

**A Proposed Youth Recreation Center at Eleyele, Ibadan, Oyo State, Nigeria
(Effects of Landscaping Elements on Recreation Center Users)**

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**Being a MSc Thesis Submitted to the Department of Architecture, Faculty of Environmental
Design and Management, Lead City University, Ibadan, Oyo State, Nigeria**

**In Partial Fulfillment for the Requirements of the Award of Master Degree (MSc) in
Architecture**

2022

Certification

This is to certify to I, Ogunmoade Toyin Esther carried out this project titled “Psychological Effects of Landscaping Elements on Recreation Centre Users” in the Department of Architecture, Faculty of Environmental Design and Management, Lead City University, Ibadan.

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Date

Dedication

This thesis is dedicated to God Almighty, the Alpha and Omega; and my children
Olamide, Ayomide Temiloluwa and Eniola, Ogunmolade.

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Acknowledgement

I appreciate Lead City University, Ibadan, for providing a platform for this work to be done under its supervision. I also appreciate Ministry of information, and Ministry of Physical Planning both at Oyo State Secretariat, Ibadan, for providing data and relevant information. I cannot but appreciate both academic and administrative staff of the Postgraduate School.

I gratefully acknowledge the invaluable assistance of the Head of Department, Arc, (Dr.) Adedire F.M. as well as Post graduate coordinator, Arc. (Dr,) Ayanleke O.D., while my immeasurable regards go to all my lecturers namely: Arc. Olugbesan A., Arc. Fasheun-Motesho J. M., Dr. Adegoke A., Arc. Aseyan B., Arc. Adeola A. J., Arc. Olaniyan O.M., who had in one way or the other contributed to the success of this program; and my supervisor, Arc. Oguntunde D.O. for dedicating so much time to thoroughly scrutinize this work

I am greatly indebted to my parents, Baba Isaiah Oladele and Mama Dorcas Kikelomo Adeopa for their spiritual support; and also my siblings for financial assistance . I cannot but mention the moral supports and understanding of my wonderful daughters: Olamide, Ayomide, Temiloluwa and Eniola Ogunmolade. To all my amazing course mates that I cannot mention, who have in one way or the other contributed to making this course a success, you are all important. I say, 'Thank you all.'

Even though this research wouldn't have been a success without assistance from the above mentioned. I alone stand liable to all errors, if found, in this work.

Abstract

The historical moment of COVID-19 pandemic left many people disconnected and hopeless exacerbating a national economic hardship that started well before then. A high level of idleness disengagement and unemployment was experienced by a great number of populace, the imposed lock-down period was not positively utilized due to either non-availability or non-proximity of recreation centers within the reach of the community. The economic hardship imposed by the pandemic prompted some citizens especially youths to engage in sorts of immoral acts having negative effect on their Physical and mental well-being. This study is therefore set to meet the need for the design of a recreation centre using adequate landscaping elements to achieve psychological well-being.

The research deploys a case study approach through selection of five (5) recreation centers, and through analysis and observations of the selected cases.

The findings from the case studies reveal the landscaping elements that can be used in achieving a psychological health balance as follows:

- Natural Landscape : Water Bodies, Hills, Mountains, Forest, Rocks, Stone
- Urban Landscape elements : (i) Hard Landscapes : Concrete Paving, Interlocking tiles, Artificial grassing, Tree planting, Decorative flowers in pots, Fountain

(ii) Soft Landscapes : Natural grassing,
shrubs, Vegetation Lawn, Pond

The lessons learnt was transferred to the Proposed design of Recreation Center located at Eleyele the shore of Eleyele Lake in Ibadan North-East Local Government Area, Ibadan . This study has been able to establish the fact that landscaping elements can be used to improve mental health and psychological well-being of users of a recreation center.

Therefore, it is recommended that stakeholders i.e. the government at all levels, Institutions, interested Individuals and general public, consider some of the identified elements, as relevant to establishment of recreation centers.

Keywords : *Youth, Recreation, Recreation Center, Landscaping, Mental Health*

(298 words)

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List of Acronyms

| Abbreviation | Meaning | Page |
|--------------|---|------|
| RC | Recreation Center | 1 |
| WHO | World Health Organization` | 6 |
| UN | United Nations | 15 |
| RRRC | Rocky Regional Recreation Center | 36 |
| MSH | Multipurpose Sports Hall | 46 |
| IBNWLGA | Ibadan North-West Local Government Area | 47 |
| SWTW | South-West Trade Wind | 54 |
| NETR | North-East Trade Wind | 54 |
| SH | Sports Hall | 60 |
| RV | Reflectance Value | 78 |

Chapter One

Introduction

1.1 Background to the Study

Physical activities incorporated into leisure and recreation is an ideal way of fitting more exercise to address physical and mental wellness. He further stated that as physical benefits of recreation, people who frequently take advantage of park activities have fewer doctor visits, lower body mass indexes and lower systolic blood pressures than those who don't, Dan Brennan (2021), stated that being in a good mental state can keep one healthy and also prevent serious health condition. However, the absence of mental disorder may not justify an experience good mental health, therefore, prevention of mental health disorders needs to overlap with promotion of mental health strategies.(McCarthy et al., 2022)

Mental and physical health are closely related while the mind and body are considered to be separate, but good mental health can positively affect physical health. Therefore, good mental health is defined as a state of well-being in which individual can cope with the normal stress of life, work productively and faithfully, and thereby have the ability to contribute to his community (Fusar et al., 2020). To improve general well-being, both physical and mental health should be taken care of by: exercising regularly, avoiding alcohol and drugs, trying relaxation techniques among other activities. .

Modern life is so busy that it causes many people to loose sense of belonging to the community which results in being isolated in their homes. According to modern civilization may give us unimaginable materials and an easy life but it has also deprived us of an invaluable sense of community and interdependence enjoyed several

years back. He observed that people only come together and enjoy fellowship during moments of adversity. He also explained further that designing cities that either isolate or are built around cars and nuclear families is not only a design problem but also psychological problem.

Human spend their time in activities of daily living, work, sleep, social duties and and leisures. Leisure time, a period free of physiological or social commitments, is a prerequisite of recreation and social activities.

These activities, sometimes considered to be 'fun', are important to experience more enjoyable and interesting leisure time to (i) mitigate boredom (ii) revitalize human body and mind for improved work performance and (iii) improve physical and mental health. Sporting, games play, meetings, training, exercise and entertainment; give opportunity to have new contacts, create new friendships and revitalize body and mind. This then brings up emergence of Recreation centre, among other public spaces, for improvement of both physical and mental health in young and old within a community.

Existence of Public open spaces do not only play a significant role for ; socialization, leisure activities among citizens of a community, but also improve overall quality of life .As an alternative to absence of private spaces and semi-private spaces in urban areas, some youths resolved to social activities in any available public spaces (sometimes unhealthy) to meet and spend their leisure time. Since they are idle and frustrated, they become susceptible to violence and depression . Furthermore, he argued that the escalating state of violence in Nigeria has been incessantly linked to poor economy and high level of youth unemployment. He further reteirated that marred economy and mismanagement of public funds has led to unemployment, frustration and

restiveness among youths which makes them susceptible to violence. Incessant violence, immorality, alcohol & drug addiction as well as hooliganism can be associated with lack of gainful employment of youths and wrong peer pressure in unbeneficial gatherings, while Boredom, loneliness, isolation, emotional torture, dejection etc, can lead to depression in some youths.

An adage says, "**An idle mind is the devil's workshop**". The brain is the most powerful muscle in our body; when it does not get to do any work, it starts to fade away and wander into unhealthy and detrimental thoughts. Violence and depression being part of the mental disorders that need to be managed successfully in youths therefore necessitate their gainful employment in activities that can improve their physical and mental well-being, and also reveal their positive potential ability.

In the same aspect, occupation of the minds of youths in positive ventures would assist in curbing the menace of cultism, armed robbery, hooliganism commonly associated with youths in the Country and also position them for greater exploits among their peers.. It is therefore important to get the youths within the neighborhood engaged in positive and beneficial activities such as recreation, sports, exercise, tutoring programs and part-time work etc. during their leisure time, for improved Psychological well-being; a state of good mental and emotional health. Engagement in community recreation activities could help to restore mental health disorders, which include but not limited to: (i) excessive worries and fear (ii) frequent or extreme change in mood (iii) withdrawal from friends (iv) alcohol or drug abuse (v) suicidal thought, so that their ability to enjoy life and participate in the societal activities is triggered.. Physical activities

provided in recreation centres include: sportings, games, musical, clubbing, relaxation and fun.

However, to compliment the improved mental health provided by recreation activities, landscaping of the outdoor areas becomes vital. It helps to improve quality of life with several physical and psychological benefits. Exposure to natural environments is observed to be associated with more positive body image (Solmi et al., 2022). In GroundGuys (2015), it is stated that, ‘...just looking at plants is shown to reduce blood pressure while walking through a natural environment improves attention and memory. People living in neighbourhoods with green spaces report lower stress levels and lower healthcare costs. . In addition, Wallace, (2020) reported that, ‘sporting in green spaces or in natural environment where there is a fresh supply of clean and unpolluted air is not only healthy but promotes mental well-being .

However, Akhimien N. and Adamolekun M. (2018) observed that past studies have shown that Landscape Architecture has not been given the deserved emphasis and consideration in the design proposals and construction. Hence, the natural elements is not fully harnessed in maintaining ecological balance in built environment as proper landscaping offers owners and users an increased livability (Akhimien & Adamolekun., 2018)

A recreation center is therefore proposed to afford youths the advantage of utilizing their leisure time in activities that can positively affect them, and also improve their mental health, with a compliment from a landscaped environment for an improved quality of life.

1.2 Problem Statement

Youth has been the most significant part of a national workforce. However, it has been observed that a nation that invests in education, physical and mental well-being of youths always records tremendous socioeconomic growth. .

A report on **-Youth and Leisure Time Activities – Responses from International Stakeholders** states that, ” Young people’s discretionary time is worth a significant amount of attention , partly because it is a potential breeding ground for youth problem, but mainly because it presents endless possibilities for constructive development. In the same context one of *Governments responses affirms that* ‘Appropriate leisure programs for youth are elements aimed at fighting social ills such as drug abuse , juvenile delinquency and other deviant behavior and so, should be made freely available to young people. Private Sector responses, observe that free time and leisure contexts that feature structured and unstructured leisure activities offer young people the chance to develop relationships with peers, to establish personal preferences and to experiment with various social roles while also noting themselves as major providers of positive activities both in terms of recreational and educative positive activities. World Assembly of Youth in its recommendations reports that (i) involvement of youth in youth development centers should be increased by 40% (ii) 50% of youth participation in voluntary works should be ensured (iii) its members must be encouraged to organize activities that help the youth in mind and spirit (Fortune & Dupuis, 2022).

According to Klinsmann, (2018),”Building a youth center as part of youth development should be considered as growth process with engagement of the community to help them meet their social and basic personal needs and as a result feel safe, cared for,

valued and useful. This invariably helps them function and contribute in their daily lives through their built skills and competence. In the absence of positive influence, youth will always find other ways, often negative to satisfy their quest. Youths therefore need to be recognized as an essential force for change and be empowered to fill the gap of creating problems, Establishment of recreation center offers an advantage of filling this gap . Sports as recreation activities do not only improve physical health but also play important role in improving mental well-being. Previous studies have revealed that youths who actively participate in sports show more positive attitude towards life when compared with those who do not. 'It is well established that regular exercise provides important physical and mental benefits; evidence for the role of exercise as an adjunct component within substance use disorder treatment is scarce' (More et al., 2017).

Youths benefit greatly from physical activity in various aspects such as cardiorespiratory health, muscular fitness, bone health, maintaining healthy body weight and psychosocial & mental health. The World Health Organization recommends that adolescents should engage in at least 60minutes of moderate to vigorous-intensity physical activity per day, including play, games, sports, and exercise (such as cycling or walking) or physical education (<https://www.gigadocs.com/blog/youth-and-the-importance-of-physical-and-mental-health>)

However, Foster, (2020) observed that Landscaping, although not well given well deserved emphasis and considerations in design proposals and construction, offers economic, social, health and environmental benefits. (Foster 2020) Tree and other plants help cool the environment, making vegetation a simple way to reduce urban heat

islands. (<https://www.epa.gov/heatislands/using-trees-and-vegetation-to-reduce-heat-islands>).

1.3 Aim And Objectives :

Aim:

The aim is to assess the effects of landscaping elements on Youths in a recreation centre

Objectives:

The objectives set out to achieve the above aim are:

1. To identify the benefits of recreation center to Youths
2. To identify uses and benefits of landscaping elements on recreation centre users
3. To carry out case study of existing similar recreation centre in order to appraise and analyse the Landscaping elements provided for improving users' mental health.

1.4 Research Questions:

1. What are the benefits of recreation centre to the youths?
2. Why do recreation centres require landscaping elements ?
3. How can Landscaping elements in recreation centre improve mental health of youths as users?

1.5 Significance of the Study

It is said that, 'The idle individual is a devil workshop', going by this fact, it is therefore, important to have youths engaged in positive and profitable ventures.

The significance of sport and active leisure for the prevention of violence in Youths varies from the possibility to mitigate their aggression potentials, to the positive

use of the existing sportive ability within them. Sports, regardless of gender, race, social class, physical and intellectual challenges is meant to be human right for all individuals.

However, according to Wallace (2020) mental health issues are inevitable, especially with all the chaos and disarray that has befallen our beautiful planet. Youths' problems are usually caused by some vital issues ranging from: incessant violence, rape, alcohol & drug addiction, thuggery, boredom, loneliness, isolation, emotional torture, dejection etc, all associated with either lack of gainful employment, frustration, depression or peer pressure in the absence of positive influence. Establishment of RC with complimenting landscapes, affords them benefits of : mental safety, care, value, sense of community and healthy gatherings. .

A community RC brings people together thereby providing community pride. It can also provide opportunities for interaction and community training as well as economic development. While potential abilities for productive engagement can be discovered. violent outbursts would be reduced and peace restored. . Recreation facilities peppered through the urban area from health, fitness, parks, gimmicks, to wellness facilities makes a rich, lively and appealing community that promote quality living. These buildings can do wonders in contributing to a healthy, active, and interesting lifestyle. However, to compliment the improved mental health provided by recreation activities, landscaping of the outdoor areas becomes vital. It helps to improve quality of life with several physical and psychological benefits

1.6 Scope of Study

RCs are classified into five major types which can be justified by the activities involved and facilities/services provided for engagement of the members of the general public :

- Recreation through sporting
- Recreation through adventure
- Recreation for Amusement
- Recreation through entertainment
- Recreation through clubbing

Therefore, the scope of this project will therefore be limited to recreation through sports and amusement, with the youths being the target group. This is intended to serve its community and its environment. By this, behavioral sanity in youths is restored through improving their mental health

1.7 Limitations

This study experiences limitation in its ability to compare across cases, This is because different types of data are available for collection at the selected cases for study. Empirical and critical analysis are missing. However, its mode of generalization is combined with interpretive historical strategy.

1.8 Operational Definition of Terms

Youth : ‘Youth’ as used in this context refers to those persons between the ages of 15 and 30 without prejudice to other defitions. This is considered as the period of independence transition from childhood to adulthood. It is the age range of leaving compulsory education to find first job.

Recreation:

This refers to activities, usually done voluntarily, and carried on within leisure, for satisfaction, pleasure or creative enrichment. It implies engaging in any form of games and sports for enjoyment, playing musical instruments, sightseeing, tourism and travelling for pleasure and at the same time improving physical and mental wellness in youths

Recreation Centre :

A public place, also called a youth center, that is primarily used to host sports, recreation or social activities. A place where young people, in particular, and the entire community can meet and participate in a variety of social activities at their leisure, for personal enjoyment and satisfaction. As well as community development.

Landscaping: Treatment given to a portion of the site for the purpose of enhancing its look. This includes planting of trees, hedges, shrubs, grass, earthworks, paving, screening with fence, laying of gardens, lawns, courts, parking and walkways. The landscaping elements can be natural or urban which includes hard and soft landscape. This creates an advantage of spending time in nature and sometimes when done under the sun, boosts one's mood and provides Vit. D from sun.

Mental Health: This can be described as a state of sound mind whereby a person is able to cope with the normal stress of life, enjoy life and create a balance between life activities and productive work output. It allows for positive meaningful contributions to the societal growth. (Foster 2020)

Chapter Two

Literature Review

2.1 Conceptual Review

2.1.1 Historical Evolution and Development of Recreation

The term '**recreation**' was first used in English in the late 14th century in the sense of refreshment or curing of a sick person. It is derived from Latin (re: "again, create: to create, bring forth, beget"). During the Middle age, various types of games and gambling, music and dance, sport and jousting the activities engaged in during leisure. The games played in castle and medieval manors included early forms of chess, checkers and back gammon. Morgan, (2018) stated that in 1950s and 1960s, activities like horseback trail riding, skiing, snowmobiling and taking a day hike were some of the popular choices of outdoor enthusiasts.

In ancient Greece Aristotle regarded as "father of leisure" initiated the view that leisure was ideal but unfortunately only few had privilege to a life of freedom due to enslavement of many. Ancient Rome pursued a different kind of leisure that valued physical strength and promoting athletic competition. There were no social classes for the competition and so leisure was taken as a right to citizenship. During Dark Ages, the Protestants Reformation of the Church facilitated appreciation of leisure and extended its opportunities to the masses. However, leaders of new sects discounted value of leisure pursuits in general.

In colonial times, building a new country left little time to play. In Mid1800, there was a recreation renaissance by religious groups who flee persecution in Europe. The Europeans settlements in Canada initiated "neither life nor leisure". The aboriginal Canadians

contributed immensely to this development through regular participation in hunting, fishing, playing games, singing songs, dancing and story-telling.

Mobily, (2018) observed that the history of moral values of activity is traced from the inception of activity as an intervention in institutions, through the construction of work and play as valued activities

The value and importance of physical fitness and social recreation became increasingly recognized in Post-Confederation North America (1840-1880) through intense migration from rural areas to cities. The commercial sectors in the early years of Canada's history responded to the need for recreation services through provision of beer gardens, bars, dance halls, amusement parks and stage shows. This same time also witnessed acceptable recreational activities for women e.g. croquet, lawn tennis, golf and ice skating, last but not the least, some scenic natural areas were discovered via improved rail road transportation, which have since become our national parks.

2.1.2 Recreation

Youths' problems are usually caused by some vital issues ranging from: incessant violence, rapist, alcohol & drug addiction, thuggery, boredom, loneliness, isolation, emotional torture, dejection etc, all associated with either lack of gainful employment, frustration, depression or peer pressure in the absence of positive influence . Sports have positive impact on mental health of children and adolescents. Despite the psychological and social benefits of sports, only few mental health professionals use sports as intervention for treatment of various disorders. In Strachan et al.,(2018), sport is noted to be a multidimensional global phenomenon which revitalize communities and nations.

However, Foster, (2020) observed that Landscaping, although not well given the deserved emphasis and considerations in both the design proposals and construction, offers economic, social, health and environmental benefits. (Foster 2020) Tree and other plants help to cool the environment, making vegetation a simple way to reduce urban heat islands.

(<https://www.epa.gov/heatislands/using-trees-and-vegetation-to-reduce-heat-islands>).

2.1.3 Types of Recreation:

Recreation centers can be identified by the facilities or activities they provide.

- Multipurpose : Sports, social, other recreation facilities (cafeteria, bar, lounge, Club)
- Aquatics : Aquatic Sports , Waterparks, Lap pool
- Parks : Local, State and National
 - Playgrounds (Walking space, sports field, social activities)
 - Nature Centers (Botanical Garden, Zoological garden)
 - Campgrounds (Private or Public)
- Outdoor Sports : Courts, Fields, Track facilities
- Adventure Facility : Climbing wall, Challenge course, Equestrian
- Senior Citizens Centre : Teen Centers, Scouts, Boys & Girls Club
- Art Centers : Visual Performing arts, Studio, Exhibits, Gallery
- Coliseums : Auditorium- Private and Public (concerts), Conferences, Trades Show
- Theme Parks/Resorts : Tourist Centers

2.1.4 Recreation Classification

Classification of Recreational Activities: Recreational activities are classified into two types and with observation of how they are done i.e. recreate in a group or alone.

1. Active / Passive Recreation Activities

2. Indoor / Outdoor / Create alone Recreation Activities

- Active Rec. Activities – These involve engaging in adventures sports and outdoor games. They may require extensive facilities and according to the name, they demand physical and/or mental efforts.
- Passive Rec, Activities - These require minimum facilities, with no much efforts but on one's entertainment or leisure. They include strolling, taking a walk exploring city using legs instead of treadmill, listening to music, watching movies, playing video games etc..
- Indoor Activities – These refer to typical indoor hobbies done at leisure for entertainment. They can be done in the comfort of one's home
- Outdoor Activities – These include any form of leisure, sport, play or cultural activities taken outside the confines of buildings e.g. backpacking, camping, riding, cycling etc.
- Recreate in a Group – Activities that can be engaged as team e.g team games, group travel, sorting to win. They provide opportunity to meet people, make new friends and socialize and also help in developing leadership qualities and interpersonal skills.
- Create alone - Activities that can be engaged as personal hobbies turn to sources of entertainment and enjoyment. A joyful commitment but not goal oriented.

Since no single recreational center provides all facilities sought by all potential users, the scope of this project is therefore limited to provision of Multipurpose Recreation Facilities, with the youths being the target group. This is intended to serve the community and its neighborhood. By this, behavioral sanity in youths is restored through improving their

mental health. The need to be healthy incorporated bodily health, mental health and social wellbeing (Caluzzi et al., 2021)

2.1.5 Conceptual Review of Landscaping

Foster (2020), states that Landscaping is the placement of elements such as trees, shrubs, rocks, bricks, stone, carpet walls, etc. to give your landscape some character and texture. Landscaping is vital for a healthy body and mind. Landscaping improves quality of life in cities with several physical and psychological benefits. Landscaping offers economic, social, health and environmental benefits although not well given well deserved emphasis and considerations in design proposals and construction.

Landscaping refers to the planning, laying out and construction of gardens that enhance the appearance and create useable space for outdoor activities (Khachatryan et al., 2020)

According to Akhimien et al, (2018) The potential contributions of urban green spaces and nature to human health and wellbeing can be related to accessibility, which is directly influenced by how recreation areas and facilities are designed. In his study, he supports the argument that provision of a good green space promotes an active lifestyle. Foster (2020), described in general that relation between recreation areas. health and wellbeing can be described as: ‘‘the closer, the better’

2.2 Empirical Review

Violence is a regular phenomenon with youths in the continents. Solmi, (2021) said that youth is a population group in developmental stage of life where the vast majority of mental health conditions have their onset. UN Reports by the High Level Panel on, Threats,

Challenges and Change points to youth as a threat to security, and myriads of literature have sprung up in this regards in recent times.

A report on **-Youth and Leisure Time Activities – Responses from International Stakeholders** states that, ” Young people’s discretionary time is worth a significant amount of attention , partly because it is a potential breeding ground for youth problem, but mainly because it presents endless possibilities for constructive development. In the same context one of *Governments responses affirms that* ‘Appropriate leisure programs for youth are elements aimed at fighting social ills such as drug abuse , juvenile delinquency and other deviant behavior and so, should be made freely available to young people.

Private Sector responses observe that free time and leisure contexts that feature structured and unstructured leisure activities offer young people the chance to develop relationships with peers, to establish personal preferences and to experiment with various social roles while also noting themselves as major providers of positive activities both in terms of recreational and educative positive activities.

According to Klinsmann, (2018), Building a youth center as part of youth development should be considered as growth process but with the involvement of the community. Their potential to function and have positive impact on the community can be influenced through recreation activities while ability to create problems in their society is mitigated.

Youth who actively involved themselves in sports both middle & high school showed more positive attitude towards life when compared to non-sport participants which implies less negative attitude among sports participants. (Bailey et al, 2011). The World Health Organization recommends that adolescents should engage in at least 60minutes of moderate to vigorous-intensity physical activity per day, including play, games, sports, and exercise

(such as cycling or walking) or physical education. (<https://www.gigadocs.com/blog/youth-and-the-importance-of-physical-and-mental-health>)

Spending time in nature has been proved by previous studies to improve health, but people are increasingly removed from it. Natural elements of the environment is not fully recognized maintaining ecological balance. Therefore, Hamida et al,(2016) in his study suggested harnessing recreation facilities to do recreation activities in the park, lake and waterfall as the awareness on the use of the leisure time among the society is still unclear and lack of understanding on the definition of leisure time . As part of the numerous scientific investigations in the area of mental health, in which the myriad of ways that contact with nature contributes to our health and well-being has been validated; Frederick Law Olmsted also convincingly argued the importance of establishing large urban parks where the general public could connect to nature, breathe fresh air and engage in recreation activities.

This can be attributed to Landscape architecture not given the deserved emphasis and considerations in the built environment during design and construction in spite of its offer of an increased livability, improved health, flexibility, enhanced energy and environmental performance to facility owners and users. . He then reiterated the benefits of landscaping as:

- Local noise and heat reduction
- Reduction of storm water runoff reducing local flooding.
- Improving peoples' mental health
- Creating green buffer zone to increase livability
- Reduction in evaporation and soil degradation
- Reducing heating and cooling costs

- Controlling temperature extremes, stay cooler in summer and warmer in winter
- Attractive environment for entertaining and relaxing

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Chapter Three

Methodology

3.1 Preamble

Research is a process to discover new knowledge. According to Mae (2021), Research is a systematic inquiry to describe, explain, predict and control the observed phenomenon. It involves inductive and deductive methods. Research methodology can also simply be referred to as the various processes, procedure, methods and instruments by which data are secured, specified, collated, processed and analyzed

This study is meant to identify different types of landscape elements applicable for use in RC and their psychological effects on users' wellbeing; therefore, a case study research approach is adopted.

According to Adewumi et al (2020), a case study is a well-documented and systematic examination of the process, decision-making and outcome of a project, which is undertaken for the purpose of informing future practice, policy, theory and/or education.

A case study is expected to capture the complexity of a single case, and the methodology which enables it has developed within the social sciences. The methodology is not only applied in social sciences but also in practical-oriented fields such as environmental studies (Johansson, 2003). The case study should have a case which is the object of study. The case is expected to be (i) a complex functioning unit (ii) be investigated units natural context with multitude of methods (iii) be contemporary. The concept of 'case' in a 'case study' may be a relatively bounded object or a process; it may be theoretical, empirical, or both. At a minimum, a case is a phenomenon specified to time and space.

The case study approach is particularly useful to employ when there is a need to obtain an in-depth appreciation of an issue, event or phenomenon of interest, in its natural real-life context. In order to achieve a significant architectural service delivery, case study is a powerful tool in carrying out investigations about relevant existing building typology for further analysis and deductions. (Adewunmi et al 2020)

In this study, the cases selected for study describe exemplary projects that showcase exceptional landscaping work, and are assessed on their potential health benefits and limitations. Methods adopted in gathering case study information include:

- Site visits
- Historical analysis
- Site analysis
- Behavioural analysis
- Interviews with managements
- Archival material searches including project files, articles, public records
- Web searches

Case studies are carried out on some existing RC in three cities in Nigeria and three foreign states for the purpose of this study. The case studies are meant to serve as guide towards achieving a realistic design so that the proposed can inculcate some of their merits and also improve on the demerits especially in attaining a unique design form that will improve quality of life in youths. The case studies include:

1. Agodi Garden, Parliament road, Agodi, Ibadan, Oyo State
2. Upbeat Recreation Centre, Lekki Phase 1, Lagos
3. Don Boscaw, Alakia, Ibadan-
4. Rock Regional Recreation Centre

5. Georgia College & State University, Students Wellness & Recreation Center,
Georgia

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3.2 Case Study Two : Agodi Garden, Parliament road, Agodi, Ibadan, Oyo State

3.2.1 Brief History

Agodi Gardens is located at the heart of the metropolitan city of Ibadan in Oyo State, Nigeria, within over 150 acres of green land, located along the State Secretariat road.

Agodi Garden, formerly Agodi Zoo & Botanical Gardens was created in 1967 as a recreation facility in the Western Region, It was initially a forest reserve with thick plantations.. It was functioning as same until 1980 when Ogunpa flood disaster swept most of the animals and left the place in a deplorable condition. However, it was later renovated and given a facelift to a twenty-first century park and garden by the State Government in 2012 and reopened to the public in 2014. Agodi Gardens offers recreation facilities, games, sightseeing and other fun seeking adventures

3.2.2 Description of the Garden

Agodi garden has only three built structures i.e., the public toilet, the musical stand and the changing room building for the swimming pool, other land areas are covered with both natural, soft and hard landscape elements.

Facilities at the Garden include:

- Water Park
- Merry-go-round
- Boat Ride
- Forest Reserve
- Mini Zoo \
- Play Area and Rides for children
- Lake

- Garden and PicnicArea
- Swimming Pool
- Restaurant
- Local Shops
- Horse Riding

3.2.3 Appraisal

i. Merits

- It has a beautiful scenery, warm and friendly environment to hang out
- Effective use of both soft and hard landscape elements
- Well zoned external parking with non-interference of recreation activities
- Caters both children and adult recreation activities

ii. Demerits:

- Walking through the forest reserve zone is at self-risk as no activity takes place there and it is getting taken over by uncultured bushes
- Non-provision of a comfortable pavilion to accommodate seats and protect the users against rainfall during recreational activities.



Figure 3.1: Lay-out Plan of Agodi Garden Ibadan



Figure 3.2 : View of Agodi Garden Entrance Gate



Figure 3.3 : View of the Musical stage Pavilion at Agodi Garden Entrance Gate



Figure 3.4 : :View of the Pool side



Figure 3.5: Showing the Beautiful Landscape

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3.3 Case Study Two: Upbeat Recreation Centre

3.3.1 Brief History

It is located on the 11, Admiralty road, Off Admiralty Way , Lekki Phase 1, Lagos.

Upbeat, the West Africa's Trampoline Park foremost recreation center was born out of the need for a new and exciting recreation initiatives as well as quality sports and recreation facilities in the Lekki Phase 1 community. A contribution which could greatly impact the lives of not just the families, youth and communities of Nigeria, but of all West Africa. It is built on the Lake shore. Construction of the center was completed in December, 2017.

3.3.2 Description of the Garden

Architects: Mika Associates

Upbeat recreation center, is sited a small available space on the Lagoon shore at Lekki Phase 1 area of Lagos. However in spite of land constraint, the available space is maximally utilized through provision of spaces for Trampolines, Wall Climbing, Foam Pit, Virtual Reality Games, PS5 Games, Team Bonding activities, Arts and Crafts, Five-a-side football, basketball, food court/outlet, parties, Musicals meetings and events. The main hall is constructed with steel frame tent structure covered with leather trampoline, thereby giving room for less concrete use. Nature of the site provides advantage of cost economical construction.

3.3.3 Appraisal

i. Merits:

- Advantage of the Lagoon view as natural landscape element
- Eco-friendly light framed structure
- Flexibility in space partitioning
- Maximum and effective use of available space
- Excellent and quality service in a safe environment
- Well defined ample parking lots
- Limited sport facilities but well zoned
- Provision of recreation services for both children and adults

ii. Demerits

- Uncelebrated Entrance
- Minima landscape elements
- Land constraint
- Noise absorption from external source
- Due to land constraint, the site lies virtually at the edge of the main road



Figure 3.7: Google Location Map of Upbeat Recreation Center

Source: Google Map

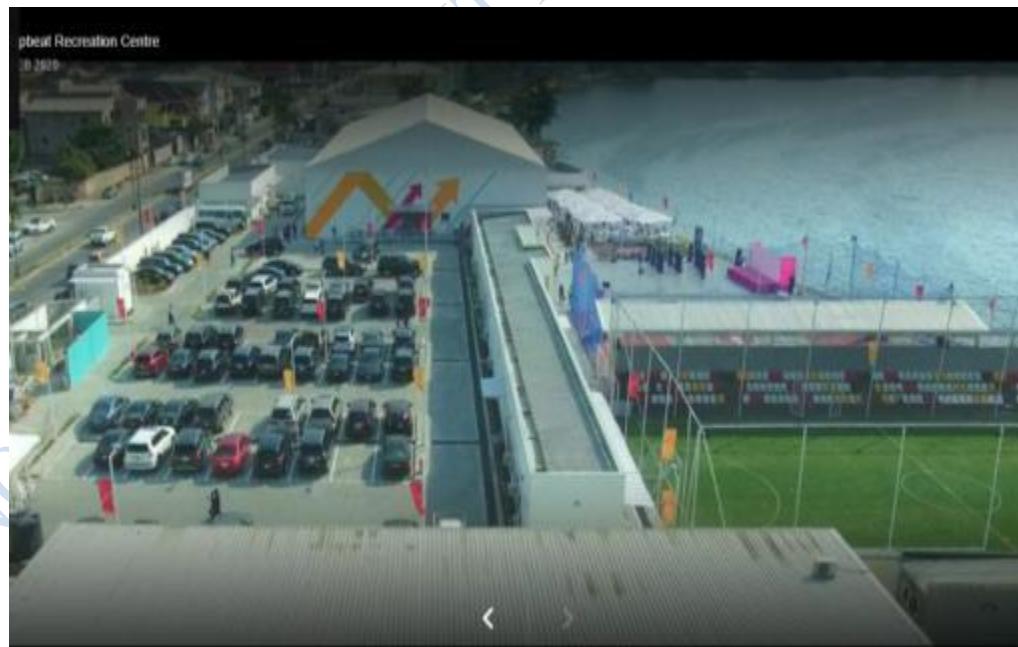


Figure 3.8 Google Location Map of Upbeat Recreation Center

Source: Google Map



Figure 3.9: Interior view of the Multipurpose indoor games hall



Figure 3.10: View of the Lagoon from Upbeat recreation center



Figure 3.11: View of the sport field at Upbeat recreation center

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3.4. Case Study Three : Don Bosco Youth Center

3.4.1 Brief History

It is located at Ogungbade area, off Ibadan-Ife Express road, Egbeda Local Government area, Ibadan

A Catholic youth center established for grooming youths regardless of religion.

3.4.2 Description of the Center

Don Bosco Youth Center is a recreation center with sporting facilities, event space, meeting hall and a greenish garden for all kinds of outdoor activities. The sporting facilities for youthful activities include: basketball, volleyball football, Lawn tennis courts as well as table tennis and snooker indoor games. The entire premise is well landscaped with lawn, hedges, shrubs, trees and beautiful flowers. The hall building is only meant for religious, educative and social activities like meetings, seminar, workshop, training, lecture, community gathering etc. Both the greenish lawn area and the meeting hall are let-able to the public.

3.4.3 Appraisal

I Merits:

- Always of good atmosphere & serene
- So recreational and sporty to the core
- Effective use of trees and shrubs at Greenish garden
- Indoor & outdoor games
- Open garden for social activities
- Good service road network within the premises

- Provision of accommodation facilities for visiting participants
- ii. Demerits
 - Limited parking space
 - Users encounter movement challenges due to bad road condition
 - Marshy lawn during heavy downpour
 - Too much use of concrete which makes all their buildings look massive
 - No covered pavilion to shield people from rain during sports activities
 - All sports activities are outdoor



Figure 3.12: View of the massive structures as hostel buildings, Don Bosco, Ibadan



Figure 3.13: View of the Sports Field, Don Bosco, Ibadan



Figure 3.14: View of the Handball court, Don Bosco, Ibadan



Figure 3.15: View of the Multipurpose hall, Don Bosco, Ibadan

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3.5 Case Study Four : Rocky Regional Recreational Center

3.5.1 Brief History

Rocky Regional Recreation Center is located at 50 Street, Rocky Mountain House, Alberta,

T4T 1W7 Canada. Formerly ‘Christensen Sports & Wellness Center’ was built in 2016 until 2021 when it received a new name; ‘Rocky Regional Recreation center’. The new name, RRRC is meant to reflect the realities of geography, municipal collaboration and the many area residents who access the facility every day. The Rocky Recreation Center is built on Treaty 6 Territory, which is a traditional home and meeting ground for many indigenous people including the Blackfoot, Cree, Saulteaux, Stoney and Metis. As captured by its new name, it is a hub of region.

The annual operating deficit of recreational facilities and programs including the Rocky Regional Recreational Centre is shared equally between the Town of Rocky Mountain House and Clearwater County. The center boasts two ice surfaces, a fitness center, studio and multipurpose meeting rooms.

3.5.2 Description of the Garden

RRRC is a year-round recreation facility that houses two indoor ice surfaces, a fitness center, a curling rink with a lounge, on-site catering and concession services, child-minding, Co-op Sports Store, and rentable meeting room. This recreation center features a large banquet hall, outdoor riding arena, baseball diamonds and a sports field. It is a home to all recreation facilities at various locations within both municipals e.g. Rocky Curling Club, The Extra End Lounge, Bragg Creek Provincial, Langdon Park and The

Arts And Crafts Guild. Rocky Mountain Recreation is meant to optimize the recreation potential of the natural environment while preserving the inherent characteristics of those areas and to offer out guests the best customer service, ensuring they have a positive and comfortable experience

3.5.3 Appraisal

i. Merits:

- It serves a region i.e. Town of Rocky Mountain House and Clearwater County. that consists of more than one municipal
- It optimizes the recreation potentials of all geographical natural environments
- Use of materials that compliment natural surroundings
- Provision of recreational activities for all age group i.e. from children to the aged.
- Consideration for both the living and the dead e.g. remembrance forest to immortalize the late loved ones.
- Advantage of the sport activity facing any side of the sports hall through shielding of direct sunlight



Figure 3.17: View of the Rocky Regional Recreation center at Rocky Regional Recreation Centre



Figure 3.18: View of the Multipurpose sports hall completely shielded away from sun glare at Rocky Regional Recreation Centre



Figure 3.19: View of the Large Park and Garden area at Rocky Regional Recreation Centre



Figure 3.20: View of the different type of trees in the Remembrance forest explored within natural garden at Rocky Regional Recreation Centre



Figure 3.21: View of the Adult active center at Rocky Regional Recreation Centre



Figure 3.22: View of the Children Play Center at Rocky Regional Recreation Centre

3.6 Case Study Five: Georgia College & State University, Student Wellness & Recreation Center

3.6.1 Brief History

Located at 134 West Campus Drive, Milledgeville, Georgia 31061. Its mission is to instill a healthy lifestyle in all of its graduates and emerging interest in wellness across the campus community. This is also to bring recreation, health, counseling services and athletics together in a gateway building for the campus. The center helps to increase recreation and intramural sports offering.

3.6.2 Description of the Center

Architect: Cannon Design in association with Menefee + Winer Architects. The facility is home to three Georgia College; Students' Health Services, Counselling Services, and Wellness & Recreation. It offers a wide variety of activities program, fitness, aquatics, organized and free-play sports, health and wellness as well as outdoor adventures. A framed structure with complete curtain wall on the exterior.

3.6.3 Appraisal

i. Merits

- Internal thermal control in spite of glazed wall
- Elevated running track on the first floor, while maximizing
- Clear view the environment while inside the center.
- Advantage of the sport activity facing any side of the sports hall through shielding of direct sunlight



Figure 3.23 View of the Façade of Student Wellness & Recreation Center. Georgia College & State University



Figure 3.24: Elevated running track at Student Wellness & Recreation Center Georgia College & State University



Figure 3,25 : Clear view the environment while inside the center at Student Wellness & Recreation Center, Georgia College & State University



Figure 3.26 : External sitting area for relaxation at Student Wellness & Recreation Center, Georgia College & State University

3.7 Case Study Synthesis and Conclusion

3.7.1 Common spaces to all the cases :

- Green area
- Walkways and lawn
- Parking
- Natural Landscape

3.7.2 Special spaces in each of the cases

1. Agodi Gardens, Ibadan

- Lake for boat ride
- Mini zoological/ botanical garden

2. Upbeat Recreation Center, Lekki Phase 1, Lagos

- View of the Lagoon from the center
- Flexible open multipurpose games hall

3. Don Bosco Youth Center, Egbeda, Ibadan

- Provision of accommodation facilities for sports visiting participants

4 Rocky Regional Recreation Center, Canada

Optimizing the recreation potentials of all geographical natural environments of the entire region it covers

Consideration for both the living and the dead e.g remembrance forest to immortalise the late loved ones

6. Georgia College & State University, Student Wellness & Recreation Center,

Georgia

- Elevated running track

3.7.3 Deduction from Case Studies

- 1) Advantage of incorporating multiple recreation activities
- 2) Recreational building, whether large or small, should encourage civic pride and assist the process of revitalizing the deprived neighborhoods.
- 3) Use of lighter skin, high performance glazing and insulated metal panels but without jeopardy to human comforts
- 4) Flexible modular design system to allow for future modification in case of new innovations and technology
- 5) Sports hall are usually of industrial building components, thus careful design to avoid factory or warehouse impression should be avoided vide aesthetics
- 6) A good landscape to link the buildings to their surroundings help to create a calm feeling from stress.
- 7) All levels must be capable of being accessed by users with disabilities via a lift irrespective of the size of the center.
- 8) All corridor and door openings width, changing rooms and toilets must consider ease movement for wheel chair users.
- 9) In sports hall, entrances must be well defined with respect to users, while exit must be easily identified .
- 10)

The entrance foyer being the hub of the sports building must have sufficient space and volume for people to circulate, view notices and wait for friends at comfortable surroundings.

Chapter Four

Site Analysis and Design Synthesis

4.1. Brief and Brief Development

4.1.1 The Design Brief

The design of Recreation center requires taking cognizance of certain parameter to ensure effective planning with respect to the

- use of space, the comfort of the users
- the population of users
- contribution to quality life
- the functionality of the total environment in meeting their recreational psychological, environmental and social needs.

A properly designed and well landscape recreational building achieves harmony of spaces, increased functional efficiency and minimized drainage problem.

The orientation, lay-out arrangement, the design of the building and the complimenting landscape elements will contribute to the quality of comfort achieved and minimized cost. Also, provision for future expansion growth in population as well as new innovation and modern techniques is considered.

4.1.2 Brief Development

The proposed RC intends to provide minimum required standard for a functional recreational facility in Ibadan. Thus, in conformity to the set standards, spaces to be provided include: Multipurpose Sports Hall, Relaxation area, Indoor games, Fitness room, Cardiovascular/ Weight room, First aid facilities, Cafeteria, Clubbing, Musical

arena, social or communal activities, Parking and administrative offices. Effective flow of space and flexible configuration is achieved through zoning of all facilities required.

4.2 Study Area

Nigeria is located in the equatorial region between latitude 4°N and 14°N. Longitude 3°N and 15°N. It is divided into 36 States and the Federal Capital Territory, Abuja. Oyo, a State in Nigeria was one of the three states carved out of the former Western State of Nigeria in 1976, including now Osun State, split out of Oyo state in 1991. It is located in the South-West geopolitical zone. Ibadan the capital city of Oyo State and the third most populous city in Nigeria, after Lagos and Kano, but the largest city with an area of 3,145sq.km.

Ibadan is divided into 33 Local Government areas including Ibadan North-West Local Government Areas including Ibadan North-West Local Government. It was created in 1989, has a population of 117,129 (2006 population census) with a landmass of 10.954sqkm. It covers parts of Dugbe, Onireke, Eleyele, Idi-Ishin and Salvation Army. Due to its mission to reach the people at the grassroot, a new Local Council Development Area, Oke'badan was carved out of it in 2012.

The climate is tropical in Ibadan. When compared with winter, the summers have much more rainfall. This climate is considered to be Aw according to Koppen-Geiger climate classification. The average annual temperature is 25.9° C/78.5° F in Ibadan, About 1,467mm/ 57.8 inch of precipitation falls annually.

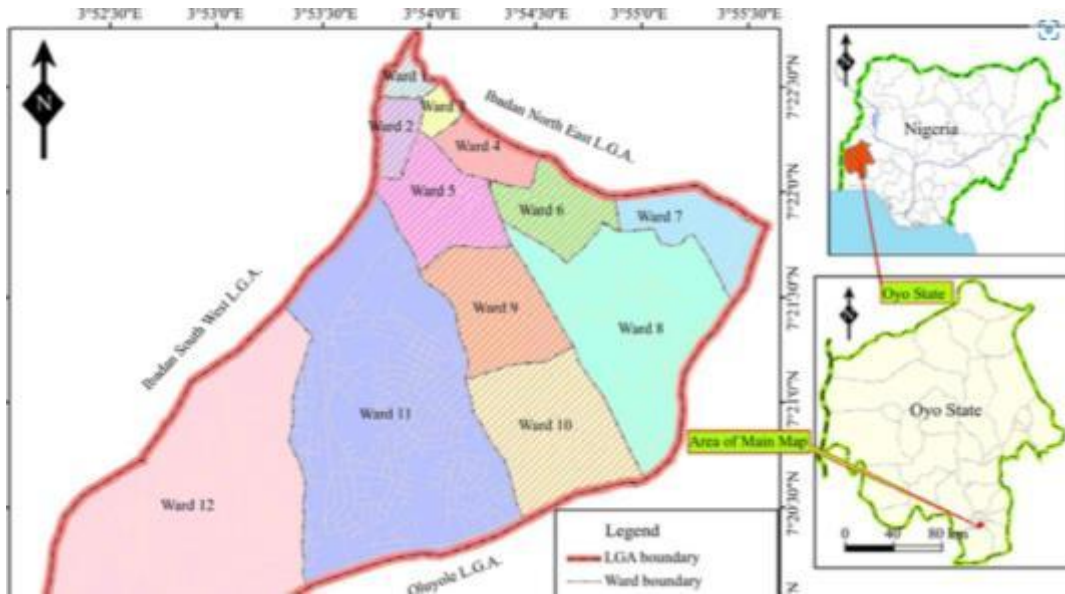


Figure 4.1: Map of Ibadan North-West LGA showing coverage areas

Source : Google Map 2022

4.2.1 Site Location

Oyo State is not particularly known for its large water areas, unlike Osun and Ogun States. Its dams and water bodies are scattered around and such not magnified compared to bordering states that receive their names from rivers. However, somewhere in IBNW Local Government Area of the state, Eleyele to be precise, a water body passing through it, is found very close to Eleyele Water Corporation Dam. Eleyele Lake is situated at North-West of Ibadan. It has its headquarters at Onireke , Ibadan. It covers an area of 26sq.km. with a population of 152.834 (2006 census). The lake is usually flooded during early period of rainy season. It covers some part of Ijokodo, Apete, Awotan. Ologuneru, Agbaje, Idi-Osan and Eleyele.

Lake Eleyele is situated in North-west of Ibadan, Oyo State. IBNWLGA has its headquarters at Dugbe/Onireke, It covers an area of 26km² with a population of

152,834 as at 2006 census. This could have been advantageous as a tourist centre. Some individuals sailors have taken advantage of this as a replica of road transportation business in moving people to and fro Eleyele and other communities like Oba-Ado, Apete and Alaakuta in Ido Local Government Area. To some community members it is a better and faster means of transportation. This water body also serve as source of livelihood to some individual fishermen for their fishing business.(Hamzat, 2020). The site is located within Eleyele Area of Ibadan in Oyo State. It is on the shore of Eleyele Lake (Water body) in IBNW LGA. Nonetheless, premised at the fact that advantage, aside other uses of the Lake, can be taken for recreation facility, the Lake shore is being considered for locating the proposed RC. Existence of this lake fills the gap of natural landscape element which when complimented with urban landscape, aids mental wellbeing and quality life.

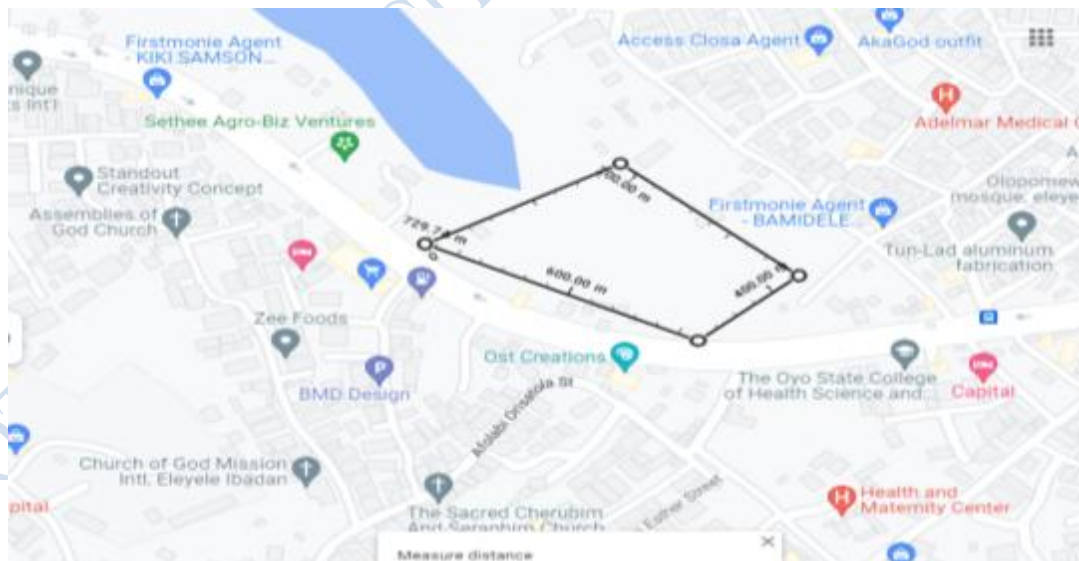


Figure 4.2: Map showing site location at the shore of Eleyele Lake

Source : Google Map 2022



Figure 4.3: Map showing Aerial view of the site at the shore of Eleyele Lake

Source: Google Earth 2022



Figure 4.4: The street view along the access road to the Proposed RC site



Figure 4.5: View of the vegetation on the proposed site for the proposed Recreation Center

4.2.2 Site Selection Criteria

The peculiarity of the project requires provision of Recreation facilities with integration of Landscape elements to aid mental health in Youths of various status, thus, the site is selected based on these major criteria aside other factors:

- Its nearness to four different tertiary institutions: i) The Polytechnic, Eleyele Road, Ibadan, ii) Oyo State College of Nursing and Midwifery iii) Oyo State College of Health Science and Technology iv) Federal Cooperative College, Ibadan.
- existence of virtually few RC within the entire IBSW LGA aside Polo Golf Club, Eleyele, Ibadan, some private club houses and schools' sports field
- its proximity to view of an existing Lake, to be complimented by other relevant landscape elements, for soothing relief from stress and improved quality of life

- Location prominence and opportunities for visual communications/signage to encourage use of facility.

Other criteria considered is:

- i. **Site Accessibility**: The site has an easy and convenient access for both vehicle and pedestrians from the major Eleyele-Sango road while a pedestrian access is provided from the lake side for community members being transported to the site through the Lake.
- ii. **Nearness to Public utilities** :The site has access to basic infrastructural amenities e.g. good dual carriage road, portable water through State water Corporation from either Eleyele Dam of the Lake, Electricity, Telecommunications, Security, etc,
- iii. **Drainage and Topography** : The site has a two-way gentle slope i.e. towards the Lake and the main road which makes the terrain to be relatively flat. Advantage of the slope towards the lake is utilized for effective drainage flow. Concealed drains with effective manholes is preferred to open drains for the economical (maintenance) and environmental (hygienic) reasons.
- iv. **Site Analysis and Inventory**: The chosen site for any project has a great influence on the final resultant composition of the solution in all areas. The site being the major variable for emergence of appreciable percentage of any development is very vital. The specific aspect of the site, its micro-climate are thus a complex interaction of any factor, orientation, scope, topography, temperature patterns, humidity, precipitation, presence or absence of water, seasonal availability of sunlight especially in urban areas, the influence of other buildings. The layout of the buildings will be greatly determined by the topography and the physical features e.g. water bodies, local climate, trees, access,

utility lines found on site. To achieve the aim of the project, a thorough analysis which enhances an in-depth understanding of the project suitability is necessary. Site analysis aids functional development of the relationship that exists between the site and also a direct reflection and adaptation of its environment.

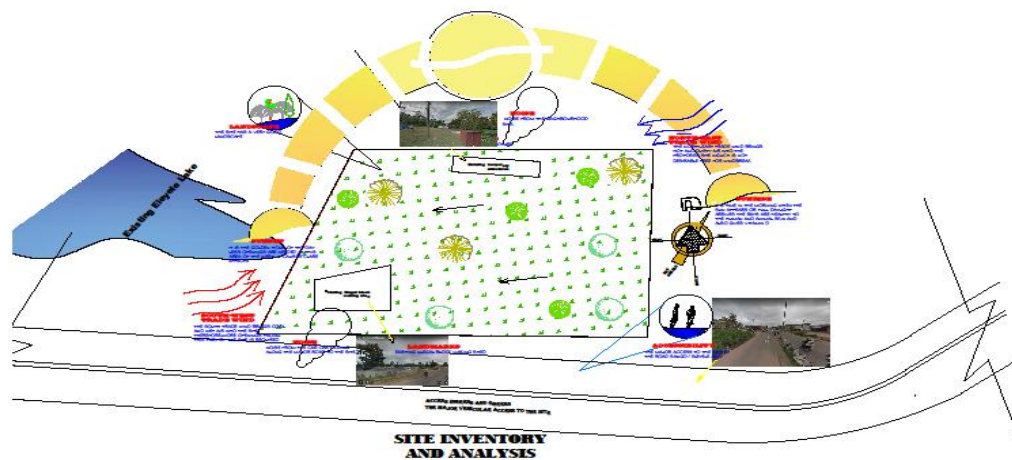


Figure 4.6: Site Analysis of the proposed site

Source Researcher's field survey 2022

- v. **Vegetation** : Eleyele is located within the tropics, hence it enjoys two distinct seasons which are cold and dry. This enables a wide range of vegetation ranging from thick undergrowth, short grasses shrubs to evergreen trees especially with the presence of lake, in the site immediate environment. At the time of conducting site investigation, the site was covered with shrubs, grass, vegetable leaves and few trees which are to be removed. Planting of trees will effectively help cool the environment thereby reducing

urban heat islands. The vegetation will runoff and improves water quality by absorbing and filtering rainwater. Proximity of the existing water landform to the project site, aside the trees and shrubs, could make its construction require hard shoreline stabilization which may include bulkhead and seawalls.

vi. **Soil Condition:** It has a firm laterite soil with good sub-surface conditions for construction and landscaping. It provides satisfactory geological and soil condition with no rock crops. Buildings, though of less size and magnitude, exist close to the site which tends to affirm the suitability of the soil load bearing capacity for construction and if otherwise, appropriate foundation type and construction method will be adopted.

vii. **Wind Direction:** The North-East trade wind brings cold, dust, harmattan which causes discomfort. The South-West trade wind provides cool humidity which gives comforting effects to the users. Adequate ventilation of both natural and artificial is considered as part of the functional arrangement. The short part of the proposed multipurpose sports hall building will face the direction of North-East trade wind while the long side will face the South-West wind. Planting of trees along NETW will prevent direct impact of the wind into the site.

viii. **Sun Direction:** Use of daylight in particular, the sports hall, is carefully considered as regards the likely technical issues that must be weighed against the perceived benefits which include:

- Heat gain
- Control of glare
- Stable and uniform levels of lighting
- Local cooling

Planting trees and vines to the west tend to provide cooling effect and also give shade to the windows and part of the roof. .

ix. **Geographical / Climatic Data of the Study Area**

The climate when compared with winter is tropical in Ibadan. According to Koppen-Geiger climatic classification Aw, It has a tropical wet and dry climate with longer wet season and relatively constant temperature all through the year. The annual temp. of Ibadan is 25.9°C / 78.5°F. The temperature never falls below the comfort limits. Ibadan observed wet seasons that run from March through October.

CLIMATE GRAPH // WEATHER BY MONTH IBADAN

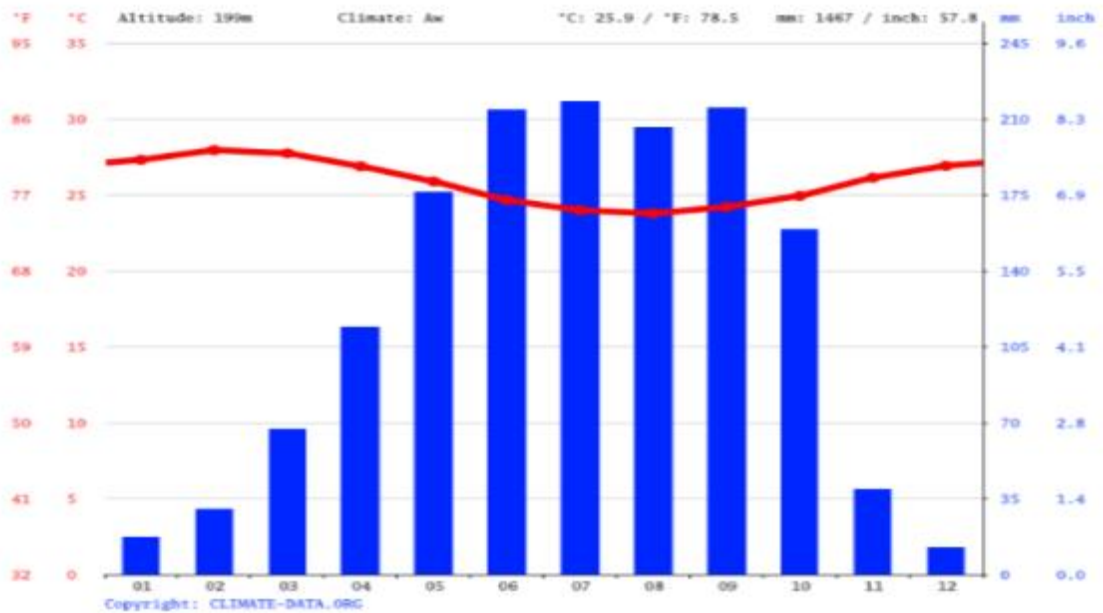


Figure 4.7: Chart of the climatic /Weather condition by month in the study area

Source : Google Map 2022

The driest month is December. There is 12mm /0.5 inch of precipitation in December. It reaches its peak in July with an average of 218mm / 8.6 inch.

AVERAGE TEMPERATURE IBADAN

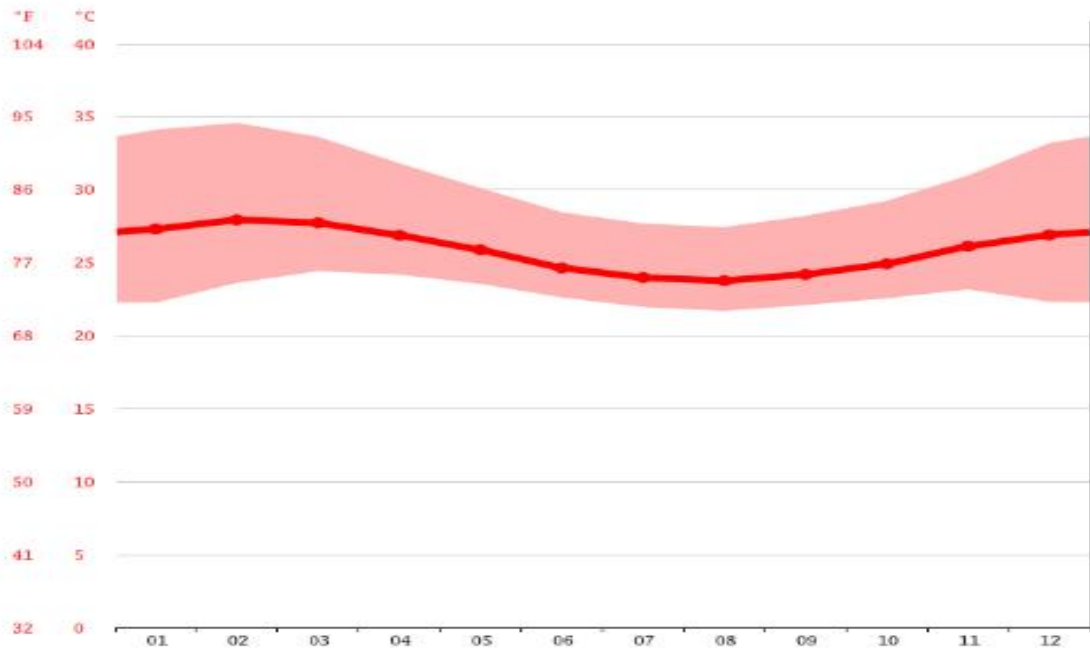


Figure 4.8: Chart of the climatic /Temperature condition by month in the study area

Source : Google Map 2022

x. **Prevailing Wind:**

The proportional wind pressure to the wind velocity is used in ventilation. The determinants of wind loads for roof design should reflect maximum values to avoid such roof being blown off. South-West wind and North-East wind dominate the site.

The SWTR blows for about eight months in a year between the months of March to October each year while the NETR blows for about four months in a year between the months of November to February.

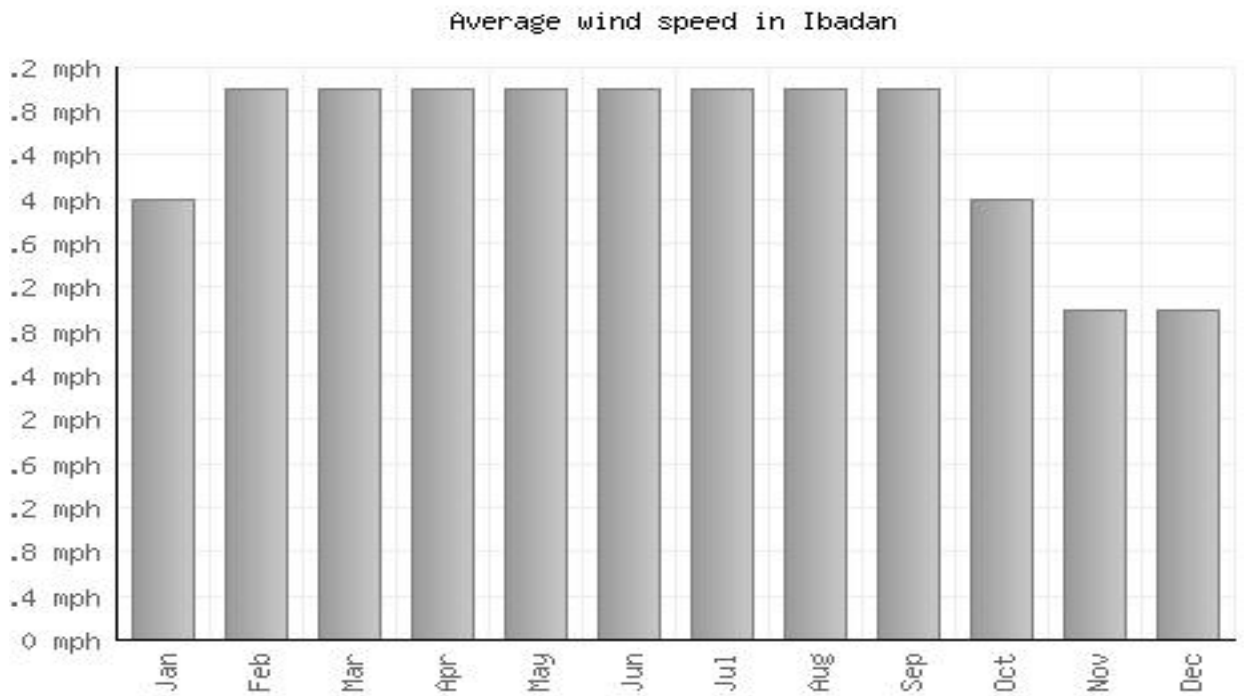


Figure 4.9: Chart of the Average Speed wind in the study area

Source : Google Map 2022

xi. Relative Humidity

From November to January there is a general reduction in the relative humidity; during the rainy season (April to October), the temperature also drops with a corresponding rise in relative humidity

xii. Precipitation /Rainfall :

Monthly rainfall between May and July is at average of over 300mm, while between August and September it reduces to 75mm and as low as 35mm in January. The main dry season is accompanied by harmattan winds from the Sahara Desert, which is from December to early February.

4.2.3 Conclusion:

The site for the Proposed Recreation center for Youths in Ibadan North-West Local Government area, Ibadan meets up with the requirement of an ideal site selection. The site is accessible, free from all encumbrances and answers the observed inadequacy of such facility within the area. .

4.3 Project Analysis and Design Synthesis

In the design of a Recreation center project, certain parameters need to be taken into cognizance to ensure effective planning with respect to the use of space, the comfort of users, their population and the functionality of the total environment in meet their recreational psychological, environmental and social needs. The limiting control guidelines impose restrictions on the design of site. A properly located building achieved harmony, increased functional efficiency and minimized drainage problem. The orientation, Ly-out arrangement, the design of the building and the materials used can contribute to the quality of comfort achieved and minimized cost.

4.3.1 Design Criteria

Designing a recreation center requires several design considerations with respect to their impact on the overall building. These include:

- a) Site selection
- b) Space requirement
- c) Structure – Economical Structural spans and spacing modules

- d) Ventilation (natural and mechanical means)
- e) Air Temperature (passive)
- f) Lighting-daylight, bright lit walls with energy efficient technology (solar panel)
- g) Acoustics-sound absorptive materials
- h) High performance features (green architecture)
- i) Population and accommodation schedule

4.3.2 Project Analysis

This refers to ideas derived from specific existing instances e.g. in architecture, five (5) main concepts have been identified which include:

- i. Analogous- considering other things with some resemblance or proportion
- ii. Metaphor- looking at abstraction
- iii. Essence- considering true and significant nature
- iv. Pragmatic- considering practical actions concerned with making decisions
- v. Ideal- identifying best possible ways of solving architectural problems.

Site Concept:

This refers to the idea behind the initial and overall planning of the site activities in relation to the existing physical situation on site. This can be influenced by the existing structures and their organization; physical features e.g rock, road, views etc. The proposed site is designed to take advantage of wind and sun directions, topography and an existing geographical feature i.e. Lake

Design Concept:

A pragmatic approach is taken in evolution of building form and functional flow of spaces. Technical requirements such as area of space per person, circulation space for different activities as well as the desired user capacity are also considered. These include but not limited to the followings: The circulation patterns will follow a sequential progression through the building :

- From the entrance foyer and reception
- to the refreshment area to the
- Leading to the changing and toilets
- Changing to activity spaces

The center is planned to provide a simple, economical and spacious circulatory system with safe and secure access through the design and not by reliance on closed circuit television system. Each project has its peculiarities, however, any free standing sports hall within a recreation center should have :

Sports Hall: A nominal 34.5 x 20.0 x 7.5m four-court badminton configuration recommended as multi-sports hall is propose in order to maximize space. This allows many sports e.g. badminton, basketball, handball, volleyball, netball, five-a-side, and table tennis; to be played along the length of its space. The hall can also be used for other social activities when the sports equipment is removed. There room for flexible expansion/contraction through vertical folding partitioning.

Toilet Accommodation :

The toilet is planned economically to share lobby with the changing rooms, while affording the conveniences access to sports, social and office areas . The number of toilets is determined based on the calculated maximum capacity of the building.

Table 4.1 : Spatial Analysis per unit of a Sport Court

| type of sport | net useable area | | | | additional obstruction-free zone | | obstruction-free gross useable areas | | clear height |
|----------------------------|------------------------|-----------------|---------------------|-----------------|----------------------------------|----------------|--------------------------------------|---------|-----------------------|
| | permissible dimensions | | standard dimensions | | | | | | |
| | length m | width m | length m | width m | long sides m | short sides m | length m | width m | |
| badminton | 13.4 | 6.1 | 13.4 | 6.1 | 1.5 | 2.0 | 17.4 | 9.1 | 9 ² |
| basketball | 24-28 | 13-15 | 28 | 15 | 1 ³ | 1 ³ | 30 | 17 | 7 |
| boxing | 4.9-6.1 | 4.9-6.1 | 6.1 | 6.1 | 0.5 | 0.5 | 7.1 | 7.1 | 4 |
| cricket ¹ | 29.12-33.12 | 3.66-4.0 | 33.12 | 4.0 | 1 | 1 | 35 | 6 | 4.0- 4.5 ² |
| football | 30-50 | 15-25 | 40 | 20 | 0.5 | 2 | 44 | 21 | (5.5) |
| weightlifting | 4 | 4 | 4 | 4 | 3 | 3 | 10 | 10 | 4 |
| handball | 40 | 20 | 40 | 20 | 1 ⁴ | 2 | 44 | 22 | 7 ¹⁴ |
| hockey | 36-44 | 18-22 | 40 | 20 | 0.5 | 2 | 44 | 21 | (5.5) |
| judo | 9-10 | 9-10 | 10 | 10 | 2 | 2 | 14 | 14 | (4) |
| netball | 28 | 15 | 28 | 15 | 1 | 1 | 30 | 17 | (5.5) |
| body-building | 12 | 12 | 12 | 12 | 1 | 1 | 14 | 14 | (5.5) |
| gymnastics | 52 | 27 | 52 | 27 | - | - | 52 | 27 | 8 |
| bicycle polo/stunt cycling | 12-14 | 9-11 | 14 | 11 | 1 | 2 | 18 | 13 | (4) |
| rhythmic gymnastics | 13 ² | 13 ² | 13 ² | 13 ² | 1 | 1 | 15 | 15 | 8 ² |
| wrestling | 9-12 | 9-12 | 12 | 12 | 2 | 2 | 14 | 14 | (4) |
| roller skate hockey | 34-40 | 17-20 | 40 | 20 | - | - | 40 | 20 | (4) |
| roller skating/dancing | 40 | 20 | 40 | 20 | - | - | 40 | 20 | (4) |
| dancing | 15-16 | 12-14 | 16 | 14 | - | - | 16 | 14 | (4) |

Source : Researchers field survey 2022

First aid / Physiotherapy – Service for immediate medical attention. Close to instructor/ referee’s room.

Café – This is located close to the entrance foyer to enhance the welcoming ambience and also enable the center benefit from the customers’ secondary spend.

Mechanical room – Control for heating, lighting and/or ventilation systems to maintain the internal space at a comfortable temperature for users.

Within the MSH are spaces for main activities like:

Equipment room – For keeping trampolines and other fixture equipment

It is accessed from the hall wide door opening and with at least 2.5m height. Provision for floor socket type, posts for selected sports to be stored vertically.

Weight rooms in addition to traditional fitness center would be an added advantage for youths to release stress in a safe and healthy way.

Snacks and Bar: To promise over-all being, nutritional offerings like smoothie bar and dietician services would be provided.

Cleaners' Store: There is provision for a separate storage, close to the changing rooms, for keeping cleaning equipment and materials.

Fitness Equipment room – A room for general fitness and conditioning activities in a more casual way than the main sports activities in a more casual manner other than the usual main sports programmed for the sports hall.

Reception Desk- This is prominently located, within the entrance, and with provision for monitoring fire and safety systems. The desk design is to have a dropped part to attend to wheelchair users and children.



Figure 4.10: View of prominently sited receptionist desk



Figure 4.11: View of the stair from the reception

Mat Store : The store is for keeping mats usually on a purpose-designed trolley that can be pulled out for safe and easy access. Since these mats are potentially fire-risk, a four-hour fire-rated walls equipped with a smoke detector alarm system and vented to the external air, for the store is considered. A wide entrance opening provides easy access and movement of trolleys for the mats.

Games Room- A video calm or communicative chat room (as required) which creates meeting avenue for people feeling the same way since they all come from different backgrounds

Changing Room:

Normal maximum occupancy level and mode of use are basic determinants for changing capacity Easy access of the changing room for wheel chair users is paramount. However, it is ideal that a proportion of the cubicles be considered for both male and female users who prefer privacy The changing room entrance is to be screened off the views from the circulation space.

A. Recreation area

i. Gazebo

- A free standing permanent outdoor structure typically octagonal or circular and roofed
- Perfect places to rest and enjoy scenic view of the musical garden and the Lake

ii. Musical Garden

- Within Gazebo area, for musical entertainment especially in the evening
- Along the lake side view for relief from stress
- Good soft landscaping in growing shrubs and flowers aligning the walkway border to make the garden interesting and lively

iii. Open Ground for Social / Communal Activities

- Use of shed trees along the borders away from the activity area
- Flexibility in choice of temporary shed and seat arrangement
- A pavilion for the musical and high table stage

iii. Walkways and Lawn

- Hard landscaping elements to add beauty to the structure thru outdoor furniture (seat) and outdoor facilities
- Small pebbles and rocks to solidify stability
- Drives and walks being primary structures are to give quick access from the points of approach to the entrance of the building

4.4 Design Features

Sports Building

Walls:

- Internal wall can be cladded with plywood panels, wall screed etc frameless in other spaces except the sports hall which is provided with curtain flush framed glazed panels.
- It is to run the full wall height and with consistent color
- Wall color should contrast with floor and be uniform

Doors and Windows:

- Doors are to flush with internal wall surfaces
- External windows are to open outwards away from the wall surface while sliding sideways on internal walls.
- Sport hall doors must be detailed for safety and without any hazardous projection
- Escape doors require paneling above and below crash bar



Figure 4.12: Sports hall door flushing with the internal wall surface

Sport Hall Floor:

- To achieve effective floor in a multipurpose sports hall, a range of timber materials such as beech, maple or oak either solid or veneer and various composition as synthetic materials are considered.
- Positions for fixed and other portable sport equipment as well as floor sockets are integrated in the design.
- The color of floor is considered to integrate into the design, wall reflectance and lighting scheme.

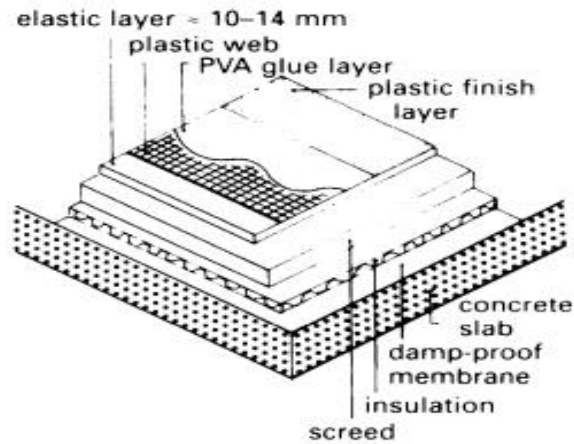


Figure 4.13: Impact/sound absorbing floor finish for sports hall

Color marking lines on the mat for different sports court:

Table 4.2: Sports Line Marking Color Analysis

| S/N | Sports | Line Colour | Width |
|-----|-------------|----------------|-------|
| 1 | Badminton | Black | 40mm |
| 2 | Netball | Red | 50mm |
| 3 | Volley ball | Green or other | 50mm |
| 4 | Five-a-side | Others | 50mm |
| 5 | Basket ball | White | 50mm |

Roof: Roof and structure must:

- Be uniform and with preferably more than 90% reflectance
- Provide for acoustic absorbency

Ceiling: Where suspended ceiling is unavoidable, it must be impact resistance

Landscaping

Planting of trees and plants as simple vegetation helps to cool the environment and also reduce urban heat islands. When planting is done in strategic places around buildings, they mitigate use of energy. They can also be used to shade pavements in walkways, driveways and parking space. Effective control of glare, noise, pollution and climate can be achieved through trees planting.

However, location of the project takes an advantage of an existing lake as natural landscape while use of both hard and soft landscape elements are also adopted. This will include but not limited to

deciduous and evergreen plantings (open ground), masonry walls (sidewalls along ramp and steps), shrubs and flowers at recreation area, walkways, lawns and parking lots.



Figure 4.14: Decorative stone along garden step sideways



Figure 4.15: Trees planting along parking lots median provide extensive shading coverage



Figure 4.16: View of hedges along path sideways

4.5 Conceptual Development

This refers to the ideas derived from specific instances, in architecture, five (5) main types of concept have been identified they are;

Analogous i.e. looking at other things ii. Metaphor i.e. looking at abstraction iii.

Essence; looking beyond the function iv. Pragmatic; looking at the function v. Ideal; solving architectural problems.

Site Concept: The site concept deals with the idea behind the initial and overall planning of site activities in relation to the site's existing physical situation. This is influenced by existing buildings and the way they have been organized; physical features such as rock outcrops, roads, and views to be taken advantage of, among others. The site for the proposed Library has been planned and designed to take advantage of the nature of the surrounding environment as it relates to the winds, the sun, topography and existing services.

Building Concept: A pragmatic approach was taken towards the generation of the building form and arrangement of spaces. Technical requirements such as area of space per person, circulation space requirements for different activities, among others, were considered for the spaces so as to achieve the desired user capacity. Flexibility in the layout of spaces was also an important consideration.

4.5.1 Functional Relationship

The functional relationship chart shows the degree of relationships among the various spaces in the facility. It helps to see at a glance which spaces are or not related to one

another. This helps to locate related spaces within easy proximity of each other and isolate those which are not related. It also aids zoning and functionality of the spaces.

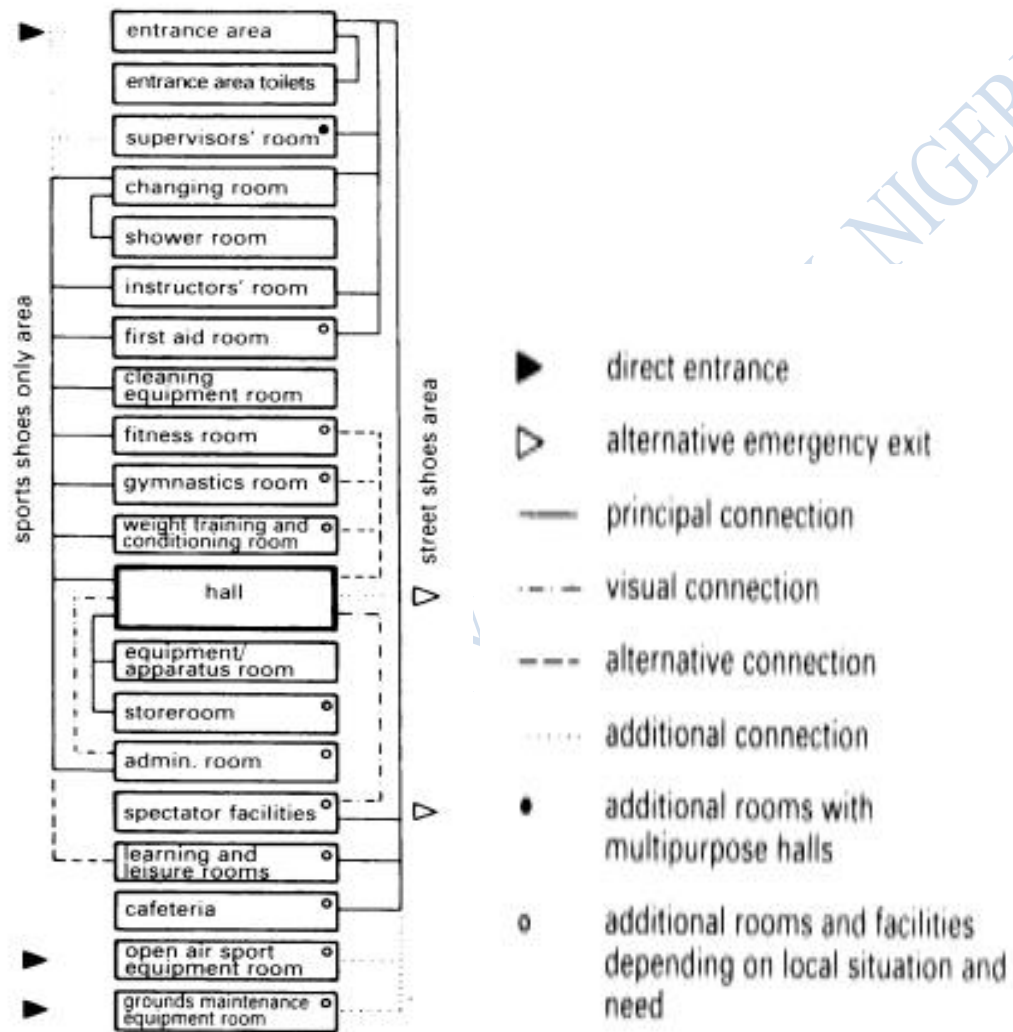


Figure 4.17: Space Functional Relationship of the Sports Hall

Source : Researcher's field survey 2022

4.5.2 Space Allocation/ Schedule of Accommodation

Space allocation and schedule of accommodation is brought about by the functional spaces required as determined by their hierarchical status in relation to the proposed

spaces. A RC as a public space should be devoid of narrow lobbies and obstruction to free movement of users, equipment, materials as well as services. This will not only reduce traffic built up, prevent accidents but increase efficiency of services and ultimately users satisfaction when large population is experienced during events. Also minimum comfort of each of the users/occupants is very significant and should be appropriately considered in spaces provided.

4.5.3 Construction Methods and Materials

The choice of materials as well as method of construction will be influenced by the location of the facility. A recreation center in its nature is meant to accommodate various activities and vast of people, therefore it is highly significant that sustainability and durability of the facility is prioritized in choice of materials. To ascertain the soil safe bearing capacity, effects of wind, necessary relevant tests and investigation will be done. Functionality, effectiveness and efficiency in both structural and aesthetic design will be ensured through engagement of the services of relevant certified building professionals. The choice of finishes will ascribe judgment to the acoustic, thermal aesthetics and other factors while use of space will determine the choice of furniture and fixtures.

4.5.4 Pre- Construction Operations

This refers to the operations and services to be rendered by the contractor and other concerned agencies. This tends to evaluate safety and health aspects of the project execution, formal documentation, ensuring access and safety of both the facility and the users. It is highly significance to familiarize parties involved in the project contracting,

execution, maintenance, regulatory and other external agencies by initiating a pre-construction conference. This will facilitate effective, timely and successful operations.

4.5.5 Construction Operations

The substructure of the building comprise mainly foundation of which the type will be determined after necessary tests and investigations. However, if the soil within the site is firm, well compacted, with good load bearing capacity and has the presence of rock boulders running underneath the soil layer, normal strip foundation would be employed because of the characteristics of the soil. The quality of the foundation materials will offer resistance to chemical and pose adequate compressive strength; this will aid in conveying the weight of the building without any form of differential settlement.

A. Sub-structure:

The operations involved in sub-structural stage include :

- a) Site Clearing ; The landed area must be made free of all vegetation to allow for ease of construction exercise.
- b) Removal of Topsoil; The topsoil over the building area is removed to an average of 150mm, while it will be retained at other areas for landscape planting.
- c) Site Hoarding: This refers to erection of temporary barrier round the perimeter of the site to provide security and safety of materials and equipment. This is completely removed after completion of major construction works.
- d) Setting out : All dimensions on the building drawings are transferred to the site to get the internal and external spaces well appropriately defined. This is done in relation to the existing road which is the reference mark and with the use of theodolite to ascertain appreciable degree of accuracy.

- e) Excavation of Trenches : On certified and completion of the setting out process, trenches for walls and columns are excavated to the structural Engineer's specified depth with the use of excavator.
- f) Blinding of trenches : This refers to casting of concrete bed for all walls, columns, and pad bases as foundation footings. It is to be laid in line with the slope of the site. The bases will be adequately reinforced to structural details.
- g) Laying of foundation block walls: The specified blocks are well laid in stretcher bond and filled with weak aggregate. This is done to improve the strength of the blockwall in foundation.
- h) Backfilling with laterite : All the space between the block wall in foundation including the remaining excavated trenches are backfilled with laterite sand, well rammed and compacted to receive hardcore and concrete slab.
- i) Laying of Hardcore : 300mm thick weathered hardcore is evenly spread on the compacted laterite to support and strengthen the concrete slab self load.
- j) Damp Proofing : This can be bituminous felt or damp proof polythene membrane. It is laid over the entire area of foundation to disallow capillary of water to the floor slab and block wall above foundation.
- k) In-situ concrete floor slab : A formwork to the recommended thickness of the floor slab is first constructed round the perimeter of the building . BRC Wire mesh, to reinforce the concrete slab, is laid on the hardcore and in-situ concrete slab is cast to the specified thickness. In sports hall, insulating materials as recommended are put in place before or after casting e.g the cement screed finished with elastic layer for insulation against sound. All studs for fixing movable equipment, plumbing pipes and sockets must be positioned before floor casting work.

- 1) Curing of the concrete slab: This is a process of regular wetting of the newly cast concrete slab for between 21-28 days. There is tendency of the concrete to compressive properties wetting process prevents cracks during contraction and improves the strength of the concrete.

B Superstructure :

The building will be steel- framed structure with glazed curtain external walls.

Reinforced concrete will be used for columns, beams, and slabs. Majorly. 150mm thick sandcrete block and non-flammable light aluminum partition will be used for walls except for gazebo where burnt brick is recommended for walls. The ceiling and doors will be fire-rated while insulation materials will be considered in selection of materials for both walls and floors. Mechanized anti-fire equipment will however complement the fire prevention system put in place.

The super-structural works comprises six basic components namely: Walls, Floor, Doors, Windows, Ceiling and Roof

- i. The floor being a structural member is to withstand imposed load, absorb heat and sound, resist fire, ease maintenance, aesthetically appealing and prevent dampness. Safety, comfort, durability, are part of the necessary requirements it must also meet. All floor slab surface will be finished with tiles of different properties but high quality and well insulated elastic layer in sports and games hall
- ii. Walls: The appearance and look of a building is the function of the type of its wall. The major role of wall in building includes but not limited to protection against sun, wind, dust and safety from animal attack. Considerably, strength; stability; resistance to dampness; thermal conductivity; sound insulation; fire resistance and aesthetic properties are very significant in choice of walls. The building is a framed structure that

will have all internal walls to be 150mm thick sandcrete block wall and light aluminum partitioning while the external walls will be of 225mm thick sandcrete block wall and curtain glazed panel wall. Lift well is enclosed with structural aluminum wall panels while the stair balustrade is of steel member to prevent fall from the stair.

- i. Doors: High quality imported flush, panel, glazed and metal door in manufacturer's thickness will be used at different places as deemed appropriate. All door height is 2100mm and 2500 at the storage areas for ease of movement of the sports equipment. The width of the doors range from 900mm to 2400mm
- ii. Windows: Aluminum sliding glazed window is recommended for all internal window openings. Projected glazed window in aluminum pane will be installed on internal window openings.
- iii. Ceiling: The ceiling material choice will be suspended pre-cast gypsum board of 600mm x 600mm in aluminum hanger. This will help in housing major electrical wiring and also good for acoustic consideration. A choice of good patterned board will add to the aesthetic look of the ceiling
- iv. Roof: Roof serves as a cover over a building. A functional roof must be strong enough to withstand force from weather. It must be durable, fire resistance, sound insulating, and thermal friendly. The roof construction method is influenced by the design and the span. The dominant roof design is mono slope with effective pitch, supported by the columns in framed structure, is adopted for this building.

1.6 Building Services

It is important that the building be put into maximum functional use through effective circulation, ventilation, lighting, ,water supply, electricity supply, sewage disposal and fire protection.

i. Circulation

Circulation refers to both vertical and horizontal, pedestrian and vehicular movement of people and materials from one point to another within the site. Circulation in a recreation center require large space for ease and free flow movement. The pattern should enforce sequential progression through the site. Well lit environment will also aid movement during dark

ii. Ventilation:

Ventilation can be natural or artificial. Effective temperature difference or wind action to induce air movement is a function of natural ventilation while ventilation through air-conditioning system and extractor fans for maintaining the required level of temperature, humidity and air movement is regarded to be artificial means of ventilation. Nonetheless, the proposed building will be ventilated and cooled by both natural and artificial methods.

iii. Lighting System :

In the design of a RC, lighting is an important factor to consider because of its physiological and psychological effect on the building occupants. The visual sense of wellbeing is associated with day lighting and the orientation that comes with its connection with the exterior. The proposed buildings are designed to have access to the natural daylight. While the sports hall building features energy-efficient lighting, some technical issues to be weighed against the expected benefits of day lighting include:

- Glare control
- Stable and uniform levels of lighting

- Small amount of day lighting in a roof light or a sideways to create somber and chill internal atmosphere on the wall.

However, some sports like badminton, table tennis and gymnastic have strict advise against day light in sport halls. Artificial Lighting system is based on the priority activities requirement while ensuring provision for other potential activities. It is considered for activities like badminton running across the hall would definitely be more adequate for other activities running along the length of the hall.



Figure 4.18: A combined elastic floor, wall of appropriate RV and compacts light between courts to **Lighting System** :

Advantage of the proximity of the existing Eleyele. Dam is utilized as source of water mains for effective and regular water supply from the existing Dam reservoir which serve the entire Eleyele and other neighboring communities. Provision for drilled borehole shall be made as an alternative means of water supply. This is to ensure unfailling and regular supply of water.

iv. Electrical System :

The center is meant to solely depend on an effective solar panel system as its main source of electricity supply while an alternative source will be from the Power Holding Company of Nigeria (P.H.C.N) lines. The required electricity distribution network to all units within the center will be from a new transformer purposely designated to the center. All electrical appliances and installations shall be in accordance with the specifications of the electrical service Engineer. A solar panel system will be provided as an alternative electricity power supply to ensure round-the-clock electricity power. Electrical control room will be provided within the sports hall to attend to electrical wiring issues.

v. Mechanical System :

The usual observation on heat and ventilation system in sports hall has been overheating and stuffing in warm summer; excess cold/draught; smells from heating system when started up after being dormant in summer. This will be controlled with ducted warm air system means of integrating heating and ventilation to give appreciable degree of quality control and also achieve good distribution and efficiency all through the air. In a sports hall, heating and ventilation is required throughout the year. An overall minimum temperature range of 12-16°C is considered appropriate to satisfy all users. The type of heating system has an influence on determining clear height / space requirement and sports. Fresh air at the required rate will save air fan power and heating system.

B. Fire Protection:

There is need for provision of both fire prevention and protection measures to mitigate fire outbreak. The objective of fire protection is to prevent occurrence as well as spread while escape or rescue of persons is facilitated. Active fire protection measures like

fire/smoke detectors, sprinklers and fire alarm system will be deployed for automatic effective service discharge in the event of fire outbreak. Passive fire safety means include measures put in place as building components during construction e.g. easily identified and well-marked exits. Provision of fire extinguisher, horse reel, smoke and heat detectors, to help reducing fire spread. It also includes structural sections, firewall, compartmentalization, fire doors and windows, construction of additional floors etc.

C. Waste Disposal :

Provision for storage facilities will be located at strategic places while refuse will be handled and collected on regular basis in line with public health requirements. At every floor, waste will be collected in garbage chute and then taken to the designated waste dump building.

D. Acoustics:

A large sports hall require good acoustic due to its volume. Acoustic consideration is influenced with size, shape, location and use of a space. Absorptive materials adopted as finishing to wall, floor and ceiling e.g. sound reflecting / absorbing material, volume resonator, foam, acoustic tiles; can be used to insulate a space against sound.

Sound Insulation:

Heating and ventilation equipment and the attention given to openings should be able to minimize background noise in the buildings. Noise is regarded as unwanted sound especially from the surrounding of the building. When a building is well insulated, distraction from external source is prevented.

E. External Works

When the external scaffold and the good hoist have been completely removed, the tower cranes dismantled and floors at crane position closed in, the external works such as sewage treatment plant, kerb construction, landscaping as follows will commence:

1. Landscaping:

Landscaping employed for this project will include: placement of lawns; trees; shrubs; ground cover; tiling; walls and seasonal planting. Planting trees, a crucial part of landscaping, shall be maximized as environmental control; so also provision of potted plants within interior spaces both to improve mental health. A mixture of different elements will be used to enhance the landscaping exercise.

2. Walkways and Drive-ways

Project shall generally provide for tarred driveways as well as street sidewalks, curbs and road-way pavements, consultation with landscaping professionals will be done in this regard. To beautify pathways, decorative stones will be employed. Retaining wall is to be introduced along levels change area.

3. Parking;

All parking lots will be paved, well defined with concrete kerb and appropriately marked. Porous pavements are desirable when budget and site condition allow for it.

Possibility of prioritization of pedestrian, cyclist and public transportation routes.

4. Drainage

The center premises will be graded to achieve effective drainage of waste water away from the building. The waste water from concealed drains will be transferred to the

designated underground soak-away pits. Run off water from surface drains and other impervious surface shall be reduced to the barest minimum.

5. Fencing

The entire center area will be fenced with block wall at the rear and left side while the frontal and the lake side will be fenced with

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Chapter Five

Conclusion

5.1 Summary

Filling the leisure time with beneficial and quality activities among youth is necessary to ensure youth life wellness in the coming future. It helps to reduce stress and increase physical wellbeing, improve emotion, spiritual and self-development. Other benefits of quality leisure time activities can help to develop human capital in term of social development, spiritual, psychology and intellectual. Potentiality in youths can be discovered when gainfully engaged in positive social and recreational activities.

5.2 Conclusion

Part of what makes a rich, lively and appealing community that promotes quality living are establishment of RC spread around the urban spaces –from health, fitness, parks, to wellness facilities. They contribute greatly to a healthy, active, and interesting lifestyle. Recreation activities are better practiced in group to encourage the social integration of the individual with his environment. When done both indoors and outdoors, connections with the natural environment is experienced and a quality life is triggered.

5.3 Recommendations

- i. Mentality of the society is blind on the quality leisure time activity but aimed at fun only. This however necessitates understanding of activities for leisure time which aids balance in physical, emotion and spiritual wellbeing
- ii. Both natural and urban landscape must be considered in site selection for RC
- vi. Establishment of RC should be part of constituency projects in communities.

References

- Adewumi M.B, Z. K. (2020, September). Architectural Case Study as a Research Method- A. *African Scholar Journal of Env. Design & Construction Mgt. (JECM-4)*, 393-401.
- Akhimien, N. G., Isiwela, A. J., & Adamolekun, M. (2018). The impact of Landscape Architecture on the built environment. *Journal of Environmental Studies*.
- AMJ Global. (2022). *Mental Health*. Retrieved July 25, 2022, from <https://www.amjglobal.com/mentaldefined>
- Berma. (2012, November 3). Interacting with Nature Improves Cognition and Affect for Individuals with Depression. *J. Affect Disord*, pp. 300-305.
- Caluzzi, G., MacLean, S., Livingston, M., & Pennay, A. (2021). “No one associates alcohol with being in good health”: Health and wellbeing as imperatives to manage alcohol use for young people. *Sociology of Health & Illness*, 43(2), 493-509.
- Chepyator-Thomson, J. R., Seiler, S., Sonkeng, K., & Kim, S. (2021). Sport policies and their sociocultural impacts. In *Sport Governance and Operations* (pp. 21-38). Routledge.
- Dan, B. (2021). Effects of mental health on physical health. *Effects of mental health on physical health*.
- David Cutte, A. S. (2019). Landscapes for Better Mental Health. *THE FIELD*.
- Devi, R. (n.d.). The Importance and Impact of Recreational Activities in the Educational Curriculum. *Knowledge Review*.

Foster, E. (2020). Different Elements That Can Be Used In Landscaping. *Red Robyn*.

Fusar-Poli, P., de Pablo, G. S., De Micheli, A., Nieman, D. H., Correll, C. U., Kessing, L. V., ...
& van Amelsvoort, T. (2020). What is good mental health? A scoping
review. *European Neuropsychopharmacology*, 31, 33-46.

GroundGuys. (2015). Landscaping. *Bebefits of Landscaping*.

Ibadan Climate. (2021). Retrieved August 29, 2022, from Climate -Data.org:
<http://www.climate-data.org>

Imo-Eze, B. C. (2016, December 16). Youths Engagement in Positive Ventures will curb
Cultism, Armed Robbery, others. *The Voice of Reason*.

Hamida, Ahmad & Awang. (2016). THE EFFECT OF LEISURE TIME ACTIVITIES ON
LIFE QUALITY OF YOUTH IN MALAYSIA. *International Conference on Education
and Regional Development 2016 (ICERD 2016)*. Indonesia: "Cross-Cultural
Education for Sustainable Regional Development".

JumpSix2. (2016). The positive impact of community recreation centers. *Sports Facilities
Company*.

Junger, S. (n.d.). Lack of Community in Modern Society. *little village*.

Khachatryan, H., Rihn, A., Hansen, G., & Clem, T. (2020). Landscape aesthetics and
maintenance perceptions: Assessing the relationship between homeowners' visual
attention and landscape care knowledge. *Land Use Policy*, 95, 104645.

Klinsmann, I. C. (2018). Importance of Building a Youth Center in Nigeria and What Our Politicians Must Do.... *The Nigerian Voice*.

LandscapingNetwork. (n.d.). What is Landscaping? *Landscape Design*.

Lewis, H. (n.d). *Recreation-Prerequisite to Leisure*. Retrieved August 20, 2022, from (https://www.primidi.com/recreation/prerequisites_to_leisure)

Mae. (2021, 06 24). *Brainly*. Retrieved July 28, 2022

Martin-Storey, A., Dirks, M., Holfeld, B., Dryburgh, N. S., & Craig, W. (2021). Family relationship quality during the COVID-19 pandemic: The value of adolescent perceptions of change. *Journal of Adolescence*, 93, 190-201.

Mobily, K. E. (2018). The social construction of the moral values of activity. *Therapeutic Recreation Journal*, 52(1), 71-84.

Morgan. (2018). Importance of leisure and recreation for health. *Healthfully*.

McCarthy, J., Chaplin, E., & Bouras, N. (2022). Mental Health Services. In *Textbook of Psychiatry for Intellectual Disability and Autism Spectrum Disorder* (pp. 887-902). Springer, Cham.

Morgan. (2018). physical benefits of recreation. *healthfully*.

McHugh, T. L. F., Deal, C. J., Blye, C. J., Dimler, A. J., Halpenny, E. A., Sivak, A., & Holt, N. L. (2019). A meta-study of qualitative research examining sport and recreation experiences of indigenous youth. *Qualitative Health Research*, 29(1), 42-54.

More, A., Jackson, B., Dimmock, J. A., Thornton, A. L., Colthart, A., & Furzer, B. J. (2017). Exercise in the treatment of youth substance use disorders: Review and recommendations. *Frontiers in Psychology*, 8, 1839.

National Recreation Framework Working Group. (2015). *A Framework for Recreation in Canada*. Qttawa: Canadian Parks and Recreation Association/Interprovincial Sport and Recreation Council.

Ohamadike–Dunukofia. (2018). *Ohamadike–Dunukofiaortance of Building a Youth Centre in Nigeria and What our Politicians Must Do*.

Plumptre, E. (2021). Why Is Mental Health Important? *Verywell mind*, Risk Factors of Poor Mental Health.

Public Health Agency of Canada. (2021, November 23). *About Mental Heaalth*. Retrieved July 25, 2022, from www.cdc.gov.

Rotimi, O. (2016). *Violence in Nigeria; causes, effects and solutions*. yNaija.

Salmon, P. (2019). *Mindful movement in psychotherapy*. Guilford Publications.

Samuel. (2021). *An Idle Mind is the Devil's Workshop Means..*

Strachan, L., McHugh, T. L., & Mason, C. (2018). Understanding positive youth development in sport through the voices of indigenous youth. *Journal of Sport and Exercise Psychology*, 40(6), 293-302

Power, E. J. (2018). *The risk and protective factors of alcohol consumption identified within a youth centre on the west coast of Newfoundland* (Doctoral dissertation, Memorial University of Newfoundland).

Strachan, L., McHugh, T. L., & Mason, C. (2018). Understanding positive youth development in sport through the voices of indigenous youth. *Journal of Sport and Exercise Psychology*, 40(6), 293-302

Power, E. J. (2018). *The risk and protective factors of alcohol consumption identified within a youth centre on the west coast of Newfoundland* (Doctoral dissertation, Memorial University of Newfoundland).

UN YOUTH. (n.d.). *Definition of Youth*. Retrieved July 20, 2022, from (<https://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-definition.pdf>)

USHealthGroup. (2022). Symptoms of Mental Illness. *Mental Health Impacts on Physical Health*.

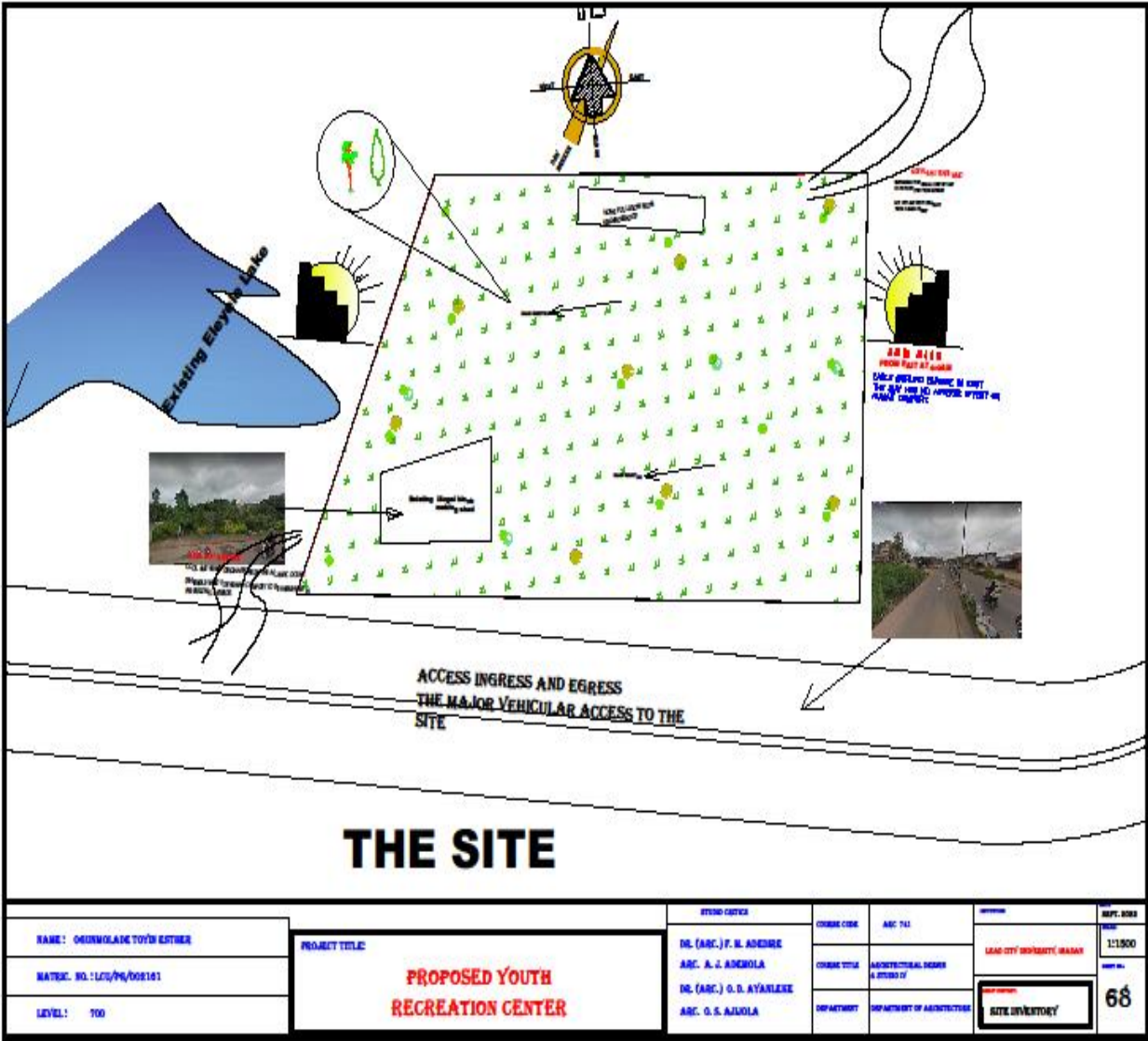
Using Trees and Vegetation to Reduce Heat Island. (2022, July 7). Retrieved July 20, 2022, from (<https://www.epa.gov/heatislands/using-trees-and-vegetation-reduce-heat-islands>)

Wallace, J. (2020). How Sports Can Help You Deal With Your Mental Health Problems. *psychreg*.

Witmer, D. (2021, February 16). Causes of Youth Violence.

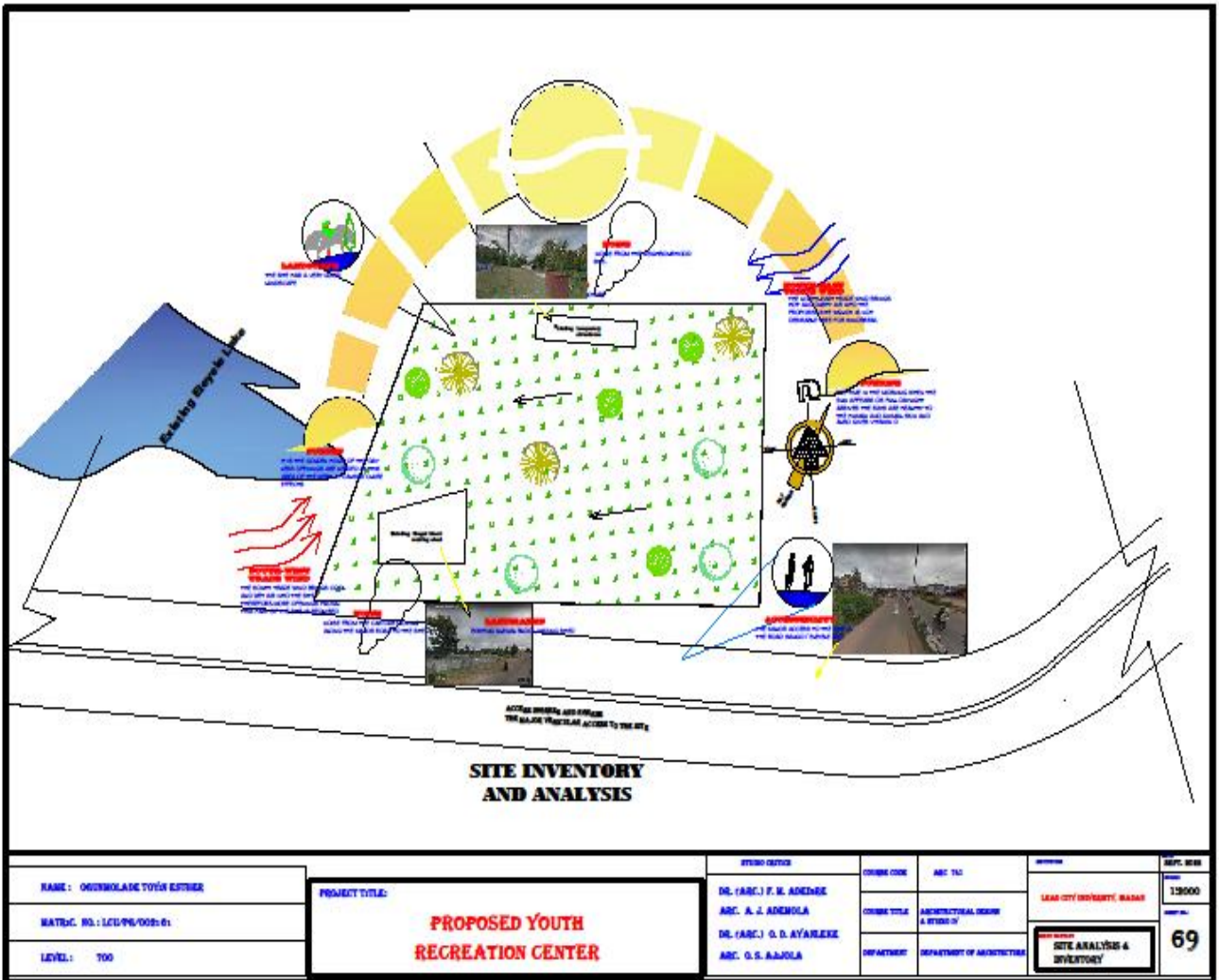
Appendixes

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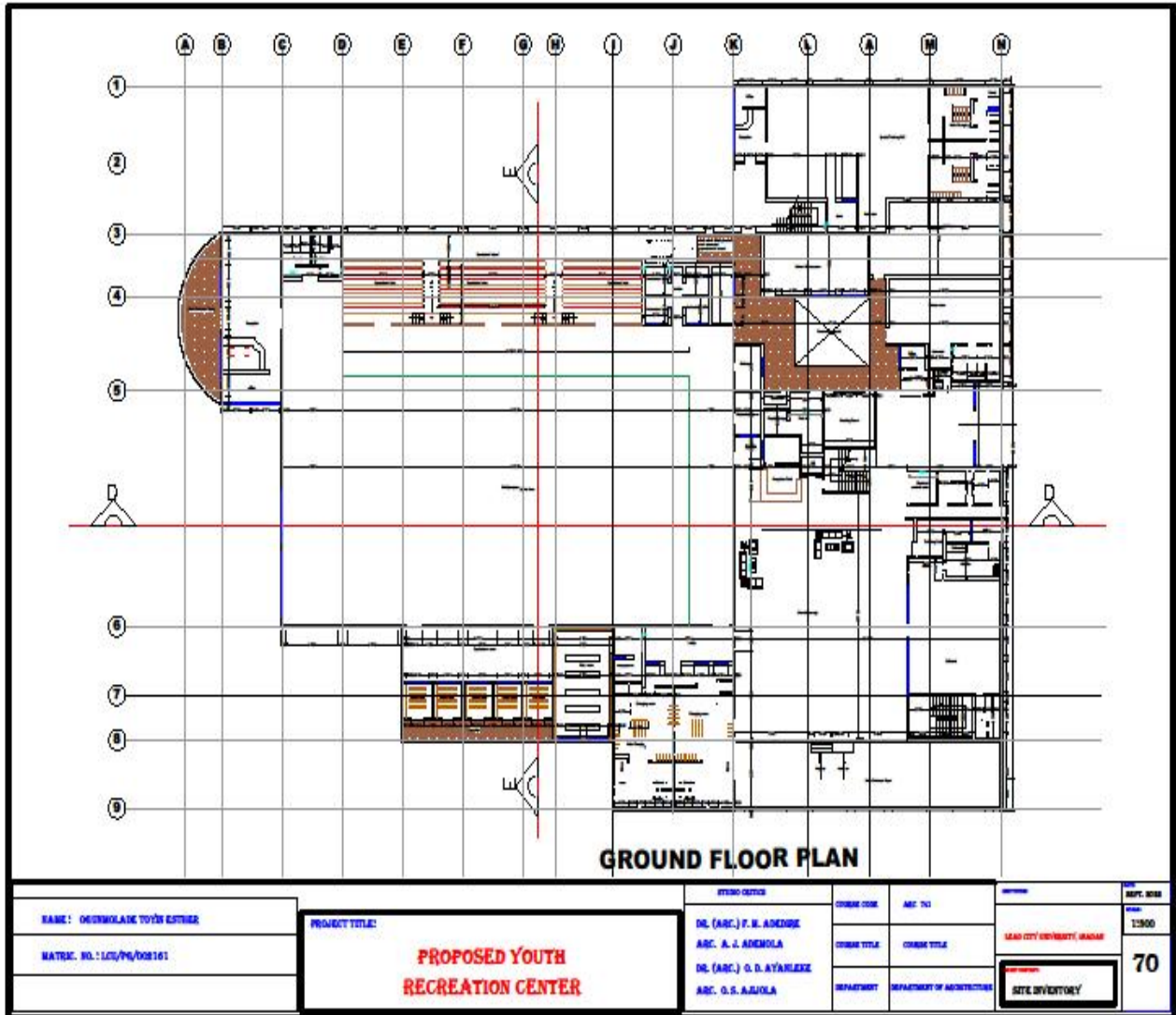
SITE INVENTORY

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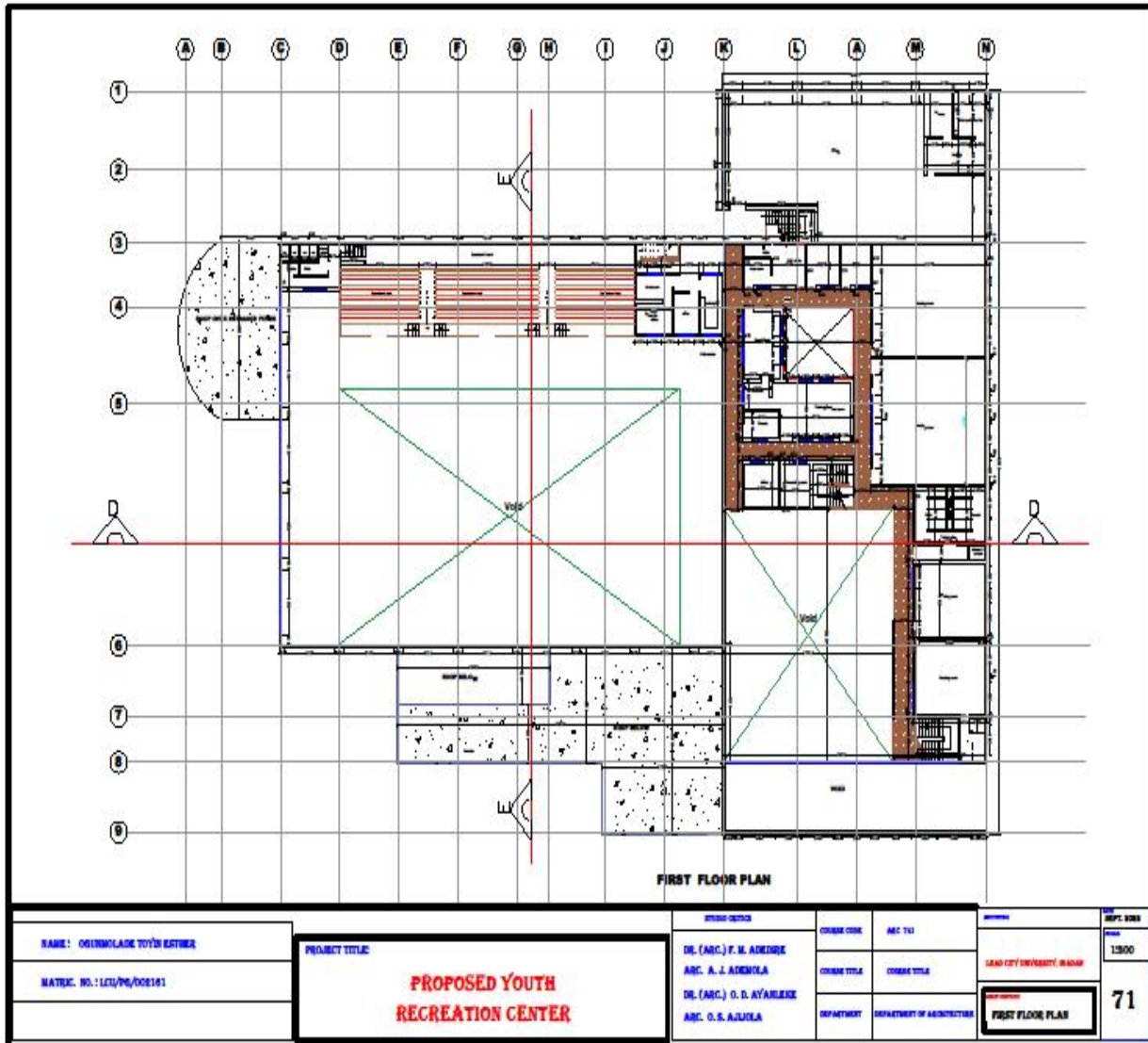
SITE ANALYSIS AND INVENTORY

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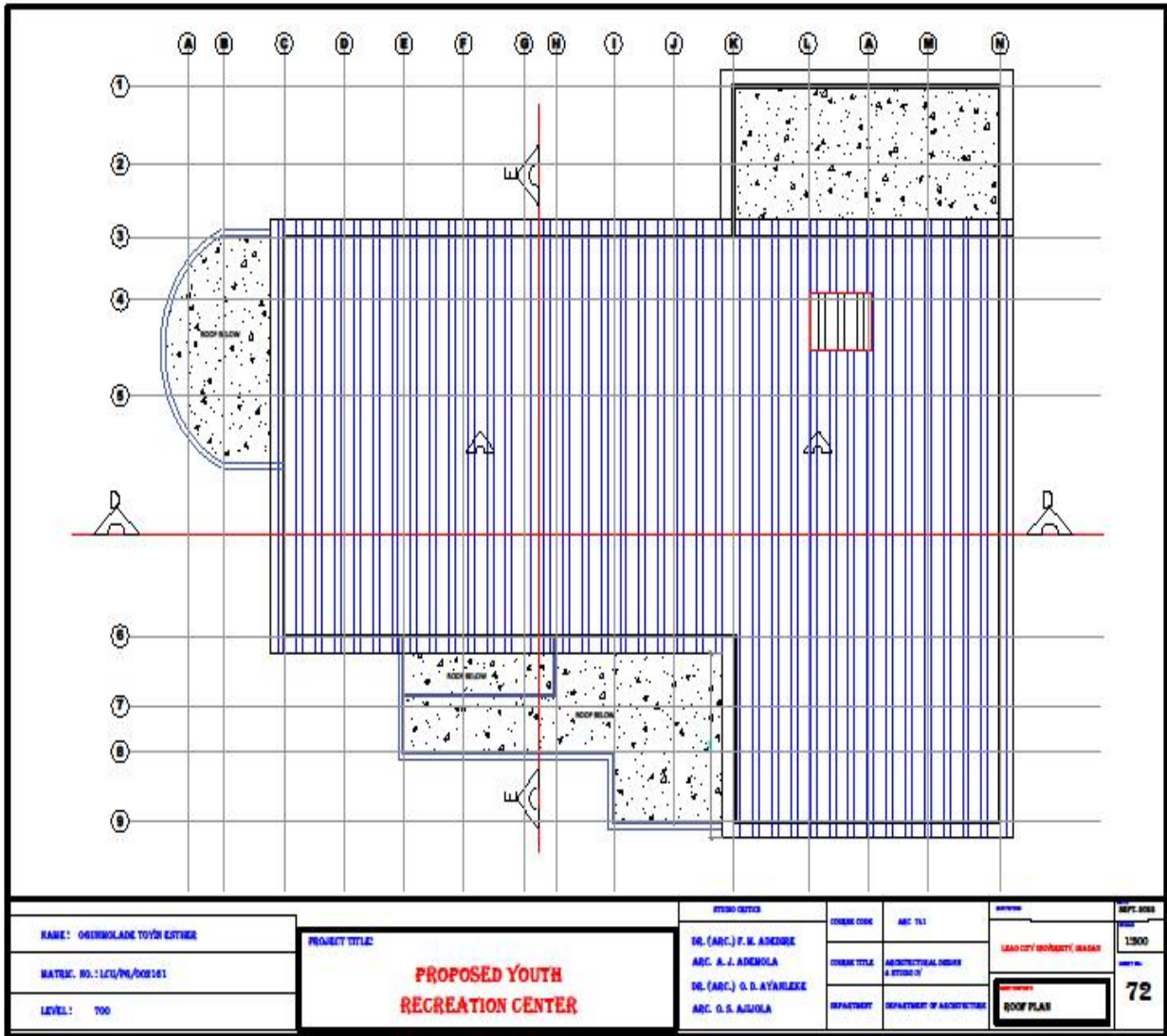
GROUND FLOOR PLAN

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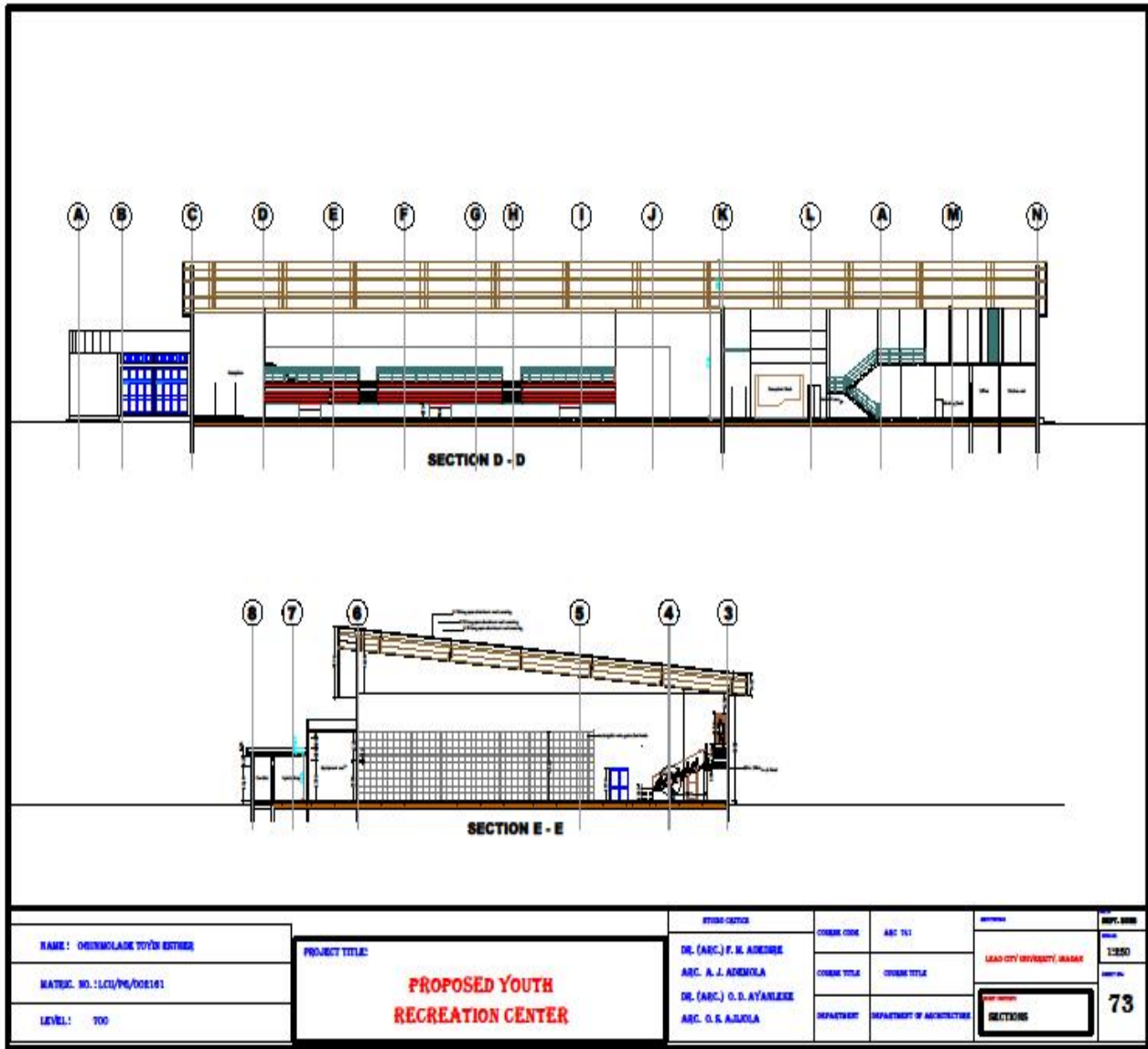
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RST FLOOR PLAN



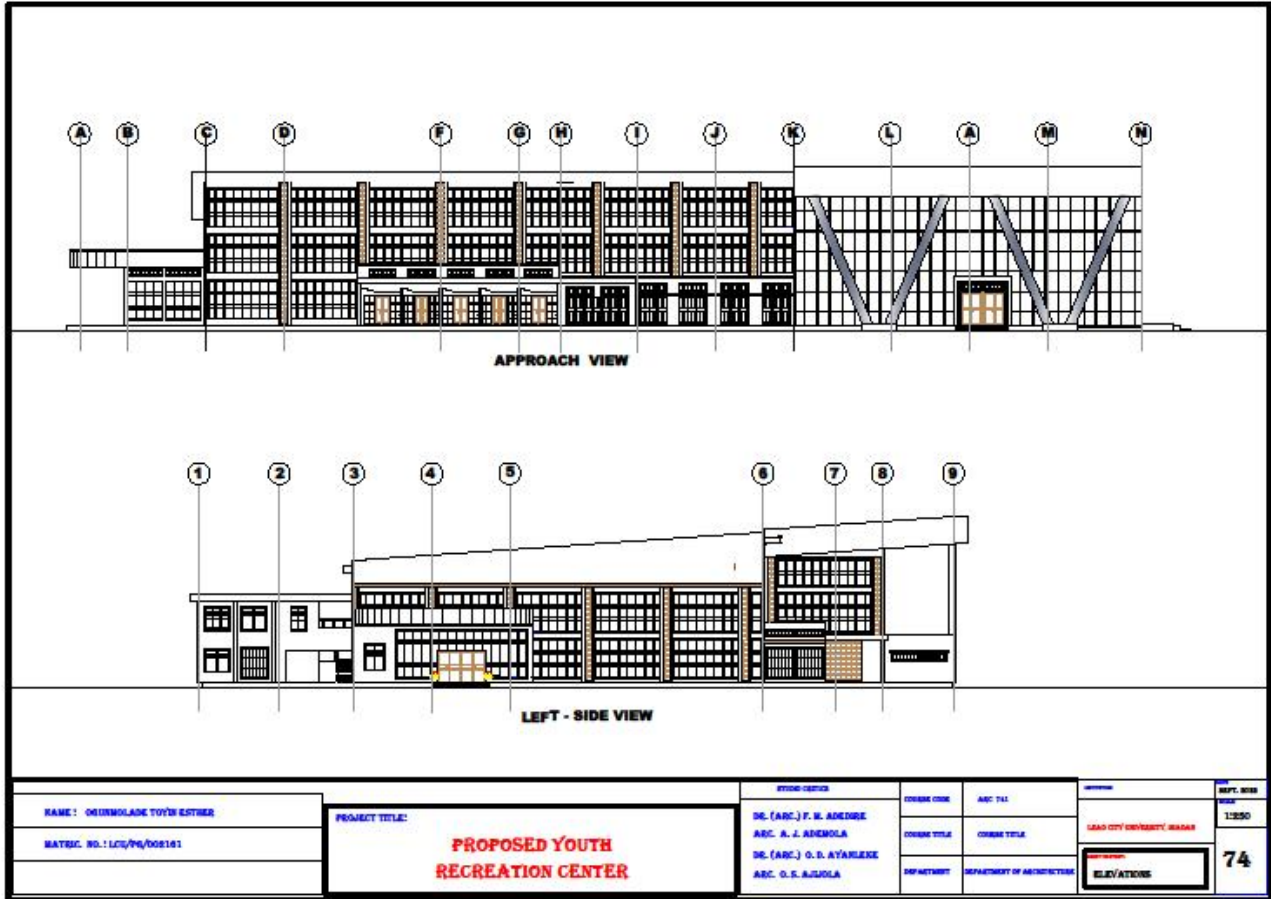
ROOF PLAN

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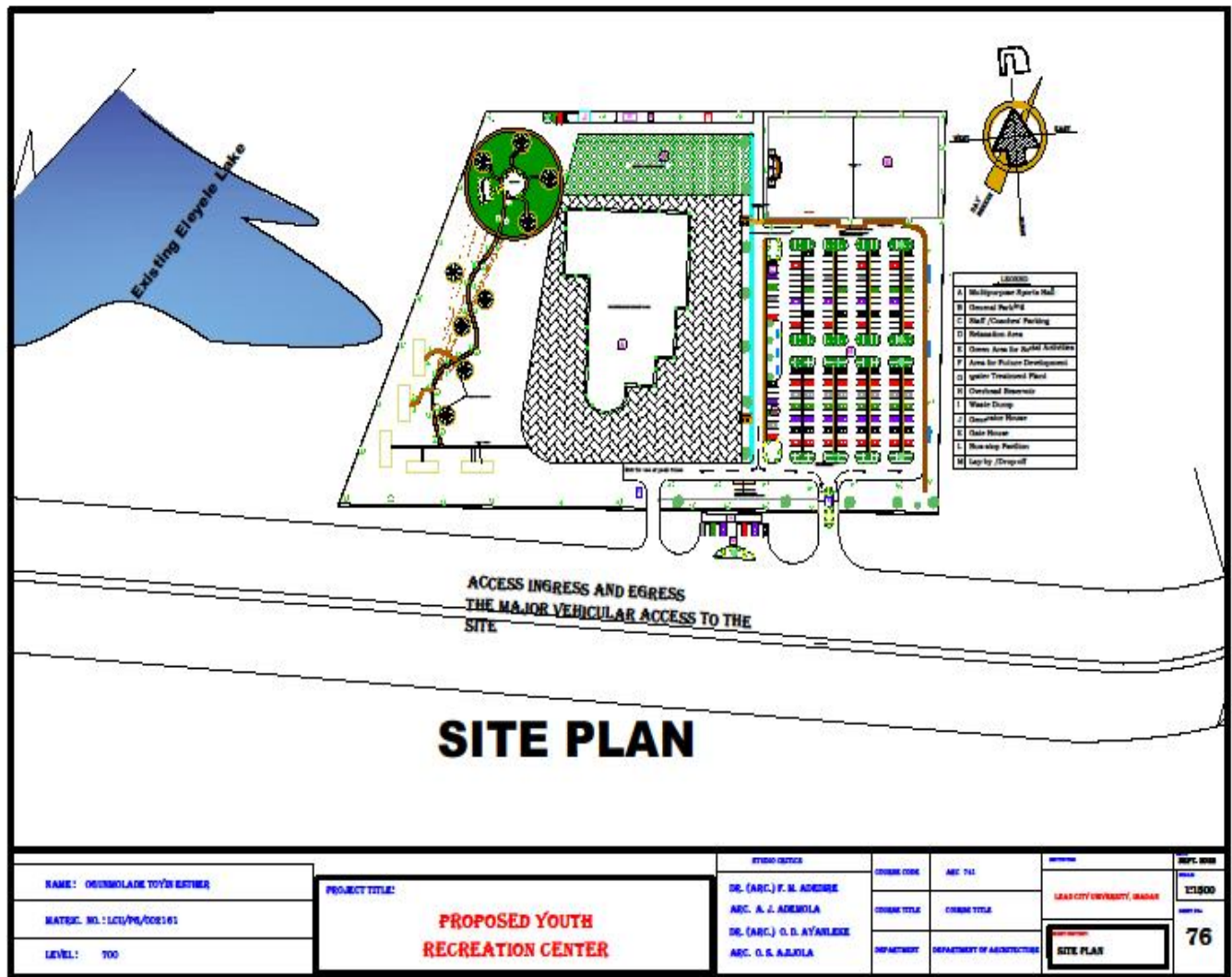
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| MATRIC. NO.: 11CU/PA/008181 | | DR. (ARC.) P. N. ADEKUNLE | CONSUMER TITLE | CONSUMER TITLE | Lagos City (BOSUNTY) (NANAN) | PLAN R.T.S. |
| | | DR. (ARC.) A. J. ADEWOLA DR. (ARC.) O. D. AYANLEKE ARC. O. S. AJAYOLA | DEPARTMENT | DEPARTMENT OF ARCHITECTURE | DISCIPLINE PERSPECTIVE | 76 |

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Bio-Data

A. Personal Data:

- | | |
|-------------------------|--|
| 1. Name: | Ogunmolade Toyin Esther |
| Permanent home address: | Plot 27, Akinyemi Layout, Lakanpo Village Ekerin Street Ologuneru Ibadan. |
| Contact Address: | Same as above |
| E-mail address: | ogunmoladetoyin@gmail.com |
| Phone number: | 08068431142 |
| 2. Date of birth | 27 th March, 1967 |
| Place of birth: | Ibadan, Oyo State. |
| 3. Nationality | Nigerian |
| 4. Next of Kin: | Ogunmolade Olamide Mayowa |
| 5. Address: | Same as above |

B. Educational Background with dates:

Institutions attended with dates;

- | | |
|---|----------------|
| i. Lead City University, toll gate Ibadan Oyo State | 2018 till date |
| ii. The Polytechnic, Ibadan Oyo State | 1988-1993 |
| iii. Eyinni High School, Orita-Challenge Ibadan Oyo State | 1979-1984 |
| iv. Methodist Primary School Oke Ado Ibadan Oyo State | 1973-1979 |

C. Qualifications with date:

- | | |
|--------------------------|------|
| i. M.Sc in Architecture | 2022 |
| ii. B.Sc in Architecture | 2020 |

- iii. HND Architecture 1994
- OND Architecture 1990
- First leaving certificate 1979

D. Working Experience with dates

- Architect in Oyo State Civil Service, Secretariat 2000 till date
- Class Teacher, Juniors International School Oluyole Estate 1995-2000
- National Youth Service Corp (Ibadan South-West Local Government Secretariat 1994-1995

Awards & Fellowship:

- 1st Assistant General Secretary, Nigerian Institute of Architects
- Oyo State Chapter 2020 till date

E. Membership of Academic Professional Body:

- Full member. Architects Registration Council of Nigeria (ARCON)
- Full member Nigerian Institute of Architects (NIA)

F. Publications:

- Evaluating Outdoor Environment for Old Peoples' Homes in Ibadan. (Unpublished)
- Effects of Landscaping Elements on Recreation Centers Users. (Unpublished)

G. Referees

- i. Pastor Olusegun James Daramola - C&S Movement Church Christ Holiness and Salvation Way Ministry, Ibadan, - 07051573543
- ii. Architect Olusola Ogundiwin - Former Director Public Buildings Department, Ministry of Public Works and Transport, Secretariat, Ibadan,- . 08037257274

.....

Signature

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Date

University Compliance Form

This is to certify that this thesis by Ogunmolade Toyin Esther with Matriculation Number LCU/PG/002161 in the Department of Architecture, Faculty of Environmental Design and Management, Lead City University, Ibadan in full compliance with the approval of the University's format and style.

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Signature

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Date

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