
Sacred Landscapes and eco-spiritualism: using biophilic design to reimagine the communities around the Owuru river and its wetland ecosystem

Paisajes sagrados y ecoespiritualismo: uso del diseño biofílico para reimaginar las comunidades en torno al río Owuru y su ecosistema de humedales

Paisagens sagradas e eco-espiritualismo: usando o design biofílico para reimaginar as comunidades ao redor do rio Owuru e seu ecossistema de zonas úmidas

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Abstract

Adopting analytical and qualitative design methodology, the environmentally friendly characteristics, such as hills, summits, woodlands, waterways, wetlands, and tiny islands, note that holy landscapes are areas of the terrain that hold particular significance or transcendence for the indigenous peoples. In Ogun State, Nigeria, the Redemption City is quickly becoming a well-known pilgrimage attraction. Wetland ecosystems with high biological diversity comprise approximately 20% of the total land area traversing the 20.4 km wetlands corridor and evaluate the natural surroundings' people-focused biophilic regeneration and revitalization potentials. The research is based on rethinking the peri-urban and rural landscapes to understand intrinsic environmental benefits and services, a biodiversity assessment conducted along the river, and the four major tributaries forming the restoration's first phase.

Keywords: Biophilic; ecotourism; pilgrimage; spiritual tourism; revitalization.

Resumen

Al adoptar una metodología de diseño analítico y cualitativo, las características respetuosas con el medio ambiente, como colinas, cumbres, bosques, vías fluviales, humedales e islas diminutas, destacan que los paisajes sagrados son áreas del terreno que tienen un significado o trascendencia particular para los pueblos indígenas. En el estado de Ogun, Nigeria, la Ciudad de la Redención se está convirtiendo rápidamente en una conocida atracción de peregrinación. Los ecosistemas de humedales con una alta diversidad biológica comprenden aproximadamente el 20% de la superficie total de tierra que atraviesa el corredor de humedales de 20,4 km y evalúan los potenciales de revitalización y regeneración biofílica centrados en las personas del entorno natural. La investigación se basa en repensar los paisajes periurbanos y rurales para comprender los beneficios y servicios ambientales intrínsecos, una evaluación de la biodiversidad realizada a lo largo del río y los cuatro afluentes principales que forman la primera fase de la restauración.

Palabras clave: Biofílico; ecoturismo; peregrinación; turismo espiritual; revitalización.

Resumo

Adotando metodologia de design analítico e qualitativo, as características ambientalmente amigáveis, como colinas, cumes, bosques, cursos de água, pântanos e pequenas ilhas, observam que paisagens sagradas são áreas do terreno que têm significado ou transcendência particular para os povos indígenas. No estado de Ogun, Nigéria, a Redemption City está rapidamente se tornando uma atração de peregrinação bem conhecida. Ecosistemas de pântanos com alta diversidade biológica compreendem aproximadamente 20% da área total de terra que atravessa o corredor de pântanos de 20,4 km e avaliam os potenciais de regeneração biofílica e revitalização focados nas pessoas do ambiente natural. A pesquisa é baseada em repensar as paisagens periurbanas e rurais para entender os benefícios e serviços ambientais intrínsecos, uma avaliação da biodiversidade conduzida ao longo do rio e os quatro principais tributários que formam a primeira fase da restauração.

Palavras-chave: Biofílico; ecoturismo; peregrinação; turismo espiritual; revitalização.

Introduction

Geographical locations that hold particular significance for those who have an enduring or ancestral connection to a particular place are known to be holy environments. A holy site is a regular area elevated to a hallowed status by the ceremony (Melchionni, 2021; Adesina, & Uduma-Olugu, 2023). Established in consecrated campgrounds, sanctified gardens, sacred buildings, and holy spots, where gods or spirits reside, have appeared, or have their statues, symbols, holy items, or treasures kept, constitute some of the specific places of divinity frequently associated with supernatural events. Such hallowed vistas remain profoundly mystical sceneries

that describe human-environment partnerships and relationships that are enduring. Locations, regions, along sceneries that possess one or more characteristics that set them apart as remarkable or noteworthy are considered revered (Adesina, & Uduma-Olugu, 2023). Physical occurrences dematerialize and earthly reality appears ethereal in sacred spaces where faith is prevalent and religious experience is fostered and, in the process, the inner light follows outside shadows and disappears (Cabanek, Newman, & Nannup, 2023). What constitutes the scientific basis of the holy landscape? According to the viewpoint of sociology, the holy environment is an ecological framework that, at a particular stage in its evolution, communicates with humans and shapes a set of concepts, convictions, and emotions in individuals that have an impact on chronological social and cultural factors dynamics (Cabanek, et al., 2023). The rights of Indigenous people, their myths, and their convictions involve landscape components and topography (Wolf, 2021; Siwakoti, 2022). Several individuals who engage in outdoor recreational activities that involve connecting with the landscapes, natural features, and landforms like rivers, streams, lakes, hills, and mountains that inhabit them may serve as spiritual havens. What are holy sites and relics, and exactly what makes them significant? Fundamentals of biophilic planning aim to bring both humanity and the environment closer together (Adesina, and Tang, 2021; Cabanek, et al., 2023). The objective of ecologically sustainable design (biophilic designs) is to guide humanity toward a harmonious coexistence with nature. Although allotment gardens and agricultural practices were implemented to cater to the needs of small-scale farmers, praying huts were introduced in clusters for worshippers and religious tourists. Carbon-free activity within the wetlands is facilitated by non-motorized modes of transit such as elevated deck boards, nature paths, and off-road bike routes (Cabanek, et al., 2023; Adejumo, & Esan, 2023). Numinous, celestial, awe-inspiring, supernatural, and aesthetic criteria enhance the spiritual landscape's sacredness in each of the alcoves, trails, and rest stops through the use of native plant species and park furnishings. The socioeconomic situation of communities along the coastlines and waterways, along with their biophysically

conserved wetlands, sheds light on the reasons why rivers naturally draw human beings together (Wolf, 2021; Siwakoti, 2022).

What is the importance of Sacred Places?

Farina (2022), defined a sacred place as, primarily, a channel for speaking to and learning from the Divine. It is a location of divine power (Farina, 2022). Why does the sacred matter? A geographical landmark or sizable tract of ground or surface water that holds a particular value of faith for individuals or group members is known as a holy sanctuary. Throughout the world, sacred items are extremely important to many different religious organizations. These things are more than just physical things; they have spiritual meaning and serve as a link between the divine and the human (Jones, & Roös, 2023). Describe a sacred site. Anything that is considered holy or sanctified might be called a spiritual area, sacred ground, religious place, sanctuary shrine, sacred place, or holiness site and these natural features can become hallowed by blessings or an accumulation of tradition. Rather, it is about establishing an emotional bond with you through the presentation of an item that appears before you, transcending both space and time. In a way that words alone frequently cannot, being near an antique draws the visitor closer to the past with cultural legacy and fabric greatly enriched by its sacred places. This study however looked at the inextricably linked to natural landscapes that are given significance by sacred locations. While answering questions like; what is the point of a holy site? The basis of order and purpose for humanity is seen to be this interaction between humans and the higher power, facilitated by places of worship. These sanctified spaces are considered holy given that they mark a moment when a potent spiritual encounter fixes a disordered and imperfect reality (Shinde, 2021; Tang, and Adesina, 2022b).

Literature Review

Spirituality is a process that entails looking for the sacred, holding onto it once it is found, and, if needed, transforming it (Elraghy, 2023; Adedeji, 2023). Religious locations and occasions are acknowledged throughout various cultures and

communities and these locations and times are a part of the initial encounters that shape their perspectives on humanity and their overall way of living. Crăciun (2023), believes that mystical experiences have a significant role in an ethnic group's cultural legacy, and the landscape is primarily determined by its ability to foster an equilibrium with its inhabitants and their surroundings (Bayatmaku, 2022; Adesina, & Uduma-Olugu, 2023). There are distinct features in the surrounding environment, such as an abrupt rock protrusion or the meeting of two creeks, that set apart the sacred natural setting (Ramzy & Abdelazem, 2023; Blau, & Panagopoulos, 2022).

Diagram 1- The study indicators on the ecosystem of sacred landscapes and eco-spiritualism.



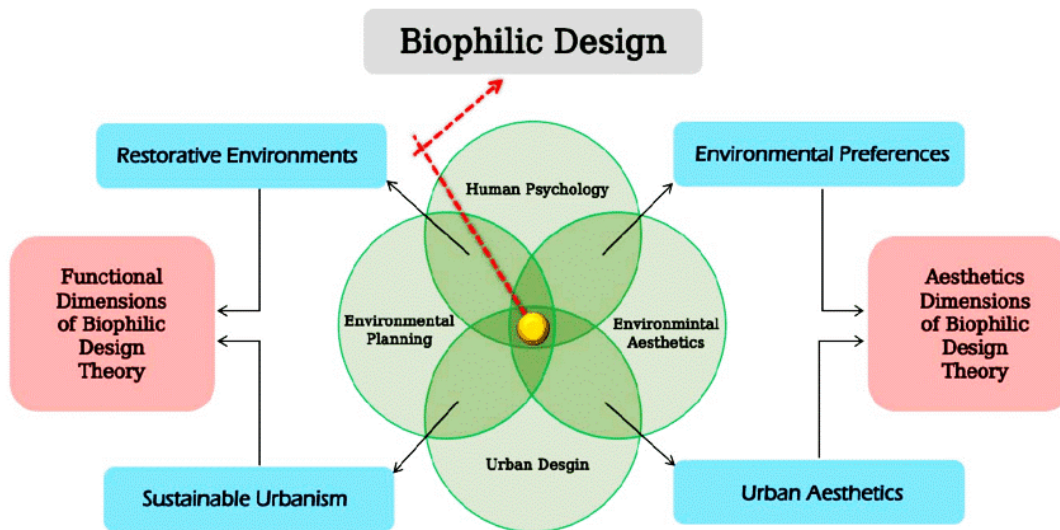
Source: Adesina(2024)

Diagram 1 indicates some of the biophilic design considerations on the ecosystem of sacred landscapes for eco-spiritualism knowing that for many sociocultural groups and organizations, the most fundamental and significant holy sites are natural and sacred areas (Barbiero, 2023). The aforementioned also featured places for healing, therapy, meeting, cleansing, and interment. Barbiero, (2023), stated that some of the sites were selected for ceremonies because of their unique formations, while others have been selected for meditation because of their seclusion. It is necessary to comprehend the significance of stories, legends, and traditions that may be associated

with a certain location to comprehend how different cultures identify places of worship, spiritual scenery, or aesthetically significant natural environments.

What qualifies a location as spiritual or holy? A location's status as sacred is determined by whether or not its constituents consider it deserving of reverence and devotion (Ramzy, 2022).

Diagram 2- Biophilic landscape framework.



Source: Adopted from Bin Sulaiman, 2021.

As a result, communities take care of and guard sacred places, to which they may travel on journeys for celebration and prayer and this gives these places a unique feel and identity. Settlers around these areas select what appeals to them in terms of flavor, music, perception, appearance, and touch items that energize, uplift, or facilitate them through these sacred practices of meditation, mindfulness, doctrinal teachings, spiritual devotion and fellowship, and other episcopal holy habit. Papina, and Cerasella, (2023), stated that everybody on the earth has a distinct area in which they reside, and this location affects how they connect with the outside world, those around them, and their selves, both visibly and unseen (Papina, and Cerasella, 2023). Figure 2, identified some of the ideas that ecological benefits, such as sustainable human psychology, environmental planning, urban design, environmental aesthetics, and spiritual qualities (Bin, 2021). These variables serve as a bridge between natural and human systems is consistent with the idea that these two systems are

interdependent, with terrain influencing civilization and one inevitably changing the other (Papina, and Cerasella, 2023).

The ecological restoration of damaged processes is, therefore, necessary for the sustained generation of these ideals to release innate reserves. That is the situation in the marshes and swamps of the Owuru River wetlands, which surrounded the Redemption City in Ogun State's Obafemi-Owode local district (local government area).

The evolution of Biophilic Design and its significance to the study

Biophilic design has been growing and changing as our knowledge of our relationship to the natural world has evolved (Christensen, 2024). It began with the idea that we frequently lack meaningful interaction with nature due to our fast-paced, technologically-dominated lifestyle and rising urbanization. Biophilic design, which dates back to the 1970s, has evolved from a niche architectural concept to a widely used design approach by experts in a variety of fields (Hosny, Soliman, & Farag, 2024; Christensen, 2024). Its development has been a voyage, incorporating a deep comprehension of the function of nature in creating a balance in human existence. The use of biophilic design ideas advances our understanding of biophilia (Hosny, et al. 2024; Roös, 2022). These days, designers and architects are looking for creative methods to incorporate nature into the built world. The options are growing, ranging from using natural materials like wood and stone to installing living walls and green roofs. Furthermore, biophilic design has advantages that transcend appearances and interaction with the natural world and its components can lower stress levels, boost mental health, and increase general well-being, according to research (Aytaç, Aluclu, Dalay, & Afshar, 2022). In light of this, biophilic design is becoming more and more common in a variety of settings, including rural-urban development, healthcare facilities, educational institutions, and religious buildings in addition to businesses, homes, and their surrounding landscapes. Thus, the biophilic design will develop further our relationship with nature, reshaping the ways we live to foster in-depth

spiritual and psychological harmony between people and their surroundings (Hosny, et al. 2024; Roös, 2022).

Spiritualism and the Human-Nature Connection

While we explore the core of the issue, which is the relationship between humans and nature, the foundation of this relationship is laid by biophilic design, which highlights the mental health and health benefits of living near nature (Coburn, Weinberger, & Chatterjee, 2022). The fundamental human connection to nature is the foundation of biophilic architecture. This intrinsic connection that people have with the environment throughout the dawn of time, this primordial bond has been embedded in the human social space and daily lives (Uduma-Olugu, & Adesina, 2021). Humans have always depended on nature to survive, they have looked to it for assets nourishment, and refuge (Coburn, et al., 2022). But the relationship between nature and humans is more than just subsistence, it is an ingrained relationship that affects our general health. Being in nature or even just watching scenes of it might help people feel less scared, stressed, and angry by lowering blood pressure, heart rate, muscular tension, and the release of neurotransmitters, it promotes mental, spiritual, and physical wellness (Coburn, et al., 2022; Tang, and Adesina, 2022a).

Biophilic Spiritual Landscapes

Having devotion can refer to a way of life, a personality trait, an experience, or just a means of connecting with a greater power that exists in an imperceptible dimension (Hammed, Afifi, & Alhenawy, 2023). Religion organizes these spiritual elements into a system with a clear hierarchy, set of laws, and history. In many cases, the spiritual components of a person, place, or item are not visible, touchable, or audible; rather, they exist in a world that is mostly undiscovered by science. The way that people interact with and experience the natural world, as well as the ways that the biophysical environment influences people's lives, all have an impact on spirituality (Hammed, et. al., 2023; Aytaç, et al. 2022). The actual, drier surroundings add to the phenomena of rain being worshipped and the same sense of wonder at breathtaking

natural settings with mesmerizing waterways and geography sets off an inbuilt link that ecologists categorize as ecosystem goods and services (Tenti, 2024; Adesina, & Zhu, 2022). Earlier men had a yearning to visit rivers and woodland trails to explore otherworldly places while appreciating the splendor of the natural world, experiencing otherworldly forces, and developing a feeling of sanctity. In addition to the geophysical and sociological realms, individuals have also been shown to exist in the realms of mental conception (Tenti, 2024). Consequently, spirituality is more about how people understand themselves in the multiplicity of worlds, both individually and throughout communities (Adesina, & Zhu, 2022). The comprehension of man's metaphysical encounters in the physical world around us, particularly in specific natural settings, requires an awareness of the numinous, cosmic, and aesthetic elements of faith. It is likely argued that a metaphysical terrain is defined by the cosmic, aesthetic, and numinous aspects of experiences that are spiritual (Bin, 2021).

Defining and Understanding Biophilic and Spiritual Tourism

Bin (2021), opined that the innate human tendency to identify with the natural world, known as biophilia, is vital to individuals' physical and emotional well-being even in the contemporary day and these ideas help in comprehending and facilitating the deliberate integration of a wide range of tactics into the built environment. This is particularly troublesome since, even though humans may have evolved in the natural world, 90% of our daily existence nowadays is spent indoors in artificial environments, which is the "expected ecology" for modern humans (Coburn, et al., 2022; Talee, & Al-Qaraghuli, 2023). The public's health and fitness continue to depend on positive interactions with nature, yet finding such opportunities in today's constructed world can be extremely difficult with the predominant perspective in contemporary landscape and construction design mostly views nature as a challenge to be conquered (Tercan, 2023). As a consequence, there is a growing gap between the natural world and the constructed environment, which is evident in the lack of appropriate access to natural light, ventilation, materials, plants, vistas, natural shapes

and forms, and overall positive interactions with the natural world (Bin, 2021; Uduma-Olugu, & Adesina, 2021). A large portion of today's constructed environment lacks sensory diversity to the point that it occasionally reminds one of the sterile enclosures of an antiquated zoo now paradoxically outlawed due to its "inhumane" practices. With humanity continuing to develop their cities, the benefits of biophilic design which may lower stress, enhance creativity and cognitive function, promote well-being, and speed up healing become increasingly crucial. To provide individuals, the chance to live and work in environments that promote health, reduce stress, and improve their general state of mental health, a biophilic design is important. The goal of the study is to boost the ecological health of deteriorated riparian landscapes and increase their spiritual worth by regenerating the Owuru River wetlands using a biophilic design approach and urban planning strategies which undoubtedly enhances the host communities and most especially the Redemption City's religious tourist prospects and the communities around it.

Methodology

Adopting a mixed approach of geospatial analysis and qualitative description of the area, this investigation was conducted in four phases with a sample frame of approximately 2kmx5Km (10 km²) in three clusters. In the first phase, the Redemption City's natural vegetation regions and current drainage network were assessed and the current vegetation and drainage system of the City were documented using fieldwork, soil and hydrological research, 2024 satellite pictures, and topographical maps. To understand the innate ecological goods and services, the second step included mapping the biophysical settings of the wetlands. Information from 2024 satellite photos, topography maps, and earlier ecological research were the sources of secondary data. In the third stage, structured interviews with community opinion leaders are synthesized to document expectations for Owuru River restoration. The selected site adheres to the fundamentals of a "sacred place," but it exclusively considers natural landscapes that incorporate individual opinions, encounters, and

emotions. To disentangle hallowed sites from historical and theological history, as many cultural groups associate sacred places with such material. The Redeemed Christian Church of God (RCCG), the organization that supports Redemption City, adheres to Christian theology. Concerning the geomorphologic formations and features, the onsite data collected elucidates the landscape ecology by identifying the different ecosystems, habitats, flora relationships, and species. The study additionally looks at how the surrounding populations interact with the environment as an ecological resource pool. The onsite assessment gives priority to the ultimate restoration and regeneration thought structure for damaged ecosystems like the Owuru River and it must be envisaged as a biophilic design that takes into account biogeography, as the goal of living sustainably is a constant extraction of social, economic, and cultural advantages through the natural world.

Owuru River Biophysical Setting

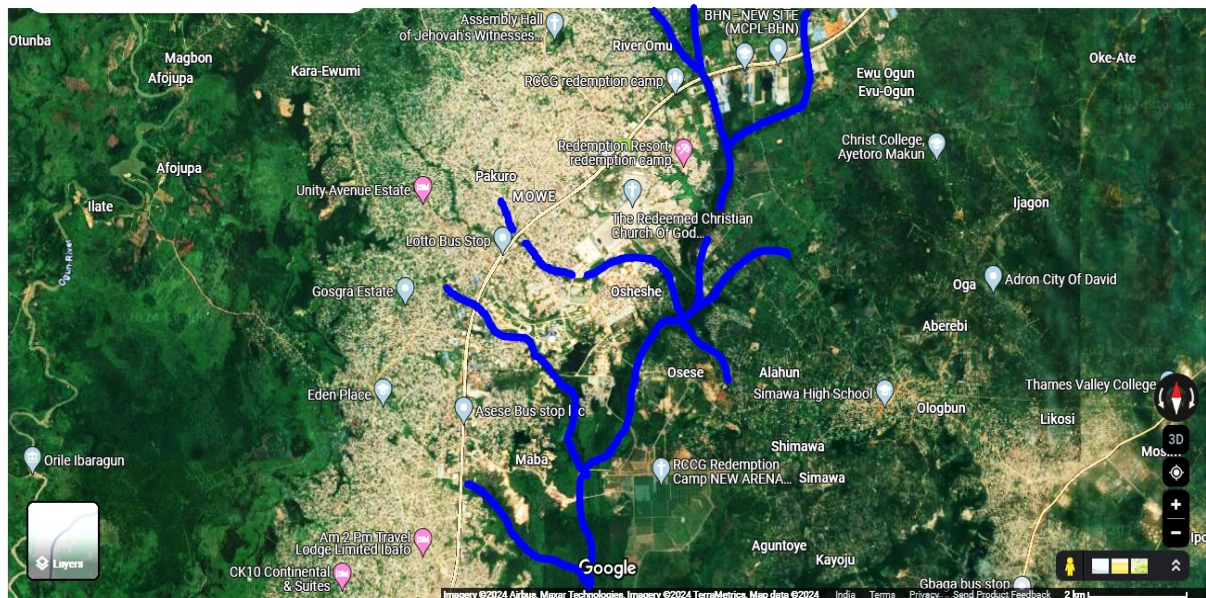
There are two main ecological zones recognized in the selected site: the disturbed rainforest of the lowlands and the ecosystem of freshwater. The latter sustains the several urban strata drained eastward by tributaries of the Owuru River. About fifty years ago, it was pure greenery with a distinctive three-level physiognomy. The formerly lush rainforest natural zone was broken up by intensive human activity, particularly urbanization and the traditional shifting cultivation agricultural technique. There are still isolated patches of secondary bamboo association along the Owuru River's higher ground. Occasionally it could be challenging to tell these areas apart from Owuru's newly formed marsh. The loss of territory and disappearance of common wildlife that inhabited the area fifty years ago are directly related to the deterioration of the environment. The sections of the flood plain with poorly drained soil are home to Owuru swamp forest. The underlying soil contains a very high level of nutrients. The typical tree height in the swamp forest is a uniform six meters. When the zone is in its best condition, it is architecturally made up of large trees, an open canopy, and an extensive understory covered in vines and bushes. However,

throughout the fifty years before that, the majority of the zone's commercial tree species have been unsustainably collected, abandoning behind dense understory and sporadic massive trees that are less than 600 millimeters at breast height. Less than three species dominate the richness of the freshwater marsh woodland beneath the conspicuous tree level.

Study Area: The Owuru River

Every month, hundreds of thousands of devout people go to the well-known Christian community of Redemption City in need of spiritual support. The 900 hectares, or 4.4 km², of wetland vegetation along the Owuru River and its four primary streams should, in theory, improve the biophilic and spiritual values of the city; however, recent development activities, such as illegal fishing, reclamation of land, illegal logging, building construction and peasant agricultural production, have stripped the environment of its greenery (see Map 1).

Map 1- Map showing the 20.4 Km section of the Owuru River Wetlands



Source: Edited from Google Earth Satellite Imagery, 2024

In Ogun State, Nigeria, The Redemption City is a rapidly developing, well-known religious tourism and ecotourism attraction (see Map 1 & Photo 1). Wetlands made up of freshwater with a high level of biological diversity comprise 10% of the land area. The Holy City is now dealing with several ecological problems, including floods,

deforestation, illegal fishing, high sedimentation rates, blocked streams, and wetlands invasion (see Map 1-3, Table 1).

The biophilic restoration of the Owuru River floodplain is examined in this essay as a much-needed enhancement to Redemption City's spiritual scenery. Numerous ethnic and religious groups have faith in the therapeutic benefits of hot springs, mineral springs, and holy wetlands for a range of illnesses. Spiritual commitments are fundamental to human well-being and serve as the foundation for pilgrimage to sacred places.

Photo 1- Aerial view showing the Owuru River wetland forest.

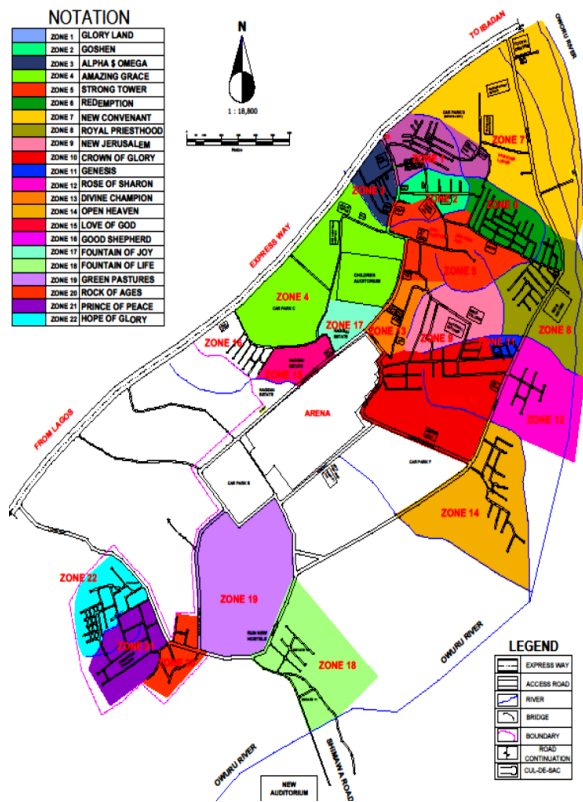


Source: Adesina(set 2023)

Photo 1 shows the existing land use of the study area and each of the residential areas has some links to the wetlands and tributaries. The site investigation categorized the wetlands into two; thick(dense) and light (less dense) wetlands and they both contain various biodiversity in different quantities also the site investigation and ratings revealed that in all the wetlands within and behind the adjoining communities (see photo 1; Map 2&3).

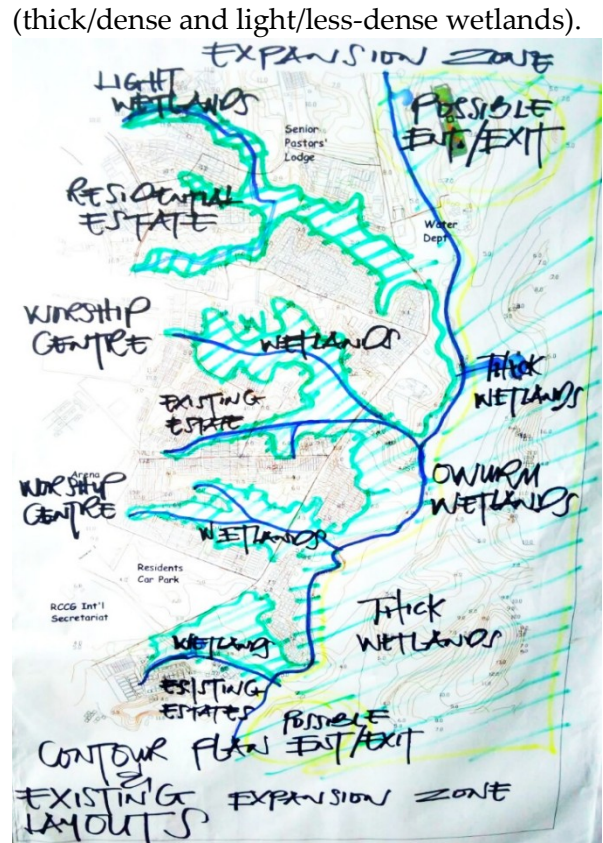
Map 2- (Left) Redemption City Zoning.

Source: PPDC, RCCG, 2023



Source: Adesina(2023)


Map 3- (Right) Zoning of the selected area (thick/dense and light/less-dense wetlands).





Source: Adesina(set 2023)

The Table 1 revealed that maintaining a connection with nature is essential for social interactions as well as the overall health of the people around it and this has impacted the biophilic state of the forest. These impacts were assessed and rated as extreme, critical, moderate, and fair. The passage and free flow of water have a fair impact on the ecosystem and extreme impacts were caused by human anthropogenic factors due to deforestation through road construction and house construction as shown in Table 1.

Table 1- Table showing the existing condition of the wetland and its environmental impact on Redemption City and the host communities around the Holy site.

Existing Pictures	Impact Analysis	Impact Rating
	Pictures showing the level of degradation and turbidity, in the Owuru River around the Redemption City.	****

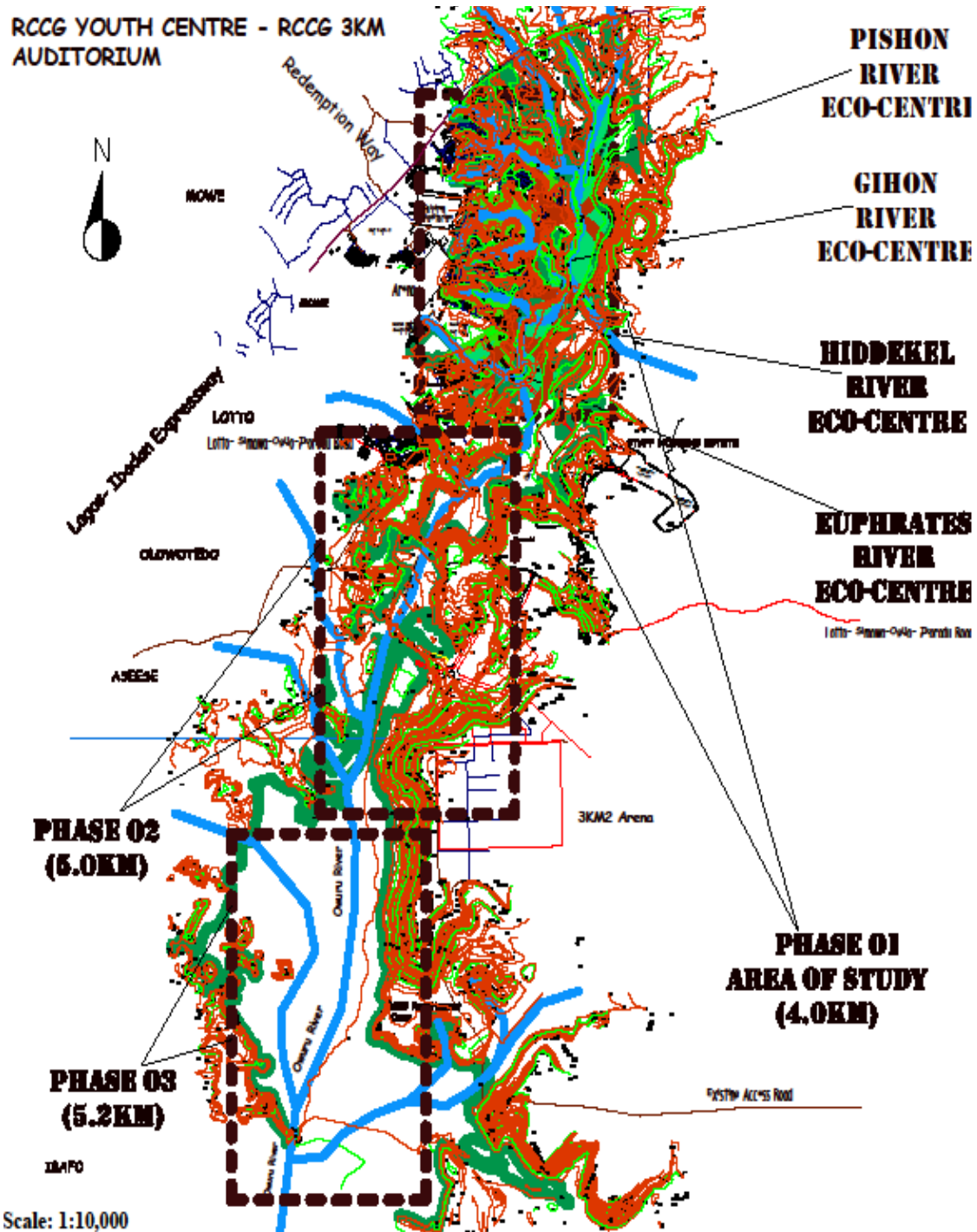
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	<p>The river in most cases overflows into the neighborhood and after livelihoods and disrupts economic activities. ****</p>
	<p>High tide and water current through the sewers. Whenever this drainage is blocked due to human activities around the city. *</p>
	<p>Building Construction around the city sometimes has the materials washed away due to the impacts of the floods along the waterway. ****</p>
	<p>Illegal fishing activities along this waterway. The wetland forest was all gone due to extreme deforestation and the housing estate could be seen and sometimes exposed to hoodlums who used the waterways. ****</p>
	<p>Dangerous reptiles are found in the river and they sometimes creep into the street after heavy rainfall and water runoffs. ***</p>
	<p>Road construction across the wetlands has further and deforested wetlands. ****</p>
	<p>The red laterite brought to fill the wetlands for the road construction sometimes becomes inaccessible after rainfall and due to neglect and abandoned road works the terrain is not conducive for the people. ****</p>
	<p>A retaining wall could be seen along the wetland corridor built to prevent further human illegal activities. **</p>

Source: Adesina(set-dez 2023)

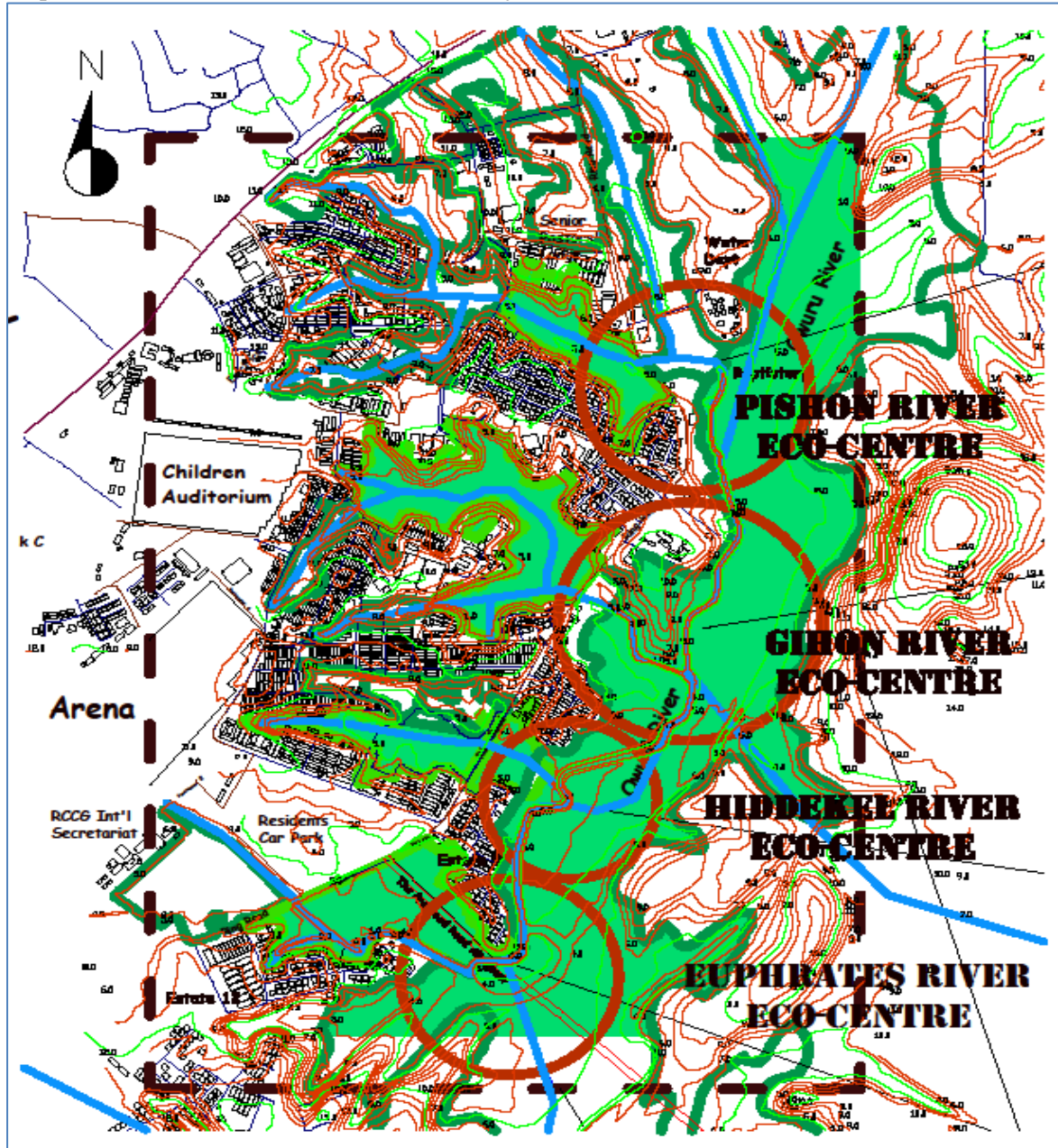
* **Table note:** Remarks from on-site interviews inventories and assessment of the coastline. Note: 4*(extreme impact), 3*(critical impact), 2*(moderate impact), 1*(fair impact).

Map 4- The area is divided into three phases for proper analysis, assessment, and documentation.



Source: Adesina(set 2023)

Map 5- Sacred Wetlands and Wetland Ecosystem around Owuru River



Source: Adesina(set 2023)

Site assessment shows that maintaining the natural state of the wetlands can improve empathy and happiness levels, strengthen bonds with others, and give one a sense of community. Some of the respondents stated that envision strolling through a very green forest, enjoying the cold air on their skin, the calming sound of birds tweeting, and the earthy perfume of the trees (see Map 4 & 5). It shows that very instant, the people contribute significant and active participation in the natural world rather than only a spectator.

Site Assessment

Our mental and emotional health can benefit greatly from this sensation of total absorption in nature. Awe and amazement may also be fostered by spending time in nature and might feel little and insignificant in the face of the immensity of an open ocean or the vastness of a majestic ecosystem formation. This change in viewpoint can aid in improving our understanding of the environment and our role in it. We start to observe the far-reaching advantages of this union, especially in metropolitan and homes, when we use biophilic design with the human-nature connection, as the research evaluated the indicators of the ecology of sacred landscapes and eco-spiritualism. Respondents and a few residents stated that the largest opportunity and difficulty for biophilic design are found in urban settings. Cities may bring nature back into our lives by implementing features like rooftop vegetable gardens, indoor-outdoor areas, vertical gardens atop buildings, and areas designated for animals. The anticipated advantages are enormous, ranging from enhancing urban inhabitants' emotional wellness to boosting biodiversity. Biophilic design may help us create a sanctuary in our homes where families can rest and regenerate. Features like natural hues, plants in the interior, walls constructed from ecologically friendly supplies, and an abundance of wholesome sunshine. This is the evolution that occurs when we start incorporating nature into our daily lives. This is known as biophilic design, and it has many positive psychological effects, ranging from stress reduction and improved mental clarity to elevated feelings of joy and positivity. Biophilic design has also been linked to enhanced creativity, productivity, and even the development of stronger community bonds. Its positive effects on physical well-being are also noteworthy, with research indicating helps with breathing problems and heart disease prevention, quicker recuperation from sickness, and extended life expectations.

Findings, Results, and Discussion

Based on the aforementioned factors, the flood plains' overwhelming ecological impact is graded, with the majority of the consequences stemming from insufficient

water drainage or a lack of infrastructure. such as the construction of homes alongside rivers, the use of unpaved roads devoid of appropriate drainage channels, the dumping of plastic waste bottles, and tiny drainage channels (1.2 and 1.5 meters, as measured in certain places). Observed mammals include *Cercopithecus mona*, *Cercopithecus nictitans* (white-nose monkeys), *Tragelephas spekei* (Sitatunga), *Cercopithecus mona*, *Naja melanolenca*, Pangolin, and Huge woodland squirrel. The monitor lizard, *Veranus niloticus*, and the winderianus thryonomy. Reptiles like *Python sebae* are well-known. The lower forest stratum birds that make up the avifauna community include the Pin-tailed Whydah, Egrets, Storks, Ducks, King Fishers, Lily trotters, Warblers, Sunbirds, Eagles, and Forest Robins. There was a wide variety of butterflies in the freshwater marsh woodland. Crowds of several butterfly species are observed on the floodplain, depending on the season. *Tilapia nilotica*, *Tilapia galilaea*, *Tilapia sillii*, *Claria slazera*, *Heterabran chusbidorsali*, *Heterotis niloticus*, *Gymnarchus niloticus*, *Cittrari nuscitharus*, and *Lates niloticus* are among the fish resources in the Owuru River and its four major tributaries. The primary natural goods include fuel wood procurement, peasant farming, ethno-botanic resources, freshwater artisan fishing, and palm wine production. Services include religious contacts, soft engineering regulation of fluvial floods, and wetlands water filtering. Because of the unregulated reclamation that has caused degradations and excessive turbidity, as well as the reality of persistent floods in recent years, the soft engineering and water purification services provided by the Owuru River marshes are extremely important. Offering the locals, a substitute source of income will have an impact on the Owuru River restoration's effectiveness.

The Biophilic City Design Considerations

The development of the site idea took into account the natural aspects of the area, including terrain, trees, flora, rock-out crops, water features, and landforms. Incorporating operable windows on opposite walls allowed for the entry of natural light and ventilation, as well as a good view of the surrounding landscape from a

secure position. Other natural elements of the site, such as light and ventilation, site contours, views, and prospects, were all important design elements. Following the site's natural pattern and flow, the facility was designed to preserve as much of the terrain, natural features, and natural components as feasible. Three groups of activities were identified as forms of circulation in the area: cycling, swimming, and walking. Boats moving quickly, walking, and assisted mobility (mobility devices and scooters). For the convenience and safety of mobility, vehicle circulation is limited to the roadway leading to the facilities and is not intended to impede other forms of mobility. The city's operations are divided into zones according to the following: housing, leisure, biking, worship, touring, and leisure.

Architectural expression: Spirit of place

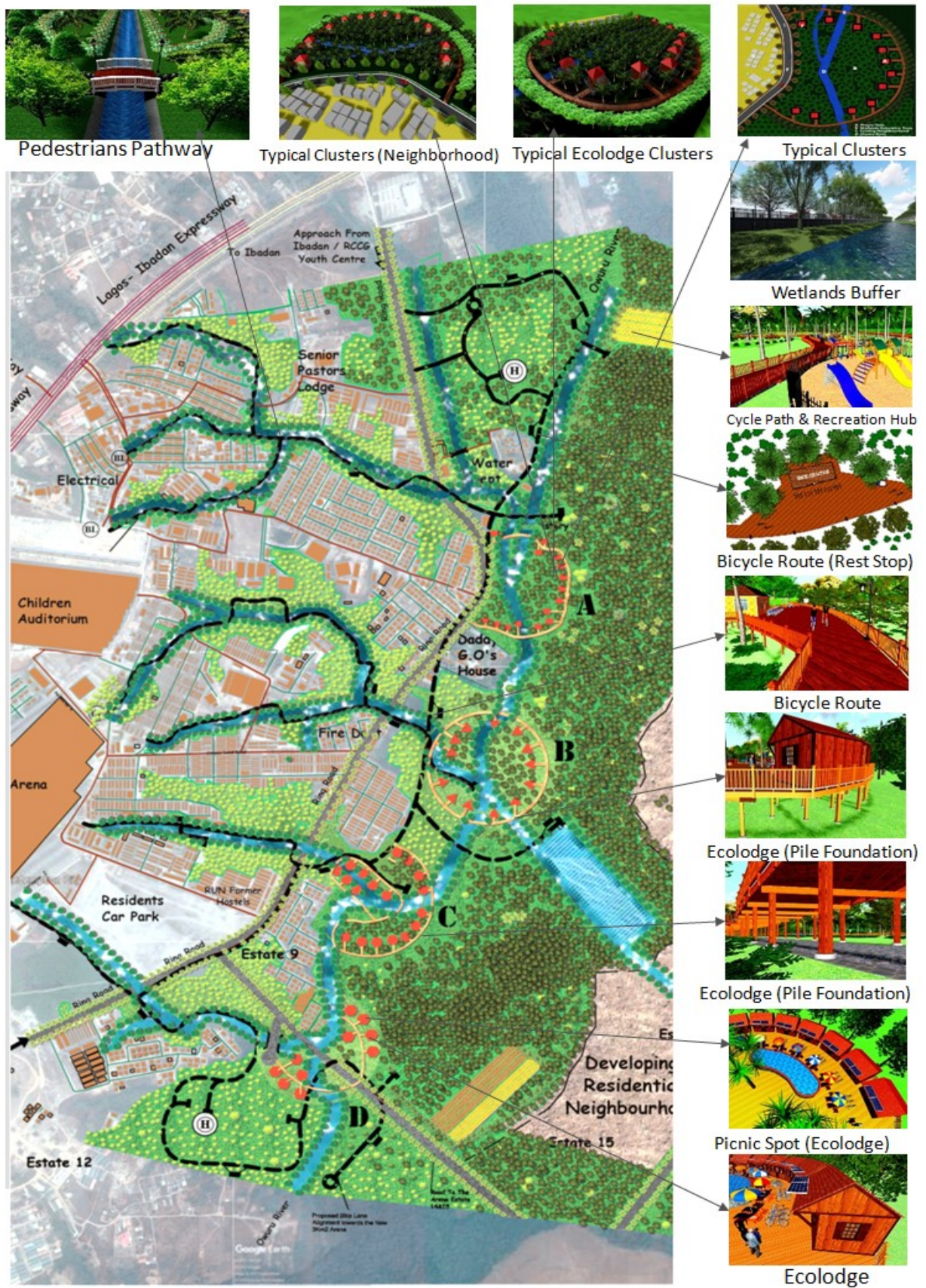
The ability of landscaping design to integrate structures into different environments so that people, architecture, and climate all coexist in harmony is its greatest asset. Because historic styles of architecture and cultural ties were used to give a structure character and a sense of place and belonging, buildings and features that have a sensory relationship to the ecosystem and culture of the site aid in the adaptation of its users. The architectural style aims to integrate ecological forms into modern architecture in an orderly way, while also considering the possibilities of ecological concerns that may be included within the layout.

Site Planning

The structure itself, its design, the way materials are used, and the area immediately around it are all considered to be part of the physical environment. Structures are arranged on the site to create a typical community setting that encloses a courtyard, representing a village common area with trees planted and a water feature that serves as a sun shade and an attraction for both staff and patients. To create harmony between the site and the structure, the site planning takes into account the natural elements that the location affords and incorporates them into the design. The

geography of the location and the tiny creek that flows through it are the two main elements that were best used. Buildings are built with split levels connected by hallways and ramps to reflect the site's inherent terrain. The study is based on a reinterpretation of the landscape and biophilism. To understand the intrinsic environmental services and products, an ecological charting project was carried out along the four kilometers of the Owuru River and its four major tributaries. The products and services that come from the marshes are included in a further sociological analysis. Three tree associations—*Raphia species*, *Elaeis guineensis*, and *Symphonia globulifera* dominate the swamp forest's biodiversity. Freshwater fishing, small-scale farming, ethnobotanical resources, the procurement of fuel wood, and palm wine production are among the primary ecological products. Wetland water filtering, natural flood soft engineering control, and religious engagement are among the services provided. Biophilic design principles aim to guide humankind toward a harmonious coexistence with the natural world (see Figure 4). The site planning for the biophilic restoration of the Owuru River wetland takes into account the practical development of the site's hydrological system. Praying hubs and huts were developed in clusters, while allotment gardens and fish farming were created to suit the demands of peasant farmers for a living.

Photo panel 1- Proposed Owuru River (Phase 1, Redemption City) landscape design.



Source: Adesina(set 2023)

The latter is the driving force behind the religious doctrine that affects man's well-being as a spiritual being. Typical instances are the numerous belief systems that hold that mountains serve as a bridge between the material world and the spiritual realm. The findings of this study revealed that rivers are the main aspects of the natural world that are considered sacred and are frequently connected to feminine deities.

Owuru Wetland Biophilic Restoration Framework

The Owuru River and its four principal tributaries play a significant role in the hydrological process, edaphic variation, and plant relationships in the research region, according to site inventory, analysis, and synthesis. The restoration framework concentrates on addressing the settlement's main goal concerning the natural goods and services of the site and the requirements of the local population. The spiritual development of the city's citizens and the monthly visitors is Redemption City's main objective. This highlights the cosmic, artistic, and ethereal elements of the spiritual terrain. When considering the wetlands as a Christian spiritual landscape, one must consider how to localize biblical scenarios that honor the Garden of Eden's hydrodynamic depiction. The Pishon, Gihon, Tigris, and Euphrates Rivers are the four rivers that the sacred arrange names as defining Eden's ecological characteristics. To their names, the rivers' fundamental meanings are as follows: Pishon signifies "increase," Gihon implies "bursting forth," Tigris means "rapid," and Euphrates indicates "fruitfulness." The results along the corridor of the wetland...an evaluation of the flood catastrophe in the camp of redemption: toward supplying an everlasting remedy for the threat. The four rivers as earlier mentioned are represented in the design as A (Pishon), B (Gihon), C (Tigris), and D (Euphrates) in Figure 4.

Biophilic Designs and Tourism

Biophilic building knowledge is still in its infancy. It is possible to claim that the study is essentially confirming the rediscovery of the intuitively clear in many respects. Sadly, much too much of our contemporary design ignores this important insight. The study shows deep down how vital it is to have a connection to nature. Most individuals will mention somewhere outdoors when asked about their favorite

vacation spots; we use the word "recreation" and forget that recreation is really about recovering and rebuilding ourselves. Therefore, we should work to restore the human-nature link in the built environment while the empirical evidence is mounting. Considering how much the natural landscape has changed since people started farming and other occupations, ecologically friendly architecture is crucial. As more people live in cities than in rural areas, the number of people living in cities has increased in recent years. Given this trend, our designs (re) must connect people to an encounter with nature; for our health and well-being, biophilic design is not a luxury—rather, it is a necessity, as demonstrated by Frank Lloyd Wright's biophilic falling water iconic design. Biophilic design patterns help highlight the significance of human connections with nature in our built environment, and we encourage people to challenge conventional thinking by incorporating biophilic design patterns into visions for healthy dwellings, places of employment, and towns. The four main rivers that make up the Owuru tributaries—the Pishon, Gihon, Tigris, and Euphrates—are figuratively seen as the four waterways, and the quadruple convergences are thought of as contemplation and prayer groves that represent the qualities of "boost," "overflowing forth," "swift," and "prosperity." The wetland is now dealing with several associated ecological problems, including floods, woodland loss, illegal fishing, and significant deposit rates. Examining the sustainable recovery of the Owuru River as an essential enhancement to Redemption City's spiritual tranquility. Additional sociological analysis lists the products and services that come from the swamps. Vegetation and wildlife of various types make up the majority of the wetlands forest's biodiversity and the primary ecological products include fuel wood procurement, small-scale agriculture, freshwater fishing for seafood, and palm wine production. The wetlands runoff filtering, spontaneous river soft technical control, and religious engagement are among the goods and services offered.

Socio-Religious Inputs

Management that is participatory and values the contributions of the people living in Redemption City as well as the monthly spiritual tourists is necessary to restore the ecological richness of the Owuru wetland. A review of the visitor questionnaires reveals a preference for densely forested natural parks with areas designated for group picnics, meditation spots, and prayer alcoves. The biophysical results serve as the foundation for the Owuru River restoration's biophilic planning and management. The wetlands reconstruction programming takes into account several factors, including the use of shade trees on the streets; alternative sources of income for residents, particularly the small-scale; nature trails, off-road biking paths, benches, and having picnics shelters; contemplation landscapes and picnic woodlands; and the reintroduction of four native plant species in the damaged regions and disappointments of the four main waterways.

Final considerations

The development of sites that consider ecosystems acknowledges the surrounding environmental processes and emphasizes the need to conserve delicate natural and cultural resources. The ultimate goal is to reduce the negative effects on progress by integrating human design into natural processes and patterns. Designing the site with consideration for the biophilic restoration of the Owuru River wetlands takes into account the hydrological system of the site since inappropriately introduced land use and modifications to existing land use may have a detrimental effect on the amount and quality of water. Four prayer and meditation groves were created in clusters under the supposed biblical Garden of Eden Rivers cape, while allotment gardens and fish aquaculture were introduced to fulfill the livelihood demands of peasant farmers.

Low-carbon mobility inside the wetlands is facilitated by non-motorized means of transit such as raised deck boards, nature paths, and off-road cycling lanes. Numinous, cosmic, and aesthetic elements are employed with native plant species and park furnishings to improve the spiritual landscape sanctity ambiance in each of the four alcoves, paths, and rest spots. The core of viable remedies to the present

environmental catastrophe afflicting humanity is a biocentric approach to landscape rehabilitation.

Biophilia will have a greater impact on reestablishing the mutually beneficial link between humans and the environment than other eco-friendly design concepts. Invoking the religious values of the freshwater environments around the Owuru River, this work has focused on a restorative strategy. The wetlands are used socially by the long-term residents of Redemption City, and features that should strengthen the place attachment for religious tourists were taken into consideration throughout the site programming process.

The introduction of small-scale aquaculture operations and vegetable allocation gardening gave artisan and peasant farmers a substitute source of income. For the replanting of degraded regions, native bamboo species, *Elaeis guineensis*, *Symphonia globulifera*, and *Raphia hokerii* were recommended. They will enhance the wetlands' naturalness, which is essential to the biophilic essences, in addition to drawing in the local wildlife and avifauna. The ideal ethereal and cosmic atmosphere will then be manifested through the recommended nature paths, rest areas, and prayer and meditation alcoves, creating a place-based sacred Christian marshland environment. The investigation of the ecosystems in the wetlands has produced the subsequent conclusion:

1. The current perspective on wetlands holds that they are extremely valuable ecosystems that need to be preserved for the good of humankind.
2. It's been demonstrated that the Mission barely has any regional frameworks for the preservation of wetlands and waterways, leaving our wetlands and waterways—as well as those elsewhere—open to severe cases of deterioration.
3. The wetlands of the Redemption camp are currently seeing a variety of projects as a result of this omission, but private developers are drawn to the affordable swamp area and lack the resources necessary to properly restore it.
4. Insufficient knowledge of wetland ecosystems is leading to poor professional decisions that put inhabitants of buildings on inadequately recovered wetlands in

some of our estates at risk of a variety of hazards, as this assessment of the flooding issues has demonstrated.

In the current climate change-induced scenarios of rising sea levels, wetlands serve a valuable role in shielding terrestrial ecosystems from flooding. The creation of a local framework is desperately needed in the lack of a national one to save our wetlands and avert looming catastrophic ecological events for the local populace.

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Author 1: Conceptualization, methodology, manuscript, site investigation and assessment, data collection, analysis, and writing;

Author 2: Review, supervision, editing, validation, and approval;

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