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TRAUMATIZED INDIVIDUALS AND THEIR PSYCHOSOCIAL NEEDS IN MAIDUGURI REHABILITATION CENTRE.

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ABSTRACT: *This research is aimed at designing a Rehabilitation centre in Maiduguri with a view to addressing the psychosocial needs of traumatized individuals in Maiduguri that will be a safe space that prioritizes safety and security to reduce anxiety and fear in the individuals. The design incorporates spaces for social interaction that encourage community ties and a sense of control. Privacy is also considered to help in restoring sense of dignity to the traumatized individuals, access to nature, and cultural sensitivity where immensely considered. A qualitative research methodology was used for the study in order to allow for research triangulation and wide range of data collection. The instruments used for data collection for the studies include case study, visual surveys, interview and focus group discussions at the respective case studied. The content analysis method was used to analyse data collected. Two management staff at Bullunkutu rehabilitation centre were interviewed, a total of ten traumatized Individuals in the rehabilitation centre were also interviewed, and eight participants in focus group discussion were conducted. The research found that psychosocial needs of the traumatized Individuals in Maiduguri rehabilitation centre were in poor condition for most of their needs. The environment prioritized their safety and security. The environment is more of a small community and less organized due to the presence of different types of traumatized individuals who undergo a wild traumatic experience. Rehabilitation centre for traumatized Individuals in addressing the psychosocial needs should use more of natural features such as use of indigenous materials of adaptation of cultural sensitivity, Based on the findings and conclusions, it is recommended that the design should Integrate therapeutic architectural principles, biophilic elements, create safe, gender-sensitive, and private therapy spaces, communal spaces for interaction, recreation, culturally sensitive materials and spatial layouts reflecting local identity, sustainability through passive cooling, daylighting, and energy-efficient design. This study contributes to architectural knowledge by establishing a theoretical link between emotional well-being, social functionality, and architectural design. It provides an evidence-based framework for designing rehabilitation spaces that respond to psychosocial needs and introduces therapeutic and biophilic design integration as essential tools for architectural intervention in post-conflict reconstruction.*

KEYWORDS: Maiduguri metropolis, rehabilitation, traumatized, psychosocial.

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INTRODUCTION

Conflicts and disasters often result in large-scale population displacement due to the destruction of properties, means of livelihood, and the environment. Internal displacement has a significant effect on the mental health of affected populations. Depression and post-traumatic stress disorder (PTSD) increase from 10% in the general population to 15%-20% in the crisis-affected population. (Umar, *et al.*, 2023).

The mental health of individuals or communities is usually affected during or after conflicts. Individually, people react to conflicts in various ways depending on the nature and severity of conditions they are faced with. (Virga, *et al.*, 2014). The age, maturity, sex, and occupation of the individual also affect the way they respond to conflict. Children, victims of sexual violence, families that lost their loved ones, refugees, and internally displaced people are the main victims of mental illness, (Sandhya,2024).

These women and girls do come down with social isolation, depression, suicidal ideation, and suicide. (Pieri et al., 2024) They can become affected with mental illness, especially because of the rigor and aggressiveness of military and terrorist warfare. Children who are victims of conflicts in any region of Nigeria also suffer from mental illness (Pitchard and Choonara, 2017). Internal displacement across Borno, Adamawa, and Yobe States in Northeast Nigeria continues, reflecting years of conflict and ongoing insecurity. Borno State currently has 62 formal and 158 informal camps which host total of about 874,213 Individuals across the 17 LGAs. (Protection sector, north east Nigeria,2023). However, Architecture can serve as a tool to menace the psychosocial needs of the traumatized individuals.

LITERATURE REVIEW

Maiduguri is the largest city in north-east Nigeria and the capital of Borno State, which suffers from endemic poverty, capacity and legitimacy gaps in terms of its governance (Buba, *et al.,* 2024). The state has been severely affected by the Boko Haram insurgency, and the resulting insecurity has led to economic stagnation in Maiduguri. The city has borne the largest burden of support to those displaced by the conflict. The population influx has exacerbated vulnerabilities that existed in the city before the security and displacement crisis, including weak capacities of local governments, poor service provision, and high youth unemployment. The Boko Haram insurgency appears to be attempting to fill this gap in governance and service delivery. By exploiting high levels of youth unemployment, Boko Haram is strengthening its grip around Maiduguri and perpetuating instability (Dosmo, 2024).

Rehabilitation refers to the process of restoring individuals to a useful place in society by re-establishing incomes, livelihood, living, and social system. Rehabilitation is a long-time process that involves rebuilding people's physical and economic livelihood, their assets, their cultural and social links, and psychological acceptance of the changed situation (Gurung,2022). Boko Haram insurgency, which has tremendously affected the country's socio-economic and political sanity, is the foremost devil the Nigerian government battles in the history of Nigeria's democratic installation of 1999 (Orogun,2021). The nature of the Boko Haram violent attacks renders it a threat to the national and international environment as their actions devastate the peace of the neighbouring countries of the West Africa region (Nimely,2023).

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Rehabilitation is defined as "a set of interventions designed to optimize functioning and reduce disability in individuals with health conditions in interaction with their environment". Put simply, rehabilitation helps a child, adult, or older person to be as independent as possible in everyday activities and enables participation in education, work, recreation, and meaningful life roles such as taking care of family. It does so by working with the person and their family to address underlying health conditions and their symptoms, modifying their environment to better suit their needs, using assistive products, educating to strengthen self-management, and adapting tasks so that they can be performed more safely and independently. Together, these strategies can help an individual to overcome difficulties with thinking, seeing, hearing, communicating, eating, or moving around.

Anybody may need rehabilitation at some point in their lives, following an injury, surgery, disease, or illness, or because their functioning has declined with age.

The protracted insurgency by Boko Haram in Borno State has called for comprehensive efforts to rehabilitate and reintegrate individuals and communities affected by the conflict. In the wake of the extended insurgency, many rehabilitation and reintegration programmes have been implemented by both governmental and nongovernmental organizations. These programmes are designed to address the diverse needs of conflict-affected populations, facilitate their recovery, and support their successful reintegration into society. Among the initiated programmes are education and psychosocial support, vocational training and livelihood support, psychosocial support and trauma healing, and community stabilization and infrastructure rehabilitation. (Saleh, n.d.)

Services differ between centres, but in general they offer medical care, psychological support, vocational training, and social reintegration (Butura, *et al*., 2024). Knowledge stored in our memory affects our behaviour by way of predictions. Often, our perception of the environment relies as much on the knowledge stored in our memories as it does on fresh, incoming sensory information. We need to shift our minds from preventing health problems to causing health enhancements. Combining spatial design with health parameters, architects are able to make decisions and take actions that protect the natural world and preserve the environment to support future life. Further integrating environmental sustainability with therapeutic technologies achieves healthier human environments. (Omar, 2014). The visualization to the left illustrates the inception of how the idea of Therapeutic Architecture came about (Figure 1). Below shows the Components of both the built environment and the human-health environment are shown below, illustrating spatial, luminous, thermal, and sonic design with respect to the human brain, mind, body, and behaviour

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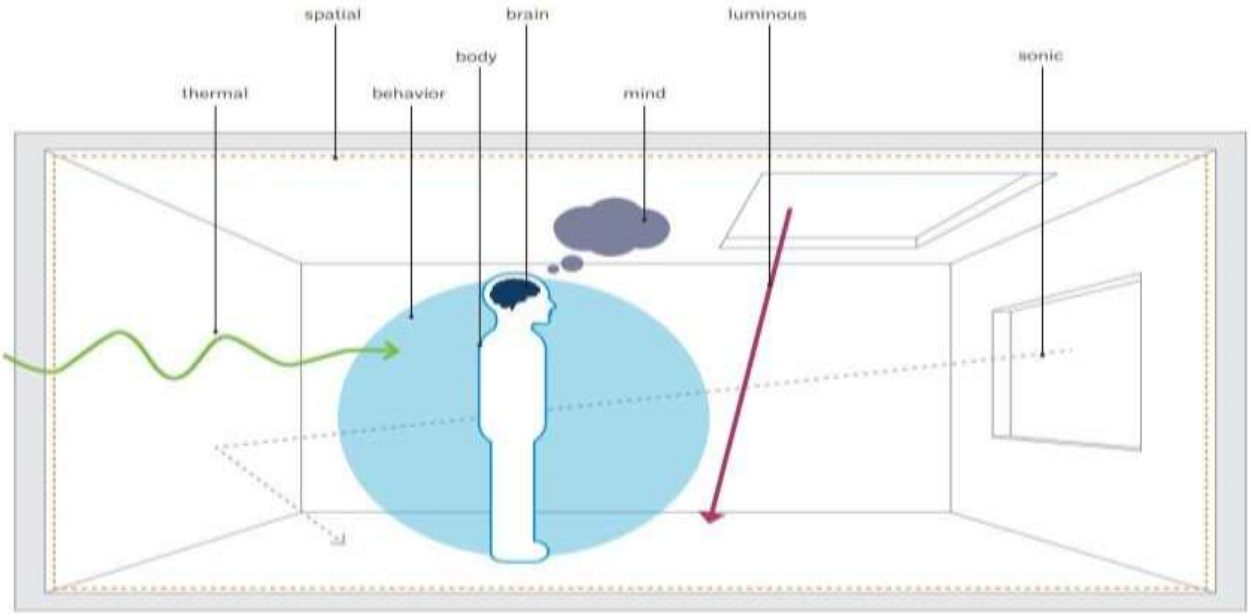
Figure 1. Analysing the human environment within the built environment



Source: *(Youssef,2014)*

1. Environmental psychologists: Focus on stress reduction:

i. Social support (patients, family, staff)

ii. Control (privacy, choices, escape)

iii. Positive distractions (artwork, music, entertainment)

iv. Nature (plants, flowers, water, wildlife, nature sounds)

2. Clinicians*:* Focus on medical and scientific literature:

i. Treatment modalities (models of care and technology)

ii. Quality and safety (infections, errors, falls)

iii. Exercise (exertion, rehabilitation)

3. Administration: Refers to management literature:

i. Financial performance (margin, cost per patient day, nursing hours)

ii. Operational efficiency (transfers, utilization, resource conservation)

iii. Satisfaction (patient, staff, physician turnover)

4. Evidence-based metrics*:* Includes research tools and methods for practitioners:

i. Work measurement (time studies)

ii. Efficiency designs

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iii. Patient and resource workflow

About 1,200 environmentally-relevant studies have been identified by the Centre for Health Design. The primary aim of hospital designers and administrators is to create a healing space which reduces stress, helps health and healing, and improves patient and staff safety.

The goal of biophilic design is to translate an understanding of biophilia into the design of the built environment, resulting in beneficial contact between people and nature within modern buildings and landscapes (Kellert, 2012).

Stemming from the Greek origins, "love of life or living systems", the term biophilia was first coined by a German social psychologist, Erich Fromm. Fromm theorized that people have a "passionate love of life and all that is alive; it is the wish to further growth, whether in a person, and explains biophilia more completely. Wilson's theory of biophilia states that humans have an inborn tendency to focus on life and lifelike processes. To elaborate, this theory suggests that humans need nature beyond what nature provides them at a physical level, and includes the human craving for aesthetic, intellectual, cognitive, and spiritual needs (Kellert & Wilson, 1993). Precisely, biophilia is the essential human inclination to affiliate with natural systems and processes, especially life and life-like features of the nonhuman environment (Heerwagen & Mador, 2009). Wilson (1984) poetically summarizes biophilia design pattern on human body table.

Table 1: Illustration of the function of biophilic design patterns on the human body. A plant, an idea, or a social group

Pattern of Biophilic Design	Stress Reduction	Cognitive Performance	Emotion, mood & Preference
Nature in the Space Patterns			
Visual Connection with Nature	Lowered blood pressure and heart rate.	Improve mental engagement/attentiveness	Positively impacted attitude and overall happiness
Non-Visual Connection with Nature	Reduce systolic blood Pressure	Improve mental engagement/attentiveness	Positively impacted attitude and overall happiness
Non-Rhythmic Sensory Stimuli	Positively impacted heart rate and sympathetic nervous system activity	Observed and quantified behavioural measures of attention and exploration	
Thermal & Airflow Variability	Positively impacted comfort, wellbeing & Productivity.	Positively impacted Concentration.	Improve perception of temporal and spatial pleasure
Presence of Water	Enhanced perception & psychological responsiveness.	Enhanced perception & psychological responsiveness	Observed preferences and positive emotional responses
Dynamic & Diffuse Light	Increase visual comfort. Positively impacted circadian system functioning.		
Connection with Natural Systems			Enhance positive health responses. Shift perception of environment.
Natural Analogues Patterns			
Biomorphic Forms & Patterns			Observed view preference
Material Connection With Nature		Improve creative performance. Decrease diastolic blood pressure.	-Improve comfort
Complexity & Order	Positively impacted perceptual & physiological stress responses		Observed view preference
Nature of the Space Patterns			
Prospect	Reduce stress	Reduce stress, boredom, irritation & fatigue	Improve comfort and perception of safety
Refuge	Improved concentration, attention & perception of safety		
Mystery			Induce strong pleasure response.

Source: *(Fromm, 1973, p. 366).*

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"To explore and affiliate with life is a deep and complicated process in mental development. To an extent still undervalued, our existence depends on this propensity, our spirit is woven from it, and hope rises on its currents". Other researchers have furthered the study of biophilia, such as Stephen Kellert (2008), a professor of Social Ecology at Yale University who, along with Wilson, edited the book The Biophilia Hypothesis. The hypothesis suggests that "humanity is intimately linked with nature on an evolutionary level, and that our well-being as humans is dependent on our continued connection and relationship with the environment from which we as organisms sprang" (Kellert & Wilson, 1993). In essence, biophilia became biologically encoded in our DNA because it helped improve our existence and survival through physical, emotional, and intellectual fitness.

RESEARCH METHODOLOGY

This chapter discusses the study's research design, methodological choices, and the qualitative nature of the research, which relies primarily on the interpretivist philosophical stance to guide the answers to the research questions. More so, it explains why inductive research approach is considered appropriate for the research. In addition, this chapter outlines the procedures used to collect, analyse, and report data. It has used procedures for the qualitative approach. Besides, the approach is implemented to enhance the validity and reliability of the study, and it is also explained. Finally, the chapter defines procedural issues encountered in the course of the field survey of the research.

As Qualitative research, case studies, visual survey, interview and focus group discussions are used in the field work to ease data collection. Collected data is then subjected to content analysis using the theoretical framework of the interaction of an individual's emotional and mental well-being and the ability to function satisfactorily in the social environment.

Maiduguri metropolis in Maiduguri local government area of Borno State made up the primary population for this study. There are 3 rehabilitation centres for traumatized internally displaced persons affected by the Boko haram insurgency. These are:

1. Bulumkutu rehabilitation centre (interim care centre)
2. Hajj camp rehabilitation centre
3. Shukari rehabilitation centre

Purposive sampling technique was used in the course of sampling case studies due to the small number of rehabilitations centres for traumatized Individuals in Maiduguri metropolis; this method of sampling was used to select cases that allow for sufficient and suitable data collection.

The criteria used for the selection of case studies are based on the following parameters:

a. The sample shall be a rehabilitation centre for traumatized internally displaced persons
b. The sample shall be in Maiduguri metropolis
c. The sample shall be mainly for women and children who are affected by the Boko haram insurgency

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d. The sample shall be purposely designed as a rehabilitation centre.

Based on the above criteria, the Bulumkutu rehabilitation centre was selected because it met the case study's selection criteria.

The unit of analysis used in the current study was drawn from the population of Bulumkutu Rehabilitation Centre in Maiduguri. A purposive sampling technique was used in the course of sampling case studies. This method of sampling was used in order to select cases that would allow for sufficient and suitable data collection.

Two management Staff were interviewed, ten traumatized women and children in the centre were interviewed, and eight participants in focus group discussion were conducted.

Three research instruments were used in conducting this study.

These are;

1. Case studies,

2. Visual Survey

3. Interview and Focus group discussions.

Through the use of diverse data sources and a number of perspectives, a qualitative case study is used in this research methodology to aid in the analysis of a phenomenon within a specific context and reveals the phenomenon's many dimensions. The checklist was designed to conform to the psychosocial needs of rehabilitation for traumatized individuals.

Case studies are used as an important aspect of data collection. Such selected case study was based on purpose, richness of information to be obtained, and criticalness of the cases. This involved a visit to Bulumkutu Rehabilitation Centre for personal observation to obtain data.

The selected case study was assessed using the theoretical framework of the therapeutic Architecture, sustainable design principles, and the general universal design principles.

A visual survey of tangible architectural elements, components, and spatial organization of spaces was made. This tool was used to ascertain available facilities, spaces, and design considerations used to cater to the variety of users' needs. The tools used for the visual survey included checklist, note-taking, and sketches. While photographs were not allowed due to privacy and security reasons.

i. Checklist: The checklist was designed to conform to the needs of rehabilitation, therapeutic Architecture, and general design principles that can be integrated with the rehabilitation centre for traumatized internally displaced persons with techniques and guidelines that respond to answer the research questions. Templates from online sources and literature review were used as a guide in drafting the checklist.

ii. Observation: Activities such as the use of spaces, circulation, and users' access were critically observed in order to examine the degree of suitability of available spaces. Observations were made as users made use of indoor spaces and outdoor activities, such as privacy, Access to nature, cultural sensitivity, and community area.

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Key staff of Bulumkutu rehabilitation centre, some management of the Ministry of Women's Affairs, and traumatized individuals were interviewed together on the psychosocial needs of the traumatized individuals. Deliberate semi-structured interviews were conducted in an attempt to allow the respondents to freely respond to questions, digress where necessary, and be at ease during data collection during the discussion session. The variables of the study include the following: Safe spaces, community areas, privacy, access to nature, and cultural sensitivity.

A prior notification was given to the management of the case studies visited. Respondents of the interview and focus group discussions are properly informed about the purpose of the data collection, which is for academic purposes. Anonymity and confidentiality of the respondents are equally emphasized.

For the case study analysis, an illustrative qualitative method was used because it is descriptive in nature and adds detailed information and examples to the study. Information collected on the case studied was analysed using content analysis and presented in the following form:

i. Tables: data collected from the case study were documented and represented in a tabulated form for easy assessment.

ii. Diagrammatic representation: this is the proper representation of data by the use of sketches, diagrams, and so on. In cases where diagrams and sketches will not be sufficient, pictures will be used to represent information regarding the cases studied.

iii. Photographs: pictures of the conditions of the case being studied were not taken due to high security considerations. The current state and consideration of the identified architectural variables were the main focus.

RESULT/FINDINGS

This chapter presents the data obtained from field observations, interviews, and discussions conducted at the Bulumkutu Rehabilitation Centre, Maiduguri. The findings are discussed in relation to the research objectives and theoretical framework, emphasizing how environmental and spatial factors affect the emotional and social well-being of the individuals.

Plate I Google Earth map image of Bulumkutu rehabilitation centre, Maiduguri.

Source: *goggleearth.com (2024)*

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PLATE II shows the welcome entrance of Bulumkutu rehabilitation centre in Maiduguri, located at Kashim Ibrahim Road behind Umaru Shehu ultra-modern hospital, Maiduguri. Due to security challenges Plate II was the only photograph permitted during the field survey. Bulumkutu rehabilitation centre, now formally called Bulumkutu interim care centre, was established in 2016 to provide interim care for women and children associated with boko haram insurgency.

Plate II welcome entrance of Bulumkutu rehabilitation centre

Source: *Author's field work (2024)*

Psychosocial needs of traumatized Individuals

The Bulumkutu Rehabilitation Centre comprises classrooms, accommodations, offices, therapy rooms, and limited outdoor areas. The analysis focused on five psychosocial indicators: safe spaces, community areas, privacy, access to nature, and cultural sensitivity.

The first research question sought to identify the psychosocial needs of traumatized Individuals at the Bulumkutu rehabilitation centre, Maiduguri. Data were collected through observations using a checklist, which indicated the availability and adequacy of facilities required for psychosocial support. Table 1 provides a summary of the psychosocial needs of Individuals in terms of availability and adequacy of the services. The variables analysed included safe spaces, community areas, privacy, access to nature, and cultural sensitivity.

i. Availability of Needs:

- 80% of the psychosocial needs were not available.

20% of the needs were available but inadequate.

- Only 1 out of 5 essential psychosocial services (safe spaces) was found to be present.

ii. Adequacy of Needs:

- None of the available facilities met the full adequate criteria.

- All five categories (100%) were found to be inadequate for meeting the psychosocial needs of the Individuals.

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The overwhelming lack of available and inadequate psychosocial services at the centre highlights a significant gap in addressing the trauma and well-being of the Individuals. This suggests that without these critical services, the emotional, mental, and social recovery of the displaced population remains at risk, potentially prolonging their trauma and reducing their quality of life.

Table 1: Identification of Psychosocial needs of the traumatized Individuals at Bulumkutu rehabilitation centre, Maiduguri, Borno State.

S/N	Variable	Availability		Adequacy	
		Available	Not Available	Adequate	Not-adequate
1	Safe spaces	✓			X
2	Community areas		×		X
3	Privacy		×		X
4	Access to nature		×		X
	Cultural sensitivity		×		X
5	**Total = 5**	**1 (20%)**	**4 (80%)**	**0 (00%)**	**5(100%)**

Source: *Author's field work (2024).*

DISCUSSION OF FINDINGS

The interview and focus group discussion were transcribed verbatim, analysed and interpreted as the results strongly support the Interaction theory of emotional and social wellbeing, confirming that the quality of the environment directly affects the ability of individuals to function satisfactorily in a social context. At Bulumkutu rehabilitation centre, the absence of supportive environmental features such as safe spaces, privacy, and access to nature correlates with poor emotional stability and low social engagement among residents as follows;

1. Insufficient Infrastructure: Despite having some services available, many were still lacking spaces.
2. Limited Safe Spaces and Community Areas: absence of designated safe spaces and community areas restricts the ability to provide a conducive environment for healing and social interaction.
3. Cultural Insensitivity: There is a need for culturally sensitive interventions that reflect the backgrounds and cultural values of the displaced populations.
4. Privacy Issues: Lack of privacy further exacerbates the mental health challenges faced by individuals, making it difficult for them to process their trauma safely and securely.

The challenges reflect a systemic issue in the rehabilitation centre's ability to provide holistic care. Addressing these challenges will require significant investments in both human and material resources, as well as a stronger focus on cultural considerations and environmental factors that promote psychological healing.

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IMPLICATION TO RESEARCH AND PRACTICE

The findings provide design guidance for developing a rehabilitation centre in Maiduguri:

i. Incorporate biophilic design elements such as courtyards, gardens, and natural lighting.

ii. Create safe and private therapy spaces to reduce anxiety.

iii. Design community interaction zones that foster trust and social cohesion.

iv. Ensure cultural relevance in material selection, colour, and spatial organization.

v. Provide flexible spaces that adapt to various rehabilitation programs.

CONCLUSION

The study concludes that the architecture of rehabilitation centres plays a vital role in restoring the emotional and mental well-being of trauma victims. The findings from the Bulumkutu Rehabilitation Centre indicate that current facilities in Maiduguri are functionally inadequate and psychologically unresponsive to the needs of internally displaced persons.

The interaction between the built environment, emotional wellbeing, and social behaviour is fundamental to the recovery process. When the environment fails to provide comfort, privacy, and engagement, emotional distress and social withdrawal increase. Conversely, spaces designed with therapeutic and biophilic principles promote relaxation, safety, and community interaction. Is an essential component of rehabilitation.

Therefore, to achieve holistic recovery, architectural design must go beyond physical accommodation to incorporate elements that nurture the mind, body, and social connections. The proposed rehabilitation centre, based on this study, will serve as a prototype for psychosocially responsive architecture in post-conflict contexts, combining environmental comfort, cultural sensitivity, and functional efficiency.

FUTURE RESEARCH

i. Conduct longitudinal studies on the behavioural impact of spatial design on trauma recovery.

ii. Compare rehabilitation centres across North-East Nigeria to identify best practices.

iii. Utilize digital simulations to predict emotional responses to different spatial layouts.

iv. Explore gender and cultural diversity influences on psychosocial rehabilitation design.

This study contributes to architectural knowledge by establishing a theoretical link between emotional well-being, social functionality, and architectural design. It provides an evidence-based framework for designing rehabilitation spaces that respond to psychosocial needs and

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introduces therapeutic and biophilic design integration as essential tools for architectural intervention in post-conflict reconstruction.

The rehabilitation of traumatized individuals in Maiduguri extends beyond physical reconstruction; it demands environmental empathy. By creating architecture that heals, connects, and restores dignity. Designers can transform trauma into resilience. The proposed rehabilitation centre thus represents not just a building, but a beacon of hope and recovery for a community striving to rebuild its humanity.

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