



# **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)**

### **INCOPORATING SWAHILI SPACE PLANNING IN DESIGN OF MUKURU REHABILITATION CENTRE**

**A case study of Mukuru Rehabilitation Centre (MPC), Nairobi**

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**Date:**

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## DECLARATION

This research paper is my original work and has not been presented for the award of any degree in any other university.

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## DEDICATION

To my beloved family for their love, care, prayers and support in all ways possible.

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## **ABSTRACT**

Design Culture attempts to draw designers back into understanding culture and drawing authentic inspirations from culture and using them to create better designs that have value and bring about new design experiences to a world marred with acculturation. Interior design is one of the most functional mediums through which designers can communicate this and effectively give a new understanding to design interaction. The main objective of the paper was to investigate how cultural design using the aspects of the Swahili culture: color and patterns, can be applied in the interior and exterior spaces at Mukuru Rehabilitation Centre to facilitate the appreciation of Swahili culture while at the same time improving the experience of users. This qualitative research took Mukuru Rehabilitation Centre as a case study with the key areas of interest being interior design, furniture design, exhibition and display and landscape architecture.

The research approach employed for this study was qualitative. Data collection techniques included non-participant observation, photography and a field study was conducted to determine current state of Mukuru Rehabilitation Centre. The researcher also reviewed literal publication and productions from renowned designers and authors to develop a scope on the existing and non-existing literature. Data was analyzed in a descriptive manner including a narrative thereafter drawing conclusions. Tables and photographs were used to present the issues that were observed and finally recommendations were drafted towards developing sustainable and culturally based restaurant and rehab interiors that could marry with the surrounding environment. Although there were many opportunities for exploring cultural influences in rehab interiors; there were several barriers that prevented this from taking place including limited time frame and lack of funds to make adequate trips to the site whenever need arose.

The research is segmented into five main chapters: chapter one contains the introduction and background, statement of the problem, objectives, research questions, significance and scope of the study. Chapter two entails critical analysis of theoretical literature in line with the objectives of this study. Chapter three will outline Research Design and Methodology used by the researcher. Site analysis, presentation and interpretation of findings are in chapter four whereas the last chapter gives a summary of the findings and recommendations based on the four major areas of interior design.

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## 1.0 CHAPTER ONE

### 1.1 Introduction

Around 5% of the world's drug and substance abusers are adults, or nearly 250 million people between the ages of 15 and 64, used at least one drug in 2014, according to the latest World Drug Report released last year by the United Nations Office on Drugs and Crime (UNODC).

It reported that the number of people classified as suffering from drug use disorders has increased disproportionately for the first time in six years. There are now over 29 million people within this category (compared to the previous 5 years of 27 million). Additionally, around 12 million people inject drugs, with 14% of these living with HIV, according to the report which was released in June 2016.

The report highlights a strong link between poverty and drug problems. Indeed, the brunt of the drug use problem is borne by people who are poor in relation to the societies in which they live, as can be seen in stark terms in wealthier countries.

South Africa is one of the few African countries to have a national drug policy and this is also reflected in the number of treatment centers in the country. The South African Community Epidemiology Network on Drug Use (SACENDU) tracks admission numbers at government and private rehabilitation centers in South Africa. The SACENDU Project is an alcohol and other drug (AOD) sentinel surveillance system in South Africa.

The Government of Kenya recognizes the threat posed by alcohol and drug abuse and has enacted a legal and institutional framework to control both licit and illicit drugs, and set up institutions to combat both supply and demand of drugs. The National Authority for the Campaign Against Alcohol and Drug Abuse (NACADA) is mandated to facilitate, conduct, promote and coordinate research on alcohol and drug abuse to guide policy and programmes.

National profile of drugs and substance abuse in Kenya (NACADA, 2017)

18.2% of Kenyans aged 15 – 65 years are currently using at least one drug or substance

of abuse;

12.2% of Kenyans aged 15 – 65 years are currently using alcohol;

8.3% of Kenyans aged 15 – 65 years are currently using tobacco;

4.1% of Kenyans aged 15 – 65 years are currently using miraa/ khat;

1.0% of Kenyans aged 15 – 65 years are currently using bhang/ cannabis.

## **1.2Background of the study**

Mukuru Promotion Centre (MPC) is incorporated as a Charitable Trust. The Trustees are the members of the Kenyan Province Leadership Team of the Sisters of Mercy. MPC is involved in the following projects/activities:

- Four primary schools for over 5,000 children
- A secondary school
- A rehabilitation centre for up to 60 street boys
- A medical clinic with a HIV/AIDS testing centre attached
- A community based health care program
- A skills training centre for over 100 students, and
- A sponsorship program to secondary schools for more than 200 children.

The rehabilitation centre is known as Mary Immaculate Rehabilitation centre.

The Mary Immaculate Rehabilitation Centre was established in 1995 for the many street children who were wandering and living on the streets of the adjacent Industrial Area. Now, with the opening of the new dormitory, they cater for up to 65 boys who participate in a one year long program. They conduct non-formal primary teaching for those for whom it is appropriate, and carpentry and art for the older boys. After lunch they engage in extra curricular activities; art, music, football, gardening, scouting and some craft work. Tackling the habit of substance abuse is a challenge for most of the boys in the program. Group and individual counselling is an integral part of the program and is carried out on a very regular basis.

The goal of the program is to re-integrate the boys to family (if possible) or to a meaningful life off the streets, in boarding school or in employment.

During their 12 months in the Rehabilitation Centre, the social workers contact the relatives of the children and prepare them for their children's return. Some extend a warm welcome to the children while others are not so receptive. These are the ones that continue to offer challenges to the staff because the integration to a regular life-style becomes more difficult without family support.

The main challenge faced by the facility is proper space planning from one space to another.

### **1.3 Problem statement**

One of the most disappointing aspects of rehabilitation center architecture is the hospital look and feel which is a dysfunctional design idea. Bad design ideas come from many sources, not only architects and interior designers, but also center organization and governmental bodies. The choice of seats and tables are not ergonomically correct thus making them unfit for use for a long period of time. The interior space lack a true connectedness to any specific culture.

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

#### **1.4.1 General objective**

To investigate how Swahili space planning can be incorporated in the design of Mukuru rehabilitation center.

#### **1.4.2 Specific objectives**

To determine how design as a cultural artifact can be incorporated in the Mukuru promotion center.

To determine how Swahili cultural aspect of proper layout can be used in Mukuru promotion center.

To examine the current state of Mukuru promotion center in regards to space layout.

To propose how the Swahili choice of material, cultural carvings and space layout can be helpful in creating a functional interior, proper furniture, display and exhibition and landscape design.

### **1.5 Research questions**

How has Swahili space planning been used in design of a rehabilitation center?

### **1.5.1 Specific research questions**

How design as a cultural aspect affect design of Mukuru promotion center?

How does the Swahili culture contribute to good design of the center?

How does the center operate with the current layout?

How Swahili cultural aspect can enhance interior space, landscape design, exhibition and display and furniture design.

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

The researcher will use this study to learn about how a designer can derive concept design ideas from Swahili culture in Kenya. This study also aims at helping designers understand design culture and the need to fully comprehend the origin of materials , layouts and their significance before applying them in their designs. This study generally sought to help promote the use of local culture as an inspiration in the design of rehabilitation centers in slum areas in Nairobi, KENYA. To design students, this study is aimed at improving knowledge and understanding of design culture. This study aimed at adding to body of knowledge that is design research and fill in gaps in literature and extends the work of prior studies.

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

Time is the most undeniable restriction for every study including this one due to the extensiveness of the scope of study. The researcher also had an inclined budget for the study and required trips to the site constantly. There was also a limitation on time. There was equally limited literature on the common features of culturally inspired rehabilitation centers thus the researcher may have conducted a pilot study and relied on analytical conclusions to devise the overall recommendations.

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

#### **1.8.1 The concept**

This study will concentrate on the significance of incorporating local culture in the area of Social integration especially by defining the patterns of a specific ethnic group within the chosen culture through the design of Mukuru rehabilitation center, clinic and workshop spaces. Areas of prominence will include: interior architecture, exhibition and display, furniture design and interior landscaping.

### **1.8.2 Content**

This study will rely mainly on secondary sources of information with a supporting amount of primary data as well. All the materials are adjudged effective and efficient, conclusions and recommendations will be used towards the design of culturally inspired rehabilitation centres.

### **1.8.3 Geographical Aspect**

The research process was based on Mukuru rehabilitation centre located along Mukenia road , opposite Mater hospital , South B Nairobi.

### **1.9 Conclusion**

The study was mainly a design research where focus was on scientific study methods of investigation. The research narrowed down to Swahili cultural aspect of space planning as a way of promoting interaction between people. The application of cultural design was studied in order to come up with enhanced experiences and spaces that have a true connectedness to the Swahili culture.

## **2.0 CHAPTER TWO**

### **2.1 Introduction**

This chapter entails the design philosophy – Design as a cultural artifact. It in detail explains a world renown exemplar and champion of the above philosophy. A case study of a rehabilitation center is also focused with reference to culture as a design artifact. The Gede house block is the chosen local case study.

### **2.2 Literature review**

Design as cultural artifact. “the work of a designer is really at the intersection of commerce and culture”. Yves Behar. Values and cultural aspects must be considered for providing design solutions that make sense to people.

### **2.3 Yves Behar profile**

Yves Béhar is a Swiss designer, entrepreneur and an educator. He is the founder and principal designer of Fuseproject, an award-winning industrial design and brand development firm. He is also one of the pioneers of the design philosophy, “ design as a cultural artifact”.



*Image 1: Yves Behar*

Yves Behar, has been working with Herman Miller the fuseproject, and one outcome is the newly announced Public Office. People in high-performing companies spend 23% more time collaborating than in average companies. This is no surprise, and lines up with other research into the ways of high performers. People also spend so much time searching for a place to work in the office, and that productivity goes up 30% when ‘workers feel they have a place to retreat’.

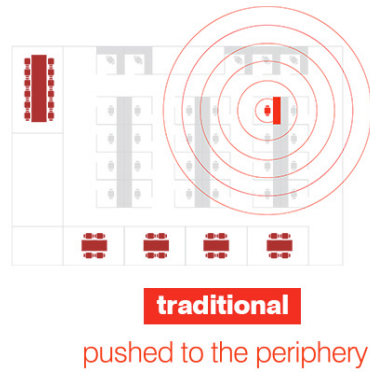
61% of people spend time working away from their desk on an average day. In fact, as Behar and his group pushed at the premises of the office they determined that the conventional office landscape is based on a deeply non-cooperative foundation. The answer is to reconceive the office so that the barriers to getting things done are minimized or eliminated.



*Fig 1 Social desking*

In the traditional office environment, cooperative work tools — tables, conference rooms, and other shared space — are pushed to the periphery, while in ‘social desking’ — or public space models — these tools are integrated into the immediate workspace so that people are not wandering to the end of the earth to sit down and work together.



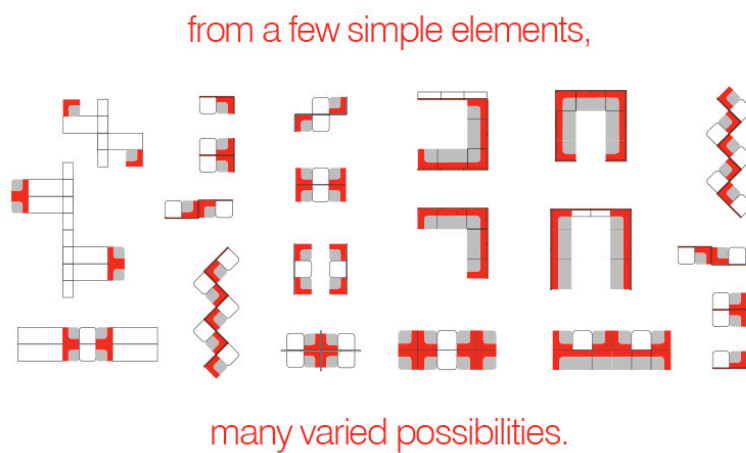


*Fig 2 Traditional desking*

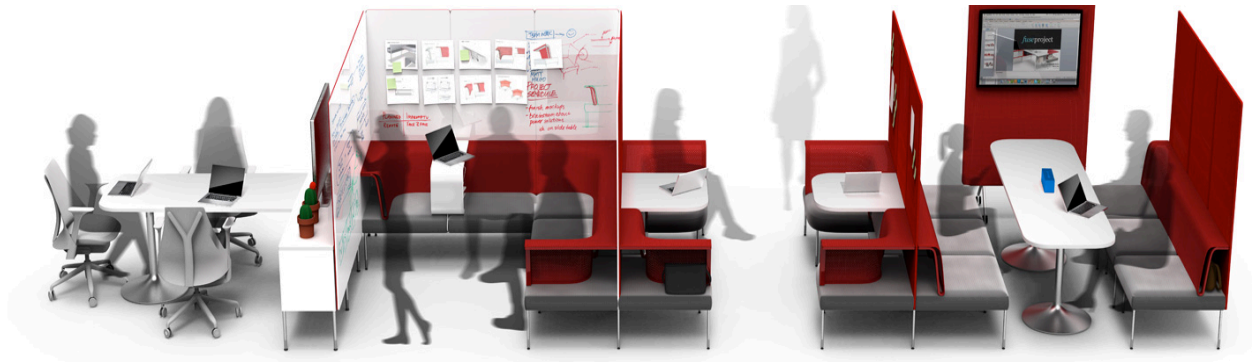


*Fig 3 Social desking layout*

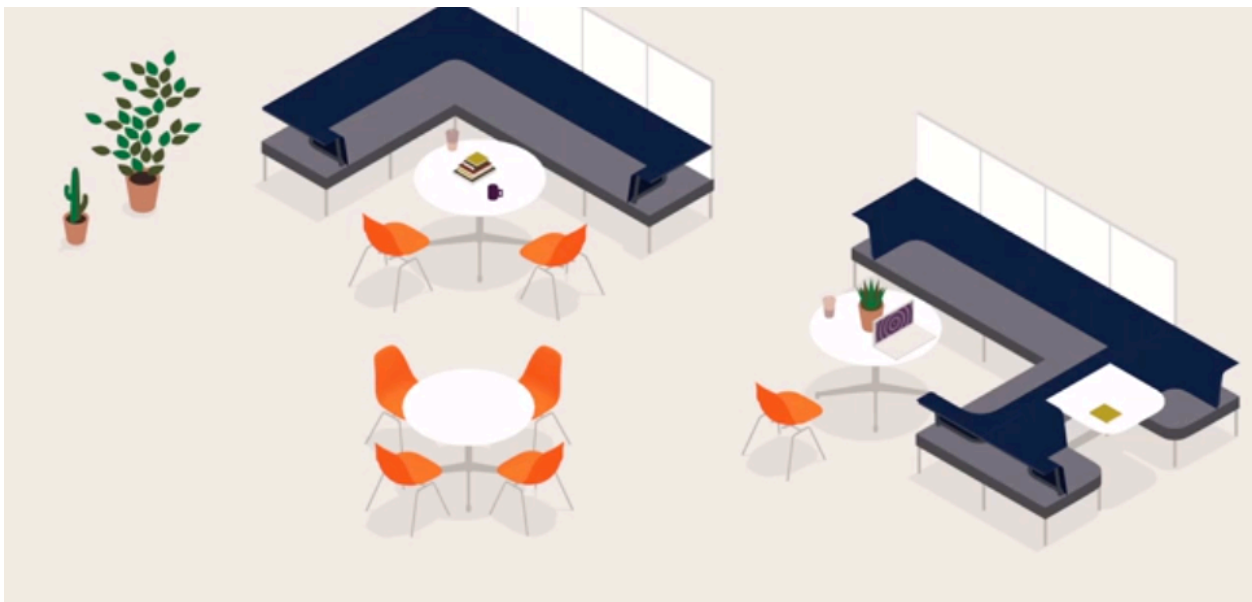
Behar designed a modular system of office components that can be configured in innumerable ways.



*Fig 4 Social desking layout*



*Fig 5 Social desking 3D*



*Fig 6 Social desking 3D*

The designers express three beliefs that underlie getting to a breakthrough in how we think of the office, not as a passive backdrop or an impediment to getting things done, but as an active and critical tool for cooperation:

Variety in proximity — He believes having a variety of workspaces is not a luxury—it's essential to productivity and engagement.

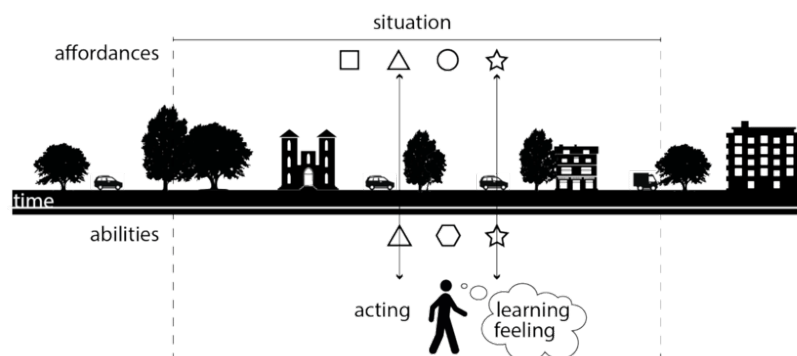
Collaborative density — He believes collaboration doesn't just happen in conference rooms—it happens everywhere.

Evolutionary design — He believes that workplaces are like businesses—they must continually change and adapt if they are to thrive.

The subtle subversion of Behar's rethinking of the office is the final and most important takeaway. The office environment is a reflection of the values that underlie the company, and high-performing companies will expend the time and money to create a context that fosters cooperation rather than sending a signal about who reports to whom.

## 2.4 Design exemplar

The structure of residential spaces has long been in a dialogue with social environments. This elaborates theoretical and methodological streams in the social sciences that focus on the interplay between society and the built environment. Space, rather than the built environment that articulates its structure, is subjected to analyses and conceptual interpretations relevant to the understanding of past constructed worlds. Although intangible and abstract, it is argued that space represents a type of material culture that could be studied through the use of the theory of affordances.



*Fig. 7 Model of affordance theory*

### 2.4.1 The Dawn Rehab

The Dawn Medical Rehab and Wellness Centre is a leading holistic rehab and retreat for those struggling with substance abuse and behavioral addictions as well as mental health issues including anxiety, depression, and executive burnout.

Located at the calming riverside sanctuary in the city of Chiang Mai, in Northern Thailand, patients are poised to reap all the healing benefits of both Asian traditional practices and ground-breaking therapeutic innovations.



*Image 2 Elevation view of the Dawn Rehab*



*Image 3 Interior elevation of the Dawn Rehab*





*Image 4 Interior space of the sleeping area*



*Image 5 Swimming area with landscape design of the Dawn Rehab*

The design of The Dawn Rehab circulates around the Thailand cultural architecture. This is seen in the use of earthly color tones, ornamentation and multi- tiered roof. Choice of materials- wood and bamboo has also been inspired by the Thailand architecture

#### **2.4.2 Swahili culture**

On the Swahili coast of the 12th to 16th centuries, residential structures were not all built using the same material. Some were made of wattle-and-daub, others incorporated pieces of the local coral ‘stone,’ and some were built entirely of coral. These differences determined the relative size and monumentality of the structures. Some assumptions inevitably need to be employed to interpret these variations, as with other types of material culture, when, for example, large vessels

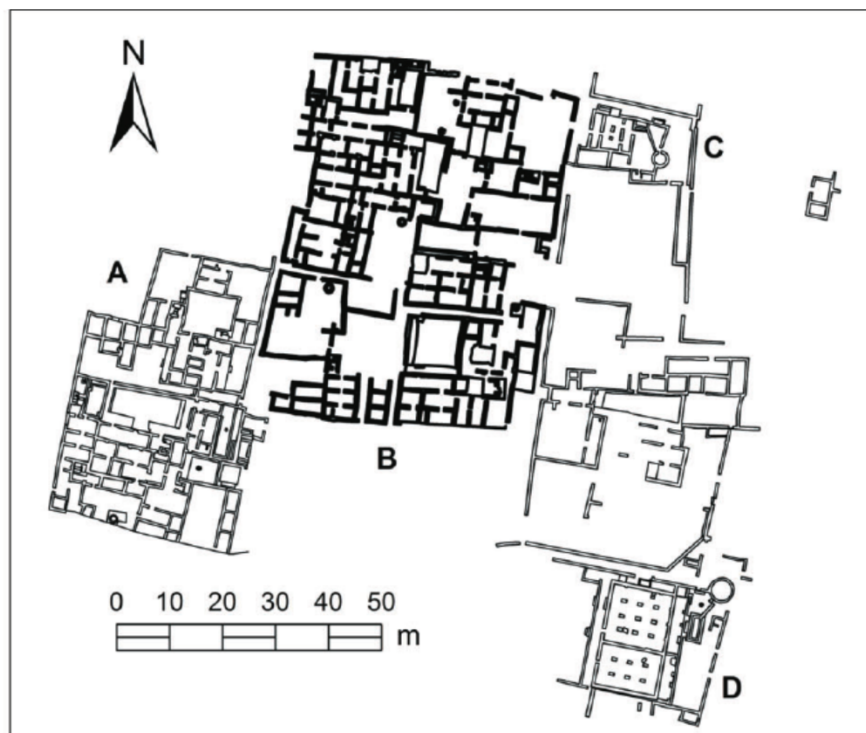
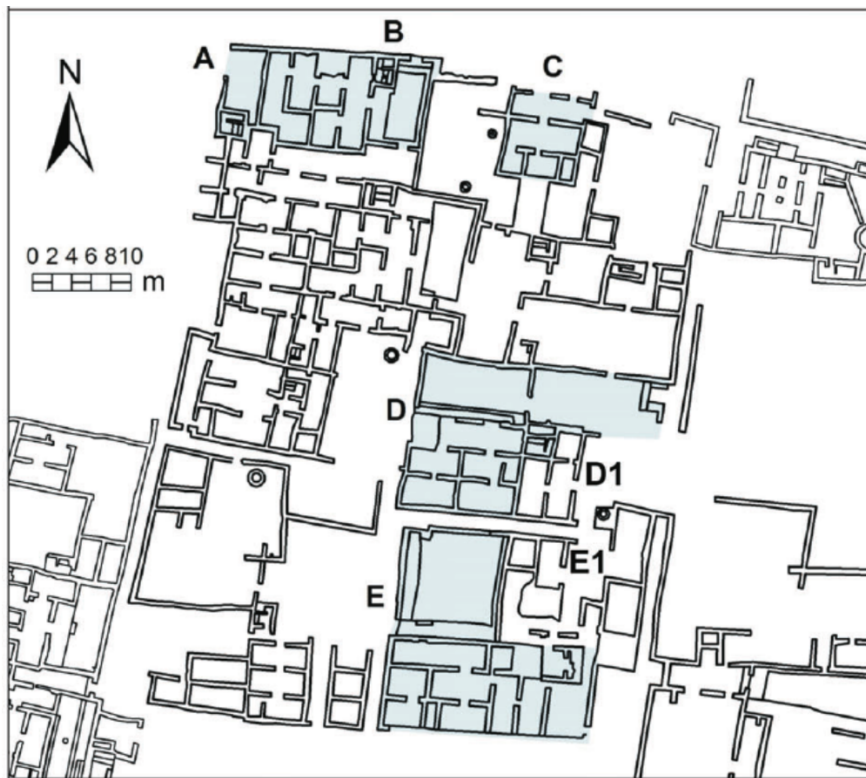
on Swahili sites are more likely to signify communal consumption, while small vessels are deemed to speak about individual meals. (Wynne-Jones 2016: 99, 106). They also incorporated cultural representations and acted on long-standing social values. The remains of precolonial stone architecture show that people sometimes made renovations and altered the structural organization of space within the buildings. The dimensions and organization of constructed space as qualities of buildings must have had impact on how they were perceived, how their suitability for various purposes was understood.

#### *2.4.2 .IGEDE HOUSE BLOCK*

The position and layout of the analyzed houses from Gede House block is shown in Fig. 2. We can note their symmetrical structure where in general, there is an open courtyard close to the entrance, sometimes separated by an anteroom.

Continuing from the courtyard, people may enter one space after another in progressive succession. This “intimacy gradient” (Garlake 2002: 180) apparent in the layout creates a considerable depth of space. This has been noted in ethnographic studies such as those of Linda Donley-Reid (1982, 1987, 1990), where she argues that the arrangement of rooms progressively one after another in Swahili houses in Lamu, Kenya, plays a role in various situations such as maintaining the physical distance of private spaces from the outside, and allowing control of gradated access. The most private back rooms are today used for washing and events requiring seclusion such as childbirth (Middleton 2004: 46). This relative depth of spaces within a building can be highlighted on an access analysis graph (Hillier & Hanson 1984) where rooms are represented as nodes in a network. In Fig 2, the representation is shaded layout plans which still allow us observation of how the rooms and courtyards are arranged on a number of levels defined by their distance from an entrance.

In addition with this representation, the relative size of spaces and their distribution is considered and accentuate the placement of constructed spaces instead of highlighting the gaps between walls as links connecting them.



*Fig 8.. Gede house block.*

A – Palace complex; B – House block; C – Small mosque; D–Great Friday mosque. Bottom: A – House of the Ivory Box ;B– House of the Scissors; C– House of Cowries; D –House of the Panelled Walls; D1– Associated suite of House of the Paneled Walls, originally classified as House of Two Rooms; E – House of the Cistern; E1 – Associated suite of the House of the Cistern. (Plans based on data provided by the Zamani Project, University of CapeTown; and on plans published by Kirkman (1975) and Pradines (2010))



*Fig 9. House of Cowries, Gede, Kenya: an access analysis, showing the depth of linearly structured space (marked by shade gradient and corresponding depth level numbers), from the entrance courtyard to the most secluded back rooms. (Plans based on data provided by the Zamani Project, University of Cape Town, adapted hereby the authors; and on plans by Kirkman (1975) and Pradines (2010).)*

## 2.5 Design process

Draisma, (2012), defines the design process as a process that involves a series of (logic) steps and decisions that lead to the development or redesign of a (new) product, system or service. This means that with the design process there is a possibility of always having multiple solutions to a problem. He outlines the steps in the design process as follows:

Define the problem: identification of the problem that needs to be solved, its scope, nature and background. Short notes are made giving the general outline of the problem or need.



Research and gather information: develop an understanding of the user's expectation through task analyses and other research. Application of methods of data collection such as interviews with those affected by the problem is important in getting the right information. Research solutions may already exist. It is important to identify if they are appropriate to a given situation.

Identify Criteria and Specify Constraints: desired elements and features of a product or system that relate to its functions are identified. Constraints such as cost and size are also established. After this primary goals are set for the possible solutions. A preliminary design brief is then drafted.

Brainstorm: a diverse team is established. The proposed solutions are then analyzed. After analysis the design brief is completed and the findings are reported to the team.

Explore possibilities. Alternative ideas are explored based on further knowledge and technologies. Ideas are then analyzed qualitatively, quantitatively and democratically.

Select an approach: an idea is selected usually through consensus that best meets the criteria, fits within the constraints, and has the least amount of negative characteristics.

Develop a design proposal: the idea is explored further with annotated sketches. Decision on material types is also made. Check for usability issues. Working drawings are made so the idea can be built.

Make a model or prototype: this will help communicate the idea. Tests studies are made on aspects such as performance, ergonomics, shape, form, fit or texture.

Test and evaluate the design using specifications: tests on the prototype are done in controlled environments making design changes and testing repeatedly until performance results are consistent. Update documentation to reflect changes.

Create or make solution: determine custom/mass production, consider packaging.

Communicate Processes and Results: document the designs specifications and measurements and communicate to all groups involved. After all groups have consented on the proposed project production, marketing and distributing can take place.

## **2.6 Analytical review**

Design as a cultural artifact is an added literature information. Referencing to the Swahili layout, rehabilitation centers in Kenya need to be designed with a purpose to incorporate culture.

## **2.7 Conclusion**

Culture plays a huge role in our day to day lives. Including it in design is of beneficial purposes because it works hand in hand with the function of the space. Rehabilitation spaces are often left out when it comes to good design and factoring in culture in its design will go a long way in improving the facility's purpose.

## **3.0 RESEARCH DESIGN AND METHODOLOGY**

### **3.1 Introduction**

This chapter discusses the research methodology using a qualitative approach. It was aimed at establishing whether culture has been incorporated into the design of rehabilitation centers and also to determine how contemporary designers have incorporated different cultures in their designs. The study also sought to present thorough descriptions of the views elicited by the patients and also through observation, on the general outlook of Mukuru Promotion Center. Data collected included both primary and secondary. Secondary data was based on the concerned areas of this study from publications such as books, reports, articles, journals, academic papers as well as web resources. Primary data comprised of a selected group of people related to the case study such as; the director, manager, staff and patients from the facility and also interior designers. Much of the information was collected through in-depth interviews and participant observation. Data analysis involved field notes, narratives, records and photographs.

### **3.2 Research Methodology**

In this research, both qualitative and a bit of quantitative methods were applied. The qualitative section was concerned with subjective assessment of attitudes, opinions and behavior of the sampled population at Mukuru Promotion Center to generalize on the research's insights and impressions about the hotel.

Quantitative approach involved the selected numbers to interact with and the noted numbers that gave different opinions during the survey hence formed a general point of reference for the entire population.

Design procedure specifies the processes and the people that are involved in the development of a research design. Designers must often develop a specialized set of processes to respond to a particular design challenge or the context in which a design is being constructed. These processes must address the needs for planning and preparation, development, implementation and evaluation, and revision and refinement. For any particular design, the expertise and process that are required are determined by the goals and constraints of the research design (Edelson, 2002). The design research was descriptive therefore aimed to express systematically, and provide

information about the problem raised in this research in an attempt to propose an alternative solution to its existing conditions.

### **3.3 POPULATION**

#### **3.3.1 Target and Sample**

The sample population within the site consisted of: the director of Mukuru Promotion Centre, the teachers, general staff, and patients.

Category	Frequency	Percentage
Director	2	20%
Staff	1	10%
Teachers	1	10%
Patients	3	30%
Visitors	2	20%
Interior designers	1	10%
Total	10	100%

Table 1: Distribution of Sample

### **3.4 Sampling Method**

Sampling method appropriate for this study research was non-probability sampling because the researcher was not able to afford any basis for estimating the probability that each item in the population has of being included in the sample. Items of sample were selected deliberately by the researcher. The researcher selected samples conveniently as long as she kept getting new information until there is no new data obtained at which point she will have reached a saturation point which she got repeated answers (Kumar, 2005).

### **3.5 Data Collection Procedures**

#### **3.5.1 The Case Study Method**

Case study research is a qualitative research method that is used to examine contemporary real-life situations and apply the findings of the case to the problem under study. Case studies involve a detailed contextual analysis of a limited number of events or conditions and their relationships. It provides the basis for the application of ideas and extension of methods. It helps a researcher to understand a complex issue or object and add strength to what is already known through previous research. The case study approach was used in this research as a tool for data collection.

### **3.5.2 Interview method.**

The main advantage of interviews stems from their capability to offer a complete description and analysis of a research subject, without limiting the scope of the research and the nature of participant's responses. Interviews are thus useful for gaining insight and context into a topic. They can provide information to which the interviewee was previously privy to, unlike other data collection methods such as questionnaires may act as blinkers to the responses required. They thus become critical for discovery oriented researches where the researcher is, in advance, only roughly aware in of what they are looking for. In an interview, there is leeway for a respondent to describe what is important to them, and from their responses useful quotes and stories can also be collected. In response to the need to seek complete description and analysis of subject matter, interviews from the onset, facilitate for the accurate screening for the right interviewee.

### **3.5.3 Document review method.**

Document review is a systematic collection, documentation, analysis and interpretation, and organization of data as a data collection method in research. Document review results in information and insight into the research question and to the practice of teaching. It is a way of collecting data by reviewing existing documents. The documents may be internal to a program or organization (such as records of what components of books management program were implemented in schools) or may be external (such as records of library visits by students served by arts and design program). Documents may be hard copy or electronic and may include reports, program logs, performance ratings, funding proposals, meeting minutes, newsletters, and marketing materials.

## **3.6 Data Analysis Tools**

### **3.6.1 In-Depth Interviews**

The researcher coded her data collected through interviews. This coding included identifying themes within the interview notes that relate to the research questions in his study. These themes were the common ideas that will be repeatedly read in the data she collected.

### **3.6.2 Participant Observation**

The data collected through participation and observation was analyzed by the researcher reading and reviewing his data, she then wrote notes as she reviews her field notes.

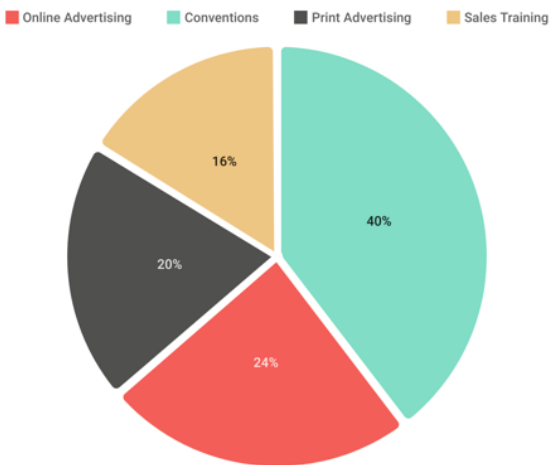
### **3.6.3 Photography**

Photographs taken during the data collection by researcher were analyzed by explaining its contents in line with the objectives of the study. The researcher analyzed the photographs taken to depict the real time situation at the site. Photographs of artefacts were also taken.

### 3.7 Data Presentation Methods

Most of the data collected by the researcher was represented through narration. Presentation of data from the findings obtained from the actual research included graphs and pie-charts as the diagrammatic representations for the purpose of illustration. The researcher significantly relied on photographic data accompanied with appropriate explanations on the actual nature of the study.

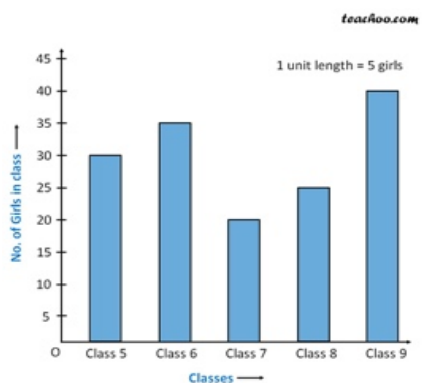
#### 3.7.1 Pie Chart



*Chart 1: Pie chart example*

#### 3.7.2 Bar graphs

Bar graphs will be used to present the residents included in the research according to level of study and age.



*Chart 2: Bar graph example*

### **3.8 Conclusion**

The methodology adopted for the research was mainly qualitative and a supporting quantitative bit to enable the researcher to devise a tangible summary of the findings. Data collection methods were discussed such as case study, interviews and document review methods. Field notes were analyzed and presented as narratives accompanied by graphs and pie charts for illustrations purposes. Target population was drawn from the rehabilitation center management and employees including the staff and the patients without forgetting an outside view from the interior designers.

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

### **4.1 Introduction**

This section focuses on analyzing and presenting data that was obtained from the primary sources of research. Findings are based on case study, document review and interviews. Data was analyzed using photos from the site and categorized under the four areas of concern: interior architecture, exhibition and display, furniture and landscaping. This study however, mainly focused on the workshop area, dining area, sleeping area of the reception for the purpose of this study research. The researcher concentrated on assembling together data collected and started putting it in a form that would enable her to carry out analysis and interpretation.

For instance, the narratives that have been utilized in presenting the findings in form of summary have been divided under two topics: observation and interview responses. The researcher saw a great potential in the rehabilitation center given the fact that has people from different ethnic backgrounds. It is the appropriate site for a Swahili cultured theme since the population will be enlightened on the African heritage and enjoy a design experience that relates to the Kenyan culture.

### **4.2 Qualitative Analysis- Pictorial and Narrative**

#### **4.2.1 Location and Climate**

Mukuru Promotion Center is located off Mukenia Rd opposite Nairobi Matter Hospital, South B Nairobi. Its rehabilitation centre is known as The Mary Immaculate Centre. The Mary Immaculate Rehabilitation Centre was established in 1995 for the many street children who were wandering and living on the streets of the adjacent Industrial Area.

The climatic conditions are based on a general view of Nairobi's climatic patterns. According to World Travels (2015) Nairobi has a moderate climate, tempered by its high elevation and tends to be less hot than the rest of Kenya. As the city is near the equator there is little variation between the seasons and generally people talk about wet or dry seasons as opposed to summer, winter, spring or autumn. However, summers, between November and February, are warm and pleasant, with temperatures ranging between 50°F (10°C) and 77°F (25°C). Winter days, between June and August, are mild with slightly cooler evenings, but temperatures much like summer. The rainy season in Nairobi is during late summer and into autumn, when it is often cloudy and damp, but rainfall is seldom very heavy. The drizzliest months are March to May and October to December.





*Image 6 Location map of Mukuru Rehabilitation Centre. Source Google Maps*

## 4.2.2 Interior Architecture

Interiors rehabilitation centres need to look less of institutions and more of homes.. Mukuru Rehabilitation Centre interior architecture does not really show a specific theme that one could relate to. The administration block, dormitories and library have a modern look compared to other spaces such as the dinning hall and gaming area. The lighting consists of LED strip lights and fluorescent lights and the ceiling design does not relate to any specific theme. The walls are plain, containing no patterns or interesting features. The floor finish in the administration block, dormitory and library is diagonally arranged ceramic tiles. The floor finish in the gaming area and dining hall is cement screed .This makes the spaces lack a sense of flow/ connection.



*Image 7. Dining hall interior*



*Image 8. Cement screed floor finish in the dining space*



*Image 9: Gaming area interior space*



*Image 10: Popcorn wall finish*

### **4.2.3 Exhibition and Display**

There is minimal attention given to the spaces and this is seen with the blank walls and cluttered display items. In the library, the books are displayed in the same manner with little storage. Same thing is seen in the dining area whereby there are two storage units which don't serve any purpose.



*Image 11. Storage unit in a classroom.*



*Image 12. Display unit in the library*

Most of the display and exhibition furniture are donated and it makes it hard to have the same type in the spaces.





*Image 13. Exhibition of gaming items*



*Images 14. Exhibition and display in a class*

The walls serve as a good feature for display and exhibition which in this case they have been ignored.

#### **4.2.4 Furniture**

Most of the furniture at Mukuru Promotion Centre is donated and it makes it hard to have similar furniture in all the spaces. Most of the furniture doesn't serve its purpose while some space have less furniture.



*Image 15: Dining hall furniture*



*Image 16: Library furniture*

The furniture needs to relate well with the space and also the boys. This is to ensure that the user has a fulfilled experience when interacting with the furniture and the space.

Most of the furniture is in bad condition meaning that the varnish has chipped out, nails are exposed, big cracks seen on the seating pan which poses a risk of accidents.



*Image 17: Classroom furniture*



*Image 18: Office seat*

#### **4.2.5 Landscaping**

The soft landscape of the rehabilitation Centre generally consists of trees, shrubs and mostly grass. There are no outdoor seating space for both patients and visitors. There is an outdoor basketball pitch which has loose marram as finish and no clear labelling. The spaces look squeezed together apart from the admin and library block which was constructed later on. There is no parking space since the center has affiliate Centre which is the school and clinic. This means that they share the same parking st. There are open storm water channels seen before accessing gaming area. There is a farm which provides the centre fresh produce .The area is approximately 50% soft landscape with the rest covered in building. Each block is clearly labelled. The labels have the same theme throughout the centre. The walkways are pre cast concrete blocks which have chipped in some corners while some are missing.



*Image 19: Farm and open drainage*



*Image 20: Farm and hanging lines for clothes*





*Image 21: Walkway finish*



*Image 22: Walkway with soft landscaping*



*Image 23: Open storm water drainage*



*Image 24: Storm water drainage and farm area*



*Image 25: Signage*



*Image 26: Gate*

## 4.3 Presentation of findings.

### 4.3.1 Bar Graphs

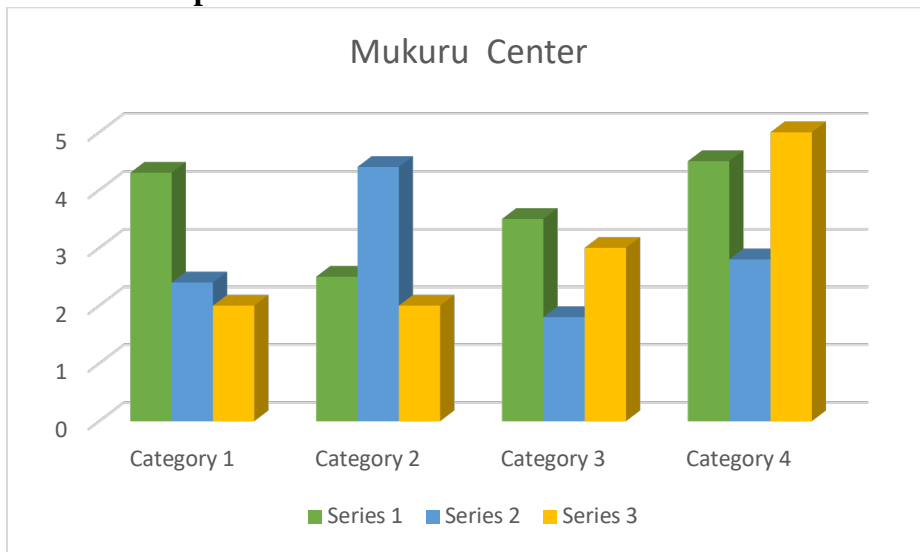


Chart 3: Bar graph representation

### 4.3.2 Line Graphs

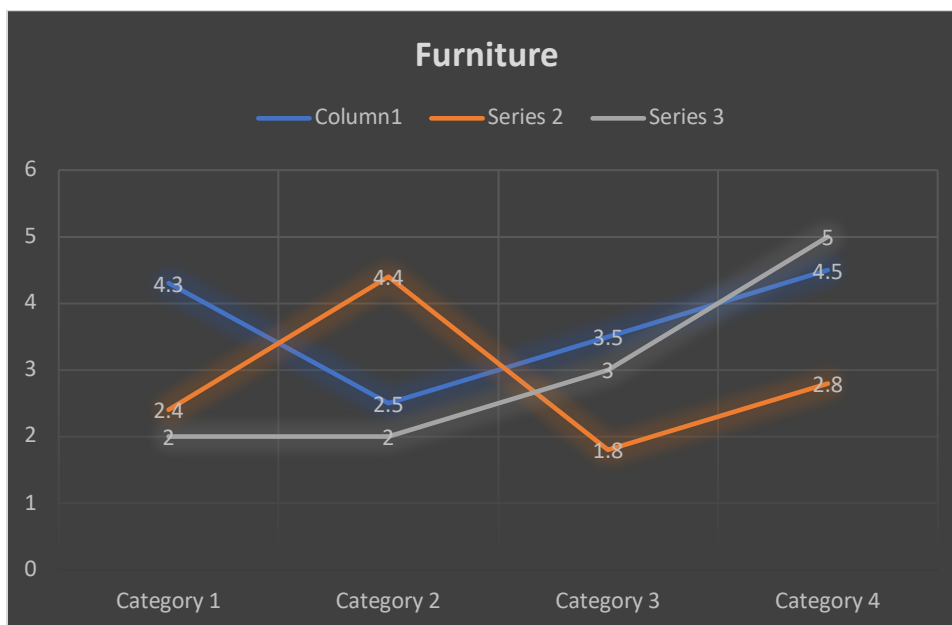
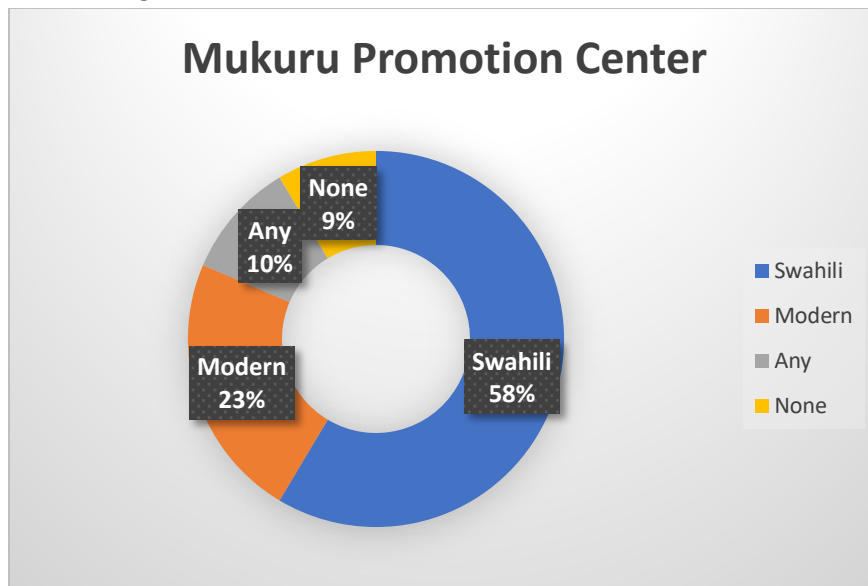


Chart 4: Line graph representation

#### 4.3.3 Pie Chart



*Chart 5: Pie chart representation*

#### 4.4 Summary

From analysis, it appears that Mukuru Promotion Centre has not incorporated any particular theme that can be associated with, especially one that shows authenticity. It is also evident that there are many opportunities of enhancing interiors and exteriors using a specific culture and incorporating it with contemporary designs that carry social design principles. Additionally, the space needs to look less of an engineered institution but look more of a home for the patients.

## **5.0 CHAPTER FIVE**

### **5.1 Introduction**

This chapter presents a summary of the findings which later are developed into appropriate conclusions and recommendations. The research was directed towards examining a specific culture and its most appreciated aspects and thereafter proposing contemporary ways that can be used to design rehabilitation centres interior and exterior spaces. The findings were specifically based on the objectives of the study and the researcher sought to propose contemporary design inspirations for the interior architecture, exhibition and display, furniture and the landscape of rehabilitation centers. Research conclusions and recommendations are as discussed below.

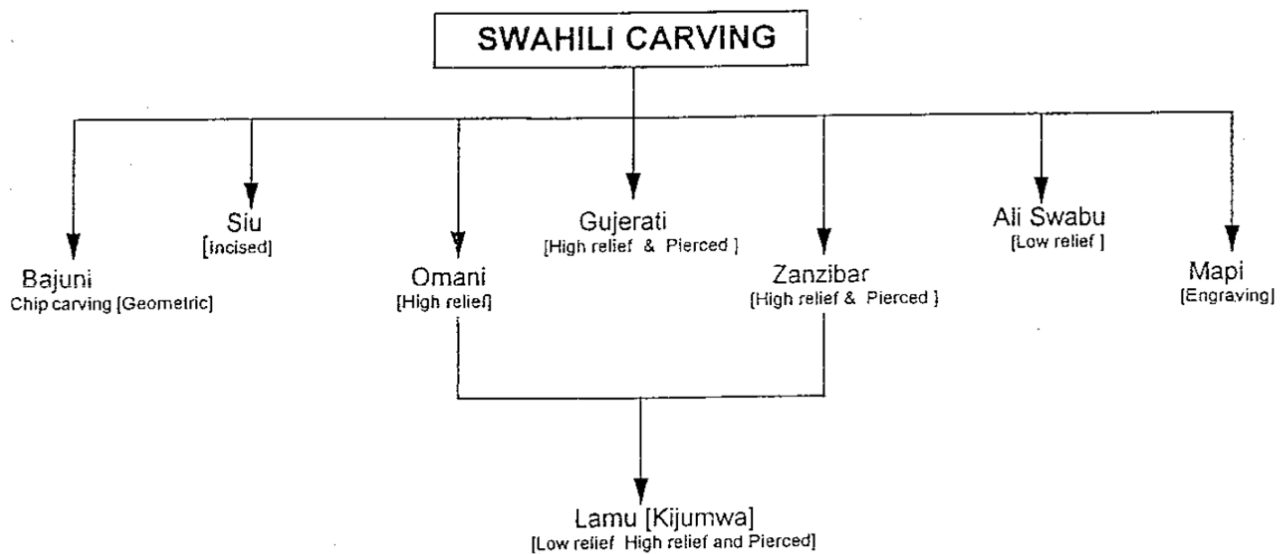
### **5.2 Summary of Findings**

The researcher identified that the current design of Mukuru Rehabilitation Centre spaces does not in any way relate to each other in terms of consistency from the main entrance through to the dormitory area. It has been emphasized that a rehabilitation space needs to associate with its users and most importantly make them experience the local cultures of the people. This rehabilitation center however has paid little to no attention on incorporating any cultural theme based on the analysis that was done. Culture and design has proved to be essential for contemporary designers in the 21st century. Swahili culture is internationally recognized and has been extensively used in Kenya from all aspects such as their wood carving patterns, use of Swahili fabric “leso or khanga”, furniture pieces, architecture and other artefacts. An extensive study on the culture of the Swahili with particular reference to their wood chipping pattern and color scheme was undertaken. Patterns and colors bear significant place in the visual representation of the Swahili culture. They have a palette of specific colors that have significant meanings and are used together. Patterns of the Swahili are defined by color and pattern. Different carving patterns have different meanings according to the Swahili. The Mukuru Rehabilitation Centre management is low on budget therefore upcycling is a method that will aid in lowering the cost of construction. The researcher after examining color and patterns of the Swahili, she established that it is in fact possible to draw inspirations from the Swahili culture such as use of color and patterns on the walls, abstraction of furniture pieces from the patterns and shapes of Swahili artifacts. The researcher therefore proposes how color and patterns can be used to improve the quality and experience of the interior and exterior spaces at Mukuru Rehabilitation Centre.



### 5.3 Recommendations

Swahili carving styles cannot be compared to ornaments like the Egyptian, Moorish, Gothic or Islamic as these ornaments are richer in decorative elements and distinctive in their design composition. Moreover, these decorative arts can easily be identified because of certain unchanging features. Swahili carving is very diverse and consists of many different styles with specific functions and forms that have been gradually blended by centuries of ethnic co-existence on the coast.



*Fig 10: Different Swahili carving styles*

Bajuni style is the oldest style of carving, dating back to the 11th century. Bajuni style is another form of chip carving, commonly practised along the Swahili coast, and mainly by the northern branch of the Swahili (Bajuni). Historians differ as to the origin of this style, but it could be connected to the migration period, when the Bantu groups remaining in the Shungwaya area (present day Lamu District) introduced this form of carving and prominently used it in the early Islamic settlements. Besides being common in the Lamu Archipelago, the style is also prevalent among Bantu people who settled in the central and southern regions of Africa (Makonde, Mijikenda, Nyamwezi etc )

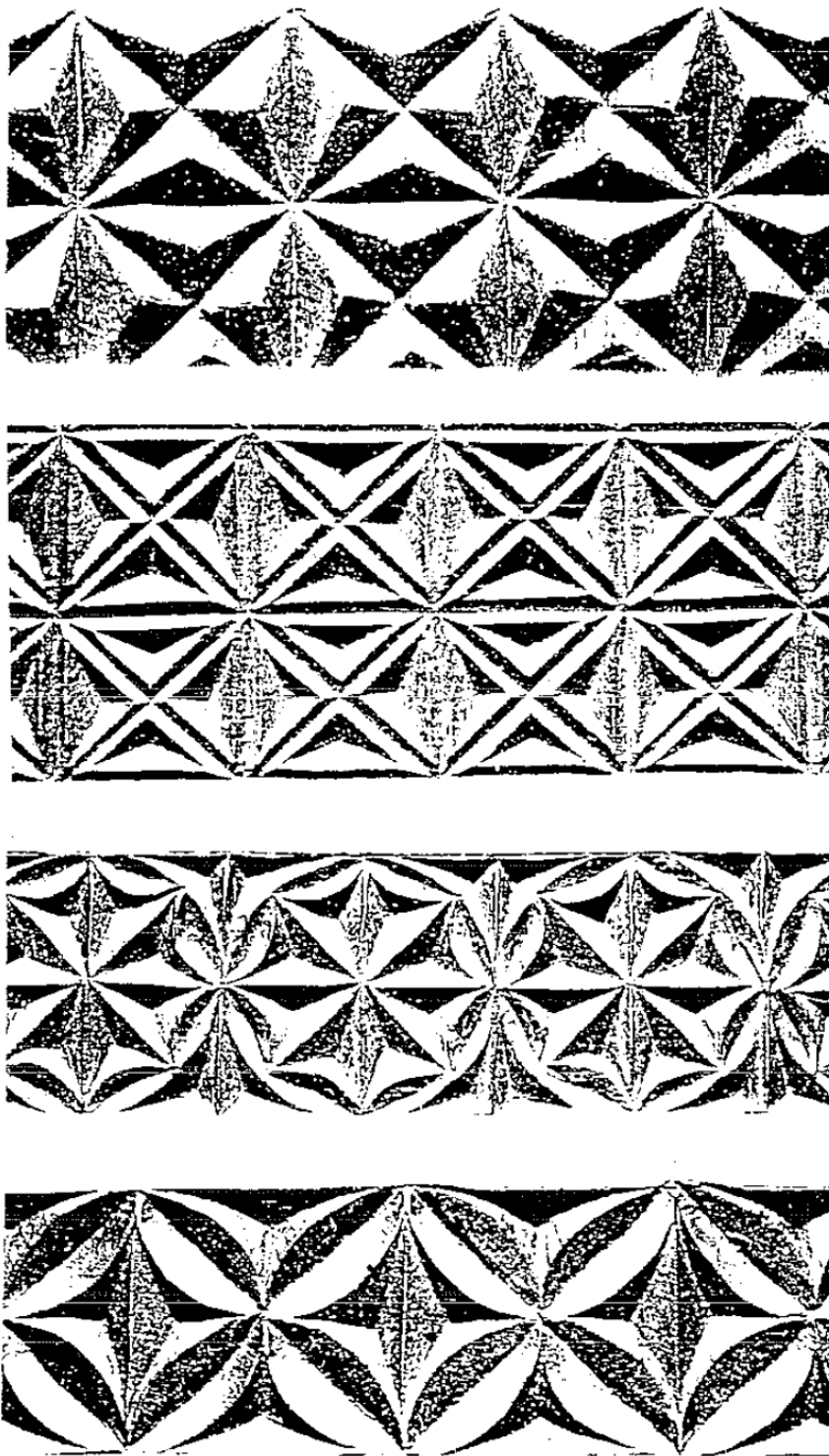
The Bajuni style involves chipping out parts of wood to create circles and straight lines intersecting to form geometric designs. Although it is called Bajuni, this does not mean that the style was invented by this ethnic group. It is so called, because of its extensive application in the Bajuni towns, in particular Siu, a town famous for its expertise in production of elaborate hand crafts including weapons Apart from the Lamu

Archipelago, this style can also be found in other Swahili towns. From an inspection of existing carving works in the coastal area, one can conclude that chip style or Bajuni was regionally practiced. However, significant differences can be seen in motifs. The Mijikenda vigango are a good example to support the argument.

The Bajuni applied this style in doors, mbuzi (coconut graters), shanuo (combs) and sometimes to decorate the mtepe (dhows) along the bow and stern.

It is also believed that, geometric or chip carving is a form of decoration which goes back to pre-historical times. Archaeological discoveries in many parts of the world show that the first human attempts in artistic decoration came in the form of chip style. Probably, at this time human capability could not go beyond this, so as to attain floral or figure carving. Early kingdoms like Egypt, practised this form of ornament beside their own styles, in the decoration of walls and furniture. Later, the Byzantines and the Muslims enriched the geometrical designs with more beauty by including floral elements in the design composition.

During Omani rule in East Africa, the 'Bajun style' was used in plaster work. Many residential buildings in Lamu, built in the 18th century, have interiors decorated with niches and plaster work containing geometrical patterns of different motifs (Alien 1979). The same sort of designs was also applied to the centre post of Omani floral-designed doors. Although plaster decoration can be linked to the Omani period, the designs are based on the Bajuni style. Due to its simplicity, a contemporary Swahili fundi (craftsman) prefers to use the style as an introductory exercise for new trainees. Bajuni style is a very flexible style and can be used to decorate any kind of wooden surface.



*Fig11: Various Bajuni patterns*

### 5.3.1 Interior Architecture

The dining hall is the space chosen for interior architecture.

Through interior architecture, buildings both commercial and residential are designed with all aspects of human needs and uses of the structural spaces in mind. The elements considered in interior architecture are lighting, floor finishes, wall coverings/wallpaper, colors and patterns used both in interior and exterior ventilations. Color and patterns can be expressed as imagery on surfaces. They can be painted on objects put together to come up with better looking structure. Treatments: wall, ceiling, door and window: Walls should be clad with timber/MDF panels to form decorative Swahili patterns and also to create texture and contrast. Window treatments can be metal or wooden screens with wooden louvers inspired by the Swahili. The door frame to have Swahili patterns engraved on them. The screens will partially provide privacy and at the same time be decorative in nature. The roof will be exposed and wooden truss will have lighting pendants hang at different points.

*Lighting:* The kind of lighting that will best suit the dining area should be both natural and artificial lighting. It basically provides what designers refer to as ambience or the mood of a space. Addition of wall lights and spot lights at sink area and above art pieces will bring out the mood of the space.

*Flooring:* Porcelain tiles is a great option for the floor finish since it can withstand great human traffic and it's easy to clean. Dark pallet is considered since it's a space for young adults and dark colors are considered masculine. White grout to be used to bring out contrast.



**Image 27:**Bajuni wood carving pattern to be used on the door frame and wooden screen

**Source :**Pinterest



**Image 28 :**Reclaimed wood wall-  
upcycling method  
**Source :**Pinterest



**Image 29:**Exposed roof with truss  
and pendant lighting hang from  
the roof.  
**Source :**Pinterest



**Image 30:**Dark porcelain tiles  
**Source :**Pinterest

### 5.3.2 Exhibition and Display

The library space is the chosen space for exhibition and display

*Signage:* To avoid the habit of directly sticking printed notices on the wall there can be centrally placed notice board that blends in with the elements in the space. The frame of the board should be a carved hardwood frame suspended from the ceiling. The carved frame will consist of the Swahili.

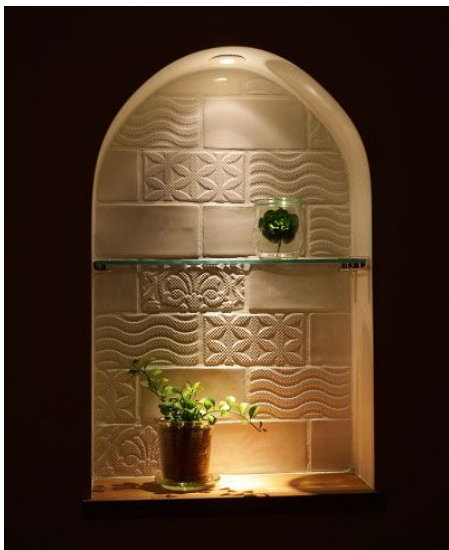
*Display units:* The display units will be wall unit bookshelf with arched leaves. This is to bring out the Swahili look and feel. In built gypsum display units with small arched openings to be constructed and have books displayed. This will provide more display space and add an aesthetic value to it. The small arches to have LED lights in them to showcase the beauty of the unit as a whole.

*Lighting:* The reading area should be properly lit with florescent tubes suspended from the ceiling.



**Image 31:**Ceiling hang fluorescent tube

**Source :**Pinterest



**Image 32:**Arched wall niche with LED lightitng

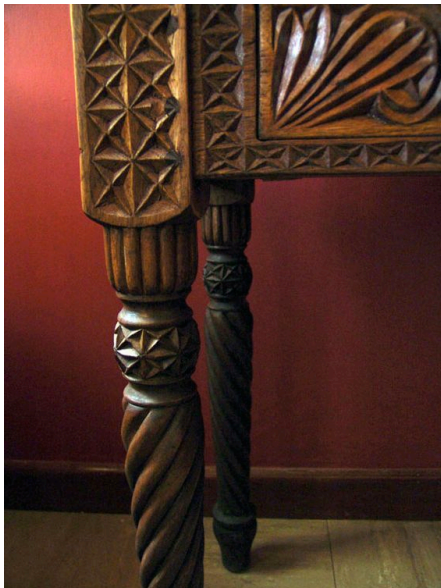
**Source :**Pinterest



**Image 33:**Arched wall niche with  
LED lighting  
**Source :**Pinterest

### 5.3.3 Furniture

*Material:* Mahogany wood is a suitable material for creating interesting pieces of furniture. Mahogany wood is prized for its reddish color that darkens over time, and the beauty of its grain. It is also very strong. Furniture pieces will be very hard-wearing and easy to maintain without forgetting that as it reaches its maximum use it does not end up as waste rather wood can become manure and be useful upgrading minerals in the soil. Reclaimed mahogany would do as a way of upcycling. The Swahili bajuni pattern will be engraved at different parts of the furniture.



**Image 34:**Bajuni pattern in  
furniture  
**Source :**Pinterest





**Image 35:**Swahili inspired seat  
**Source :**Pinterest

#### **5.3.4 Landscaping**

Exterior landscapes have the potential to provide spaces for relaxation and fun. The core factor to be considered in designing the landscape for Mukuru Rehabilitation center is to seek to invite its guest to an experience around the landscape. The researcher recommends the use of Swahili patterns to create an interesting experience for both groups and individuals. The researcher recommends the construction of Gazebos. This is a pavilion structure that is constructed in parks or gardens. It's a freestanding or attached to a garden wall, roofed and it is open on all sides. It provides shade, shelter, ornamental features in a landscape and a place to rest and also used to break the monotony of staying indoors. Gazebos and other sitting areas can be inspired by the Swahili settlement pattern.

The paths can be graded with concrete blocks but arranged in a mosaic or collage that is inspired by the Swahili culture. Freestanding pergolas offer a sitting area that allows for breeze and sunlight but offers protection from the harsh glare of direct sunlight. They also give climbing plants a structure to grow on. The pillars would then be used artistically to display patterns and colors. This will make the landscape more vibrant. Provision of ample seating in the landscape is crucial to the experience of the consumer of the landscape design. Outdoor lighting should also be introduced. A good suggestion is free standing lamps made from natural wood that blends in with nature creating an unforgettable outdoor experience.





**Image 36:**Outdoor privacy screen  
**Source :**Pinterest



**Image 37:** Cover for water channel to have Swagili patterns  
**Source :**Pinterest



**Image 38:**Zoning using arched walls  
**Source :**Pinterest



**Image 39:**Boundary wall design  
**Source :**Pinterest



**Image 40:**Boundary wall with  
metal detailing  
**Source :**Pinterest

## **5.4 Conclusion**

The researcher gained substantial knowledge on a seldom researched and explored area that is Design Culture. Culture adds the value to a space and better improves the experience of people during an age where traditional cultures are becoming extinct with the adaption of new ideas. . Design culture seeks to inform and train designers to understand the culture first before executing a design so that the communication that takes place between the consumer and the product is indeed the intended one. With design culture, intrinsic cultures can be preserved while at the same time improving the design of interior and exterior spaces. Design culture does not however suggest that a return to traditional designs of interior and exterior spaces. It suggests that one can come up with better looking products of design that meet modern standards and are also functional. Based on this qualitative research, the researcher was able to come up with the above recommendations and solutions that can be applied at Mukuru Rehabilitation Centre to promote the Swahili Culture as well as enhance the experience of the users.

## **5.5 Areas for Further Research**

This research was not exhaustive and has therefore opened up various opportunities for further research. It has been established that there are vast opportunities of integrating culture in the design of rehabilitation centers in Kenya as well as barriers that may prevent this from being accomplished. This study needs more effort in terms of increasing the number of respondents and selecting neighboring respondents so that they may also give their responses on the study being undertaken. The researcher puts forward the following key areas as continuation to the current study:

- A thorough study needs to be done into the patterns and colours of the Swahili community. This is because of the identified gaps during the research which only provided the researcher information on carvings on wood.
- A research on common rehabilitation centers features that are used along the coast is necessary. The researcher only deduced assumptions from the international rehabilitation centres and no local could be referred to.
- In the course of the research, it was difficult to explain to many of the respondents on the importance of design within any particular interiors because they were less concerned which led to the researcher deducing there is absence of or minimal design appreciation in Nairobi county. Design awareness needs to be upped through more involvement of communities by integrating their cultures in the process of designing.

This study will go a long way in the creation of authentic designs by Kenyan designers rather than copying from the west. Culture will also be promoted, experienced and preserved through the medium of design.

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