

# The Impact of Urbanisation on the Urban Identity of Mwanza City in Tanzania

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## Abstract

Unique cities' natural elements are a fundamental component of the urban fabric, as they help to shape urban identity. Urban identity contributes to the creation of a sense of place and belongingness among residents and eventually enhances both the quality and vitality of urban spaces. However, there has been limited scholarly focus on the sustainability of the unique natural elements that define a city's identity. Existing studies suggest that urbanisation processes are significantly altering the urban landscape by transforming its dominant natural elements, which erodes their identity and meanings. This study assesses the impact of urbanisation on the urban identity of Mwanza City in Tanzania. Data were collected from 33 respondents, urban planning officer, urban developers and local elders from Mwanza City. The questionnaires, in-depth interviews, field observations, and documentary reviews were the data collection methods used in this study. Respondents were selected using a non-probability sampling approach, where the convenience sampling technique and the purposeful sampling technique were used. The findings indicate that the respondents perceive that Mwanza City is well represented by its rocky landscape and that it is the most significant symbol of Mwanza City's urban identity within the spatial identities of the Tanzanian cities. Also, the findings reveal that the rocky landscape is associated with certain significance physically, socially, and culturally within the city's urban context. In addition, the results show that urbanisation is transforming the rocky landscape of Mwanza City through rock clearance to get building sites, quarrying for building materials, and building on top of rocky outcrops, thereby changing the nature of the landscape. Moreover, the findings indicate that the existing urban planning frameworks are inadequate in protecting the rocky landscape of Mwanza City. Therefore, it can be concluded that rapid urbanisation in Mwanza City is causing substantial transformation to the rocky landscape due to the ineffective spatial planning interventions. Thus, there is a need for Mwanza City authorities to establish strategies to protect and preserve unique natural elements for the sustainability of Mwanza

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City's urban identity.

## Keywords

Mwanza City, Rocky Landscape, Rock City, Urbanisation, Urban Identity, Tanzania

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## 1. Introduction

Urban identity refers to the distinctive character, sense of place, and shared social, cultural, and physical attributes that define a city or urban area. It shapes how both residents and outsiders perceive and interact with the space (Umar et al., 2024; Mansour et al., 2023; Anastasiou et al., 2022; Mankuri & Dönmez, 2022; Bernardo et al., 2016). At its core, urban identity conveys a city's uniqueness, meaning, and value—elements that distinguish it from other places (Relph, 1976).

Urban identity is shaped by three interrelated components: the physical (both natural and artificial elements), the social (the meanings and values attributed to places), and activity-based elements (the functions and uses of urban space). While all three influence identity, their impacts differ based on the scale at which they are considered. Beyhan and Gurkan (2015) explain that the physical aspect includes both natural features—such as geography, vegetation, climate, and topography—and artificial elements like buildings, monuments, streets, public squares, and street furniture. In addition to tangible things, urban identity also includes things that cannot be touched, such as memories and symbolic meanings, both personal and shared (Bernardo et al., 2016).

In the context of urban landscapes, identity plays numerous functions in influencing spatial dynamics and human interactions. It strengthens the bond between people and places, which makes people feel like they belong to and are emotionally attached to the city (Qazimi, 2014). People are more likely to care for the places they feel a connection to, which leads to more responsible attitudes toward the environment (Danesh Sedigh & Goodarzarparvari, 2018; Shao et al., 2017).

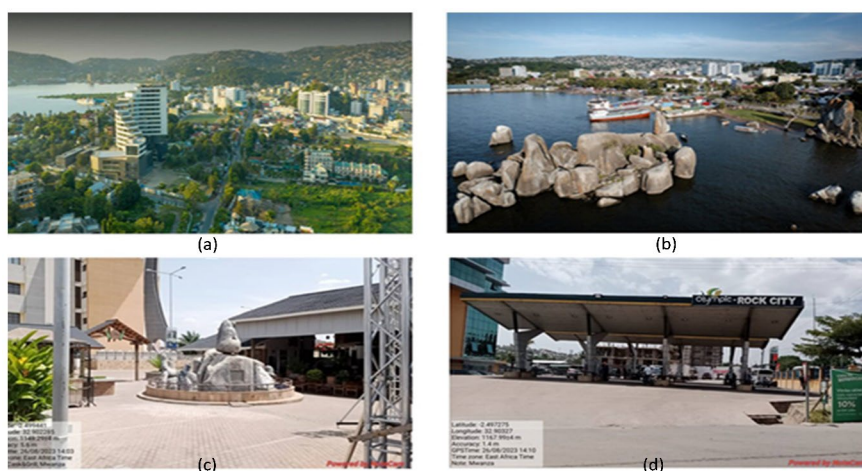
Moreover, urban identity contributes to the creation of inclusive and expressive public spaces, where citizens feel empowered to participate in civic life (Nursanty et al., 2024). Cities that have a strong and clear identity encourage people to get along with each other, be aware of their shared values, and get more involved with the built environment (Surchi & Nafa, 2021). Recognizing and reinforcing these identities not only enhances the city's image but also strengthens its spatial identity and sense of belonging among its residents (Shao et al., 2017).

Among the key components shaping urban identity are the natural and artificial physical characteristics of cities (Mansour et al., 2023). These spatial features contribute to cities' unique form and visual character. Physical urban identity is built from specific elements that become symbolic markers or landmarks (Askarizad & He, 2022). Each of these elements shapes the identity of a city and affects how

individuals may read and understand the space (Yaldız et al., 2014; Boussaa, 2018; Ujang, 2012; Lynch, 1960). Alterations to these features can reduce legibility and, in turn, affect the perceived identity or image of the place (Boussaa, 2018; Liombo, 2012).

However, rapid urbanisation, on the other hand, has led to major changes to the physical structures of many cities, disrupting the continuity of urban identity and making it less cohesive (Kaymaz, 2013). The urbanisation process often conflicts with the preservation of key spatial elements, threatening the very foundation of identity (Bernardo et al., 2016). Weak or poorly enforced planning frameworks contribute to unregulated development, resulting in fragmented urban fabrics and unsustainable growth (Lehmann, 2020; Dassen et al., 2017). This is especially common in Sub-Saharan Africa region where most of the urbanisation is unplanned and is far from efficient regularisation (Wasonga et al., 2022).

Mwanza City serves as a prime example. The city is the second-largest after Dar es Salaam in Tanzania, located on the southern side of Lake Victoria in the north-western part of the country (Figure 1). Mwanza City is a major commercial and transportation hub for the Lake Zone and neighbouring countries, such as Uganda and Kenya. The city is different from other cities in the country because it has a rugged landscape with granite and granodiorite formations, isolated hills, and huge rock outcrops (Plate 1(a)). For instance, the presence of Bismarck Rock, which is a gigantic balancing stone on the shore of the lake near the city centre, which is a spectacular natural landmark, creates a unique urban character for Mwanza City (Plate 1(b)). Rarely seen elsewhere in the country, these natural rock formations create beautiful and unforgettable landscapes; hence, the city has been nicknamed “The Rock City”.



**Plate 1.** Images of Mwanza City landscape.

The rocky landscape is a big part of what makes Mwanza City unique in the national context and shapes its spatial identity. Residents of Mwanza City not only embrace their identity, but they celebrate it, because the rocky landscape provides

them symbolic meaning and pride. Urban planners and developers in the city have strengthened this identity by copying and replicating the famous Bismarck Rock monument in urban design (**Plate 1**) and using the name “Rock City” for public places (like the Rock City Shopping Mall) and infrastructure and facilities (**Plate 1(d)**). These symbolic strategies enable the residents of Mwanza City to feel more connected to each other and to the spatial fabric of the city. They demonstrate how the interpretation of physical features can significantly influence the formation and preservation of urban identity.

However, Mwanza City is currently undergoing rapid urbanisation. Currently, approximately 33% of the population resides in urban area, with the urban population growing at an annual rate of 6%. Over the past few decades, the city’s population has increased dramatically, from 223,013 in 1988 to over 800,000 by 2012. According to the [United Nations Department of Economic and Social Affairs, Population Division \(2024\)](#), the population of Mwanza City was estimated at 1,447,340 in 2024 and is projected to reach around 2.4 million by 2035 ([MCCR, 2017](#)).

This rapid urbanisation is closely linked to accelerated urban growth. According to [Kaganga \(2023\)](#) built-up area of Mwanza City increased by 350% between 1999 and 2019. Such growth is placing increasing pressure on the city’s infrastructure and essential services, especially in sectors like housing and transportation. For example, as of 2022, approximately 75% of Mwanza City’s population was living in unplanned settlements ([Kaganga, 2023](#); [UN-Habitat, 2023](#)).

One of the major challenges facing Mwanza City is the ongoing unguided urban expansion ([UN-Habitat, 2023](#)), which has led to disorganised patterns of land use and land cover change ([Kaganga, 2023](#)). As noted by [UN-Habitat, 2023](#), much of the land is being converted into physical infrastructure, including institutional, commercial, industrial, and residential developments. This rapid transformation increase pressure on both natural and cultural landscape resources within Mwanza City.

As [Kaymaz \(2013\)](#) points out, such developments can negatively impact these resources, raising serious concerns about the preservation of unique natural landscape identity. This issue is made worse by the fact that urban growth often ignores the importance of natural landmarks, which are too often considered obstacles to development instead of being looked at as important components of the city’s character and heritage ([Guzman et al., 2018](#)).

This study, therefore, aims to: 1) evaluate the extent to which the characteristics of the rocky landscape contribute to the spatial identity of Mwanza City; 2) investigate the physical, social, and cultural significance of the rocky landscape within the Mwanza City’s urban context; 3) examine the transformations of the rocky landscape resulting from urbanisation processes; and 4) assess the extent to which spatial planning instruments integrate natural landscape elements into urban planning frameworks. The overall aim is to enhance understanding of the impact of urbanisation on the urban identity of Mwanza City and to inform planners and

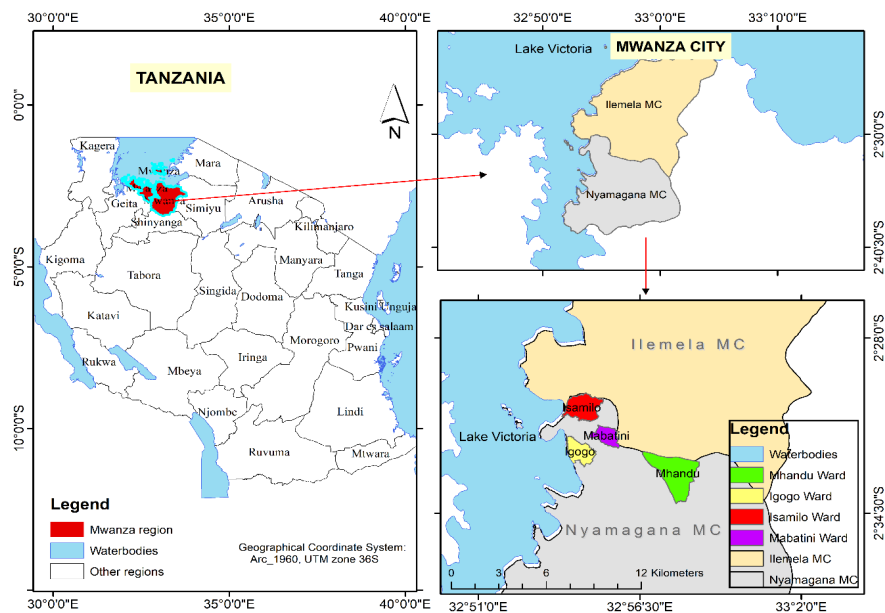
developers of the need to protect, safeguard, and enhance the city's rocky landscape landmarks to ensure the sustainability of its urban identity.

## 2. Materials and Methods

### 2.1. Operational Definition of the Term Urban Identity

In this study the term “urban identity” is defined as the unique character and feeling of place of a city, which makes it recognisable, meaningful, and different from other cities. It is measured as a multidimensional construct consisting of the physical elements, socio-cultural practices, perceptual experience, and symbolic representation. These phenomena were operationalised through spatial indicators (observation), survey-based perception scales (Likert scales), and content analysis (observation and in-depth interviews).

### 2.2. Description of the Study Site



**Figure 1.** Location of Mwanza City.

This research was carried out in Mwanza City, Tanzania, in the wards of Igombo, Isamilo, Mabatini, and Mhandu (all from Nyamagana District), from the year 2023 to 2025. The city is situated on the southern shores of Lake Victoria in the northwest of Tanzania. It is located between latitudes  $2^{\circ}15'S$  and  $2^{\circ}45'S$  and between longitudes  $32^{\circ}45'E$  and  $33^{\circ}05'E$  (Figure 1). It has a total area of roughly  $1337 \text{ km}^2$ , of which  $437 \text{ km}^2$  (or 32% of the total area) is dry land and  $900 \text{ km}^2$  (or 68%) is water (MCCR, 2017). About  $86.8 \text{ km}^2$  of the  $437 \text{ km}^2$  of dry land is urbanised; the other portions are made up of valleys, agricultural plains, forested land, grassy areas, and undulating rocky mountainous areas (MCCR, 2017). As a colonial economic and administrative hub for cotton production and gathering in the

Lake Region, Mwanza was first created in 1892. Since its establishment as a town council in 1953, a municipal council in 1980, and a city council in 2000, Mwanza has advanced in terms of its administrative status (MCCR, 2017). Through the Tanzania Local Government Act No. 7 of 1982, the Mwanza City Council was divided into two entities on October 1, 2012, the new Mwanza City Council (Nyamagana District) and the Ilemela Municipal Council (Ilemela District). The Nyamagana District (MCC) and the Ilemela District (IMC) are the two administrative districts that make up Mwanza City (MCCR, 2017).

Mwanza City functions as a commercial hub, which vitalises the urban environment. Since much of the land is being converted into physical infrastructure—including institutional, commercial, industrial, and residential development—this increases pressure on both natural and cultural landscape resources within Mwanza City. Thus, there is a compelling need to assess the impact of urbanisation on the city's urban identity.

### **2.3. Sample Size and Sampling Procedures**

The study on which this paper is based employed purposeful sampling to select the wards of Igogo, Isamilo, Mabatini and Mhandu in Mwanza City and key informants (the urban planning officer, four urban developers, and three local elders). These wards were selected because they are elevated landforms that rise sharply above the surrounding area on at least one side, having rugged landscapes with granite and granodiorite formations, isolated hills, and huge rock outcrops. The urban planning officer was selected because he/she is responsible for the implementation of all regulations relating to urban land and architectural management. Four urban developers were included in the study, as they were important stakeholders in the development of urban space, as far as urban identity is concerned. Moreover, the three local elders included in this study were residents who had lived in the city for more than 30 years; their long-term residency was believed to reflect a greater attachment to the place, and they were knowledgeable about cultural and historical issues related to the significance of the rocky landscape. The 33 respondents, selected through convenience sampling, included city residents who were chosen as sample elements and were considered to have experienced the transformation of the rocky landscape due to urbanisation processes. The wards of Igogo Mabatini and Mhandu each contributed 8 residents, while 9 residents were from the Isamilo ward.

### **2.4. Data Collection**

The primary data were collected through questionnaires, in-depth interviews and field observations, while the secondary data were obtained through documentary review. The questionnaires were administered online to 33 respondents using Ko-BoToolbox. Apart from determining the characteristics of respondents, the study employed the Likert scale to capture the perceptions of respondents on how the rocky landscape contributes to the spatial identity of Mwanza City; the physical,

social, and cultural significance of the rocky landscape within the Mwanza City's urban context; how the urbanisation processes result in the transformation of the rocky landscape; and how the spatial planning instruments integrate natural landscape elements into urban planning frameworks.

The in-depth interviews were conducted with key informants, including the urban planning officer, urban developers and local elders. These interviews generated qualitative insights into the changes of the rocky landscape and how spatial planning instruments integrate natural landscape elements into urban planning frameworks.

Field observation which involved site visits across the city, enabled the researcher to capture information on the nature and the ongoing transformation of the rocky landscape and have an in-depth understanding of the urban identity of the city.

The documentary review involved searching for documents and online sources on urban identity issues. This included the review of the Mwanza City Master Plan 2035.

## 2.5. Data Analysis

Based on the nature of the data, both the quantitative and qualitative data analysis techniques were employed. The quantitative data generated by the online questionnaires were analysed through descriptive statistics using Likert scales. The technique helped to summarise respondents' characteristics and overall perceptions whereby frequencies and percentages were obtained.

The qualitative data generated from in-depth interviews and field observations were analysed through thematic or content analysis. The interviews were transcribed, coded, categorised, and interpreted based on the objectives of the study. Also, the data obtained from field observations, which involved landscape changes, were analysed through content analysis.

The quantitative data obtained from questionnaires were presented in tables and one figure. The qualitative data from in-depth interviews and field observations were presented as thematic narratives, quotations and photographs (Mansour et al., 2023).

## 3. Results and Discussion

### 3.1. Characteristics of Respondents

Respondents who participated in the study had a number of characteristics, which are detailed as follows.

#### 3.1.1. Age and Duration of Stay in Mwanza City of Respondents

The age and duration of stay of respondents in Mwanza City served as key parameters that were deemed to have influenced the respondents' understanding of the city's urban identity and transformation. **Table 1** presents the age and duration of the respondents' stay in Mwanza City.

**Table 1** shows that 97% of the respondents were over 30 years old, while only

3% were under 30 years old. The data indicates that nearly all respondents were over the age of 30, suggesting that the sample primarily comprised older persons. Based on that demographical information, the results present the views of older persons who have seen long-term changes in the city's physical and sociocultural environment, which gives more historical and contextual information.

**Table 1.** Age and duration of stay of respondents in Mwanza City.

Variable	Frequency	Percentage
<b>Age group</b>		
Above 30 years old	32	97
Below 30 years old	1	3
<b>Duration of Stay in Mwanza City</b>		
Above 5 years	32	94
Below 5 years	2	6
<b>Total</b>	33	-

**Source:** Field Data, 2025.

The length of time that the respondents had stayed in Mwanza City by the time research was another important factor considered in comprehending the city's geography, identity, and changes throughout time. Most of the people who answered the survey (94%) had lived in Mwanza City for a long time, as seen in **Table 1**. This indicates that most of the respondents knew a great deal about the environment of the city, its processes, and its social background. This made their responses more trustworthy because they had witnessed how the rocky landscape had changed over time.

The findings in **Table 1** show that most of the people involved in the study were adults who had lived in Mwanza City for a reasonably long time. This data indicates that the results predominantly represent the perspectives of respondents possessing significant lived experience in the city (Shao et al., 2017). The respondents' broad experience bolsters the reliability of the ideas regarding Mwanza City's urban identity and change.

### 3.2. The Extent to Which the Characteristics of the Rocky Landscape Contribute to the Spatial Identity of Mwanza City

The rocky landscape plays a central role in shaping Mwanza City's spatial identity and contributes to its distinctiveness within the national urban context. This section evaluates the extent to which the rocky landscape contribute to the spatial identity of Mwanza City (**Table 2**).

**Table 2** shows that 100% (76% strongly agreed and 24% agreed) of the respondents perceive Mwanza City is well represented by its rocky landscape (The Rocky City). Other features like Rock City Shopping Mall (46% (Strongly Agree)), the Nile Perch monument (36% (Strongly Agree)), Saanane Island National Park

(33% (Strongly Agree)), and Lake Victoria beaches (30% (Strongly Agree)) appeared to contribute to Mwanza City's identity, but not to the same extent as that associated with the rocky landscape (**Table 2**). This indicates that the rocky landscape is the most distinctive and widely recognised characteristic of Mwanza City.

**Table 2.** Responses on the statements the respondents would use to describe Mwanza City to a friend who knows nothing about the city.

S/N	Statements	SD		DA		N		A		SA	
		F	%	F	%	F	%	F	%	F	%
a)	Mwanza City is well represented by its rocky landscape (The Rocky City).	0	-	0	-	0	-	8	24	25	76
b)	The Nile Perch monument is a defining feature of Mwanza City.	0	-	1	3	6	18	14	42	12	36
c)	The beaches of Lake Victoria are a key attraction that characterises Mwanza City.	2	6	1	3	8	24	12	36	10	30
d)	Saanane Island National Park is a notable symbol of Mwanza City.	1	3	2	6	3	9	16	49	11	33
e)	Rock City Shopping Mall is an important modern landmark of Mwanza City.	2	6	0	-	3	9	13	39	15	46

Key: SD-Strongly Disagree, DA-Disagree, N-Neutral, A-Agree, and SA-Strongly Agree (n = 33).

According to the findings presented in **Table 2**, the rocky landscape is the most important symbol of Mwanza City's urban characteristic among Tanzanian cities. These findings are in line with the fact that natural environment, topography, and landscape conditions primarily reflect the urban identity of cities (Oktay & Alkan Bala, 2015). Similarly, Yaldız et al. (2014) posit that components like physical structure and topography contribute to the formation of unique city identities. Thus, Mwanza City has been blessed with a special natural geography that gives it a unique sense of identity.

### 3.3. The Physical, Social, and Cultural Significance of the Rocky Landscape within Mwanza City's Urban Context

Apart from the fact that the rocky landscape is the most significant symbol of Mwanza City's urban identity within the spatial identities of Tanzanian cities, the study investigated the physical, social, and cultural significance of the rocky landscape within Mwanza City's urban context. The findings are hereby presented in the subsequent subsections.

#### 3.3.1. The Significance of Rocky Landscape to the Mwanza City's Physical/Environmental Identity

This section investigated how the rocky landscape contributed to the city's physical/environmental identity of Mwanza City. The respondents had different perceptions regarding how the rocky landscape contributes to the Mwanza City's physical/environmental identity. **Table 3** presents the perceptions of respondents on that significance.

**Table 3.** How the rocky landscape contributes to the city's physical/environmental identity.

S/N	Statements	SD		DA		N		A		SA	
		F	%	F	%	F	%	F	%	F	%
a)	The rocky landscape of Mwanza City is a unique natural feature that defines the city's physical appearance	0	-	0	-	0	-	8	24	25	76
b)	The rocks enhance Mwanza City's attractiveness and distinguish it from other Tanzanian cities.	0	-	0	-	0	-	8	24	25	76
c)	The presence of rocks contributes positively to the city's natural environment.	0	-	0	-	2	6	7	21	24	73
d)	The rocky formations in Mwanza City are essential to the city's overall spatial layout and development.	0	-	1	3	4	12	12	36	16	49

Key: SD-Strongly Disagree, DA-Disagree, N-Neutral, A-Agree, and SA-Strongly Agree (n = 33).

**Table 3** indicates that 100% (76% strongly agree and 24% agree) of respondents perceive that the rocky landscape of Mwanza City is a unique natural feature that defines the city's physical appearance. The results imply that respondents have a unanimous recognition that the rocky landscape is central to the visual character of Mwanza City. Also, 100% (76% strongly agree and 24% agree) of respondents perceive that the rocks enhance Mwanza City's attractiveness and distinguish it from other Tanzanian cities. This implies that the rocky landscape is seen as a key symbolic and aesthetic element that sets Mwanza City apart from other Tanzanian cities.

Other physical/environmental importance of the rocky landscape is the fact that it contributes positively to the preservation of natural environment (94% (73% strongly agree and 21% agree)) and that the rocky landscape is essential to the spatial layout and development of Mwanza City (85% (49% strongly agree and 36% agree)) (**Table 3**).

In-depth interview accounts from local elders reveal that the rocky landscape is perceived as a physical element that is an important identity marker and an environmental asset to the residents of Mwanza City. This implies that there is a significant consensus among respondents about the fact that the rocky landscape of Mwanza City is important in shaping the physical and environmental identity of the city.

The results indicate that there is a principally positive perception of the rocky landscape among residents of Mwanza City. The rocks are regarded not just as a distinctive physical characteristic but also serve as an asset that enhances aesthetic appeal, environmental quality, and spatial structure (Guo et al., 2025; Wan Mohd Rani, 2016). The general agreement across items highlights the crucial importance of rocks in defining the city's identity, both environmentally and visually.

### 3.3.2. The Significance of Rocky Landscape to Social Life, Interaction, and Identity in Mwanza City

The study also investigated how the rocky landscape relates to social life, interac-

tion, and identity in Mwanza City. The findings show a strong positive perception of it, as presented in **Table 4**.

**Table 4.** How the rocky landscape relates to social life, interaction, and identity.

S/N	Statements	SD		DA		N		A		SA	
		F	%	F	%	F	%	F	%	F	%
a)	The rocky areas in Mwanza City are important social gathering points for residents and visitors.	2	6	2	6	4	12	17	52	8	24
b)	The rocks of Mwanza City play a role in community traditions or practices.	1	3	3	9	7	21	9	27	13	39
c)	The rocky environment influences how people interact with urban spaces in Mwanza City.	2	6	1	3	4	12	13	39	13	39
d)	The residents of Mwanza City feel a shared sense of pride in the rocky landscape.	0	-	1	3	6	18	14	42	11	33

Key: SD-Strongly Disagree, DA-Disagree, N-Neutral, A-Agree, and SA-Strongly Agree (n = 33).

**Table 4** indicates that 78% (agree 39% and strongly agree 39%) of the respondents perceive that the rocky environment influences how people interact with urban spaces in Mwanza City. In-depth interviews indicated that the rocky landscape significantly affect the movements of people, settlement patterns, and the overall experience of urban life among residents in the city. Additionally, the rocky landscape of Mwanza City guides the pedestrian routes, influences the design of buildings, and forms some natural meeting points.

In addition, the findings indicate that 76% (agree 52% and strongly agree 24%) of respondents perceive that the rocky areas in Mwanza City are important, as they serve as social gathering points for residents and visitors (**Table 4**). This implies that the rocky landscape in Mwanza City is generally perceived as an important social space where people can meet and engage in communal undertakings.

Nevertheless, the residents of Mwanza City feel a shared sense of pride in the rocky landscape, as the landscape contributes to local identity (75% of the respondents) (**Table 4**). These findings reveal that the natural landscape is an important element and valued by residents as it defines the characteristics of Mwanza City.

Furthermore, 66% of the respondents perceived the rocks of Mwanza City as significant contributors to community traditions or practices (**Table 4**). During the in-depth interviews, it was reported that some traditional rituals and practices take place at the top or bottom of large rocks. However, as urbanity grows in the city, those traditions and practices slowly fade away. This suggests that the Mwanza City residents associate the rocky landscapes not only with symbolic or cultural values, but also with their traditional rituals.

The residents of Mwanza City that were consulted primarily agree that the rocky landscape influences social life, interaction, and identity. For that reason,

the rocky landscape is an important social space that shapes the community engagement within Mwanza City. Penko Seidl et al. (2021) demonstrate that landscape identity emerges from physical characteristics, social use, memory, and cultural practices. Their research highlights that the interaction between physical environments—such as rocky landscapes—and social activities profoundly influences cultural identity.

### 3.3.3. The Significance of the Rocky Landscape to Cultural Heritage, History, and Identity in Mwanza City

Nevertheless, this section investigated the significance of the rocky landscape to cultural heritage, history, and identity in Mwanza City. Results demonstrate a consistent positive perception among respondents of recognising the importance of rocky landscape to the cultural, historical, and identity of the city, as presented in Table 5.

**Table 5.** How the rocky landscape relates to cultural heritage, history, and identity.

S/N	Statements	SD		DA		N		A		SA	
		F	%	F	%	F	%	F	%	F	%
a)	The rocky landscape is deeply rooted in the cultural identity of Mwanza City.	1	3	1	3	6	18	12	36	13	39
b)	Traditional stories, myths, or beliefs in Mwanza City are associated with the rocky features.	2	6	1	3	7	21	9	27	14	42
c)	The rocky formations are important symbols in local art, music, or cultural expression.	3	9	1	3	7	21	10	30	12	36
d)	The rocks are significant in the historical development of Mwanza City's culture.	2	6	1	3	3	9	13	39	14	42

Key: SD-Strongly Disagree, DA-Disagree, N-Neutral, A-Agree, and SA-Strongly Agree (n = 33).

Table 5 depicts that 81% (39% agree and 42% strongly agree) of respondents perceive that the rocks are significant in the historical development of Mwanza City's culture. This indicates that the community of Mwanza City generally acknowledges that the rocky landscape is central to the history of the city. Also, 75% (36% agree and 39% strongly agree) of the respondents believe that the rocky landscape is fundamentally intertwined with the cultural identity of Mwanza City. As a result, the majority of the population who were surveyed considered the rocky landscape an essential characteristic of Mwanza City identity.

Moreover, 69% (27% agree and 42% strongly agree) of the respondents perceived traditional stories, myths, or beliefs in Mwanza City to have been associated with the rocky features. Interview accounts revealed that the rocks hold a variety of traditional narratives of the Sukuma ethnic community, the native people and largest ethnic group in the city. Nevertheless, the findings demonstrate that the rocky formations are important symbols in local art, music, or cultural expression. This was supported by 66% (30% agree and 36% strongly agree) of the respond-

ents (Table 5). This indicates that the rocky landscape influences the creative expressions of Mwanza City residents and remains a symbolic element for cultural production in the city.

These findings demonstrate that the rocky landscape of Mwanza City embodies cultural meanings accumulated over time and plays a central role in shaping residents' perceptions of their heritage and continuity. They are historical markers, identity symbols, narrative anchors, and cultural inspirations. Local perceptions and external characterisations of the city's culture and history reflect this multifaceted relationship.

### 3.4. The Transformations of the Rocky Landscape Resulting from Urbanisation processes in Mwanza City

This study also examined the transformations of the rocky landscape resulting from urbanisation processes. Urbanisation, which results in population growth and economic development, has significantly transformed Mwanza City's rocky landscape, affecting the continuity of the city's natural identity, as depicted in Table 6.

**Table 6.** The extent to which urbanisation processes are altering, changing, or transforming Mwanza City's rocky landscape.

S/N	Statements	SD		DA		N		A		SA	
		F	%	F	%	F	%	F	%	F	%
a)	Rocks are being cleared to create space for construction sites.	0	-	0	-	1	3	12	36	20	61
b)	Rocks are being built upon rather than removed.	3	9	2	6	8	24	10	30	10	30
c)	Rocks are being quarried and used as building materials for urban development.	0	-	0	-	2	6	9	27	22	67

Key: SD-Strongly Disagree, DA-Disagree, N-Neutral, A-Agree, and SA-Strongly Agree (n = 33).

Table 6 shows a strong consensus among respondents that urbanisation in Mwanza City is significantly altering the rocky landscape. The majority of respondents (97% (36% agree and 61% strongly agree)) perceived that rocks are being cleared to create space for construction activities. This indicates that rock clearance is a widespread and highly visible process. Urban expansion is directly encroaching on rocky areas, with removal considered a common strategy to free land for building.

Furthermore, a significant 94% of the participants (27% agreeing and 67% strongly agreeing) indicated that they believe rocks are being quarried and utilised in construction (Table 6). This observation suggests that rock quarrying is a primary activity reshaping Mwanza City's rocky landscape. The considerable consensus implies that the extraction of rocks for building materials is both extensive and influential, thereby contributing to alterations and modifications of the rocky landscape.

In addition, 60% (30% agree and 30% strongly agree) of the respondents per-

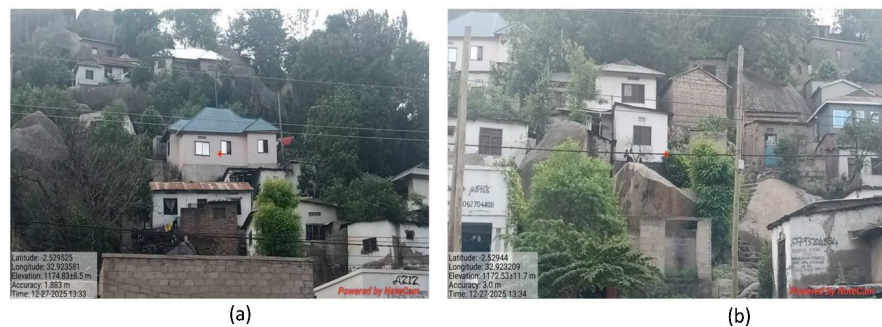
ceived that buildings are being constructed on top of the rocky outcrops instead of removing them (**Table 6**). The findings show that in some areas, rather than clearing rocks, construction adapts to or incorporates rocky landscape by building on top of them, which obscures the visibility of the rocky topography of Mwanza City.

Across all three statements, the results reveal that there is overwhelming agreement that urbanisation is reshaping the rocky landscape of Mwanza City through rock clearance, quarrying for building materials, and construction on top of rocky outcrops. However, quarrying and rock clearance processes are the most strongly acknowledged.



**Plate 2.** Part of Mwanza City showing broken rock outcrops.

**Plate 2(a) & Plate 2(b)** shows the breakdown and removal of rock outcrops; this is attributed to the need for building sites and construction materials in the city. This process is associated with the rapid urbanisation experienced by Mwanza City.



**Plate 3.** Part of Mwanza City showing houses built on rock outcrops.

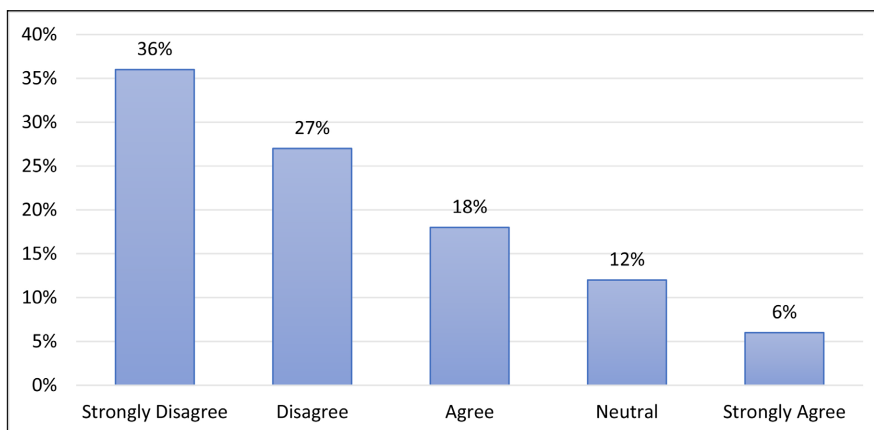
**Plate 3(a) & Plate 3(b)** indicates some houses are built on rock outcrops, adapting to the rocky landscape. This suggests that building on rock outcrops gives a new shape to the Mwanza City urban, thereby changing the city's identity as the natural appearance of the rocky landscape changes.

Generally, the findings show that human-driven processes have been transforming the rocky landscape of Mwanza City, thereby affecting the urban identity

of the city. Driven by rapid urban growth, Mwanza City, which, for years, had its rocky landscape (bareland) has decreased by 1581.15 hectares (30%) between 1999 and 2019 (Kaganga, 2023). The decrease is associated with the removal of, or building on, rock outcrops. Similarly, Shao and Liu (2016) found that, due to urbanisation as a result of population growth and economic development, all the natural elements were put aside in many Chinese cities for roads and other infrastructures required by contemporary urban development.

### 3.5. The Extent of Spatial Planning Instruments in Integrating Natural Landscape Elements into Urban Planning Frameworks

This study also assessed the extent to which spatial planning instruments integrate natural landscape elements into urban planning frameworks in order to safeguard the rocky landscape for the sustainability of urban identity of Mwanza City (Figure 2).

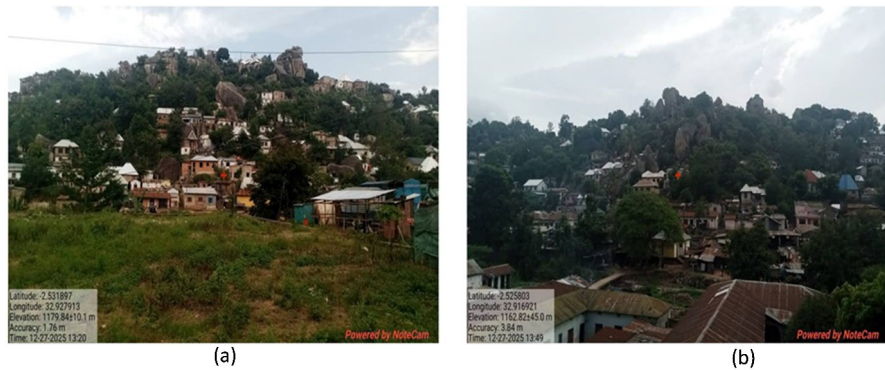


**Figure 2.** Whether urban authorities of Mwanza City protect and enhance unique landmarks to sustain the city's urban identity.

Figure 2 reveals that the majority of the respondents (63% (strongly disagree 36% and disagree 27%)) perceived that urban authorities do not protect and enhance the natural elements such as the rocky landscape of Mwanza City, while 18% of the respondents believed that the urban authority protects and enhances the natural elements of Mwanza City. The findings suggest that respondents are not satisfied with the Mwanza City authorities in the ways they are managing and preserving the unique natural landmarks of the city.

On the other hand, interview accounts from the Mwanza City Urban Planning Office indicate that though they have incorporated many issues of natural elements in the planning, there was low implementation due to a small budget, as narrated: “*You know, budgetary issues are very problematic, as a result, much of the land in the city is not surveyed. This lack of surveying and formal planning creates regulatory gaps, which in turn allow the development of informal and unplanned settlements in the city.*”

Furthermore, explanations from one of the urban developers indicated that it was rare for urban authorities to direct developers how to incorporate the natural elements in the course of developing land plots. Instead, the market demand dictated how land plots were being developed in the city.



**Plate 4.** Unplanned settlements at Mabatini neighbourhood in Mwanza City.

**Plate 4(a) & Plate 4(b)** shows some parts of Mwanza City (Mabatini area) with houses scattered irregularly across steep, rocky hills, the dense and uneven appearance indicating an informal urban pattern. This arrangement creates an urban identity where informality is normalised. This implies there is limited formal planning control, which contributes to the fragmented Mwanza City urban identity.

The findings indicate that the existing urban planning frameworks are inadequate for protecting the rocky landscape of Mwanza City. Despite the residents of Mwanza City celebrating and being proud of the natural elements (rocky landscape), the Mwanza City authorities have failed to incorporate it in the urban planning issues. That renders protecting the rocky landscape essential if the urban identity of Mwanza City is to be preserved over time. This seems to be the case, as the implementation of the Mwanza City Master Plan 2035, a 20-year plan that was adopted for the period 2015-2035 ([United Republic of Tanzania, President's Office -Regional Administration and Local Government, 2022](#)), is going very slowly, with an estimated 35% implementation progress as of 2024 ([BMG Media, 2024](#)). The purpose was to guide the city growth by regularising land use and enforcing building standards to reduce unplanned settlement. Proper implementation would protect and preserve the unique character of rocky landscape of Mwanza City.

#### 4. Conclusion

After assessing the impact of urbanisation on the urban identity of Mwanza City in Tanzania, it can be concluded that the rocky landscape is central to the physical, social, cultural and historical identity of the city. However, rapid urbanisation in Mwanza City is causing substantial changes to the rocky landscape. This is because

there is a lack of effective spatial planning interventions. Therefore, to protect and preserve the unique character and the urban identity of Mwanza City, widely celebrated by its residents as the “rocky city”, there is a need for the establishment of sustainable planning strategies and policies that integrate natural elements into the future development of the city.

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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