

Sustainable City Design Through the Use of Recreation and Leisure Parks in The Landscape

Ayeni, Dorcas. A and Olawole Alex I

Department of Architecture, Federal University of Technology, Akure, Ondo State, Nigeria

* E-mail of the corresponding author: dorcasayeni2@yahoo.com; daayeni@futa.edu.ng¹;
olawalealex@gmail.com²

Abstract

The landscape plays a critical role in the development of recreational parks that contribute to sustainable urban planning. Today's cities pose several problems, but they also contain the key to achieving a more sustainable steady state. Parks and other open green areas in cities contribute significantly to people's quality of life. As such, the study examines how sustainable urban design might be achieved through the use of landscape. Additionally, it examines the psychological advantages of leisure, the importance of landscape to sustainability, and how effective landscaping may be used to achieve ideal open spaces. The paper describes how recreation improves the human body and keeps it healthy and how a park may be carefully managed via the use of landscape to be sustainable for an extended time while also creating comfortable public places. Due to the interpretative viewpoint taken, the case study technique was deemed the most appropriate strategy to use. The case study demonstrates that the landscape around an area's natural characteristics is critical to its sustainability since parks with an excellent and well-landscaped environment continue to draw significantly more people than artificial features. The study revealed that a place's environment dictates how people would utilize its resources and spaces, demonstrating that for a facility to be sustainable, its landscape and green areas are critical components.

Keywords: Landscape, Leisure Parks, Recreation, Sustainable, Urban Design,

DOI: 10.7176/CER/14-1-02

Publication date: February 28th 2022

1. Introduction

Recreation is a leisure activity undertaken for personal enjoyment when one is not working. Additionally, it may be a relaxing hobby (Daniel & Amy, 2011). Recreating is derived from the Latin word *recreate*, which means to regenerate or resurrect and can take place outdoors or indoors, depending on the activity. Recreation is a critical component of human existence since it uncovers a diverse array of structures, mostly generated by specific hobbies and broader societal development. Outdoor recreation is critical in health care because it helps reduce the risk of chronic illness and disorders, improves mental health, increases cognition, and reduces stress (Warburton et al. 2006, Barton & Pretty 2010, Bratman Et al. 2015). Most individuals see scenic landscape quality as critical, and others regard it as the sole correlate of landscape performance and enjoyment. The landscape is defined as the visible land zone, which is generally regarded to extend as far as their fashionable allure. It is a combination of natural and man-made highlights. The term "landscape" refers to the core components of geophysically defined landforms such as mountains, slopes, and water bodies. Mikulec and Antpuskova (2011) defined landscape as a region experienced by individuals that take on the characteristics of both natural and human causes. Ayeni (2013), on the other hand, argued that landscape plays a key part in enhancing a place's environment and that a well-designed landscape attracts visitors to visit. Landscape design results in visual enjoyment, affecting human psychology (Kingsley, 2007). Additionally, it serves as a link between humans and the natural world. An attractive and lovely environment fosters enduring memories and motivates people to explore such natural wonders (Ayeni, 2013).

Landscape has been acknowledged as a critical instrument for attaining environmental sustainability (Little, 1991), as it assists in avoiding imbalanced, unhealthy, and unsustainable human settlement expansion. The sustainable landscape architect provides ecological designs for the urban environment that consider function, energy efficiency, and environmental attractiveness. The landscape's place in urban planning has been underestimated; nevertheless, landscape ecologists have increasingly campaigned for approaches that stress the relevance and importance of landscape ecology to sustainability in general and urban development in particular (Barrett et al. 2009; Musacchio 2009a; Termorshuizen and Opdam 2009; Pijanowski et al. 2010). As a result, an urban landscape covers more than just green spaces within a metropolis, and the urban landscape of a city is shaped by its architecture (Henry, 2015). Sustainability has surpassed all other goals in urban design and planning; natural processes that shape and influence urban environments' quality of life should not be overlooked in urban design approaches. Thus, this paper examines how to effectively use landscape design to create sustainable recreation parks with beautiful scenery and maximize open spaces to create a more sustainable urban centre. The aim will be achieved by examining the physiological benefits of recreation and enjoyment, studying the role of landscape and landscape design in sustainability, and expanding on how open space may be

efficiently utilized through good landscaping.

2 Relevance of Recreation to the Mind and Body

Recreation is a physical and mental activity that helps alleviate exhaustion and tension. Nobody truly understands the magnitude of recreation unless it is experienced. It is most enjoyable, as demonstrated by shifting exercises that revitalize the human body and brain. Simultaneously, recreational activities vary according to the individual; more so, spending energy in recreational activities involves itself (Shamanur, 2018). Recreation has been shown to have a key role in resolving persons' medical concerns and providing a distinctive way to stay strong. Recreation contributes significantly to providing a substantial technique to manage the peak of a person group's energy and keep their viewpoint fit as a fiddle and prepared for the subsequent activity. Additionally, it enhances an individual's faculties and imparts an energizing and wonderful disposition (Chieh-Lu & Ching-Yi, 2012). Recreation is critical in modern life because it provides possibilities and outlets for meeting basic human needs that contribute to pleasure (Gulam, Aafid, 2016). Additionally, recreation parks link individuals and nurture and establish social relationships. Apart from the fact that these parks contribute to the community's quality of life and health, they also contribute to its socio-economic well-being. Recreational resources, such as urban parks, benefit both its users' psychological and physical health (Turkseven & Zengel, 2017).

Recreation engagement and involvement are intrinsically driven; hence, they aid in the development of self-esteem, self-image, and confidence through social contact, thereby improving people's mental health. Play, by attempting to balance life and work, providing a pleasant alternative to responsibilities and routine, and preventing young death, also enhances enjoyment. Recreation is critical in contemporary life because it has provided and continues to provide chances to meet these basic human needs that contribute to pleasure (Gulam, 2016). Additionally, individuals who engage in proactive tasks on a consistent basis benefit from a decreased risk of sudden death, a decreased risk of coronary illness, hypertension, malignant colon growth, noninsulin-dependent diabetes, improved support of muscle strength, joint construction, and collective capacity, weight loss, and proper muscle to fat ratio reallocation, which improves work in people with chronic weakness and improves cardiovascular, respiratory, and aortic function (Sherer, 2003).

Participating in recreational activities gives people anticipated and enjoyable experiences. Recreation fosters a social atmosphere that encourages residents to venture outside their houses and participate in community life. When non-medicated depressive individuals began exercising, they were less likely to relapse than those who had just taken antidepressants. (Gorman, 2002). Outdoor leisure activities contribute to the development of pleasant emotions associated with increased self-esteem, decreased suicide rates, and decreased depression. Participating in leisure activities allows people to avoid or manage stress until it becomes detrimental to their health and well-being. In hospital patients and office employees, views of nature via windows have been found to stimulate good emotions, reduce tension, and improve physical health (Tarrant, Manfredo, and Driver, 1994).

Recreation may serve as both a reason for and an effect on mental health. The great majority of recreation participants feel satisfied with their health and well-being, while six out of ten people who do not participate express dissatisfaction with their health and well-being. Improved mental commitment, increased self-awareness, and the ability to articulate ideas are just a few of the empirically documented benefits of outdoor leisure that help develop and upgrade social frameworks. Nearly a quarter of those who participate in leisure a few times a week report being "satisfied with the nature of their life," compared to only one-fourth of non-participants (American Recreation Coalition, 2000).

These diverse leisure alternatives enhance the enjoyment and pleurability of physical activity and encourage healthy lifestyle patterns. Among the numerous recognized health advantages of physical activity are the decrease of obesity, the reduction of illness risks, the enhancement of the human immune system, and, most significantly, improved expectancy (California State Parks, 2005). According to (Keyes 2003), "individuals are mentally healthy when they are content with all aspects of themselves, have warm and trusting relationships, see themselves evolving into a better version of themselves, have a purpose in life, have a sense of purpose, can shape their world to meet their needs, and have a measure of self-determination." The San Francisco Planning Department (2014) clarified that recreation is a critical component of any community's satisfaction; it provides an extraordinary range of medical benefits by allowing residents a broad range of freedoms to access daylight and fresh air, as well as the opportunity to exercise, which ultimately improves residents' overall emotional health.

Recreation areas contribute to the liveability of densely populated communities by promoting active lifestyles and personal health, providing spaces for rest and reflection, and providing indoor and outdoor gathering spaces for inhabitants (City of Victoria Official Plan, 2016). Recreation has several health advantages, including lowering weight, improving the immune system, extending life expectancy, and lowering the risk of chronic illnesses (Obinna, Owei, Ayodele, & Okwakpam, 2009). Maintaining physical health and wellness

requires physical activity; dynamical leisure is a good technique of maintaining health since it improves brain clarity and muscle coordination and serves as a kind of pressure relief. Active recreation also promotes proper blood flow, which lowers body cholesterol and reduces the risk of heart disease, stroke, hypertension, obesity, disease prevention, and cancer treatment. Additionally, it contributes to the body's reliability.

3 Urban Sustainability Through Parks and Recreations

Cities have the most varied landscapes. A sustainable city must balance environmental stewardship, economic growth, and social well-being. Former United Nations Secretary-General Kofi Annan put it succinctly: "The future of mankind is in cities." Urban sustainability entails limiting space and resource consumption, optimizing urban design to enable urban flows, safeguarding ecological and human health, guaranteeing equitable access to resources and services, and preserving cultural and social variety and integrity (Alberti and Suskind 1996; Spiekermann and Wegener 2003; Wu 2008b). Parks and landscaping are critical components of urban sustainability.

Urban parks are critical to improving the quality of urban life. Urban parks are now widely recognized as critical components of urban green infrastructure, adding to inhabitants' quality of life, increasing their wellness, and delivering several social and economic advantages [Wang 2015, Pröbstl-Haider 2015, Brown 2014]. The urban green network provides critical environmental, recreational, aesthetic, and economic benefits [Chiesura 2014]. They are also increasingly important in mental health [Hartig, 1991], physical health, recovery, and stress reduction [Rostami and Lamit, 2015; Ulrich, 1983]. Of course, the fact that most urban parks provide green areas with a larger or smaller percentage of their surface covered by vegetation is a considerable advantage depending on the city and site sizes. Urban parks are a critical component of the urban environment's complex network and provide critical ecosystem services. A functioning network of green space is critical to the ecological sustainability of an urban landscape. Landscape connectedness should be encouraged by the establishment of greenways and the utilization of indigenous plants suited to local circumstances that need little care and are self-sustaining [Cranz, 2004].

A sustainable landscape is a critical component of a sustainable environment and development. The purpose of landscaping and parks is to enhance people's comfort and well-being by increasing the quality of the environment. Additionally, from an ecological standpoint, Jay and Scott (2011) said that landscape structure affects species' number, distribution, and interaction. Ecological designs for the urban environment that a sustainable landscape generates address environmental stewardship, energy conservation, and aesthetics. The importance of landscape design in minimizing the consequences of environmental threats and hazards cannot be overstated. It affects both human health and the environment. Moreover, it affects a person's mental and physical health. The Environmental Cost-Benefit Analysis has also laid the groundwork for long-term landscaping projects (ECBA) evaluation, revealing that the long-term benefits of landscaping schemes far surpass the original outlay. Landscape design is typical in underdeveloped nations (Countryside Agency, 2002). Given the value of landscaping to society, it is not surprising that the relevance of landscape variables in environmental decision-making has been acknowledged for an extended period. It has become increasingly critical as the focus on sustainability has grown (Countryside Agency, 2002).

Landscape design is critical for environmental and structural sustainability. Environmental impact assessments, audits, and quality management programs have determined that the benefits of the landscape in terms of physical, ecological, social, economic, psychological, and infrastructural significantly exceed the negative impacts on biodiversity. Furthermore, a well-designed landscape contributes to an area's overall well-being. Landscape and landscaping contribute to reducing noise, surface runoff, and pollution from rainfall, preventing it from becoming a cause of water contamination. Additionally, plants improve air quality by removing pollutants from livestock activities such as smoke, dust, and odours and by offering visual separation and aesthetic enhancement. According to Riggins (2012), when combined with other outdoor landscape features and plazas, plants may provide places for structured outdoor seating areas that can inspire and provide a feeling of community cohesiveness to the visitor or user. To prevent destruction of the environment, parks and landscapes are supported at all levels, allowing man to develop his natural forest. Effective landscaping is a critical component in achieving a sustainable urban environment. Landscape design adds to visual enjoyment, which greatly influences human psychology (Kingsley and Napoleon, 2007).

4 Achieving effective landscape for optimal open spaces

The term "open spaces" refers to various areas between structures in an environment or city. Open spaces incorporate the city's hubs, roads, edges, squares, gardens, and stops, all of which contribute to the city's structure and shape (kaczynski, Henderson, 2007). Open spaces might be categorized as green leisure spaces, business and commerce spaces, or transit spaces (yang, Zhang, and Beixiang, 2019). They are places that define possibilities and create doors for human interaction, provide spaces for financial transactions, safeguard constructed structures and images of a city by preserving the cityscape and the city's specific style, and provide

areas intended for enjoyment. The 1961 Housing Act of the United States of America says that open space is deficient or usually deficient in places inside a metropolitan region. It contains an evaluation of parks and entertainment areas and an evaluation of historical events or scenarios. Open spaces are divided into two categories: public green space and private green space, with the latter emphasizing the city's green space. (Alexander, 2001) defines "open spaces" as "an environment that elicits feelings of comfort, has a biological foundation, and provides a view into a more expansive space." The term "open space" refers to the natural environment of a city, such as green areas, bodies of water, and man-made grounds, such as squares and roadways.

However, Fadamiro (1998) defines open space in the city as all landscape scenes, complex scenes, parking lots, and recreational places. According to some, "open space" refers to the urban public outside space, which includes regular views, squares, streets, public green space, and rest areas. Diverse studies define open space differently. One definition refers to fairly open, less closed, and less space-obligatory space, while another definition focuses on space that is opened by the majority for the majority of people. It is not limited to landscapes such as stops and green areas; highways, squares, back streets, and yards all fall within its scope. There are several types of open areas. In the United Kingdom, for example, open spaces are classified into nine categories: parks and elaborate nurseries, regular and semi-characteristic green spaces, green passages, open-air recreational facilities, convenient green spaces, arrangements for children and adolescents, graveyards, and city spaces (Ward, Travlou, 2007). According to Fadamiro (1998), well-designed open spaces are a valued community asset because they promote outdoor physical exercise and social interaction. Increasing access to manicured lawns, establishing more well-maintained sidewalks, adding seats and commercial services, and incorporating water landscapes into open spaces in high-density residential areas can all contribute to increasing user numbers.

The purpose of the space dictates the presence and distribution of several types. Residents benefit from community open spaces by providing largely passive leisure and seating areas, as well as children's playgrounds; these spaces are both passive and productive in that they provide a place to relax. Population density dictates the availability of communal open spaces. As a result, open areas in neighbourhoods are often significantly smaller than those in cities and regions. Small urban parks should have natural features, be sheltered from irritating surroundings, and provide seats to promote restorative experiences and act as social meeting locations (Sugiyama & Ward, 2008). Visitors are more receptive to open space units with amenities, recreational spaces, and amenity landscape features, according to this survey. As a result, the landscape design of open spaces in densely populated residential areas should reflect the community's purpose to offer usable places for inhabitants. Excessive decorative trees, sculptures, and thick forests are not advised for communal open spaces. Greenery covers more than 65 percent of the public space in some Chinese metropolitan parks, leaving little genuine open space for tourists. Additionally, a sufficient number of standard and auxiliary seats are required. to efficiently create the most beneficial open areas in the landscape. Landscaping open areas is necessary to safeguard and improve an area's cultural history and environmental assets (Sugiyama & Ward, 2008).

It must contribute to placemaking by utilizing an area's distinctive and unique characteristics, such as ridges, rocky outcrops, hilltops, water features, and vegetation, as well as incorporating community art. The scenery must be inviting and appealing, as well as meet the necessary standards for comfort (Sunarja, Wood, and Giles-Corti, 2008). The landscape must be designed in such a way that areas are easily accessible from all directions leading to them. Circulation must be simple for everyone entering such locations (Sugiyama & Ward, 2008). Landscape designers or planners may create compelling landscapes for open spaces by identifying changes to improve the site's character in ways that are more appealing and pleasing to the people of the environment, direction, size, and form. Additionally, the purposes of such areas must be clearly specified, as must the protection and preservation of important prominent landscape features, such as trees and other notable plants (Auckland Council, 2021). Additionally, open landscaping spaces must embrace the surrounding landscape and work with natural landforms to minimize earthworks while creating a clean, beautiful, and useable environment for neighborhood inhabitants. Water-sensitive landscape designs must be integrated into the environment and must contribute considerably to local variety while still allowing for plant expansion (Turner, 1992).

5 Methodology

Research is a technique that entails the collection and analysis of facts and information in order to make judgments. It directs the researcher toward achieving the stated aims and addressing research issues. This research aims to evaluate the various concepts and designs utilized to fulfill landscape and sustainability goals in leisure parks. Case studies are an effective method for accomplishing this. The qualitative approach was limited to case studies to assess the sustainability of urban spaces through efficient landscaping, lighting, access and control, and a clear line of sight for vision, among other concepts derived from the literature reviewed. These design concepts were examined during the survey at the various locations for the case studies. The data gathered from the field of the survey includes photographs and sketches, emphasizing the required aspects of the design

that will aid in achieving the research's objective.

6 Results

Because of the analysis/ assessment of data acquired from the many case studies based on the amount of reflection of landscape design and sustainability, a degree of diversity occurs among the cases investigated. Following this, a scale system is built to represent better the degree of reflection of each example relative to the other cases. The scaling system utilized is as follows:

Ratings = Excellent; Decent, Reasonably Good, Fair; and Poor.

Breakdown of the criteria for the assignment of each scale factor to each principle's variables after examining the properties of the variables studied are shown in Table 1.

Excellent: An excellent grade indicates that all aspects of the evaluated variable received favourable feedback from the case study assessment criteria.

Good: A good grade indicates that the feature(s) of the variable under consideration received a medium or a combination of high and medium remark(s) from the case study evaluation criteria.

Fairly Good: A fairly good grade indicates that the variable under consideration has a combination of medium and low remark(s) from the case study assessment criteria.

Fair: A fair rating shows that the feature(s) of the variable under consideration have low remarks from the case study assessment criteria; and

Poor: A poor rating shows that the features of the variable under consideration have either absent remark(s) or a combination of absent and low remark(s).

Table 1: Report on General Assessment carried out on Case studies

| Case Studies | Agodi Gardens, Mokola Hill, Oyo State | Nelson Mandela Freedom Park, Osun State | Upbeat Recreation Centre, Lekki Phase1, Lagos |
|-------------------------|---------------------------------------|-----------------------------------------|-----------------------------------------------|
| Natural features | Excellent | Good | Poor |
| Landscape aquty | Good | Fair | Good |
| Sustainability measures | Excellent | Fair | Poor |
| Landscape control | Good | Poor | Good |
| Condition of Facilities | Good | Fair | Excellent |

(Source: Researchers Field Work 2021)

According to the chart in Table 1, Agodi gardens have exceptional natural features and provide park visitors with a nice sense of nature. It was constructed with a significant quantity of trees, greeneries, and natural components. Additionally, data from the Nelson Mandela freedom park indicate that it has an almost entirely plain landscape; unlike the Agodi gardens, the Nelson Mandela freedom park features an indoor sports facility where visitors may participate in activities. A railway track runs through the Nelson Mandela site; to guarantee user safety, an overhead bridge was built to let pedestrians to walk between sections of the property; and the lively leisure park is positioned alongside the road in the Lagos neighborhood of Lekki, with views of the Lagos lagoon. It is a zone of active recreation with a variety of athletic activities, as well as children's play spaces. Below, the components in table 1 are thoroughly addressed in relation to each park.

6.1. Natural Features

According to the case studies, Agodi gardens were developed with an emphasis on natural elements. High conifers trees that provided shade were kept across the grounds, and natural timber elements such as benches and fences were extensively employed as site furniture. Both natural masonry and wood were used to create beautiful aspects on the walls and floors. The park's green spaces were well-maintained, and the park's structure was in keeping with the surrounding scenery. Parks should evoke a sense of nature, and Agodi garden does so to a degree. The following photographs in Figures 1 to 4 provide an overview of Agodi gardens.

Figure 1: Aerial view of Agodi Gardens



(Source: Researcher's Field Work 2020)

Figure 2: showing stone works and wooden materials used as territorial fencing



(Source: Researcher's field work 2020)

Additionally, the Nelson Mandela Park's natural elements are usually favourable; flowers were planted and just a few trees were maintained on the land. Certain drains were constructed entirely of stone. It offers a lovely natural setting, as its outside space evokes a sense of nature.

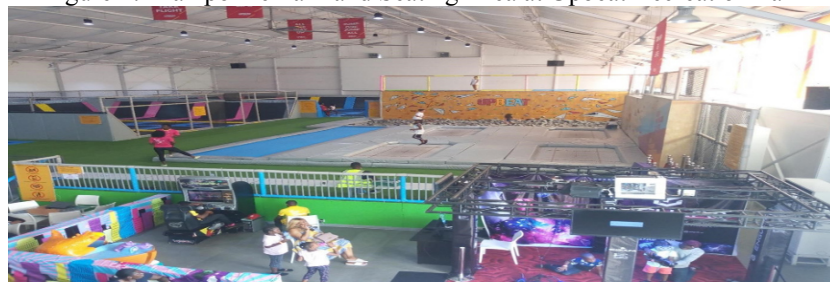
Figure 3: showing the site overview of the Nelson Mandela freedom park



(Source: Researcher's field work 2020)

The upbeat recreation center is more man-made; it focuses mostly on active leisure; the inside rooms were developed using trampolines. In comparison to other locations visited, the cheerful park features a high proportion of hard surfaces. Apart from the fact that it is adjacent to water, the sites lack natural elements save for a few trees and flowers.

Figure 4: Trampoline Park and Seating Area at Upbeat Recreation Park



(Source: Researcher's field work 2020)

6.2 Acuity of the Landscape

Case studies reveal that Agodi gardens' environment is well defined and visible upon entry. The scenery is beautiful, and the site zoning was done in such a way that park users will experience the park's beautiful scenery before reaching the section of the park they are visiting, whereas at Freedom Park, the landscape was not well maintained, and design principles such as lines and order were ignored, as grass sprouted into walkways. In comparison, the lively leisure park features a well-defined landscape with interlocking and paving stones, as well as kerbs for diving walks and defining landscapes.

6.3 Measures to Ensure Sustainability

Agodi's structure and landscape are both very sustainable, as evidenced by park findings. The materials selected are durable and readily available locally in the event that they need to be changed. Grasses are adequately maintained since their foliage remains green throughout the year. Additionally, in Nelson Mandela's Freedom Park. At the time of our visit, weathering had taken its toll on the structure, and the landscape was in disrepair. The grasses are outgrowing their confines and forming bushes, which is even more harmful for park visitors because the shrubs may hold poisonous reptiles. While optimistic, continual modifications would be necessary due to the materials utilized being unable to withstand harsh weather conditions and the test of time.

6.4 Control of the Landscape

At Agodi and Upbeat, the landscape was well-controlled, as each section was well demarcated. Under comparison to the Nelson Mandela Freedom Park, landscape elements such as kerbs and territorial fence were employed to keep grasses in check.

7. Inferences from Case Studies

Based on the examination of the various case studies, the following conclusions have been drawn about what recreation parks should symbolize and how parks might attain sustainability. A well-designed recreation park should include resources for both active and passive recreation, and parks should have a natural feel, since people should feel calm when they are in a natural setting. Adequate zoning should be used to guarantee that one activity does not interfere with another, and proper site planning should be implemented to ensure that activities run smoothly.

Additionally, to preserve a sense of balance and a clear view for park users, specialized vegetation promotes surveillance in public spaces; they have large tree canopies, are less thick, and do not obstruct line of sight in leisure areas. Moreover, recreation space care should be prioritized, ensuring that graffiti is avoided, vegetation is properly cut, and the recreation grounds appear maintained at all times.

The use of landscape furniture contributes to territoriality, ensuring that no portion of the site is isolated or left alone; this may be accomplished by strategically placing sitting spaces and swings around the site. Landscape components such as trees and other vegetation should be employed as shading devices around buildings to assist minimize glare and protect the structure from weathering, which will cut maintenance costs in nearly every case.

8. Recommendations

To encourage unity among varied groups and to develop a shared vision for the future based on accepting of differences and leveraging the strengths inherent in variety. The following suggestions are given in light of the findings of this study:

- a) The organization of spaces in public buildings that share common areas of use should be promoted. Done in order to transform the structure into a space capable of fostering a stronger feeling of community and improved social interaction.
 - b) Appropriate open spaces, courtyards, outdoor places, broad pathways, rooftop terraces, and productive gardens are also required.
 - c) The hierarchy of spaces should be highlighted by carefully positioning magnet places to entice consumers.
 - d) Provide areas and chairs for people to relax and socialize both within the building and on the grounds.
 - e) Ensure that building layouts, furnishings, and materials are visually varied in order to facilitate social interaction and cultural expression.
 - g) A recreation park's design must promote self-sufficiency. Having sufficient leisure facilities that can accommodate individuals of various classes and groups is vital.
 - h) Due to the numerous benefits of landscape elements and components, no design should separate them. When constructing recreational facilities, proper site zoning and functional layout should be implemented.
- All structures and facilities must be connected appropriately, which necessitates consulting a landscape architect.

9. Conclusion

According to (Ayeni, 2013), the geography and the beauty of a location will dictate how well people would visit such locations. The building of a beautiful landscape is critical for a sustainable ecosystem and for human employment, recreation, and social and economic integration. Conservation of the environment involves the use of landscape design. It safeguards the world's ecology from man's harmful attacks. It adds to the increase of the aesthetic value of the surroundings.

Furthermore, to achieve sustainable development through landscape design, environmental strategies may be employed to meet present requirements without risking the capacity of future generations to meet their own. A public recreational place must have an attractive landscape and scenery. To sustain a facility for long-term usage, it must be used actively on occasion, and a sense of the natural environment will always draw people to a park, whether for active leisure or passive enjoyment of the natural surroundings. Trees and other landscaping elements shield buildings from glare, weathering, and even act as wind breakers. To summarize, in order to make a design sustainable in an environment with a high pace of urbanization, adequate attention must be made to the landscape of that region.

References

- Alberti, M & Susskind, L. (1996). Managing urban sustainability. *Environmental impact assesment revised 16*, 213-221.
- Alexander, G. (2001). *Urban Parks And Open Spaces*. Washington D.C.
- Amalu O, Ojugbo P.A & Otop O. (2018). Assesment of Recreational Resorts on Socio-Economic Growth. *Sustainable Geoscience and Geotourism*.
- American recreation coalition. (2000). Outdoor recreation in America : The family and the Environment. *American Recreation Coalition*.
- Auckland Council. (2021). Auckland Design Manual. *Auckland coucil*.
- Ayeni, D. (2013). Potential Roles of Landscaping In Sustainable Tourism Development In Nigeria. *British Journal of Arts and Social Sciences*, 174-185.
- Barrett TL, Farina A & Barrett GW. (2009). Positioning aesthetic landscape as economy. *Landscape Ecology*, 299-307.
- Barton J & Pretty, J. (2010). What is the best dose of nature and green excersice for improving mental health? A multi-study analysis. *Environmental Science & Technology*, 44, 3947-3955.
- Bratman, G. D. (2015). The benefits of nature experience: improved affect and cognition. *Landscape and urban planning*, 138, 41-50.
- california state parks. (2005). the health and social benefits of recreation.
- Chieh-Lu & Ching-Yi. (2012). The Factors Affecting Life Satisfaction: Recreation Benefits and Quality of Life Perspectives. *Sports and Exercise research*, 407-418.
- Chiesura, A. (2004). The role of urban parks for the sustainable city. *Landscape and urban planning*, pp68, 129-138.
- Countryside Agency. (2002). *Recent Practise and The Evolution of Landscape Character Assesment*. New york: Countryside Agency.
- Cranz, G. (2014). Defining the sustainable park: A fifth model for urban parks. *Landscape journal*, 103-117.
- Daniel D.M & Amy R.H. (2011). *Kraus' Recreation and Liesure in Modern society*. Bartlett Publishers.
- Fadamiro, J. (1998). *Landscape Design and Environment*. Akure: Adeyemo publishing House.
- Fatusin, A. (2011). Parks Provision and management in Urban Areas in Nigeria: The Example Of Akure, Ondo State. *Journal For Environmental and Health Science*, 1-7.
- Frank, M. (2003). *The Benefits Of Plants and Landscaping*.
- Gorman, C. (2002). *Walk, Don't run: it's simple,it's cheap and studies show that walking may be the best exercise for reducing the risk of heart disease, Stroke and diabetes(Electronic version)*. Carlifonia: California State Parks.
- Gulam, A. (2016). Recreation-Need and importance in the society. *International Journal Of Physiology, Nutrition and Physical Education*, 157-160.
- Haines-Young. (2000). Defining a new Paradigm For Landscapes Ecology. *Sustainable development and sustainable landscapes*, 178: 7-14.
- Hancock, T. (1999). Healthy and Sustainable Communities- Creating Community Capital. *proceedings of Fourth European IUHPE conference on Effectiveness and Quality of Health Promotion*. Estonia: IUHPE.
- Hansen, G. (2019). *CIR536*. Retrieved from EDIS: <http://edis.ifas.ufl.edu>.
- Harris, J. (2006). *Environmental and Natural Resources Economics: A Contemporary Approach*. New York: Houghton Mifflin Company.
- Hartig, T. M. (1991). Restorative effects of Natural Environment Experiences. *Environment and behaviour*, 23, 3-26.

- Harvard Medical School. (2018). *Harvard Men's Health watch*. Harvard University.
- Howley, P. (2012). Landscape aesthetics: Assessing the general public's preference towards rural landscapes. *landscape and urban planning vol 104 No 1*, 66-74.
- Ibimilua, A. (2014). Key Issues On Landscape Planning In The Context Of Environmental Sustainability. *European Scientific Journal*, 143-156.
- Joseph, B. (2009). *Environmental Studies*. New Delhi: Mc Graw Hill.
- kaczynski, A.T & Henderson, K.A. (2007). Environmental correlates of physical activity: A review of evidence about parks and recreation. *Leisure sciences*, 29(4), 315-354.
- Kanagasabai, S. (2010). *Textbook On Environmental Studies*. New Delhi: PHI Learning Private Limited.
- Keyes, C. (2003). *Promoting a Life Worth living: Human development from the vantage points of mental illness and health*. Sage Publishers.
- Kingsley, O & Napoleon, S. (2007). The Social Effects of Built Environment. *Conference Journal Of Environmental Studies*. 2, 71-78.
- Little, C. (1991). *Greenway For America*. Baltimore: John Hopkins University Press.
- Magnus, O. (2005). *Elements Of Landscape Design*. Benin: Easy way.
- McLean, D. D., Hurd, A., & Rogers, N. B. (2008). *Recreation and Liesure in Mordern Society*. california: jones and Bartlett.
- Mikulec, J and Antouskova, M. (2011). Landscape and tourism potential. *Open access CAAS Agricultural Journal in the protected landscape areas*, 57: 272-278.
- Musacchio, L. (2009a). The scientific basis for the design of landscape sustainability. *Landscape Ecology* 24, 993-1013.
- Obinna V, O. O. (2009). Patterns and determinantts of recreational behaviour in port harcourt, rivers state, Nigeria. *theoretical and empirical researches in urban management*, 150-165.
- Olwen, M.C. (1997). *Outdoor Design: A Handbook For the Architect and Planner*. London: Crosby Lockwood staples.
- Pearson, G. (2008). *Recreation and Sports*.
- Pijanowski BC, I. L. (2010). Addressing the interplay of poverty and the ecology of landscapes: a grand challenge topic for landscape ecologists? *Landscape Ecology* 25(1), 5-16.
- Riggins, F. (2012). *Benefits Of Good Landscape*. retrieved from <http://blog.craftontull.com/integrated-architecture/2011/10/benefits-of-good-landscape/design/>.
- Rostami R, L. H. (2015). Sustainable cities and the contribution of historical urban green spaces: A case study of historical persian gardens. *Sustainability*, 13290-13316.
- San Francisco planning department. (2014). *Recreation & Open spaces*. San Francisco: San Francisco planning department.
- Sanbtra, S. (2005). *Environmental Science*. London: New central Book Agency Ltd.
- Shamanur. (2018). Recreation for modern Generation. *international journal of physical Education, sports and health*, 161-163.
- shamanur, K.C. (2018). Recreation for mordern generation. *International Journal of physical Education, Sports and Health*, 161-163.
- Sherer, P. (2003). *The Benefits Of Parks*. San Francisco: the trust of public land.
- Spiekermann K, W. M. (2003). Modelling urban sustainability. *international journal of urban science* 7, 47-64.
- Sugiyama, T & Ward T.C. (2008). Association Between Characteristics of neighbourhood Open Space and older People's Walking. *Urban Forestry and Urban Greening*, 41-51.
- Sunarja, Wood & Giles-Corti. (2008). *A factsheet on Healthy Public Open Space Design For Multi-Users and Multi-Uses*. Perth: The University of Western Australia.
- Suprova Dutta, K. G. (2020). Effect of Recreational Activities. *International Journal Of Creative Research Thoughts* , 3893-3897.
- Tarrant M.A, Manfredo M.J & Driver B.L. (1994). Recollection of outdoor recreation experiences: A Psychological perspective. *journal of leisure research*, 357-371.
- Termorshuizen, J.W and Opdam, P. (2009). Landscape services as a bridge between landscape ecology and sustainable development. *Landscape ecology* 24, 1037-1052.
- Turkseven, i., & Zengel, R. (2017). Analysis of percieved safety in urban parks. *journal of the faculty of Architecture Dokuz Eylul university, Izmir Turkey*.
- Turner, T. (1992). Open Space Planning in London from Standards per 1000 to green strategy. *Town Planning Review* 63 (4), 365-386.
- Uduma-Olugu, N. . (2013). Perception of Sustainability of Landscape Features of the Lagos Lagoon for Tourism by its Users and Users Of Lagos Tourism venues . *International Journal of Science*, 2, 37-46.
- Ulrich, R. (n.d.). Health benefits of gardens in hospital. Available online: <http://greenplantsforgreenbuildings.org/news/health-benefits-of-gardens-in-hospitals/> (.

- victoria, c. o. (2016). *Parks & Open spaces Master plan*. City of Victoria: LEES ASSOCIATES.
- Warburton, D. N. (2006). Health benefits of physical activity: the evidence. *Canadian medical association journal*, 174(6), 801-809.
- Ward, T & Travlou, P. (2007). *Open Space: People Space*. London: E-publication.
- William, M. (2009). Sustainability. In C. P. Paul, *introducing human Geographies* (p. 29). London: Hodder Arnold.
- Withgott J. H & Matt L. (2011). *Essential Environment : Science Behind The Stories*. pearson, Glenview: Prentice Hall.
- Wright, R. (2008). *Environmental Science : Toward a Sustainable Future*. New Delhi: PHI Learning.
- Wu, J. (2008b). Making the case for landscape ecology: An effective approach to urban sustainability. *Landscape journal* 27, 41-50.
- Wylie, J. (2007). *Landscape*. London.
- yang J, Zhang F and Beixiang S. (2019). Analysis of Open Spaces Types in urban centres based on Function and Features. *E3S Web of Conferences* 79 (p. 7). Nanjing: Southeast University, School of Architecture.