
Sustaining the Aesthetic Value of the Rocky Nature of Jos Town in the 21st Century: An Integrated Approach to Physical Restructuring Planning

By

Emmanuel Sambo Kudu

Department of Urban and Regional Planning

University of Jos, Nigeria.

E-mail: emmanuelambokudu@gmail.com

Phone: 07037740235; 09047324015

Abstract

Jos Town, a gem nestled in the captivating landscapes of Nigeria, is distinguished by its unique rocky terrain. As the world hurtles through the 21st century, the integrity of Jos Town's distinctive aesthetic character is under siege from the relentless forces of urbanization and development. This article seeks to unravel the layers of significance embedded in Jos Town's rocky nature, transcending mere geological marvel to encompass historical, cultural, and environmental dimensions. In doing so, it lays the groundwork for a comprehensive approach to physical restructuring planning, one that delicately balances the imperatives of urban growth with the imperative to safeguard the soul-stirring beauty of Jos Town's rocky landscape.

Keywords: Rocky nature, aesthetic value, urbanization, physical restructuring, cultural heritage, sustainability, community engagement, environmental preservation, economic opportunities

Introduction

Jos Town's rocky nature stands as a testament to both geological history and cultural identity. As the town undergoes rapid urbanization, maintaining this aesthetic treasure becomes a critical endeavor. Rapid urbanization and population growth have caused many problems in developing countries. In Nigeria, cities grow too rapidly with resources not able to keep up with the increasing population. Housing is one of the major problems these cities are facing today. Migrants who cannot afford proper housing are forced to build temporary structures without proper utilities. (Kudu, 2018).

This article aims to elucidate the multifaceted importance of Jos Town's rocky landscape and proposes strategies for sustaining its aesthetic allure. According to the World Cities Report 2016, millions of people move into cities in the developed and less developed countries annually in search of personal and family opportunities and progress (UN-Habitat 2016). The Report has brought to light that the current rate of urbanization is not sustainable and worsens the issues of inequality, informality and unsustainable forms of urban growth and expansion. Early during the years of the Iron Age, people settled at the river valleys rather than the rocky terrain (rock outcrops), however, as time went on, settlements on rocky terrains began to appear.

Burgess (1929) claims that hilltop settlements emerged towards the end of the early Iron Age. Dung-Gwoma and Jugu (2017) hold that in Africa, hilltop settlements emerged in different parts of the continent. According to Ehret (2002), developments on Mount Kilimanjaro, Mount Kenya, the Para Mountains and the Usambara Range emerged since 11th century A.D. In Malaysia, there had been tremendous increases in physical developments on hilltop areas due to depleting flat land and the beautiful scenery, and the desire for fresh air and exclusiveness that such areas present.

According to Freund (1981) and Alexander (1985) Human settlements emerged in Nigeria in four major ecological zones; the Northern plains with cities and towns such as Kano, Zaria, Bauchi, Kaduna, Daura, etc. based on pre-colonial city states and many like Kano flourished due to the trans-Saharan trade. The Jos Plateau is the second ecological unit, which lies at about 1300m above sea level. Settlements developed on hilltops for security and defensive purposes and later due to the presence of mineral resources, which were exploited during the colonial period from 1903, which attracted thousands of people from within and outside the country to the minefields. The plains and hills of Yoruba land in the South West had such towns like Idanre, Ibadan, Abeokuta. Lastly, were the high plains of the east with settlements such as Enugu and Igbinke (Dung-Gwom and Jugu, 2017).

In Jos, population growth and urban expansion has increased in an uncontrolled manner and this has increased the demand for all land uses with housing taking a greater share. In 1991 the population census recorded the population of Jos to be about 650,000 (NPC 1998) while the 2006 census put the population of Jos at 950,000. Current estimates put the population of Jos at 970,000, a 2.97% increase from 2022. The metro area population of Jos in 2022 was 942,000, a 2.72% increase from 2021. The metro area population of Jos in 2021 was 917,000, a 2.46% increase from 2020. (<https://www.macrotrends.net>). In Jos, rapid population growth and uncontrolled urban expansion has increased demand for land for all purposes and especially for housing development. By 1913, Jos had a population of 3000 (Bingel, 1978). This rapid population growth has exerted corresponding demand for land for housing and resulting in the spontaneous development of informal settlements and slums at peri-urban areas on steep slopes and hilltop (Dung-Gwom and Oladosu, 2004; Dung-Gwom 2007, 2008). The Urban authorities have failed to provide serviced lands on desirable sites to the

teeming population who have had to fend for themselves for residential land through the open market to provide shelter for themselves without basic infrastructure.

This paper embarks on a journey through time and terrain, seeking to unravel the layers of significance inherent in Jos Town's rocky nature. Beyond its aesthetic appeal, the rocks serve as silent storytellers, chronicling epochs of change, adaptation, and resilience. They embody the very spirit of Jos, a town that has weathered storms and stood steadfast against the erosive forces of time. In the sections that follow, we delve into the geological wonders that shape Jos Town's rocky panorama, tracing the contours of history that have shaped its character. We confront the challenges of the present, acknowledging the harsh realities posed by urbanization, yet envisioning a future where progress and preservation harmonize.

This paper is not a mere academic exploration; it is a call to action. As Jos Town transforms, let it not lose the essence that makes it a sanctuary of culture, history, and natural beauty. By marrying the principles of sustainability with an appreciation for aesthetics, we endeavor to chart a course for Jos Town that navigates the challenges of the 21st century without sacrificing the soul-stirring beauty of its rocky landscape.

Study Area

Plateau State lies between Latitudes 6°N and 14°N and Longitudes 3°E and 10°E. Plateau State has been known for its heterogeneity with respect to ethnicity, cultural backgrounds and social groupings. The largest concentration of these ethnic groups are found in Jos the capital city of Plateau State. Jos metropolis is the capital of Plateau state, Nigeria. It lies between latitudes 9°51'30"N to 10°02'00"N and longitudes 8°48'00"E to 9°59'00"E. Its headquarters lies in the city centre of Jos. It has an area of 291km² and a population of 821,718 as at the 2006 census. The city is located on the Jos Plateau at an elevation of about 1,238 metres or 4,062 feet high above sea level. The Jos Plateau is located almost at the centre of Nigeria. It is probably the home of the largest number of ethnic groups, with the largest concentration in the Jos town, capital of Plateau State. Here, almost every ethnic group in Nigeria is represented. The growth and development of the Jos town can be attributed to several factors, pulling populations of different socio-cultural, linguistic and religious backgrounds, creating a unique diversity in the social configuration of the area. This diversity has added beauty to the God-given attractiveness of the physical environment (Kudu, 2023).

The area known as Jos today was inhabited by indigenous ethnic groups who were mostly farmers. The British colonialists used direct rule for the indigenous ethnic groups on the Jos plateau since they were not under the Fulani emirates where indirect rule was used. The Fulani Empire controlled most of northern Nigeria, except the Plateau province and the Berom, Mwaghavul, Ngas, Tiv, Jukun and Idoma ethnic groups. It was the discovery of tin by the British that led to the influx of other ethnic groups such as the Hausa, Igbo, Yoruba, thus making Jos a cosmopolitan city (Wikipedia). Generally speaking, the formation of the Jos Town is traceable to as far back as the pre-colonial period. This period witnessed waves of migrations from both outside and within the area to the Jos area. However, the traditions identify the earliest settlers at the area as the Du section of Berom, the Kishi village of Rukuba and the Anambi clan of Anaguta (Kudu, 2023).

The emergence of Jos as a modern city is associated with colonialism and its attendant economic policy, tin mining, Christian Missionaries, Hausa traders and Fulani cattle rearers. Although the Fulani did not live in the urban centre of Jos, the selling of their cattle for meat gradually acquainted them with the city life, and some of them eventually abandoned their

cattle for the city. Among them were those who acted as middle men in the cattle trade, the proceeds of which some of them enrolled in the literacy classes, after which they secured employment in the colonial administration as messengers (Kudu, 2023). Probably of all the factors which pulled population from across the Nigerian area to the Jos Plateau, the tin mining industry was the strongest. During the early stages of its exploitation, from 1903 to 1906, the local population remained the only source of labour, which was even supplied on casual basis in the tin fields (Maren, 2011).

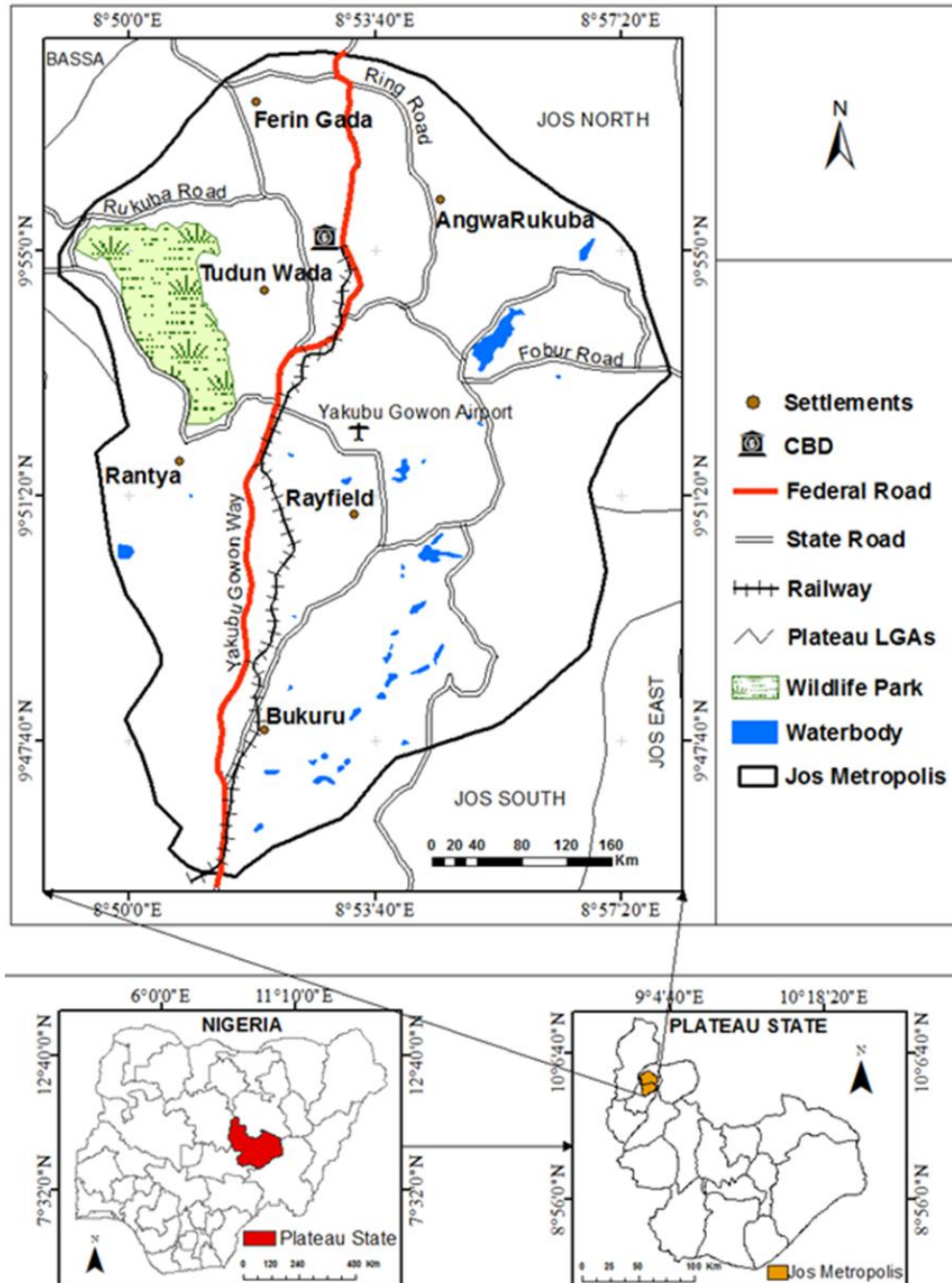


Figure 1: Jos Metropolis

Source: Plateau State Ministry of Lands, Survey and Town Planning, Jos (2023)

The Rocky Nature of Jos Town

Jos Town's rocky nature transcends the ordinary; it is a geological symphony, an intricate dance of nature that captures the essence of time. The town's landscape is punctuated by imposing granite formations and undulating hills, creating a visual spectacle that is as unique as it is awe-inspiring. The rocks, weathered by eons of natural processes, stand as sentinels, guardians of a history etched into their rugged surfaces. These geological wonders, predominantly composed of granite and other metamorphic rocks, contribute to Jos Town's magnetic charm. The interplay of light and shadow on these rocky surfaces throughout the day imparts a dynamic and ever-changing character to the landscape. The rocky outcrops, with their unique shapes and sizes, become not just physical landmarks but cultural touchstones for the inhabitants.

Moreover, the rocky terrain is not merely an aesthetic feature; it plays a crucial role in shaping the local microenvironment. The rocks serve as natural water catchments, influencing the hydrology of the region. They also harbor a diverse array of flora and fauna adapted to the challenging conditions, forming a unique ecosystem within the town. Beyond their geological and ecological significance, these rocks hold cultural and spiritual importance for the community. They have been sites for ceremonies, rituals, and gatherings for generations. Each rock formation carries with it a story, a piece of the town's cultural heritage, connecting the present to the deep roots of the past. However, the rocky nature of Jos Town is not immune to the pressures of the modern world. As urbanization encroaches and development advances, the delicate equilibrium between man and nature is at risk. Preserving this rocky aesthetics requires a delicate dance between progress and conservation, a dance that recognizes the intrinsic value of these geological formations to the identity of Jos Town.

Historical Significance

Jos Town, with its rocky contours and undulating landscapes, unfolds a tapestry of history that is as rich and diverse as the rocks that define it. In tracing the historical significance of the rocky nature, we unravel a narrative that stretches across centuries, embodying the resilience and adaptability of the communities that have called Jos home. The rocks of Jos Town are not passive witnesses to history; they are active participants, shaping the way of life for generations. Evidence suggests that these rocky formations served as natural fortifications for early settlements, providing a natural defense against external threats. The strategic placement of communities near these rocks speaks to an ancient understanding of the landscape's protective qualities.

As we delve deeper into history, we encounter stories of migration, trade, and cultural exchange. The rocky outcrops became not only markers for travelers but also venues for cultural ceremonies and gatherings. The very topography that posed challenges to some became a source of inspiration and reverence for others. Moreover, the rocks of Jos Town hold archaeological secrets. The engravings and petroglyphs found on some surfaces offer glimpses into the spiritual and artistic expressions of past inhabitants. These rock art sites, scattered across the landscape, provide windows into the beliefs, practices, and daily lives of ancient communities.

In addition to their practical and symbolic roles, the rocks have been witnesses to historical events that shaped the identity of Jos Town. Whether it be colonial encounters, cultural exchanges, or periods of conflict, the rocks stand as silent sentinels, carrying the echoes of the past within their geological crevices. Furthermore, the cultural significance of the rocks is manifested in local myths and legends. These tales, passed down through generations, imbue

the landscape with a sense of mystery and magic. The rocks become not just physical features but repositories of cultural memory, connecting the contemporary community to its ancestral heritage.

As we navigate the complex interplay of history and geology, we recognize that preserving the historical significance of Jos Town's rocky nature is not just about conserving physical formations; it is about safeguarding a living testament to the resilience, adaptability, and cultural richness of the community. In the subsequent sections, we confront the challenges of the present and chart a course for a future that respects and celebrates this historical legacy while accommodating the imperatives of contemporary development.

Contemporary Challenges

While the rocky nature of Jos Town stands as an enduring testament to its historical and cultural roots, the 21st century brings forth a set of challenges that threaten the very fabric of this unique landscape. As urbanization accelerates and development reshapes the contours of the town, the rocky formations face unprecedented pressures, casting a shadow on their continued existence. The relentless march of urbanization, spurred by population growth and economic demands, poses one of the most significant threats to Jos Town's rocky nature. As urban areas expand, the demand for land for housing, commercial development, and infrastructure projects intensifies. The rocks, once revered as natural landmarks, now find themselves in the path of bulldozers and construction crews. The process of urbanization, if unchecked, can lead to the fragmentation and destruction of the rocky landscape. Roads, buildings, and other structures can disrupt the natural flow of the terrain, altering drainage patterns and causing erosion. Moreover, the visual impact of these developments can diminish the aesthetic allure of the rocks, altering the very character that has defined Jos Town for centuries.



Plate1: Physical Development encroaching the rock outcrops in Utan Village, Jos, Plateau State.

Source: Authors Field Survey, 2023

The delicate balance between urban development and environmental preservation becomes even more precarious when considering the ecological significance of Jos Town's rocky formations. Unplanned development can lead to habitat destruction, threatening the diverse flora and fauna that have adapted to the unique conditions of the rocky terrain. Deforestation, pollution, and unregulated quarrying are additional stressors that can degrade the ecological integrity of the rocks. The once-pristine environment can be marred by the scars of human activity, eroding the natural beauty that draws both locals and visitors to the area. The global phenomenon of climate change adds another layer of complexity to the challenges faced by Jos Town's rocky landscape. Changes in temperature, precipitation patterns, and extreme weather events can exacerbate existing environmental stressors. Increased rainfall, for example, may contribute to soil erosion around the rocks, further compromising their stability. Understanding and mitigating these contemporary challenges requires a nuanced and comprehensive approach. In the subsequent sections, we explore how modern urban planning paradigms can offer solutions that balance the imperative for development with the necessity of preserving the aesthetic, historical, and ecological values embodied in Jos Town's rocky nature.

The accelerating pace of urbanization not only jeopardizes the physical integrity of Jos Town's rocky nature but also poses a threat to its cultural heritage. As development projects advance, there is a risk of neglecting or even erasing the historical engravings and

petroglyphs that adorn some of these rocks. These ancient inscriptions, narrating the stories of past generations, are vulnerable to vandalism and inadvertent destruction. Preserving the cultural heritage intertwined with the rocks is essential for maintaining the town's identity. Efforts must be made to document and protect these archaeological treasures, ensuring that they endure as touchstones connecting contemporary residents to their ancestral past. In the face of economic pressures, there is a temptation to exploit the land for short-term gains, potentially sacrificing the long-term sustainability and aesthetic appeal of Jos Town. Unregulated land use changes, driven by economic interests, can lead to unchecked development that disregards the ecological and aesthetic importance of the rocky landscape. Moreover, the conversion of natural areas into commercial or industrial zones can alter the character of the town irreversibly. A strategic balance must be struck between economic development and environmental preservation to ensure that the rocks remain a source of economic and aesthetic value for future generations.

One of the critical challenges lies in the absence of comprehensive planning that integrates urban development with the preservation of natural and cultural assets. Piecemeal approaches to development can inadvertently undermine the very features that make Jos Town unique. A lack of zoning regulations, environmental impact assessments, and community involvement in the planning process can result in haphazard development that disregards the delicate balance required to sustain the rocky nature of the town. It is imperative to establish a framework that considers the multifaceted dimensions of Jos Town's identity in the urban planning process. In addressing these contemporary challenges, the subsequent sections of this article propose a holistic approach to physical restructuring planning. By incorporating sustainable urban development principles, community engagement strategies, and environmental preservation efforts, we aspire to pave a way forward that secures the aesthetic, historical, and ecological legacy of Jos Town's rocky nature in the 21st century.

Urban Planning Paradigms in the 21st Century

As Jos Town grapples with the challenges posed by contemporary urbanization and development, it is essential to turn to progressive urban planning paradigms that not only accommodate growth but also prioritize the preservation of the town's unique rocky nature. The 21st century has witnessed a transformative shift in how cities approach planning, emphasizing sustainability, aesthetics, and community well-being. Sustainability has taken the driver's seat of modern urban planning. The traditional model of urban growth, which often led to environmental degradation and resource depletion, is being replaced by a more holistic and sustainable approach. In the context of Jos Town, sustainable urban development entails recognizing the intrinsic value of the rocky landscape and integrating it into the fabric of urban planning. This paradigm involves prioritizing green infrastructure, energy efficiency, and low-impact development techniques. For Jos Town, it could mean the implementation of green spaces, eco-friendly building practices, and the preservation of natural drainage systems associated with the rocky terrain. These measures not only enhance the environmental sustainability of the town but also contribute to its aesthetic appeal.

Landscape urbanism on the other hand is an approach that considers the landscape as a dynamic and interconnected system, shaping and being shaped by urban development. In the case of Jos Town, this paradigm advocates for an integration of the rocky nature into the urban design rather than treating it as an obstacle to be overcome. By embracing landscape urbanism, planners can design urban spaces that celebrate and enhance the existing rocky landscape. This may involve creating pedestrian-friendly pathways, viewing platforms, and cultural spaces that showcase the geological formations. The goal is to forge a harmonious relationship between the built environment and the natural features that define Jos Town.

Another feature of interest is place making. In the contemporary urban planning lexicon, the notion of place-making has gained prominence. This concept emphasizes the creation of spaces that are distinctive, culturally resonant, and reflective of the local identity. For Jos Town, this translates into acknowledging the rocks as central to the town's identity and consciously incorporating them into the urban narrative. Place-making involves community engagement and the co-creation of public spaces. Residents, along with planners and architects, can collectively envision and design areas that celebrate the rocky nature. This not only fosters a sense of pride and ownership but also ensures that the town's unique identity remains intact amid urban development.

Another theme to be visited is the “smart growth principles” which advocates for compact, walkable, and transit-oriented development that minimizes environmental impact while promoting economic vitality. In the context of Jos Town, this could mean concentrating development in existing urban areas, preserving green spaces, and avoiding sprawl that encroaches on the rocky landscape. By prioritizing smart growth, planners can channel resources into revitalizing existing urban areas, making them more sustainable and resilient. This approach aligns with the goal of preserving Jos Town's unique aesthetic value while accommodating the demands of a growing population. The complexity of urban challenges also demands an adaptive and inclusive planning approach. This involves continuous engagement with the community, regular reassessment of planning strategies, and flexibility in response to changing circumstances. For Jos Town, adaptive and inclusive planning would entail ongoing dialogue with residents, local businesses, and other stakeholders. It involves incorporating diverse perspectives into the planning process to ensure that the restructuring plan not only preserves the rocky nature but also addresses the needs and aspirations of the community.

The 21st century has ushered in an era where cities must grapple with the impacts of climate change. Resilient and climate-responsive planning is crucial for cities like Jos Town, considering the potential environmental shifts affecting the rocky landscape. This paradigm involves designing infrastructure and spaces that can adapt to changing climatic conditions. In the context of Jos, this might mean developing strategies to manage increased rainfall, mitigate the risk of erosion around the rocks, and ensure the resilience of urban infrastructure to extreme weather events. By integrating climate considerations into urban planning, Jos Town can better protect its aesthetics and natural assets in the face of a changing climate.

Integrated Planning Approach

An integrated planning approach is pivotal for Jos Town to navigate the complexities of urban development while preserving the aesthetic and cultural values embedded in its rocky nature. This approach goes beyond conventional urban planning by acknowledging the interconnectedness of environmental, cultural, and socio-economic factors. Here's a deeper exploration of key components within an integrated planning framework:

1. **Comprehensive Zoning Regulations:**

Establishing robust zoning regulations is fundamental to integrated planning. Different zones within Jos Town should be designated with careful consideration of the rocky landscape, ensuring that development is harmonized with the natural contours of the terrain. This includes designating conservation zones around significant rock formations and creating development-free buffers to protect the aesthetic integrity of these areas.

2. Design Guidelines for Aesthetic Integration:

Guidelines for architects and developers must prioritize the integration of the rocky nature into the design of new structures. This involves designing buildings that complement the landscape, using materials and colors that resonate with the natural surroundings. Incorporating the rocky features as focal points in urban design, rather than obstacles to be overcome, is key to sustaining the unique aesthetic of Jos Town.

3. Green Corridors and Public Spaces:

Integrating green corridors and public spaces is vital for preserving both the ecological and aesthetic values of Jos Town. These areas should be strategically located to enhance connectivity between the rocky formations, creating a network of green spaces that provide recreational opportunities for residents while preserving natural habitats. Public spaces can be designed to showcase the beauty of the rocks, fostering a sense of community engagement and appreciation.

4. Cultural Preservation Initiatives:

An integrated plan must include initiatives to preserve and celebrate the cultural significance of Jos Town's rocky formations. This involves documenting and protecting archaeological sites, ensuring that historical engravings and petroglyphs are conserved. Cultural events and festivals that highlight the connection between the community and the rocky landscape can be integrated into the town's planning, fostering a sense of pride and continuity.

5. Sustainable Infrastructure Development:

In an integrated planning approach, infrastructure development should align with sustainability goals. This includes the implementation of environmentally friendly practices such as stormwater management systems that work in harmony with the rocky terrain, energy-efficient street lighting, and the incorporation of renewable energy sources. Sustainable infrastructure not only minimizes the environmental impact but also contributes to the overall resilience of the town.

6. Adaptive Management Strategies:

Recognizing the dynamic nature of urban environments, an integrated plan should incorporate adaptive management strategies. Regular assessments and updates to the plan based on monitoring feedback will ensure that the development trajectory aligns with changing circumstances. This flexibility is essential for responding to unforeseen challenges and opportunities while maintaining the long-term vision of sustaining the aesthetic value of Jos Town.

7. Community Education and Engagement:

The success of integrated planning hinges on community involvement. Educating residents about the importance of preserving the rocky nature and involving them in decision-making processes ensures a sense of shared responsibility. Community engagement initiatives, such as workshops, awareness campaigns, and participatory planning sessions, can foster a collective commitment to the town's sustainable development.

8. Collaboration with Stakeholders:

An integrated planning approach necessitates collaboration with various stakeholders, including local businesses, environmental organizations, and governmental bodies.

Establishing partnerships ensures that diverse perspectives are considered in the planning process. Coordination with stakeholders can lead to innovative solutions that balance economic development with the imperative to preserve Jos Town's distinctive identity.

In the subsequent sections, we will translate these integrated planning principles into a concrete restructuring plan for Jos Town. This plan will serve as a blueprint for sustainable development that honors the rocky nature, aligns with contemporary urban planning paradigms, and safeguards the town's cultural and environmental legacy.

Community Engagement

Community engagement is not merely a component of the planning process; it is the heart of sustainable urban development. For Jos Town, where the preservation of its rocky nature is intricately tied to the cultural identity of its residents, fostering a deep and meaningful connection between the community and the planning initiatives is paramount. The following strategies can be deployed to engage all stakeholders involved.

- a. Participatory Planning Workshops:
- b. Cultural Mapping and Storytelling:
- c. Education and Awareness Campaigns:
- d. Digital Platforms for Feedback:
- e. Community Action Groups:
- f. Artistic and Cultural Events:
- g. Youth Engagement Programs:
- h. Regular Town Hall Meetings:

Community engagement is an ongoing and dynamic process. By fostering collaboration, understanding, and a sense of shared responsibility, Jos Town can harness the collective wisdom and energy of its residents to create a future that sustains both the rocky nature and the vibrant spirit of its community. In the subsequent sections, we will weave these community-engagement strategies into the fabric of the proposed restructuring plan for Jos Town.

Environmental Sustainability

Environmental sustainability lies at the core of any comprehensive plan for the future of Jos Town. Balancing urban development with the preservation of the rocky landscape requires a strategic approach that safeguards the unique ecosystem and minimizes the environmental footprint of human activities. Incorporating green infrastructure seamlessly into the urban fabric is essential for environmental sustainability. Green roofs, permeable pavements, and strategically planted vegetation can help manage stormwater runoff, reduce erosion, and enhance the overall ecological resilience of the rocky landscape. Green corridors and buffer zones around significant rock formations contribute not only to biodiversity but also to the aesthetic value of the town.

On another hand, preserving the rich biodiversity associated with Jos Town's rocky nature requires deliberate conservation efforts. This involves identifying and protecting critical habitats, promoting native plant species, and creating wildlife corridors. Conservation measures also include addressing threats such as illegal quarrying or invasive species that

could jeopardize the delicate balance of the ecosystem. Reducing the carbon footprint of transportation is integral to environmental sustainability. Sustainable transportation planning in Jos Town could involve the development of pedestrian-friendly pathways, cycling infrastructure, and efficient public transportation systems. These initiatives not only minimize air pollution and congestion but also enhance the overall quality of life for residents.

Effectively managing waste is a cornerstone of environmental sustainability. Implementing waste reduction, recycling, and composting programs can significantly minimize the impact of urban development on the rocky landscape. Incentivizing responsible waste disposal practices among residents and businesses ensures that the town's environmental integrity is maintained. Transitioning to renewable energy sources contributes to both environmental sustainability and resilience. Solar panels, wind turbines, and other forms of clean energy infrastructure can be integrated into the urban planning of Jos Town. This not only reduces reliance on fossil fuels but also serves as a demonstration of the town's commitment to a sustainable future.

Protection against soil erosion is crucial for maintaining the stability of the rocky landscape. Erosion control measures, such as retaining walls, vegetative cover, and strategic land use planning, can mitigate the impact of urban development on soil stability. These measures are vital for preserving both the aesthetic value of the rocks and the ecological health of the surrounding areas. Given the importance of water catchments in the rocky landscape, water conservation is paramount. Implementing water-saving technologies, promoting efficient irrigation practices, and establishing water management plans contribute to the sustainable use of water resources. These initiatives ensure that the unique hydrological features associated with the rocks remain intact.

Incorporating rigorous EIAs into the planning process is a proactive measure to identify and mitigate potential environmental impacts. Before any major development project commences, an EIA can assess the potential consequences on the rocky landscape, biodiversity, and overall ecological health. This ensures that development aligns with environmental sustainability goals. Embracing the natural beauty of Jos Town as an asset for ecotourism promotes economic development while maintaining environmental sustainability. Responsible tourism initiatives can generate revenue for the local economy, encouraging the community to actively participate in the preservation of the rocky landscape. This symbiotic relationship between conservation and economic development is integral to long-term sustainability.

Finally, in the face of a changing climate, integrating climate-resilient design principles into the restructuring plan ensures that Jos Town is equipped to adapt to evolving environmental conditions. This might involve designing structures that can withstand extreme weather events, implementing strategies to manage increased precipitation, and fostering a climate-resilient ecosystem.

Implementation and Monitoring

The success of any comprehensive plan for Jos Town lies not only in its vision and strategies but in the effective implementation of those strategies and the ongoing monitoring of their outcomes. In this section we shall highlight key aspects of the implementation and monitoring phase, ensuring that the restructuring plan is a living document responsive to the evolving needs and dynamics of Jos Town:

a. Phased Implementation Strategy:

- b. Multi-Stakeholder Collaboration:
- c. Regulatory Framework and Enforcement:
- d. Community Capacity Building:
- e. Public-Private Partnerships:
- f. Performance Metrics and Indicators:
- g. Adaptive Management Approach:
- h. Continuous Community Engagement:
- i. Environmental Impact Assessments (EIAs):
- j. Periodic Review and Adjustments:

By integrating these elements into the implementation and monitoring phase, the restructuring plan for Jos Town can evolve dynamically, adapting to the needs and aspirations of the community while staying true to its commitment to sustainability and cultural preservation. This adaptive and collaborative approach ensures that Jos Town thrives as a resilient and vibrant community in the 21st century.

Conclusion

The future of Jos Town, with its distinctive rocky nature, is at a crossroads in the 21st century. The town's enduring aesthetic value, rich cultural heritage, and ecological significance stand as legacies that must be both preserved and enriched. As we conclude this exploration of sustaining the rocky nature of Jos Town through physical restructuring planning, we reflect on the essential principles and strategies that will guide its path forward. In the face of contemporary challenges, from rapid urbanization and climate change to economic pressures, the need for a comprehensive and integrated approach to planning is clear. An approach that recognizes the interconnectedness of environmental, cultural, and socio-economic factors, and actively engages the community as custodians of their own heritage.

The restructuring plan for Jos Town is not a static document but a living framework that balances development and preservation. It's a plan that harnesses modern urban planning paradigms, emphasizing sustainability, aesthetic integration, and community well-being. It's a plan that recognizes the importance of preserving cultural heritage, celebrating the stories of the past, and embracing the opportunities of the present and future. Environmental sustainability is at the heart of this vision. It involves the wise management of resources, the protection of biodiversity, and the reduction of environmental impact. In Jos Town, environmental sustainability extends beyond mere preservation; it is about cultivating an environment that thrives in harmony with the natural beauty of the rocky landscape.

Economic opportunities are interwoven with the town's unique identity. Sustainable tourism, cultural and creative industries, eco-friendly agriculture, and green technology all present pathways for economic growth that celebrate the values of sustainability and cultural preservation. In the implementation and monitoring phase, the commitment of all stakeholders is key. Phased implementation, multi-stakeholder collaboration, and regulatory enforcement are vital to the success of the plan. Community engagement, capacity building, and ongoing communication ensure that the community remains invested in the process.

Performance metrics, adaptive management, and periodic reviews provide the framework for responsive, dynamic development.

Jos Town stands on the cusp of a future that is both prosperous and rooted in its traditions. This vision is not only attainable but is also essential for the preservation of the town's unique character. By embracing the principles and strategies outlined in this plan, Jos Town can continue to be a place of cultural richness, ecological splendor, and economic vibrancy.

In closing, we emphasize that the sustainability of the rocky nature of Jos Town is not merely a matter of aesthetics or preservation; it is a testament to the enduring resilience and spirit of a community that recognizes the value of its roots while embracing the possibilities of the future. As Jos Town embarks on this transformative journey, it does so with the understanding that it is not only shaping its own destiny but also serving as an inspiration for other communities seeking to navigate the challenges and opportunities of the 21st century.

References

- Alexander, M. J. (1985). "An historical introduction to the reclamation of mine-land on the Jos Plateau", Interim Report No. 4 Jos Plateau Environmental Resources Programme. Durham, GB; Jos, NG: Dept. of Geography University of Durham & University of Geography and Planning, University of Jos, Nigeria.
- Bingel, A.M. (1978), Jos: Origin and Growth of the Town (1900-1972), Occ. Pub. No 1., Dept of Geography, University of Jos.
- Burgess, E.W. (1929). Urban Areas. In T.V. Smith & L.D. White (eds), Chicago: An Experiment in Social Science Research (pp. 113-138). Chicago, US: University of Chicago Press,
- Dung-Gwom. J.Y. & Oladosu, R.O. (2004), 'Characteristics and physical planning implications of slums in Jos', *Journal of Environmental Sciences*, Vol 8(2), 118-127.
- Dung-Gwom, J.Y. (2007). Urban renewal in Jos Bukuru metropolis, paper presented at the Nigerian Institution of Estate Surveyors and Valuers MCPD Workshop, on October 25th 2007.
- Dung-Gwom and Jugu (2017): "Characteristics and planning challenges of hilltops settlements in Jos Metropolis, Nigeria." *UPLanD - Journal of Urban Planning, Landscape & Environmental Design*. 2017;2(2):129-149
- Ehret, C. (2002). *A Civilization of Africa: A History to 1800*. Oxford, GB: James Currey Publishers.
- Freund, B. (1981). *Capital and Labour in the Nigerian Tin Mines*. London, GB: Longman
- <https://www.macrotrends.net>
- Kudu S.E. (2018): "Assessment of Core-Housing Development in Selected Neighbourhoods in Jos Metropolis, Plateau State, Nigeria" M.Tech Thesis, Federal University of Technology Minna.

- Kudu S.E. (2023): “Core-Housing Development as Feature of Class Stratification in Jos Metropolis of Plateau State, Nigeria.” in CARD International Journal of Environmental Sciences and Safety Research, Vol. 8, No. 1., 2023. ISSN : 2022-6252 (Print), www.casirmediapublishing.com (Online).
- Maren A.B. (2011) “Colonial Tin Mining and Inter-group Relations in South-Western Jos Division, 1900-1960”, M.A. History Dissertation A.B.U., Zaria, 2011, P.41
- NPC (1998), *Population Census of the Federal Republic of Nigeria: Analytical Report at the National Level*, National Population Commission, Nigeria.
- UN-Habitat (2016). *World Cities Report 2016: Urbanization and Development, Emerging Futures*. Nairobi, KE: UN Habitat.