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## THE CRITERIA USED BY MOTORCYCLISTS TO LOCATE INFORMAL PARKING SPACES IN URBAN AREAS, IS THE CASE OF UBUNGO MUNICIPLITY, TANZANIA.

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### ABSTRACT

Tanzania has seen a rise in the number of commercial motorcycles operating as taxis in urban areas. This has resulted in the mushrooming of informal parking spaces throughout towns and cities. The existing motorcycle parking spaces have been largely established in areas not planned for motorcycle parking spaces or areas planned for other land uses.

### Goal and Objectives

This research aimed to explore the criteria used by commercial motorcycle operators to establish informal motorcycle parking spaces in urban areas.

### Methodology

A study was conducted to investigate how land use affects the distribution of informal motorcycle parking spaces. Triangulation techniques were used to ensure the validity and reliability of the data collected. The data was collected through a combination of primary and secondary methods. Structured interviews were conducted with motorcycle drivers in each ward to collect primary data. The interviews focused on motorcycle operation, access to parking spaces, parking management, and criteria for selecting a parking area. These interviews allowed for the collection of both statistical data and the opinions of motorcyclists on their daily operations. Despite the lack of formal planning for motorcycle parking spaces, motorcyclists still use certain criteria to decide where to park their motorcycles.

### Results

The study found that motorcycle riders take many factors into account when choosing a spot to park informally. The survey revealed that almost all of the respondents, or 98.3%, believed that areas with high foot traffic were the most important factor in determining a suitable location for informal parking. Availability of parking spaces was considered important by 81.6% of respondents, while 76.6% of respondents considered the presence of commercial activities. Only 33.3% of respondents deemed accessibility to parking spaces important. Overall, most of the criteria aimed to maximize access to customers and security.

### Keywords:

**Informal Parking spaces, Motorcycle parking spaces, Motorcyclist**

## **1. BACKGROUND OF THE STUDY**

Motorcycle refers to two wheeled vehicles like a bicycle but motorized and bigger in size (Marie, 2015). A motorcycle can be used in long-distance travel, commuting and sports racing. It can be a public or private transport. The Collins Dictionary defines motorcycle as a vehicle that has a stronger frame than a bicycle and it is driven by a petrol engine. In the context of this study, a motorcycle is defined as a two or three-wheel vehicle owned by private individuals and it is used for transport to earn money.

Informal transport services include minibuses, vans, taxis, station wagons, three-wheelers, and motorcycles that illicitly ply their trade in many third-world cities. These transport systems are made up of self-employed individuals, who work long hours in a very competitive manner. Such transport systems are not recognized by government policies. This study dwells on informal transport systems found in the city of Dar es Salaam, Ubungo Municipal, in particular. Large cities in the developing world are natural breeding grounds for informal transport services. The absence of reliable formal services has left huge voids that private operators have adeptly filled in.

This refers to the informal parking spaces used by the two-wheeled motorcycles in urban areas. This study used informal motorcycle parking spaces as the unity of analysis where in-depth investigation was done. Motorcycle parking is the much-needed public facility and the management system is an important issue (Shang, 2013). An in-depth study on parking includes parking accumulation, volume of parking, duration for parking and parking index (Steven, Willis, & Sembiring, 2021).

This refers to the form of urban transport that uses two-wheeled motorcycles as public transportation from one place to another. A motorcycle is one of the easy means of transport. Boda Boda is the concept derived from English word "Boder" in which Boda Boda informally translated from border to border (NCRC, 2018). It was first used in Uganda border town with Kenya.

Motorcycle is an essential and effective means of transport in our daily life which affect our livelihoods (Dinye, 2013). Motorcycle transport has become among the major alternative modes of transportation and mobility in urban areas. The use of motorcycles for public transport or personal transport has become a global phenomenon with an estimated over 200 million motorcycles in operation globally (NCRC, 2018). Motorcycles have displaced the use of motor cars for public intra-city transportation (Olubomehin, 2012). Motorcycle transport has become popular for urban low-income earners and rural population in developing countries (Dinye, 2013).

Urban transportation problems such as poor road conditions, inadequate public transport, and limited transport options in peri-urban areas have resulted to increase in number of motorcycles in urban areas (Dinye, 2013). In Kenya, motorcycle transport plays a Kenya role on urban mobility as an alternative transport mode for low-income people (Marie, 2015). Motorcycles provide transport services in areas where other modes of transport are inefficient or do not operate. It is the mode of transport which is readily available and it provides convenient transport (Marie, 2015).

The number of youths engaged in commercial motorcycles is rising globally (Luvinga, 2021). The prevailing economic environment is characterized by limited opportunities of employment with business emerging as the source of employment (Nandwoli, 2014). It has been widely noted that

commercial motorcycles popularly known as 'Boda Boda' contribute positively through creation of employment to youth, fasten transportation and they facilitate accessibility in remote areas. They are also considered as a source of income because they are less expensive in doing the business. At the same time, these motorcycles are used as a source of government revenue through tax and registration (NCRC, 2018).

Motorcycles are cheap to purchase and register, compared to other automobiles. Commercial motorcycles form one of the alternatives for employment and income generation (Gumel, Adam, & Rilwan, 2017). The average daily consumption expenditure is less than the average revenue obtained in commercial motorcycle transportation services hence creating a positive return to riders (Gumel, Adam, & Rilwan, 2017). Motorcycles come with opportunities of employment and they are the source of income to motorcycle drivers, income tax, sales of spare parts and registrations as well as license (Dinye, 2013). According to Gumel, Adam, & Rilwan (2017), commercial motorcyclist operators in Kenya about 42 percent worked for more than 7 years, and 25.1 percent worked for 5-6 years. This is an indicator of how this activity is depended by unemployed urban population. In Nigeria, motorcyclists operate an average of 7 hours per day for about 77.9 percent of operators, 13.1 percent operate for 6-7 hours a day while 7.7 percent operate for 4-5 hours a day (Gumel, Adam, & Rilwan, 2017). For young people, commercial motorcycles have become an alternative mode of transport used in various areas. The motorcycle business acts as a self or casual opportunity for people who are in informal sector (Gumel, Adam, & Rilwan, 2017).

In Tanzania, commercial motorcycles (Boda Boda) play a key role in movement of goods and services which contribute to livelihoods and economy of people and country at large (Luinga, 2021). Commercial motorcycle also known as Boda Boda contributes to the livelihood assets to the youth in businesses that influence other activities (Luinga, 2021). In a period from 2008 to 2014, Tanzania registered more than 700,000 new motorcycles operating in various areas (Mjema & Mbegu, 2019).

## **2. METHODOLOGY**

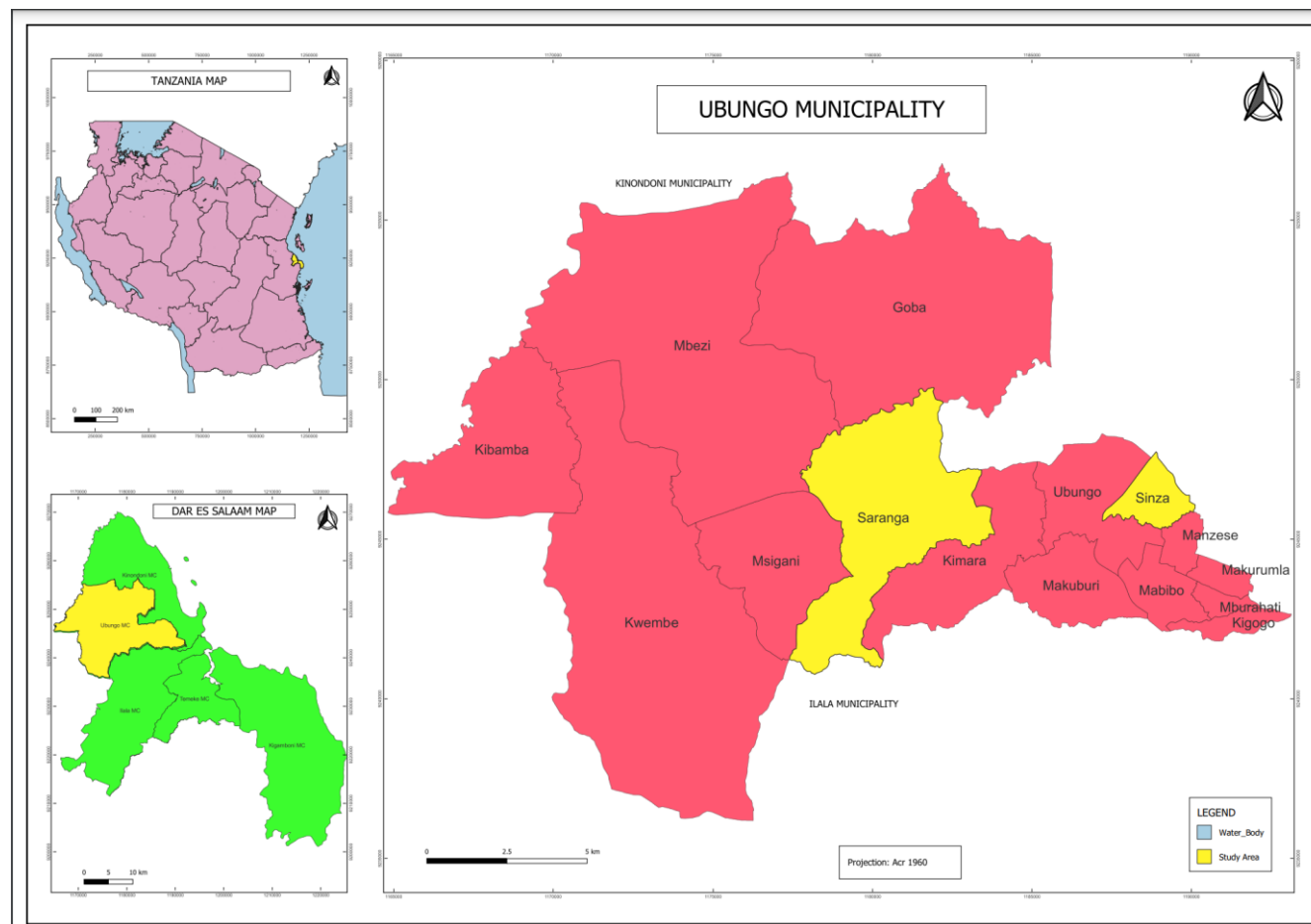
The study used Ubungo Municipality as a case study where an in-depth analysis of informal motorcycle parking spaces was done;

### **2.1 Description of the Study Area**

Ubungo Municipality is among the five councils in Dar es Salaam and is the most populated region in Tanzania, with 5,383,728 people (The United Republic of Tanzania, 2022). It is bordered by Kinondoni municipal to the East, Ilala municipal and Kisarawe District to the south, and Kibaha district to the North. Ubungo Municipal had a total area of 210 square kilometers and a total population of 1,078,928 in 2017, with 61 percent of manpower engaged in the private sector while 35 percent are self-employed and 4 percent are employed in the public sector.

Ubungo comprises 2 divisions divided into fourteen (14) administrative wards and a total of 91 sub-wards.

Map 1: The location of Sinza and Saranga wards in Ubungo Municipality



Source: Author's construct, 2022

## 2.2 Methods of Data Collection

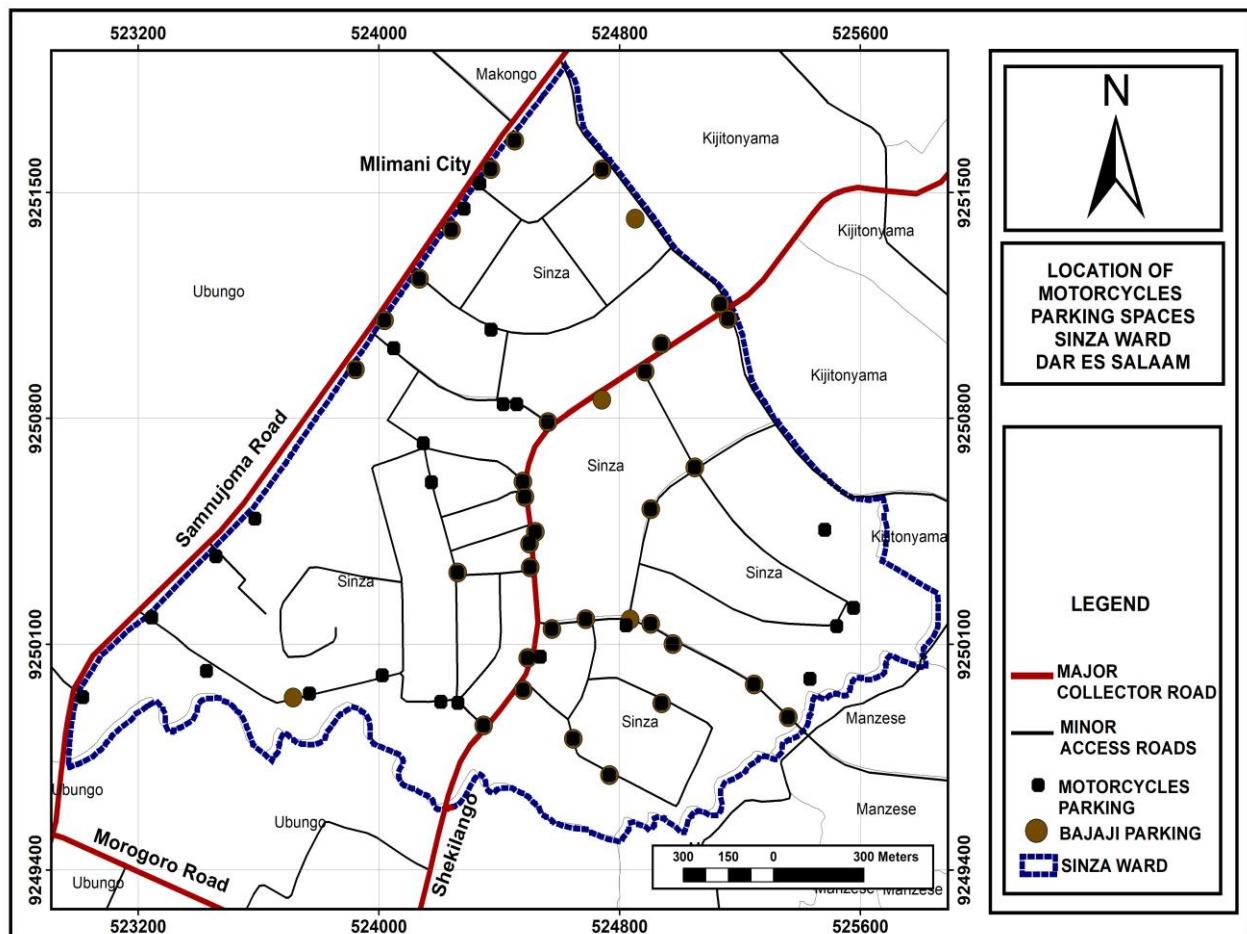
In order to explore the criteria used by motorcycle operators to establish informal motorcycle parking spaces, the study used triangulation techniques to ensure reliable and valid data. A variety of data collection methods were employed, including primary and secondary sources. Structured interviews were conducted with motorcycle operators in each ward to gather data on motorcycle usage, access to parking, parking management, and criteria for selecting a parking area. These interviews enabled the collection of statistical data and insights into the daily operations of motorcycles. Qualitative information was obtained through interviews with motorcycle drivers and users. The interviews focused on the criteria used to locate informal parking, potential areas for parking, acquisition of land for parking, and the trend of motorcycle informal parking space use.

### 3. RESULTS AND DISCUSSION

The study revealed the presence of motorcycle parking spaces in various urban neighborhoods of Ubungo Municipality. These informal parking spaces serve as a meeting point for motorcycle operators and passengers, who are the main customers of this mode of transport. Due to the lack of formal motorcycle parking spaces in urban areas, there is a growing trend of informal parking spaces for motorcycles.

Moreover, it was found that there is a pattern in the location of these parking spaces. During interviews with motorcyclists, it was revealed that even though the existing motorcycle parking spaces were not formally planned in town planning drawings, they still have certain criteria that are used to determine their location.

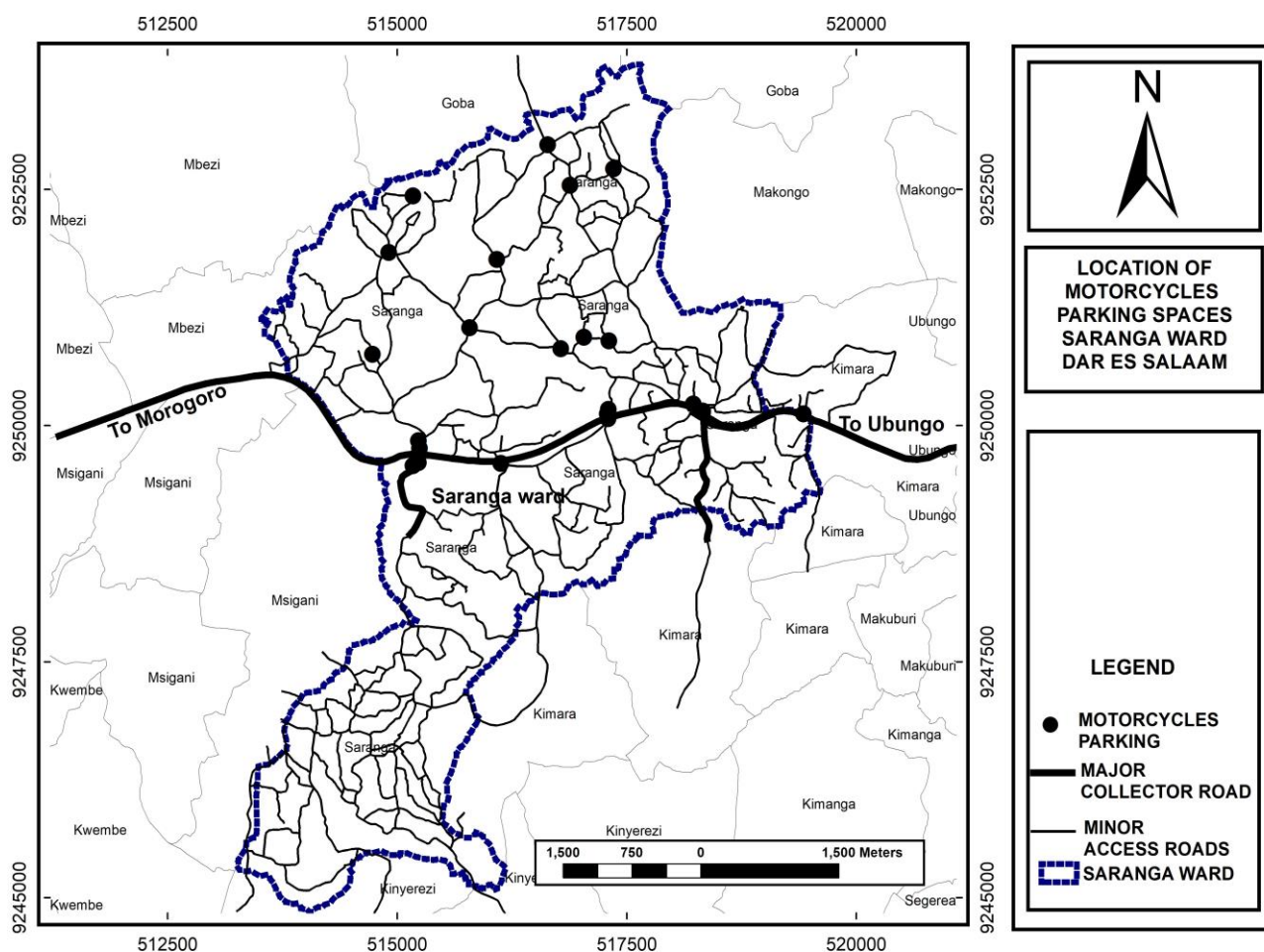
**Map 2: The location of informal motorcycle parking spaces in Sinza ward in Ubungo Municipality**



Source: Author's construct, 2022



**Map 3: The location of informal motorcycle parking spaces in Saranga ward in Ubungo Municipality**



Source: Author's construct, 2022

About 59 of respondents, which is equivalent to 98.3%, argued that places with high movement of people are the main criteria for locating informal motorcycle parking followed by availability of spaces 81.6%, presence of commercial activities 76.6%, and accessibility to parking space which accounted to 33.3% (see Table 4.15).

**Table 1: Criteria used by motorcyclists to establish informal motorcycle parking space**

Criteria Used	Response	Sinza		Saranga		
		Number of respondents	%	no	Total respondents	%
Accessibility of an area	20	60	33.3	10	30	33.3
High movement of people	59	60	98.3	28	30	93.3
Security of an area	2	60	0.33	01	30	3.3
spaces availability	49	60	81.6	24	30	80
Concentration of activities	46	60	76.6	18	30	60

Source: Author's construct (2022)

Informal motorcycle parking spaces are established based on non-formal criteria used by motorcyclists. These criteria were uncovered during an interview with motorcyclists and an analysis of the spatial location of these parking spaces. The following criteria were identified:

- a) **Concentration of activities:** Motorcyclists prefer to establish informal parking spaces in areas with high concentrations of economic activities such as trade and business. This is because such areas attract people to and from those areas, creating potential customers for motorcycle transport businesses. This is also supported by land use analysis and findings in urban functions. An interview with Motorcycle operators in Sinza indicated that about 76.6% of respondents supported that the concentration of activities influences the establishment of informal motorcycle parking spaces.
- b) **Accessibility of an area:** Motorcyclists prefer areas with road junctions and major roads where it is easy for their customers (passengers) to access. The spatial distribution of informal motorcycle parking spaces indicates that more parking spaces have been established on the sides of road junctions and major roads in urban and peri-urban areas such as Sinza and Saranga wards. An interview with Motorcycle operators in Sinza and Saranga indicated that about 33.3% of respondents supported that the area that is accessible by road or walking influences the establishment of informal motorcycle parking spaces. However, they noted that not all accessible areas are suitable for establishing parking spaces. This is due to the fact that some areas are accessible but have a low number of people and hence low customer turnout. Accessible areas with a high concentration of people and activities have attracted motorcyclists to settle.
- c) **High movement of people:** Motorcyclists establish parking spaces in places with high movements of people, such as bus stops, bus stands, and commercial facilities like markets. These places generate high demand for different modes of transport, including motorcycles. An interview with motorcycle operators indicated that areas with high movements of people act as potential places to get enough customers for commercial tax motorcycles. About 98.3% of motorcycle drivers said areas with high movement of people attract establishment of motorcycle parking spaces in Sinza ward while about 93.3% of motorcycle operators in Saranga ward also supported that areas for high movement of people attract establishment of informal motorcycle parking spaces.
- d) **Space availability:** Despite requiring a small area of land compared to cars and buses, motorcyclists still consider the availability of vacant spaces to establish their parking. This is because there are no planned formal motorcycle parking spaces in the Saranga and Sinza wards. Additionally, most motorcyclists earn a small amount of money per day and are unemployed, so accessing vacant land at no cost allows them to save the little money they earn. About 81.6% of motorcycle operators in Sinza ward said the availability of vacant spaces allows the establishment of motorcycle parking spaces while 80% of motorcycle operators in Saranga also agreed that the availability of vacant spaces is one of the important criteria for establishing informal motorcycle parking spaces. These vacant spaces may include road reserves, vacant plots, and public areas where motorcycle operators can park.



- e) **Security of an area:** Security is a significant challenge for commercial motorcycle operators. Motorcyclists choose to establish motorcycle parking spaces in areas where the threat of insecurity is low. They avoid operating in areas with a high risk of crime such as theft of motorcycles, or they only operate during the daytime. An open area with high movement of people and public surveillance is the best choice for them.

#### **4. CONCLUSION**

The study indicates that the absence of designated parking spots for commercial motorcycles in urban areas can lead to competition and conflicts with landowners who have introduced informal motorcycle parking spaces. Motorcyclists commonly use certain criteria, such as concentration of activities, security, availability of space, accessibility, and high foot traffic, to establish these informal parking spaces. This provides valuable insight for urban planners, land use planners, policymakers, and decision-makers on how to use local knowledge to create inclusive, context-based, and sustainable planning and space standards to accommodate the increasing use of motorcycles as a mode of transportation and offer a wider range of mobility options in urban areas.

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#### **7. AUTHORS' CONTRIBUTIONS AND ROLES**

This research paper forms part of my Master's thesis in Geographical Information Systems at the University of Dar es Salaam.

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## **9. KEY TERMS AND DEFINITIONS**

**Motorcycle parking spaces:** This refers to parking spaces used by two-wheeled motorcycles in urban areas.

**Informal Parking spaces:** This refers to motorcycle parking spaces that have been established informally in areas planned for other land uses contrary to existing urban plans. This includes informal motorcycle parking spaces used by two-wheeled commercial motorcycles in urban areas.

**Motorcycles:** These are two-wheeled motorcycles used for commercial tax transportation in urban areas. They are also popularly known as Bodaboda.