main one being pollution, and the depletion of the natural resources caused by overpopulation and urbanization. The interior design field has to some extent contributed to this crisis by the materials used, how they are sourced and not adopting sustainable design practices.

The first concept is Moroccan Architecture which Borrows aspects from Organic Architecture which focuses mainly promoting harmony between human habitation and the natural world (Hess 2006). This research investigates how the use of Moroccan Architecture and the use of renewable materials such as sisal and bamboo can be used in the redesigning of a corporate destination hotel in Lavington. It explored the concept of

Organic Moroccan Architecture alongside the design philosophy “*form follows nature*” by Ralph Waldo and the use of environmentally sustainable materials, namely bamboo and sisal through answering the objectives at hand.

### ***Moroccan Architecture***

Moroccan Architecture reflects the long and complex history of Morocco, a country that's been a crossroads of culture for centuries. Moroccan Architecture has four main influences, mainly, Berber, Islamic, Hispano-Moor and French influence (Treal 2008). From Islam, there is a wide use of the *Zellige tiling*, geometric designs and the floral motifs arabesque, on both the interior and exterior spaces of a building. Arches and overlapping hand glazed tiles have a Spanish descent while the open courtyards and lush gardens come from France (Bonfante-Warren 2000).

### ***Organic Moroccan Architecture.***

As stated previously, organic architecture is the concept of having harmony between the built environment with its surroundings, while Moroccan Architecture draws its inspirations from nature and organic forms and transforms them into incredible aesthetically pleasing interiors and exterior products for interior design. However, the architectural elements of Moroccan design do not stop at the exterior building design or interior works of the walls and ceiling (Treal 2008). Every door, surface and piece of furniture placed inside the interior space can be of the highest art qualities, made using the finest earth elements such as iron and wood, using paints and natural colors of the landscape surrounding the place, Moroccans place a great deal of emphasis on all aspects of their constructed spaces (Lovatt-Smith 2004). As discussed further on in this research paper, both the exterior and interior components of Moroccan architecture are painstakingly produced by hand by crafters from generations of Moroccans who have passed their craft down from father to son. Even as the next generation make a point to add some of their modern ideas, the sense of tradition in how they are crafted never dies (Bonfante-Warren 2000).

### ***Renewable materials and design philosophies.***

Environmental sustainability has become a major concern within the interior design field as of late. This is due to the extensive resources needed for interior use. Much of the sustainable interior design focuses on the materials used in the creation of an indoor space.

This research will look into how bamboo can be incorporated into all four fields of interior design, while using the concept of organic Moroccan architecture and the design philosophies of “*form follows nature*” by Ralph Waldo and the evolution of the same philosophy into “*form and function as one*” by Frank Lloyd Wright.

### ***Ten principles of good design.***

Dieter Rams came up with principles of good design which are a major guideline in the production of excellent designs in any design work cutting across all design specializations. There are a number of principles that guide a good design, some of which will greatly guide this research. These principles are that: Good design makes a product useful, it has to satisfy certain criteria, not only functional, but also aesthetic and psychological. Dieter argues that “*good design is environmentally friendly.*” (Cess W. De Wong 2017)

Dr. Ruth Palmquist, a famous scholar and writer, acknowledges that the design of qualitative research is probably the most flexible amongst the various research methods used in academic researches. This is due to the fact that there is no standardized structure in qualitative research design. Qualitative research design can vary from individual case studies to extensive interviews, due to the fact that the study is carefully constructed and designed to fit each individual research. In qualitative research, the most commonly used methods are case studies, survey designs and interviews. In this research, the researcher uses qualitative research methods such as conducting interviews, observations, photography, research from articles and journals to aid in the collection of both primary and secondary data. Furthermore, quantitative methods were also used to support the research such as the presentation of data with the use of tables, graphs and pie charts.

### **1.3 Statement of the problem**

The Ole Sereni Hotel has not fully maximized its attraction as an international corporate destination hotel. The interior décor, landscaping and choice of both the indoor and outdoor furniture, which is one of the major elements in check is not as aesthetically appealing to

the public and barely tells a story. Furthermore, the interior décor seems quite monotonous and doesn't have the awe factor within it.

#### **1.4 Objectives of the study**

The main objective of this study is to explore Moroccan Architecture and how it can be integrated with renewable materials in the creation appealing contemporary corporate interior spaces designs for Ole Sereni Hotel in Nairobi.

##### ***Specific research objectives***

- i. To identify the opportunities available for Moroccan Architecture inspired design in the Kenyan hospitality industry.
- ii. To propose ways in which renewable materials can be integrated for appealing corporate interior spaces.
- iii. To explore how Moroccan Architecture has been previously used in the interior design field.
- iv. To investigate the current interior designs implemented at the Ole Sereni Hotel.

#### **1.5 Research questions**

How can Moroccan Architecture and renewable materials be integrated in the creation of appealing contemporary corporate interiors for the Ole Sereni Hotel?

##### ***Specific research questions***

- i. What are the opportunities available for Moroccan Architecture inspired design in the Kenyan hospitality industry?
- ii. How can renewable materials be integrated for appealing corporate interior spaces?
- iii. How can Moroccan Architecture have been previously used in the interior design field?
- iv. What are the current interior designs implemented at the Ole Sereni Hotel?

#### **1.6 Significance of the study**

This study will aim at identifying the existing gaps on how the use of Moroccan Architecture and the use of renewable materials can be exploited in the designing of corporate destination hotels in the Kenyan hospitality industry.

This will be achieved through:

- i. Bringing in the aspect of greening interiors in the hotel
- ii. Creating ergonomically fit furniture for the visitors
- iii. Creating a more functional yet appealing bar counter for the drinks display for the hotel's club
- iv. Improving the aesthetic value of the landscape design

### **1.7 Limitations of the study**

The main limitation was the time constraint since the hotel is big and taking measurements and conducting space analysis and site analysis was time consuming. Another limitation was the limited literature pertaining the study. Most of the literature available was not scholarly approved, therefore, the researcher was forced to conduct pilot studies and analytical conclusions.

### **1.8 The scope of the study**

#### ***1.9.1 Geographical***

Ole Sereni is located at the interchange of Mombasa Road and the Southern bypass and adjacent to the newly built Es Mara Hotel Building. The hotel has an overview of the park and its wildlife, which has been a great selling point for the establishment.





*Figure 1: Aerial map of Ole Sereni Hotel Location (Image source: Google Maps)*



*Figure 2: Ole Sereni Hotel, off Mombasa Road (Image source google maps)*

### ***1.9.2 Conceptual***

The concept of Moroccan Architecture and sustainable materials in particular, renewable materials will be applied in the four areas within the residential space which are interior design, exhibition and display, furniture and landscape.

### ***1.9.3 Contextual***

The research will explore the aspects and design forms found in Moroccan Architecture for example shape, texture and color and find ways to manipulate them and incorporate them in the designs of the four interior design areas listed above.

### **1.10 Summary and conclusion**

This chapter addresses the background of the study, states the types of methodology preferred in reference to the literature review, states the main design problem and expounds on it, states the main and specific objectives of the case study with subjective in reference to case studies done and states the research questions with the hypothesis. At the end of the chapter, there is further discussion on the significance of the study and what the researcher aims to achieve through the study.

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 Overview**

This chapter will look at the design concept alongside the supporting design philosophies, exemplars of case studies, design champions with their exemplars. Organic Moroccan Architecture and renewable materials will be the main sectors. The other sector will be the supporting design philosophies mainly “*form follows nature*” by Ralph Waldo and the evolution of the same philosophy into “*form and function as one*” by Frank Lloyd Wright. There will be case studies, exemplars and design champions for each sector. There will also be a brief introduction to the different concepts and how they can be used together in the interior design field.

#### **2.2 Introduction**

Organic Moroccan Architecture is a concept that is derived from Organic Architecture and Moroccan Architecture. Organic Architecture is also known as “Bionic Architecture”, the term *bionic architecture* refers to a movement of design and construction of expressive building whose layout and lines are borrowed from nature (Figuerca 2014). Moroccan Architecture has its roots in Berber, Islam, Hispano-Moor and France influences (Pearson 2001). The vast rich background of Morocco as a country gives a broad inspirational archive for interior design. The music, arts and crafts, literature, forms and shapes, colors and cultural practices of Africa have evoked interest and respect throughout the design industry. More people are growing more appreciative when relating to African culture in design. Designs have had rich inspirations drawn from these diverse indigenous cultures. In Morocco, designs are grounded on cultural beliefs and practices and taboos. Renewable materials have been trending in the recent years when it comes to design. All natural, low-maintenance yet sustainable materials such as bamboo and sisal have gained the lime light. These materials can be used in all four disciplines since they are not only renewable and biodegradable, they are also quite durable. Eco-friendly countertops can be made from bamboo or even bamboo flooring (Lugt 2017).

## **2.3 Review of theoretical literature**

Organic architecture is derived from the philosophy form follows function by Frank Wright. Frank Lloyd Wright first used the term 'organic architecture' in an article for Architectural Record in August 1914, in which he wrote that "the ideal of an organic architecture... is a sentient, rational building that would owe its 'style' to the integrity with which it was individually fashioned to serve its particular purpose—a 'thinking' as well as 'feeling' process." (Wright 1914) While it is not easy to define organic architecture, there are principles at work in Frank Lloyd Wright's buildings that transcend his personal expression. It is important to note that Wright was not the first architect to use the term organic architecture, nor was he the last. The concept of an organic style meant different things to different architects and manifested itself in a variety of ways. Some of the principles of Wright's organic architecture include; building and site, materials, shelter, space, proportion and scale, nature, repose, grammar, ornament, human values, simplicity, and lastly, mechanical systems and furnishings. (Wright 1914) Currently, organic architecture has reached new heights by employing newer materials and technology in the application of natural shapes to create continuity in a building. Although the word "organic" usually refers to plants, animals or anything related to nature, Wright's interpretation was an idea which was to promote harmony between man-made structures and nature around through design approach as a unified composition. He believed that, any building should complement its environment, a building should work as a cohesive organism. (Figuerca 2014)

### **2.3.1 Design Philosophies.**

Organic Architecture not only addresses environment concern but also expresses individuality where each building is related to variables like man, site and time. Ralph Waldo Emerson was an American philosopher, poet, and essayist born on May 25th 1803 in Boston, Massachusetts. He studied at Harvard and taught for a short time before joining the ministry from which he resigned in 1831. In 1832, he spent time with Thomas Carlyle who was a Scottish born English writer famous for his explosive attacks on hypocrisy and materialism. Carlyle also had a strong distrust of democracy and a high romantic belief in the power of the individual. The insights of the British thinker helped Emerson formulate his own philosophies and ideologies. Thereafter, Emerson became well known for

challenging traditional thought which led him to be the chief spokesman for Transcendentalism, which became the American philosophic and literary movement of the 19th century.

Form follows nature is an architectural and design philosophy that uses shapes and forms found in the existing environment to achieve either highly functional designs or just purely aesthetic designs as a means of integrating with natural surroundings (Emerson 1836). Form follows nature is a central principle of organic architecture along with other principles of sustainable design and natural aesthetics.

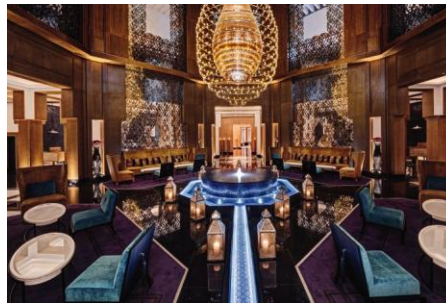
Form follows nature as a philosophy was born from the Transcendentalism movement. Transcendentalism is essentially the philosophy that nature and the natural order are the true arbiter of spirituality, and was a protest against culture and society, stating that religion and political parties corrupted the individual spirit. Transcendentalism was a reaction against scientific rationalism (Finsterwalder 2011). Transcendentalism is a formal word that is backed up by a very simple ideology. It basically means that people, be it women or men, equally have knowledge about themselves and the world around them that “transcends” or goes beyond what they can hear, feel, see feel or even touch. This said, knowledge is said to come through imagination and not through logic or through senses. People are encouraged to trust in themselves and be their own authority on what they believe is right. Henceforth, a transcendentalist is a person who accepts these ideas not as religious beliefs but as a way of understanding the relationships life offers.

The enduring legacy of form follows function has been that it is practical and only that, a mechanical approach in a creative profession. This study has aimed to readdress the subject and ask whether an idea of modern architecture, largely discarded today, may mean something other than what we originally thought. If form follows function infused Wright’s many masterpieces, if it became a part of Wright’s experimental toolbox, and if he insisted upon its validity through to the end of his career, the principle need not necessarily die a death with the end of modern architecture. Wright’s organic architecture points to concepts that are intertwined with form follows function. His most direct contributions start with the idea that a truly humane architecture begins with the space to be lived in. Translated into the ideas of the room itself or the within, that space is the genesis of inner purpose dictating

outward expression. The exterior does not mimic the interior. Instead, each carves out its own part within the character of the building. Other elements join with the function or purpose of the building to grow into an integrated whole or entity. Many bits make up the whole. The highest achievement is continuity – purpose, structure, space, and form are seamless to one another. Wright captured all of these in one thought – form and function are one (Bonfante-Warren 2000)

### **2.3.2 Moroccan Architecture**

Moroccan Architecture is said to be rich, alluring and as varied as the cultural diversity in the country itself. It has quite a long history from the indigenous Berber people to the foreign invaders through which everyone shaped the religion, culture and most importantly the country's architectural style. The architecture varies from ornate with bold colors to simple clean lines with earth tones. Moroccan architecture has been described as exotic, majestic, electric, contemporary yet traditional which is a marvelous true mix. The design exemplar is Movenpick Hotel Mansour Eddahbi in Marrakech Morocco. As seen in figure 3, the hotel shows a magnificent blend of all four influences to bring out a majestic novelty palace.



*Figure 3: Movenpick Hotel Morocco (Image source: Studio MHNA)*





*Figure 4: Zellige tile (Image source: Google)*

Figure 4 depicts the Zellige Tile. In Islam, it's against their culture and religion to have human forms or even natural forms as their artwork. Hence, they use abstract art and that's how the tile got its inspiration from.



*Figure 5: Greening Interiors Concept (Image source: Google)*

Influences from Spain, Portugal, France and the Arab world can still be seen in Morocco either on their own or blended together with Berber and Islamic styles. Among the buildings, and Kasbah walls, sits French-style towns left behind from the colonization era which intersect with intricately detailed mosques and riad-style homes. Still, sleek yet modern designs are being constructed in cities such as Casablanca that give no particular homage to any past Moroccan styles (Bonfante-Warren 2000).

This research will look into both the traditional and modern architecture in Casablanca, Morocco. Morocco is a country which is located in north-western Africa and Casablanca is the country's largest city with a population of 3.3 million (as of 2011). Morocco has a

long history with many different rulers who have left its mark on the country's architecture (Treal 2008). The old, traditional architecture of Casablanca is in the old medina, Medina Qdima, which was built in the late 18th and early 19th century. The medina and the traditional Arabic houses that it is composed of are very similar to those in other Arab countries, and the structure of the medina and the houses follow the Islamic laws on private and public areas (Lovatt-Smith 2004).

The public areas are commercial streets and squares and the private are residential blocks, all the streets in the medina are narrow and winding and the size of the streets varies with how private or public they are. The buildings in the Medina stand very dense and the residential areas are built around a street from where dead-end alleyways go out, along these alleyways are clusters of dwellings. The traditional Arabic houses are perhaps better known as houses with courtyards, but they are also called *dar*. The courtyard is very important and all the rooms are surrounding the courtyard, all openings in the house is towards the courtyard and there are usually no windows facing the street, in order to keep it as private as possible and to minimize the risk of people looking in. Usually, the courtyard has a large opening in the roof that let in air and sunlight, and the opening modifies the indoor climate in the rooms (Bonfante-Warren 2000).

Between 1912 and 1956 Morocco was a French protectorate, which has affected the modern architecture to a large extent. A new city was built around the old medina during the French rule, called Ville Nouvelle, which resulted in strong European influences in the modern areas and buildings. Much of the French culture persisted even after Morocco gained independence and the neighborhoods and buildings built after the protectorate period, also have south European influences. In the modern areas there are wide avenues and high-rise buildings, and the modern houses often have large windows or entire glass facades, many of the buildings have not only European design, but sometimes also some Moroccan details (Bonfante-Warren 2000).

The purpose of this thesis was to study the differences between traditional and modern architecture in Casablanca, Morocco. This research aims to find out how traditional and modern houses and the neighborhoods are different, are they adapted to Casablanca's climate and can differences be distinguished between the residents' comfort and wellbeing?



To answer these questions, the researcher did a literature study and an archived research study on Casablanca. The literature study treated Morocco, the country's history and climate, as well as the traditional Arabic house, the modern villa, modern and traditional neighborhoods in Morocco but also in the rest of North Africa. In the archived research study modern areas and the old, traditional medina as well as traditional and modern homes was studied. During the archived study observations were made of the neighborhoods, as well as reviews of documented interviews with residents in the old traditional houses and apartments and residents in modern homes, as well as studies of the houses/apartments. Much of the architecture involves climate considerations in buildings and urban environments, therefore, this has great importance in this research (Lovatt-Smith 2004).

The researcher concluded that the main differences between modern and traditional buildings are the design of windows and openings. The traditional houses follow the Islamic laws on private and public areas and thus separate the houses from the street by having little or no windows facing the street, while the modern houses are much more European-influenced (Bonfante-Warren 2000). Between the traditional medina and the modern neighborhoods there are many significant differences, the planning of streets, width of the streets and height of the buildings. The traditional Arabic houses have been shaped according to Islamic law but over the years, they have also been climate adapted, however, they work best in a climate that is hot, dry and arid, which Casablanca's climate is not all year round (Treal 2008).

In Casablanca, one can conclude that the modern houses, although their climate-adaption is not especially good, yet they are better than the traditional ones. Most of those interviewed thrived where they were regardless of the area they lived in, but the humidity was one of the most common complaints in the old houses. Some of the traditional houses in the medina that were visited had been converted, resulting in very poor indoor climate and no openings out.

In the medina solar radiation into the streets are minimized because of how narrow and winding they are this also minimizes the ventilation, while in the modern areas the streets are wide and straight, maximizing both solar radiation and ventilation. The urban design in the medina is primarily suited for hot, dry climates. In the humid climate of Casablanca,

the moisture does not dry out because of the narrow streets and the poor ventilation (Bonfante-Warren 2000).

### **2.3.3 Renewable material as a form of environmental sustainability.**

Sustainability can be described as the process of living within the limits of available physical, natural and social resources in ways that allow the living systems in which humans are embedded to thrive in perpetuity. In some ways, it can be the avoidance of the depletion of natural resources in order to maintain an ecological balance. The most frequently quoted definition is from Our Common Future, also referred to as the Brundtland Report of 1987 states, “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” Hence, ‘sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.’ (Development 1987). Diving further into sustainability, let’s focus on environmental sustainability. Environmental sustainability is in the forefront to prolong the life of earth and everything in it. The continuous depletion of natural resources will have a massive impact on the environment. Nature must be allowed time to re-generate to help avoid degradation and scarcity of the natural resources. Also, the constant pollution and deposition of waste materials in a larger quantity than nature can handle degrades the environment.

All four types of sustainability are interlinked with each other, because, humans exist within the economy, which exists within the society, which exists within the environment. The sustainability definition from the Brundtland Report of 1987 contains within it two concepts:

- The concept of ‘needs’, in particular the essential needs of the world’s poor, to which overriding priority should be given; and
- The idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs.

The drawback to the Brundtland definition is the fact that it tends to be more inspirational rather than practical. This has caused this definition to fall into the trap of scope creep by including solving the global poverty problem. (Strong 2001). The flaws found in this definition is that poverty should not be given an ‘overriding priority’ because if the

environmental sustainability problem isn't solved, then no other problem will matter due to catastrophic collapse. Poverty as a problem has existed for as long as the human race has (Strong 2001).

Secondly, "development" typically means economic growth to most nations, especially the developing ones. Since economic growth is already unsustainable, Hermann Daly and others suggested that development should mean both qualitative and quantitative growth. Quantitative growth can bring an increase in quality of life while quantitative growth brings about economic growth (Daly 2014). Hence, the Brundtland definition defines sustainable development (Strong 2001). Sustainability has its roots in social justice, conservationism, internationalism and other past movements with rich histories.

### ***Bamboo***

Bamboo is among the fastest growing woody plants in the world. Bamboo has proven potential for soil erosion control, water recharge, climate change mitigation and adaptation. It is a perennial species belonging to grass family *Poaceae*, subfamily *Bambusoideae*. There are over 1600 species of Bamboo growing in different agro-ecological zones, ranging from sea level to 4000 meters above sea level. Bamboo is mostly found in the tropical and sub-tropical regions. (Forestry March, 2019)

Bamboo is in some ways a form of art combined with science and no one is left untouched by the sight of a dense bamboo forest or the marvels of a bamboo building. It is from within this unique space of hard facts and spirit that bamboo must be understood in our present-day world of spreadsheet-based calculations with the objective to produce at an always lower cost and with an ever-larger profit margin for a small number of people.

Due to the steady growth of world population, overconsumption and a take-make-waste economy we are heading towards an imminent resource problem. Only through a transition to a circular economy, with an important role for renewable, bio-based materials, will we be able to safeguard resources for future generations (Lugt 2017).

Bamboo is a bio-based material can carry with it its limitations. Although there are many benefits linked with the use of bio-based materials, there are also some clear limitations. If exploitation of the bamboo forest related to the demands is higher than it can be reproduced

naturally, this can lead to depletion. The increase in depletion of resources has been caused by the increase in consumption due to the increased population, in combination with the human addiction to fossil-based resources, mankind is facing an imminent resource problem (Lugt 2017).

As one of the fastest growing plants in the world, bamboo is one of the key solutions to enable the transition towards a bio-based economy. Bamboo is a grass with over 1600 different species in existence. There are considerable differences between the different species in size, color, mechanical properties among others. One of the most interesting features of bamboo is its unsurpassed growing speed. During the growth season, the shoots can sprout to a height of 1m a day and to about 30m in just one month (Lugt 2017). The bamboo anatomy is mechanically made up of cellulose fibers, vascular bundles and parenchyma tissue largely consisting of lignin while in the chemical composition, bamboo doesn't have rays or knots and the stems are hollow among other properties (Lugt 2017).

The traditional use of bamboo as a building and crafts material dates back thousands of years ago and it was mostly used in Asian countries. In recent years, bamboo has started being industrialized and applied into vast industries such as Architecture and even Interior Design. Industrialization of bamboo materials combine allow environmental impact with many beneficial features during growth and use hence they provide an excellent alternative for carbon intensive, non-renewable materials (Lugt 2017).

Bamboo raw materials can be processed in various manual and industrial manners to create different kinds of semi-finished materials to be used in a large variety of applications (Rockwood 2015). Bamboo stem can by itself act as a sound building material. However, the stem can further be mechanically processed through bent, flattened, amongst others, to be used differently for different functions. There are a number of strengths or advantages associated with bamboo stem, such as:

- It has a very efficient natural structural design because of the strong hollow tube which has most fibers on the outside.
- It is a light-weight yet flexible material.
- Its tough hard outer skin provides protection.

- It has relatively high bending and tensile strength.

However, as much as we can attribute bamboo with its strengths, there are weaknesses such as:

- Relatively low compression strength.
- Irregular material which makes standardization and connections difficult.
- Lack of building codes and classification systems.
- Risk of shear in structural joints.
- Low biological durability (Lugt 2017)

Bending bamboo is another way of obtaining bamboo products. One can bend bamboo using heat. This is because, heat makes the cellulose fibers to be thermos-elastic, enabling the bamboo stem to bend and keep its bended shape after cooling down. Another method is by casting bamboo when they are young just below the nodes, and with this, impressive curvatures can be reached without any mechanical intrusion, even with large bamboo stems (Lugt 2017). This treatment is especially used on thinner bamboo stems for the development of curved furniture parts and other smaller interior décor objects (Benson 2009). The only design challenge is that bamboo can be deformed during growth and by positioning a mold over a sprouting shoot, a stem can be formed. By standardizing the molds and optimizing growth conditions this could be a promising way to standardize the bamboo stem elements to create surprising architectural structures (Rockwood 2015).

Cutting bamboo can be a simple yet effective manner to get rid of the distinct appearance of the bamboo stem either in a crosscut, diagonal, longitudinal or perpendicularly (Lugt 2017). Furthermore, combining cut bamboo pieces with other materials and colors can yield surprising yet interesting results and applications that can be used in particular for interior design and furniture, and if used considerably, even landscaping. The only design challenge attributed to the use of cut bamboo slices as the core materials is that it ends up providing a rather light weight, yet potentially low-cost products with a wide range structural application (Lugt 2017).

Bamboo can also be flattened by longitudinally slicing the stems, after which the diaphragms are removed before the flattening process. This can be done in two ways, the

first being a rough mechanical process which results in a coarse, cracked board, or through vapor treatment which results in more sophisticated smooth boards that can be used for flooring (Lugt 2017). This is a low-cost process that can yield wall and flooring materials that are durable yet environmentally friendly (Rockwood 2015).

Another way bamboo can be processed and used in the interior design field is by the use of the bamboo strip. A bamboo strip can be cut, dried, glued then hot pressed to produce a one-layer panel. These panels can later be glued together to other panels into a multilayer or a beam. The beam is then sawed and sanded to produce a bamboo block or plank that can be used in construction or in indoor space division (Lugt 2017).

Bamboo strips can also be turned into strand woven bamboo most commonly used in interior spaces. Rough bamboo fiber bundles which have been actively crushed are submerged into resin and then cold-pressed into molds under high compression. The glue is then activated in an oven resulting in high-density beams and panels which are extremely hard, with a close resemblance to tropical hardwood. However, the initial state of the strips before the creation of the beams and planks can dictate how the end product can be used. For example, thermally modified bamboo strips will result in an end product most suitable for outdoor use due to its durability, stability and hardness (Lugt 2017). The application area of strand woven bamboo is ideally in the interior space such as flooring and table top panels. Since it's also has a good bending strength, it can be used for self-supporting staircases, balconies and boardwalks (Rockwood 2015). Furthermore, when the strips are first thermally modified, the end product can be used for decking, cladding and outdoor furniture (Lugt 2017).

Bamboo strips can also be made into bamboo composite. The base material for high-quality bamboo composite is zephyr, which are fine, long-fiber bundles that are isolated from the parenchyma cells and vessels through a process called brooming (Lugt 2017). Brooming can be done through a chemical or mechanical separation of thick fiber bundles into more fine and pure zephyrs. Zephyrs are usually large enough to be positioned in preferred direction, providing high stiffness and tensile strength which can compete with glass fiber, and in combination with a thermosetting binder which gives it a high compression strength, they can act as a mesh in a uni-directional or iso-directional composite material, having

both mechanical (maximum strength in a certain direction) and aesthetical advantages such as being molded in different forms (Lugt 2017). Due to the excellent mechanical performance, zephyr mats are typically used to produce high performance composite materials for application where light weight, form freedom and strength are key attributes such as in sports equipment industries and also for high strength components in building and infrastructure such as in waterworks industry since it has water resistant qualities (Rockwood 2015).

Bamboo can also be made into slivers which can further be woven, coiled or connected to produce products. Historically, one of the best-known processing technologies for bamboo is the weaving of thin bamboo strips and slivers for the production of bamboo mats (Lugt 2017). After weaving, the bamboo mat can be dipped into resin, after which they are hot-pressed and cured to form rough hard boards suitable for various applications such as providing an alternative for zinc sheets used for roofing (Rockwood 2015). Coiled bamboo is achieved by curving bamboo slivers in a roller, then assembling them in a mold after which a three-dimensional mold is used to achieve the final product by applying an adhesive on both sides then sanding and coloring (Lugt 2017). The by products are usually various decorative products such as bowls, furniture, lamps, vases and trays which can be used for interior décor. Finally, connected bamboo is created by aligning the slivers side-by-side and stitching them together to produce a large preform or mat which is mostly referred to as a bamboo curtain. When combined with a latex backing, the end product is suitably used as a sound-insulating floor carpet or tiles. Due to its flexibility, it has interesting design possibilities such as the creation of furniture and interior décor products (Rockwood 2015).

The last processing of bamboo has its backbone in the use of bamboo chips. Different methods can be used to convert the chips into boards, paper and textiles. The bamboo board is made by washing the chips then refining the chips in a thermos-mechanical pulping process using steam to soften the chips. Afterwards, the chips are grinded and mixed with resin then once dry, fed continuously into a hot press to produce uniform medium to high density boards that can be used in furniture construction and floor underlayment (Lugt 2017). Bamboo paper is made through a process called “the kraft process”, where the chips

are mixed and heated with water, sodium sulphide and sodium hydroxide to retrieve the cellulose pulp which is then bleached and water and additives such as calcium carbonate are added to eventually produce the paper (Lugt 2017). The paper produced can vary from office paper to suitable packaging material (Rockwood 2015). Lastly, bamboo fiber is made by weaving bamboo yarn together producing a soft, low wrinkle fabric with good thermal properties and hygroscopic features. The applications are vast and the fabric can be used in the production of curtains, towels and any other fabric related products.

## **2.4 Design Champion and Exemplar**

In interior design, bamboo can be used in flooring, and the ceilings also. Figure 6 shows the Rijkswaterstaat Project by Architect Paul de Ruiter in Middelburg, Netherlands. In furniture design, the bamboo chair designed by Tejo Remy & Rene Veenhuizen in shows how bent bamboo can be used in the creation of interesting and aesthetically unique pieces.



*Figure 6: Rijkswaterstaat Project by Arch Paul de Ruiter (Image Source: Google images)*





*Figure 7: Tejo Remy & Rene Veenhuizen (Image source: Google images)*

### **STUDIO MHNA**

Studio MHNA is a firm created by Marc Hertrich and Nicolas Adnet who specialize in interior architecture, decoration and design. Over the years, they have created phenomenal interior spaces all over the globe. For interior architecture, exhibition and display and furniture, inspiration will be drawn from Movenpick Mansour Eddahbi in Marrakech

Morocco, Michel Rostang in Paris, France, Constance Belle Mare Plage in Mauritius. Since sustainability is applied differently for landscaping, the inspiration will be from the work they have done for Club Med Sanya in Hainan Island, China, Club Med Rio Das Pedras in Mangaratiba, Brazil and Le Belvedere in Troyes, France.

***Movenpick Mansour Eddahbi in Marrakech Morrocco.***



*Figure 8: Movenpick Hotel (Image source: Studio MHNA)*



*Figure 9: Movenpick Hotel room (Image source: Studio MHNA)*



*Figure 10: Movenpick Hotel Restraunt (Image source: Studio MHNA)*



*Figure 11: Movenpick hotel room (Image source: Studio MHNA)*



*Figure 12: Movenpick Hotel Interior (Image source: Studio MHNA)*

***Michel Rostang in Paris, France***



*Figure 13: Michel Rostang, Paris (Image Source: Studio MHNA)*





*Figure 14: Micel Rostang, Paris (Image Source: Studio MHNA)*



*Figure 15: Michel Rostang, Paris (Image source: Studio MHNA)*

***Constance Belle Mare Plage in Mauritius***



*Figure 16: Constance Belle Mare Plage in Mauritius (Image source: Studio MHNA)*



*Figure 17: Constance Belle Mare Plage in Mauritius (Image source: Studio MHNA)*



*Figure 18:: Constance Belle Mare Plage in Mauritius (Image source :Studio MHNA)*



*Figure 19: : Constance Belle Mare Plage in Mauritius (Image source :Studio MHNA)*

***Club Med Sanya in Hainan Island in China***



*Figure 20: Club Med Sanya in Hainan Island China (Image source: Studio MHNA)*



*Figure 21: Club Med Sanya in Hainan Island China (Image source: Studio MHNA)*





*Figure 22: Club Med Sanya in Hainan Island China (Image source: Studio MHNA)*

***Club Med Rio Das Pedras in Mangaratiba, Brazil***



*Figure 23: Club Med Rio Das Pedras in Mangaratiba, Brazil (Image Source : Studio MHNA)*





*Figure 24: Club Med Rio Das Pedras in Mangaratiba, Brazil (Image Source : Studio MHNA)*

***Le Belvedere in Troyes, France.***



*Figure 25: Le Belvedere in Troyes, France*



*Figure 26: : Le Belvedere in Troyes, France*



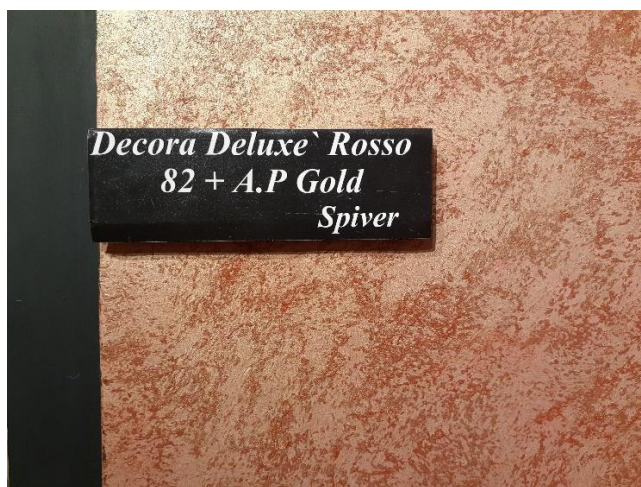
*Figure 27: : Le Belvedere in Troyes, France*

### ***Classic Mouldings, KENYA.***

Classic Mouldings is a company that specializes in *Decorative paint finishes, Architectural mouldings, Gypsum ceilings, Natural stone finishes and Roof windows.*



*Figure 28: Decorative painting by Classic Mouldings (Image source: Author)*



*Figure 29 Decora decorative paint by Classic Mouldings (Image Source: Author)*





*Figure 30: 3d Painting by Classic Moulding (Image Source: Author)*



*Figure 31: Natural stone bathroom design by Classic Mouldings (Image Source: Author)*



*Figure 32: Stone Carved sink by Classic Mouldings (Image Source: Author)*



*Figure 33: Natural stone variety at Classic Mouldings (Image source: Author)*



*Figure 34: Roof windows and Lighttunnels at Classic Mouldings (Image Source: Author)*



*Figure 35: Sustainable outdoor wood option by Classic Mouldings (Image Source: Author)*

## **2.5 Interior design process**

The Interior Design Process is a series of steps that a designer takes when working on an interior design project. When these steps are followed the designer is able to achieve the goals of the project. The steps of the interior design process are outlined below, they are not definitive but they are the recommended stages in order to achieve a successful outcome (Cahill 2016).

### ***Brief analysis***

Each design project begins when a client delivers a brief to the designer. The brief outlines what the client wants but since the client will likely lack design experience, it is important for the designer to carefully analyze all details given by the client and if necessary, to make further enquiries about the needs of the client. The success of an interior design project depends on not only the skills and creativity of the designer, but also their ability to answer the brief set by the client. A good brief will be as detailed and project-specific as possible and will outline the client's requirements and aspirations (Cahill 2016).

### ***Research and Brainstorming***

Research is important to identify possible design styles and ideas which may also suit the needs of your client. In this stage the designer should gather as much information as possible that will help in bringing the clients vision to life (Cahill 2016).

### ***Conceptualization***

The next stage is usually conceptualization where the designer has to use information gathered to come up with ideas that solve the client's problem. Conceptualization starts with bubble diagrams to sketches, presentation drawings and models for more visual representation of the concepts. It is very important for the designs to successfully display the ideas in a way that the client can understand and visualize (Cahill 2016).

### ***Obtain Client Feedback***

Since an interior design project cannot be easily edited, unlike digital designs, it is vital for a designer to get feedback from the client before proceeding with the implementation stage. Clients are often uncertain about what they really want so it is important to present the design concept in a positive manner and highlight the positive features of the design to the client (Cahill 2016).

### ***Design implementation***

This involves realizing the design concept and seeing it come to life. This stage may require sub sections of its own depending on the size of the project. However it is impossible to say exactly how as the number of variables is almost unlimited but what is important is to plan this stage extensively before you begin by preparing and clearing the space, ordering

materials in advance and having them at hand on the day as well as hiring the staff required to get the project completed on time and within budget (Cahill 2016).

***Design evaluation.***

Reflecting on a completed design is important in order to ensure that a designer learns from experience and identify the successful parts of the design to allow them to replicate them in future design projects as well as identifying the parts of the design that did not go well in order to avoid or solve them in future designs. It may also be useful to get the opinion of others (Cahill 2016).

**2.5 Summary and conclusion**

Moroccan Architecture and renewable materials can be used to create aesthetically pleasing interior and exteriors for a corporate destination hotel. However, the ten principles of good design will be used as a general guideline for the research and the outcomes of the intended project.



## **CHAPTER THREE**

### **3.0 RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 Introduction**

Research is a formal, systematic and intensive process directed towards the discovery and development of new ideas and an organized body of knowledge while methodology is the science of dealing with principles of procedure in research and study. Research is also a structured inquiry that utilizes acceptable scientific methodology to solve problems and create new knowledge that is generally applicable (Grinnell 1993).

Both the quantitative and qualitative approach will be used in this project. The quantitative approach will focus on obtaining numerical findings and will be used with the observation method. The interview on the other hand, will make up the qualitative approach of the study as this focuses on observations and description and individual insights of the interviewees. This study will employ the combined approach so as to overcome the limitations of both approaches (Yin 2014).

Data gathered in case studies is largely qualitative but it may also be quantitative. Qualitative tools of collecting data in Ole Sereni Hotel are surveys, interviews, questioners, documentary reviews and observation. In case study research, specific techniques are used so as to force the researcher to move beyond the initial impression so as to improve the likelihood of accurate and reliable findings. Such techniques include placing information into arrays, creating matrices of categories, creating flow charts on the display and tabulating frequency of events. In addition, researchers use quantitative data that has been collected to support the qualitative data which is most useful for understanding the theory of underlying relationships.

MY PROJECT: The approach to be used is of quantitative and qualitative nature. The information acquired helps to investigate different strategies that can help in the redesigning of Ole Sereni Hotel using Moroccan Architecture aspects to help uphold fading cultures and making it a suitable corporate destination for all.

### **3.2 Research design**

According to Hussey, (Gummesson 2000) research design is the overall approach to research process, from the theoretical underpinning to the collection and analysis of the data. The study is aimed at studying if Organic Moroccan Architecture can be used in re Therefore, qualitative research method was appropriate for the research since

It was a case study and in a case study, a particular, individual, program or event can be studied in-depth for a period of time and it gives the researcher an opportunity to collect extensive data on the individual, program or event on which the investigation is focused (Paul D Leedy 2005)

Primary data and secondary data were adopted for the research. The primary data was derived from the respondents' answers during the interviews conducted by the researcher. On the other hand, secondary data was acquired from the findings stated in published documents (text books, research reviews, journal articles, conference papers, internet) and literature related to the research problem. Other than qualitative research, the case study also entailed ergonomic analysis and normative research.

#### ***Qualitative research***

Ruth G. McRoy points out that qualitative research is concerned with non-statistical methods of inquiry and analysis of social phenomena. The researcher used methods such as interviews and direct observations to understand user perceptions, patterns of behavior and emotional responses. (McRoy 2011)

#### ***Ergonomics analysis***

The researcher used ergonomic analysis to investigate the functionality and equitability of the space and the amenities within the space in order to understand the user behavior, to define user requirements and design accordingly.

#### ***Normative research***

The researcher aimed at improvements. The researcher evaluated the present state of things and of the direction of future development.

### 3.3 Population

#### 3.3.1 Target Population

In order to gather solid information regarding whether there is a chance of integrating Moroccan Architecture in the corporate interior design field in Kenya. The participation of the personnel involved in the interior design industry together with the individuals who interact with the space and its immediate environment was necessary. For this study, various respondents who facilitated the research include; interior designers, architects, hotel owner, contractors and other employees.

The researcher has proposed the use of convenience and snowball sampling in regards to getting information about Ole Sereni Hotel, since it was mostly through referral by the architect, owner and the contractor. A sample of 40 individuals was drawn from the associates and employees who were working on the project. One of the hotel managers, architect, fellow interior designers and frequent clients were all part of the sample as they are the people who interact with the space on a daily basis.

#### 3.3.2 Sample population

Random sampling is generally considered desirable, as all members of the population will have the same chance of being selected, so results are less likely to be biased and can be generalized to the larger population of individuals (James H. McMillan 1993). The ones in charge of the hotel project will be conveniently yet randomly selected for interviewing.

However, in the case of Ole Sereni Hotel, snowball sampling was also used. The sample consisted of some employees such as the owner, senior architect on the project, chief interior designer, contractors, alongside their associates and workmates for the Ole Sereni Hotel project.

*Table 1: Sample population (Author's construct)*

CATEGORY	FREQUENCY	PERCENTAGE (%)
Hotel manager	1	2.5
Architect	1	2.5

Contractor	4	10
Interior designers	10	25
Frequent clients	24	60
<b>TOTAL</b>	<b>40</b>	<b>100%</b>

### 3.5 Data collection instruments

This the method of gathering information on variables of interest in an established systematic way that enables the researcher to answer stated research questions and evaluate the outcomes.

For this study, the following research instruments were used to collect data;

- Participation and observation
- In-depth interviews and face-to-face encounters
- Reviewed documents and journals.
- Photography

- *Participants observation*

It enables one to observe behaviors and emotions in a natural setting that would otherwise not be perceived. It enables one to gain insight about the group that cannot be obtained in any other way (Cresswell 2014). This involves being part of the community by carefully observing the reaction of visitors to the place, the behavior of personnel in the case study and in the case of a hotel, observation on the number and the type of visitors of the hotel. This type of data collection helped the researcher get information before hand through experience or just observing the way of living in the area.

- *2. In-depth interviews and face-to-face encounters*

Interviews produce a great deal of important information where the researcher asked questions related to: Facts, peoples' beliefs, feelings, and motives present and past

behaviors, standard for behavior. The interview was open ended and semi structured the subjects were identified through personal enquiry and self-selecting techniques.

Relevant information regarding all these different groups was mainly their likes and dislikes in relation to the current design of Ole Sereni Hotel and their preferences in relation to the intended designs, their gender, their ages and any other information relevant to the research was also collected.

- ***Review on existing documents***

The two main sources for data are primary data and secondary data. As stated by Polansky and Waller (Michael Jay Polonsky 2011) primary data is originated by the researcher for specific purpose concerning the research problem, whereas secondary data is already existing data, for some other purpose than the current problem. In summary, research was used to review relevant literature for the study. This was sourced from publications which include books, reports, articles, journals, academic papers; web sources, local authority's by-laws as well as any other literature that contained relevant material and information to this study. Researches or scholar will be the main inspiration in a proposed case study. The information acquired helps in estimating the hypothesis and if the information acquired is good for one's research. The researcher acquired some information from the hotel blog on their website that has the reactions of the services offered by the hotel.

The internet is a very important source of information. The internet provided a wide range of information about current trends in interior design and specifically universal design in residential and hotel design, which was very important in this particular study.

- ***Photography***

Photographs were presented complimented by descriptions to explain the circumstances and their relevance to the research. There were several aspects of the spaces that could not be explained without the use of photographs to understand better the environment.

The data captured is first hand and untampered and it gives the real picture on the ground. The data is first hand and untampered (Paul D Leedy 2005). The photos taken spot the problems that need to be rectified on the site. From the photos taken will give the original state of the area of study. This is important if the data is of qualitative nature because they

will act as reference for the researcher. In the case of this research, photographs are important because they visually describe the current situation of the site and this will help in suggesting new redesigning ways.

### **3.6 Data analysis tools**

Data collected was analyzed concurrently as the researcher was gathering, managing and interpreting data; in clusters designed according to the research objectives. According to Burns & Grove (Jennifer R. Gray 2017) data collection and data analysis occur simultaneously in qualitative research, as the emerging results may require further data collection. Hand written information was typed into a word document for electronic secure storage. The methods of data analysis used were logical analysis, constant comparison and content analysis.

After assembling the data collected, the researcher read and identified the notes on Ole Sereni Hotel. Notes taken during interviews, participation and observations, were examined to come up with the main issues concerning the Ole Sereni Hotel. After this process, the researcher will concentrate on assembling data collected and begin putting it in a form that will enable the carrying out of data analysis and interpretation. The analysis and interpretation of the collected data will involve the subjects in sites visited and the researchers own analysis of the data. The researcher used more than one criterion essentially to triangulate the information, thereby corroborating the sources in an effort to build inter-subjective analysis. The triangulation involved multiple information sources, multiple personal information collection, and multiple analysis interpretation.

Yin presented some possible analytic techniques: pattern matching, explanation-building, and time-series analysis (Yin 2014). In general, the analysis will rely on the theoretical propositions that led to the case study. If theoretical propositions are not present, then the researcher could consider developing a descriptive framework around which the case study is organized.

Before presenting the data, an analysis will be conducted to understand better the data collected. The methods the researcher will use to analyze data include: typology, comparison, logical analysis and semiotics. Typology will be the first step where the researcher divided the data in groups.

- Noting down the information observed-

Getting information from the reactions observed by the visitors and employees of the hotel. The data acquired will be later presented through tables.

- Examining the interviews-

Going through the questionnaires and organize the responses from the interviews. The data acquired will later be presented through pie charts.

- Sampling the photos taken of the site-

Study photographs for the individual elements and problems as they appear in the site. The data will be presented through line graphs.

- Use of narratives by evaluating other researcher's beliefs-

Grouping the real and faux information experienced on the site. The data acquired will be presented through bar graphs.

### **3.7 Data presentation methods**

This included literature review notes on an understanding of organic Moroccan architecture, using nature as the main philosophy and using renewable materials in the interior design of Ole Sereni Hotel in Lavington, Nairobi. Photographs and diagrams too were included in various section. The researcher also exhibited the data in the form of site analysis& site context plans, photographs, schematic drawings and other graphic presentations of Ole Sereni Hotel and the intended designs.

#### ***Data presentation methods***

Most of the data was presented in narrative, describing the opportunities available to use renewable materials, organic Moroccan architecture as the design concept and how it can be used in the design world.

#### ***Charts and tabulations***

Data that collected from the face-to-face interviews was presented with charts and tables. This is because a more structured question guide was employed to collect information from relevant respondents. The tabulated data was complimented with narrations to explain their relevance to research.

### *Narrative presentation*

The secondary data reviewed from the existing literature: books, articles, journals, thesis and magazines on the area of study will be analyzed and presented in narrative form. Field notes observation will also be narratively presented, clustered and transcribed under various specific thematic subheadings based on the researcher's objectives and research questions.

*Table 2: Logical framework (Author's construct)*

<b>Objective 1:</b> To identify the opportunities available for Moroccan Architecture inspired design in the Kenyan Hospitality industry				
<b>Data Needs</b>	<b>Data Source</b>	<b>Data Collection Tool</b>	<b>Data Analysis Method</b>	<b>Expected output</b>
Explore whether Moroccan Architecture can be used as a source of inspiration for the Kenyan Hospitality Industry	Architect Contractor Interior designers Hotel manager Existing publications	Interviews Non-participant observation Review of existing publications Case study	Narrative analysis Interpretive analysis	Knowledge on the acceptance of the Moroccan Architecture culture into the Kenyan Hospitality scene
<b>Objective 2:</b> To propose ways in which renewable materials can be integrated for appealing corporate interior spaces				
<b>Data Needs</b>	<b>Data Source</b>	<b>Data Collection Tool</b>	<b>Data Analysis Method</b>	<b>Expected output</b>



Existing ways renewable materials have been used in corporate design	Architect Contractor Case study Site	Interviews Literature review Case study	Narrative analysis Content analysis Interpretive analysis Site analysis	Acquire better understanding on how renewable materials can be used for corporate design
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**Objective 3:** To explore how Moroccan Architecture has been previously used in the interior design field

<b>Data Needs</b>	<b>Data Source</b>	<b>Data Collection Tool</b>	<b>Data Analysis Method</b>	<b>Expected output</b>
Understand how Moroccan Architecture has been used in the past for interior design	Books, journals, published works	Case study	Literature review	To understand the culture to avoid cultural appropriation.

**Objective 4:** To investigate the current interior designs implemented at the Ole Sereni Hotel

<b>Data Needs</b>	<b>Data Source</b>	<b>Data Collection Tool</b>	<b>Data Analysis Method</b>	<b>Expected output</b>
Explore the current designs implemented at the hotel	Site Architect, contractor	Photographs Case study Interviews	Site analysis Content analysis	To understand the current designs and how they can

		Non-participant observations	Narrative analysis	be merged with Moroccan Architecture seamlessly
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### 3.8 Conclusion

In conclusion, both qualitative and quantitative research methods have been used. After the data is collected, it will be analyzed and presented accordingly.

## **CHAPTER FOUR**

### **4.0 SITE ANALYSIS, PRESENTATION AND INTERPRETATION OF FINDINGS**

#### **4.1 Introduction**

This chapter details the findings and analysis of the data obtained during the research. The analysis of data has hence been interpreted and the findings are dictated by the observations, photographs taken, interviews conducted and the archived research. The analysis is discussed as dictated by the research questions and research objectives. The research can be termed successful owing to the fact that the positive response obtained was at 75%.

#### **4.2 History and background information**

Ole Sereni Hotel was opened in 2009 as a convenient hotel for Nairobi's airports. It is the only hotel bordering a national game park. The title of the hotel is taken from the Maasai name for the area meaning place of tranquility. With the stunning greens and golds of Nairobi National Park's landscape punctuated by giraffe, zebra, antelope and buffalo lounging near the waterhole, the views alone make Ole Sereni Hotel a one-of-a-kind. It captures the essence of Nairobi which is the only city in the world with a natural game park within its precincts. It combines the best features of a modern city hotel and a traditional wildlife lodge where guests can enjoy nature's tranquility from a very close range. Ole Sereni is strategically positioned close to the JKIA airport, the southern bypass leading to Wilson Airport, a wide range of business parks and the city center. It offers world-class facilities and personalized services to business as well as leisure travelers. Ole Sereni hotel also enjoys proximity to the central business district, financial institutions, organization and government offices and also the industrial centers in Nairobi. The building, which formerly housed the US Embassy, borders the north side of Nairobi National Park, and has a first-floor terrace giving direct views across the savannah. Ole Sereni Hotel one of the leading hotels in Nairobi for business and leisure travelers, for events, conferencing and weddings. Ole Sereni view is one of a kind with the stunning greens and golds of Nairobi National Park's landscape punctuated by giraffe, zebra, antelope, and buffalo lounging near the waterhole. The hotel complements the experience of East Africa as it has natural beauty and a vibrant business environment.

During the interviews, the researcher asked five main questions:

- What age bracket do you fall under?
- Rate the importance of hotel ambiance as a corporate destination.
- Have you visited any corporate destination hotels?
- If yes, from your experience, rate Ole Sereni Hotel.
- Are you open to consider Moroccan Architecture as the design concept for a corporate hotel?

The larger part of the respondents was middle-aged professional ranging from architects, architect students to contractors to interior designers between the age of 21-44. The respondents' demographics was deliberately chosen to provide an in-depth and honest professional review and criticism of the hotel. It was also a key factor to consider the age bracket of the respondents in order to match the statement problem to any proposed solutions. From the research, it is safe to say that the age bracket of between 21-44, and are the majority of corporate hotel visitations and also the ages above them. Hence, the researcher will try to address the preferences appealing more to people who fall between the 21-44 years age bracket.

### **4.3 Site Analysis**

#### ***4.3.1 Physical Location***

Ole Sereni Hotel enjoys the cool climate in the heart of Nairobi. Its strategic position off Mombasa Road and near the Southern bypass making it accessible to both Wilson Airport and Jomo Kenyatta International Airport, as well as neighboring corporate establishments. The hotel also borders the Nairobi National Park which provides its visitors with a great view.



*Figure 36: Ole Sereni Hotel, Nairobi (Image source: Google maps)*

#### **4.3.2 Hotel structure**

Ole Sereni hotel offers guests 134 exquisitely furnished, air-conditioned rooms and suites spread over three floors. Guests choose from 58 superior or 48 deluxe rooms, 26 city or park facing club rooms and 2 suites with private Jacuzzis facing the park. All rooms are equipped with satellite TV and cabled internet. The main dining option in the Ole Sereni hotel is set on a verandah overlooking the park and serves Grill, Italian, Indian and Chinese cuisines. The Ole Sereni bar overlooks the Nairobi skyline and watering hole of the Nairobi national park. The hotel has a luxurious eagle-grill room with perfect lounge settings and the overlooking national park. Due to its location, it has recently been getting a lot of corporate traffic, hence, the need to redesign to incorporate both the corporate world and tourists.

### **4.4 Descriptive and interpretive analysis of existing design**

#### **4.4.1 Interior space analysis**

The rooms and the restaurant will be the main focus during the redesigning process. The current room layout is slightly monotonous with a touch of African culture.



*Figure 37: Room Design (Image Source: Ole Sereni Website)*

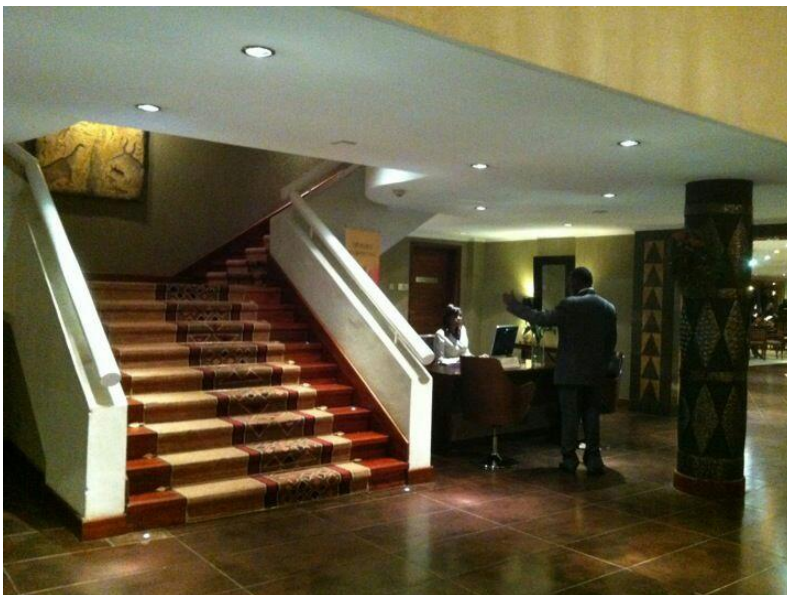


*Figure 38: Restraunt layout (Image source: Ole Sereni Website)*

The lighting is ambient and peaceful, hence not much can be changed in regard to the lighting situation.



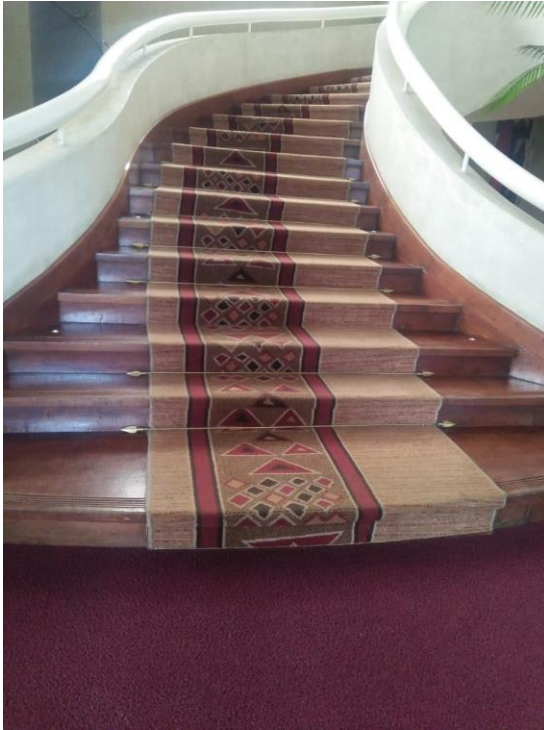
*Figure 39: Restaunt furniture (Image source: Ole Sereni Website)*



*Figure 40: Interior of Ole Sereni (Image source: Ole Sereni Website)*



The floors are mainly wood, tiled or with carpet. The floor change according to the space it is at. For example, the lobby has tiles which are good for heavy traffic and the staircases are wooden and also have carpets, both for aesthetics and durability.



*Figure 41: Floor finishes (Image source: Author)*



*Figure 42: Soft furnishes (Image source: Author)*

Most walls are either painted and have some form of painting or mural, or have ceramic tiles such as the washroom area.





*Figure 43: Walls and Ceilings (Image source: Author)*



*Figure 44: Ceiling lighting (Image source: Author)*



*Figure 45: Tiled walls (Image source: Author)*

The materials used vary from gypsum for the ceiling, different hard and woods such as mahogany, oak, pine and cedar for the flooring and furniture and the color scheme leans toward browns, maroons and other neutral colors.

#### ***4.4.2 Landscaping***

The current landscape design is intentionally minimalistic to avoid taking away the National park view. The outdoor lighting is ambient and highlights the landscape's animal structures.



*Figure 46: Ole Sereni hotel (Image source: Ole Sereni Website)*



*Figure 47: Exterior wall landscaping (Image source: Author)*



*Figure 48: Outdoor lighting (Image source: Author)*



*Figure 49: Outdoor furniture (Image source: Author)*



*Figure 50 : Ngong pool bar (Image Source: Author)*



The Ngong pool bar is on the minimalistic side which helps one enjoy the view to the park. Most furniture is made with hardwood and cotton based durable fabrics.



*Figure 51: Ngong pool bar close-up (Image Source: Ole Sereni Website)*



*Figure 52: Ole Sereni landscape pathways (Image source: Ole Sereni Website)*



*Figure 53: Hotel exterior (Image source: Author)*



*Figure 54: Ole Sereni Landscape (Image source: Author)*



*Figure 55: Ole Sereni Landscape (Image source: Author)*

There is the presence of balancing soft landscape and hard landscape furnishes such as stone and grass which keeps the landscape captivating.



*Figure 56: Ole Sereni Parking Lot (Image source: Author)*

The parking area is vast yet lacks the parking strips which can bring some confusion to the clients.

#### ***4.4.3 Furniture analysis***

The hotel has different types of furniture ranging from tables, dining chairs, exhibition stands and counters and most of them are bought as ready-made furniture with different designs themes and styles which have been merged to create the corporate's identity and



harmony. Most of this furniture are made of synthetic leather, non-recyclable cushions, plastic, wrought iron, softwood and hardwood.



*Figure 57: Indoor furniture (Image source: Author)*



*Figure 58: Pool side furniture (Image source: Author)*





*Figure 59: Outdoor furniture (Image Source: Author)*



*Figure 60: Leather and metal indoor furniture (Image source: Author)*



*Figure 61: Plastic indoor bar stool (Image source: Author)*



*Figure 62: Wooden outdoor bar stool (Image source: Author)*

#### ***4.4.4 Exhibition and Display***

The bar area in the restaurant is one of the exhibitions and display units available in the hotel. The bar is an open bar which makes it feel welcoming. Lighting has been used on the display stands and background to help the bar stand out. The display of drinks on the shelves is in a systematic order. The materials used to make the bar display include but not limit to glass, steel, wood and plastic.



*Figure 63: Bar display (Image source: Author)*

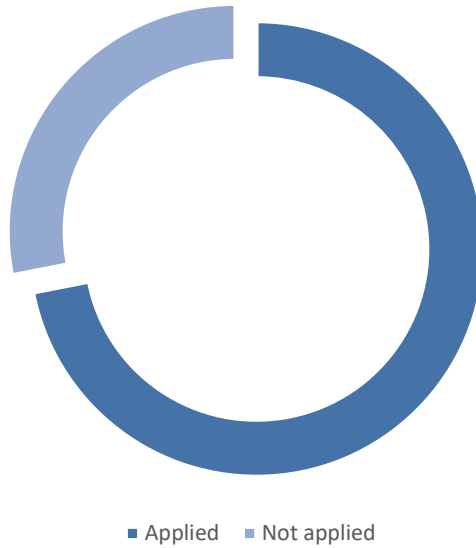


*Figure 64: Bar display (Image source: Author)*

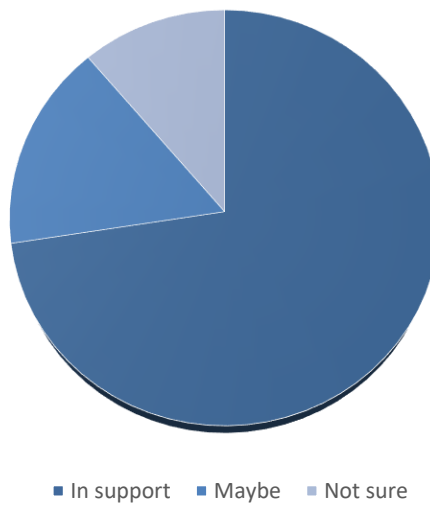
#### **4.5 Interpretive analysis of data acquired**

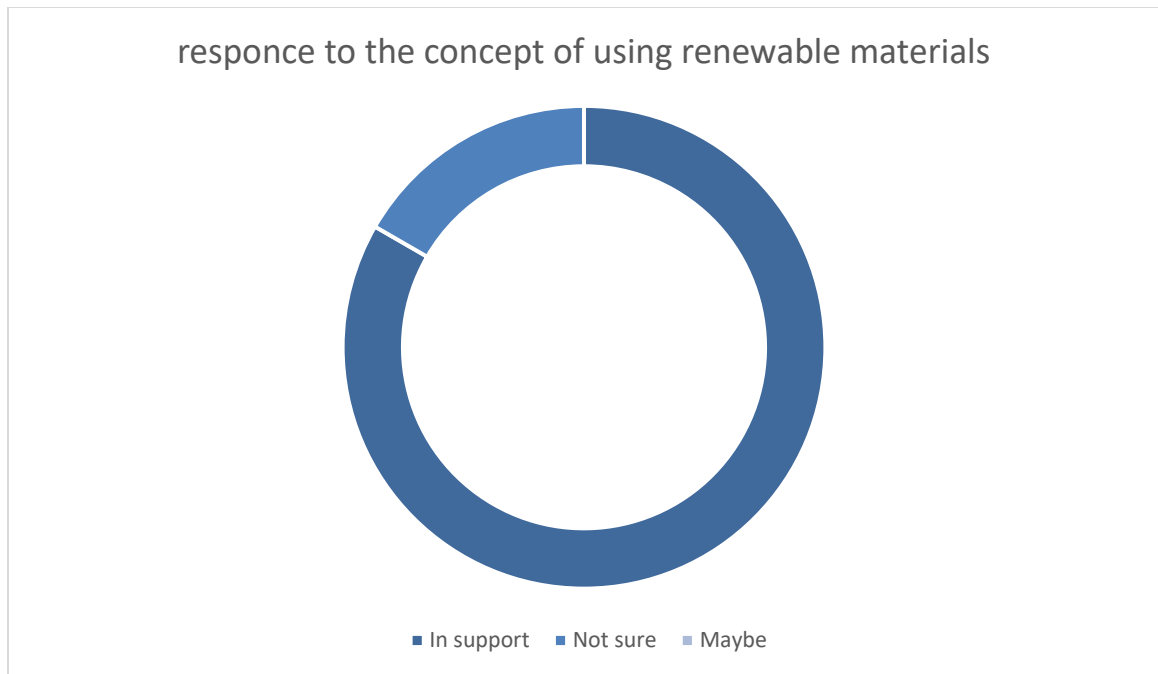
The data collected was interpreted into charts. The initial responders where 40 from which key information guiding this research was established.

### Response to the Hotel's Application of African Design



### Response to the introduction of Moroccan Architecture concept





#### 4.6 Conclusion

From analysis, it is clear that Ole Sereni Hotel has incorporated different themes which have a subtle underlying African concept. Moreover, it is evident that there are many opportunities of enhancing the hotel's interior and exterior spaces using Moroccan Architecture alongside renewable materials to create contemporary corporate designs for interior and exterior spaces. From the findings it is also evident that hospitality industry could embrace sustainable designs with contemporary African aesthetics in their interior and exterior spaces.

## **CHAPTER FIVE**

### **5.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents a summary of this research paper, bring forth a list of proposed recommendations in consideration of the four disciplines of interior design namely; interior design and human development, landscaping and human development, furniture and exhibition and display for Ole Sereni Hotel, Nairobi. The main aim of this study was to help redesign using Moroccan architecture to create a more suitable corporate destination hotel which can cater for all walks of life in the corporate world. Drawing back to the objectives of this study that guide the design and decisions by the researcher, the following summary and recommendation was made.

#### **5.2 Summary**

Quality accommodation and hospitality is the key to running a successful hotel enterprise which gravitates around serenity and comfortability. The Ole Sereni Hotel offers an African experience through the wildlife viewing associated with the area to its guests and also help them experience the novelty treatment when they visit the establishment.

#### **5.3 Recommendations**

##### ***5.3.1 Interior Design and Human Development.***

Interior architecture for commercial spaces is designed with all aspects of human needs based on psychological and physical parameters so as to improve quality of life. The elements of interior architecture considered are, walls, floor, ceilings, lighting, interior textiles and color schemes. Moroccan Architecture will be the inspiration for the interior spaces and renewable materials such as bamboo.





Figure 65: Interior design inspiration (Image source: Pinterest)

**Wall:** Use of neutral paints with a splash of bold colors on the walls would bring out the African concept. The use of some paintings with African themes such as animals would also be appropriate for this project.



Figure 66: Color schemes from Moroccan architecture (Image source: Pinterest)



Figure 67: Interior design inspirations from Moroccan architecture (Image source: Pinterest)



**Flooring:** Bamboo flooring can be a good option for the restaurant area. It is strong, durable and creates natural patterns. This creates a feeling of warmth within the space, and blends in with other wooden features in the room. Carpets and area rugs which draw inspiration from Moroccan Architecture would also be recommended.



*Figure 68: Lighting concept (Image source: Pinterest)*

**Lighting:** The kind of lighting that will best suit the restaurant should be both direct and indirect lighting to help provide a great ambience for any space.

### ***5.3.2 Landscape and Human Development***

The landscape of Ole Sereni hotel is spacious and sparsely designed intentionally. There are some slight improvements that can be done though, such as including a working water feature as seen in the images below.



*Figure 69: Landscape design ideas (Image source: Pinterest)*



*Figure 70: Moroccan Architecture landscape inspirations (Image source: Pinterest)*

### **5.2.3 Furniture Design**

It is recommended for furniture to be made using renewable materials, mainly, bamboo where applicable. For upholstery, cotton or wool fabrics are recommended.



*Figure 71: Furniture inspirations (Image source: Pinterest)*



*Figure 72: Moroccan inspired furniture inspirations (Image Source: Pinterest)*





*Figure 73: Moroccan architecture inspired furniture designs (Image source: Pinterest)*

#### **5.2.4 Exhibition and Display**

For exhibition and display, light design will be utilized. Light is one of the essential elements in any display and the use of LED lights will help the products in the display to be visually aesthetic.



*Figure 74: Bar display ideas (Image source: Pinterest)*



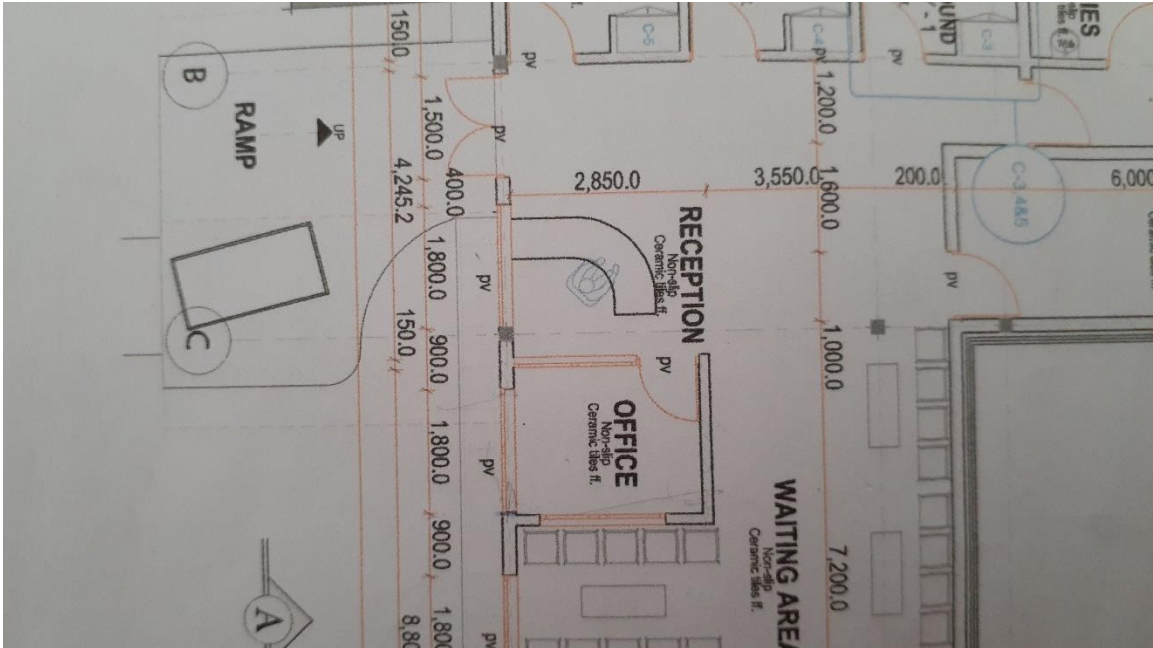


Figure 77: CAD Space allocation (Image source: Author)

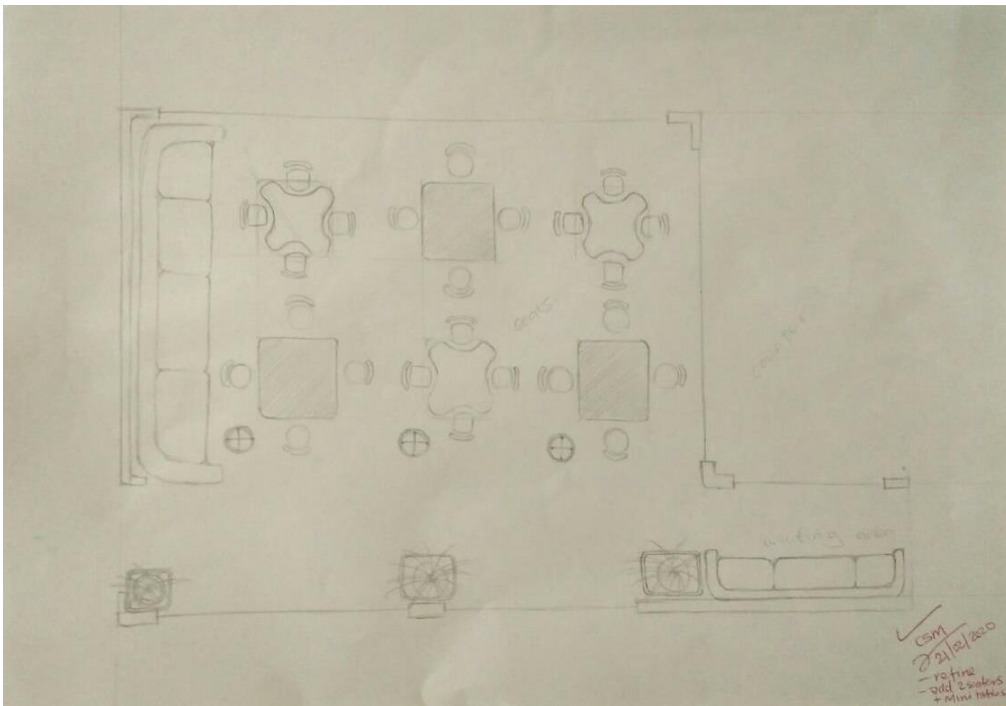


Figure 78: Sketching (Image source: Author)

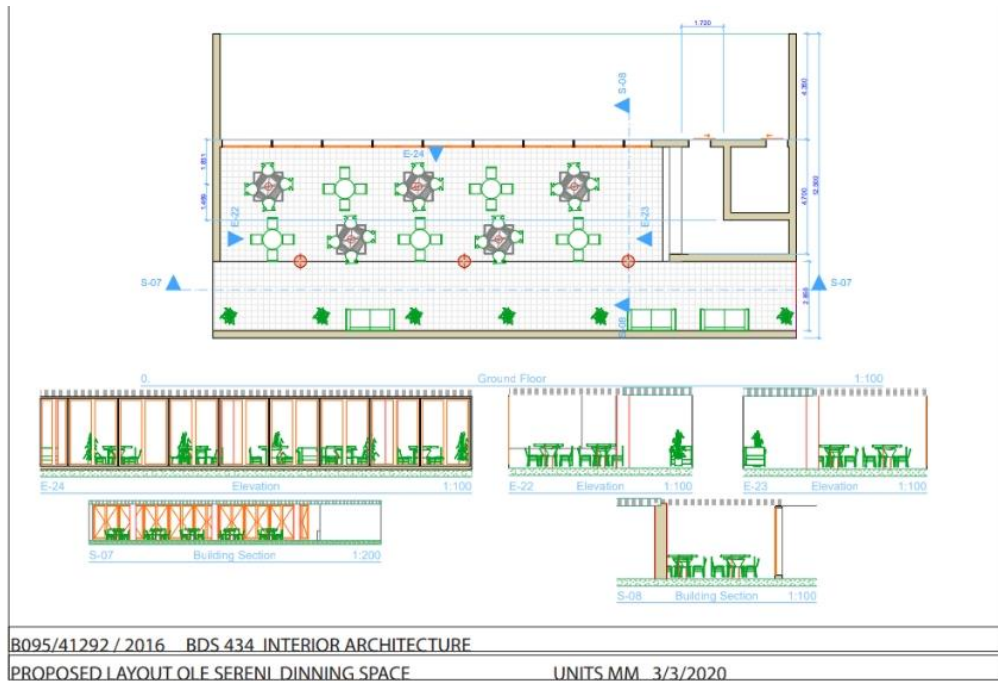
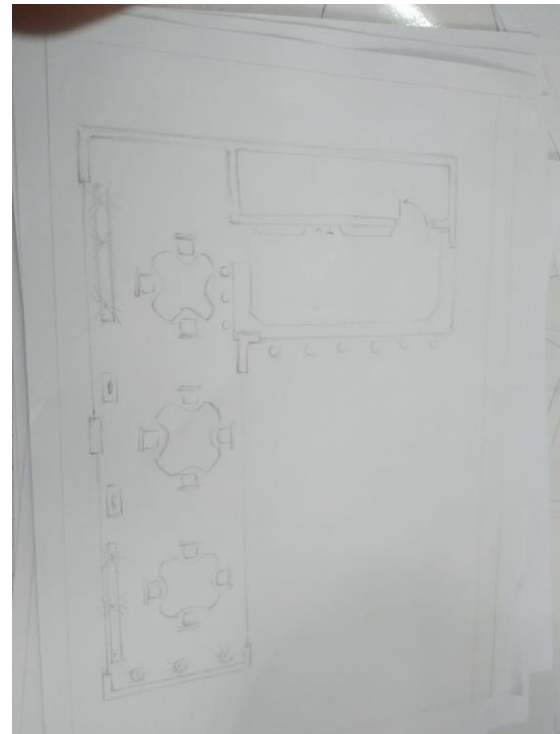
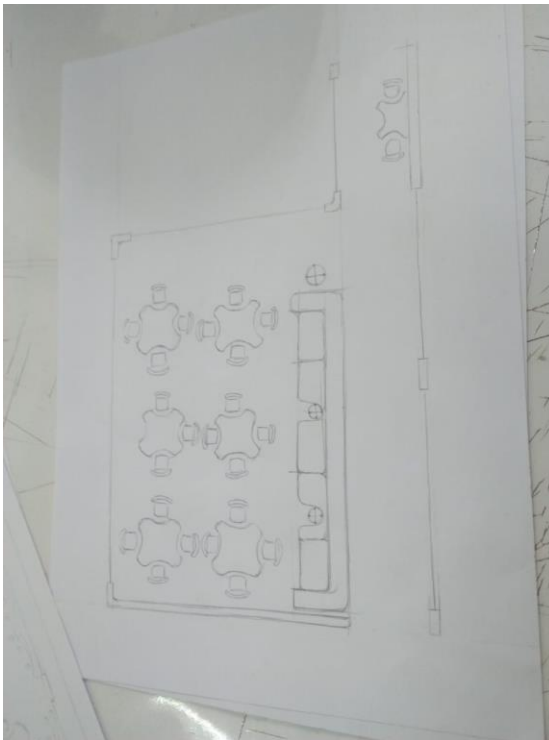
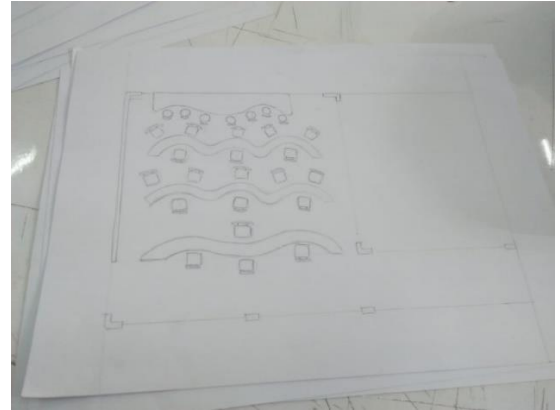
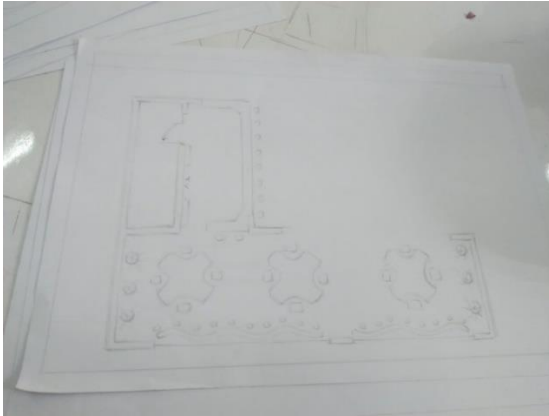


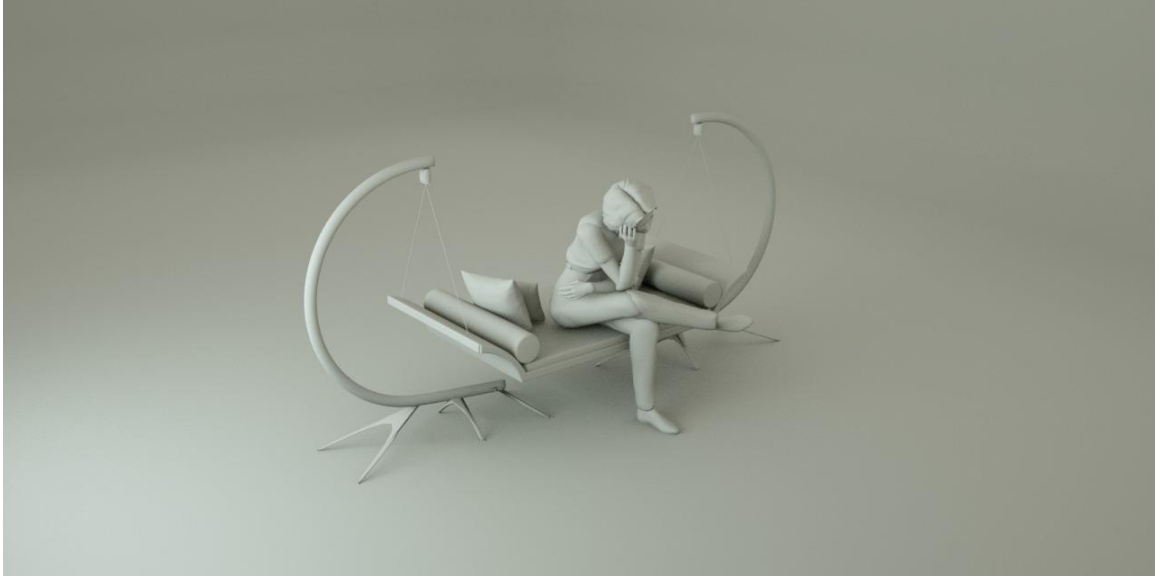
Figure 79: CAD Interior Architecture allocation (Image source: Author)





*Figure 80: Design conceptualization (Image source: Author)*

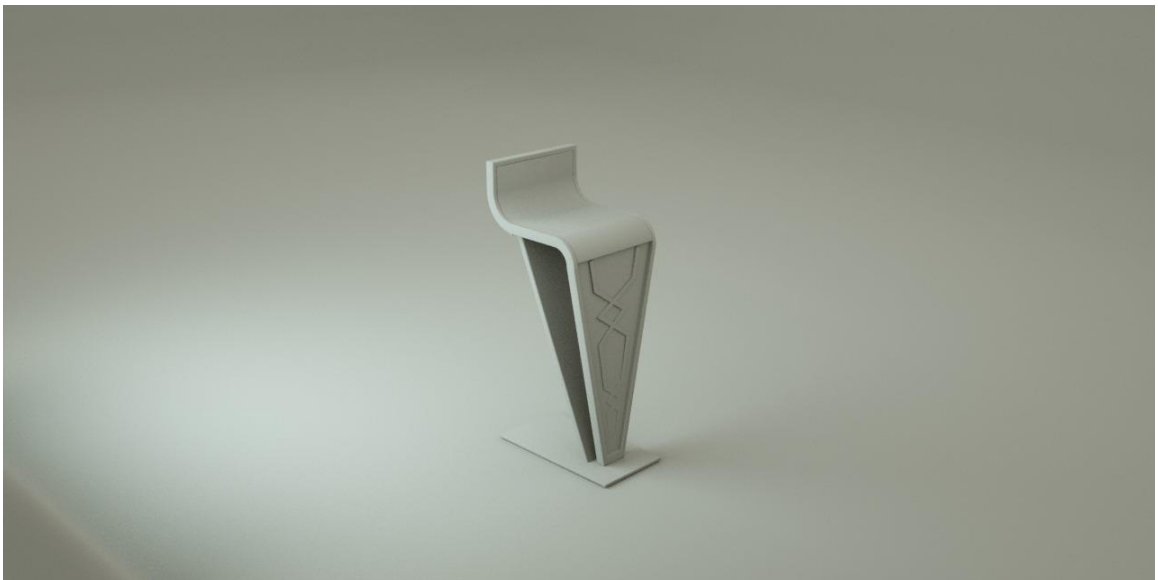




*Figure 81: Sofa renders (Author's construct)*



*Figure 82: Sofa design 3D render (Author's construct)*



*Figure 83: Bar stool design concept (Author's construct)*



*Figure 84: 3D Render of bar stool (Author's construct)*



*Figure 85: 3D Render with human figure (Author's construct)*

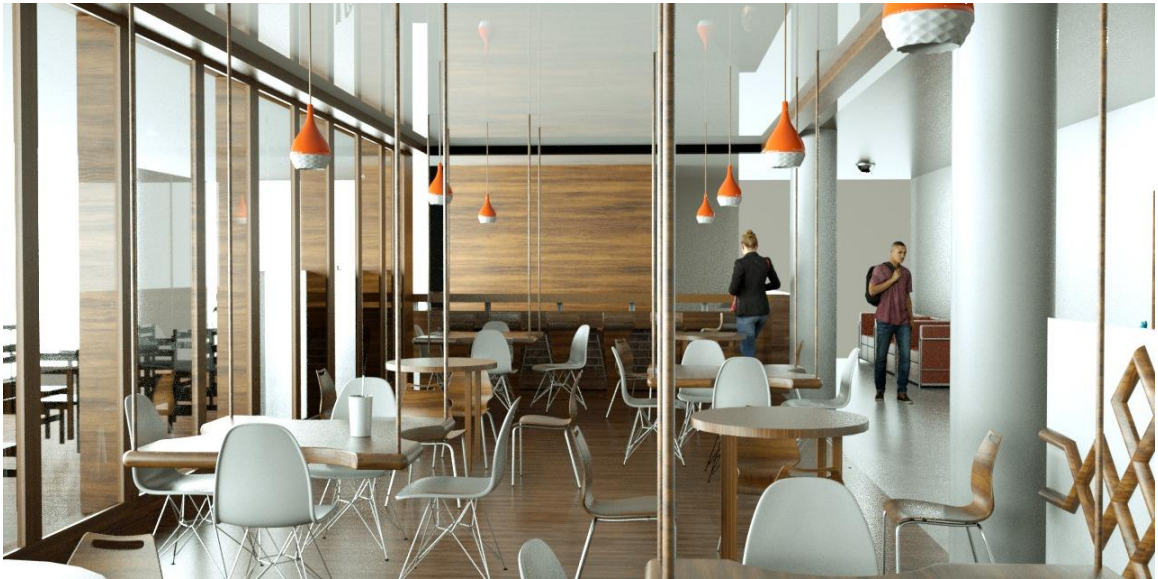


*Figure 86: Flower vase holder 3D render (Author's construct)*



*Figure 87: 3D Flower vase with human figure (Author's construct)*





*Figure 88: Interior Architecture 3D Rendering (Author's construct)*

## 5.5 Conclusion

There is a desperate need for the redesign of the Ole Sereni hotel necessitated by the responses in form of opinions and recommendations. When considering sustainable design concept and African design, the existing design and materials used don't take into consideration the approach of sustainable design using sustainable materials. In terms of African design for design of hotel interior and exterior spaces, it was noted that it is not

applied. Furthermore, the concept of using renewable materials inspired by the Moroccan Architecture was highly encouraged and supported by the respondents of the research.

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