

Convenient or Nuisance? The Paradox of Motorbike Taxis in Rural Kenya. The Case of Rongo Sub-County, Kenya

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Abstract: This study sought to assess rural people’s level of satisfaction with motorcycle taxi transport services, taking Rongo Sub-County, Kenya as a typical case. This awareness is crucial to transport planning, particularly in the pursuit of an equitable mobility system in rural Kenya, Africa and beyond. The main data collection tool was a semi-structured questionnaire which was complemented by a key informant interview schedule, focus group discussions guide and an observation checklist. The study found that while the satisfaction of the respondents ranged from neutral to satisfied there was a strong difference between groups. Most of the respondents were satisfied with the MT services, largely due to the physical attributes of the MT. Negative reasons were mainly related to MT riders’ mannerism, unprofessional driving, and poor safety. Nonetheless, almost all respondents recognised the importance of motorcycle taxi transport in realising their needs of accessing locations and activities within and outside Rongo Sub-County. This paper strongly recommends that rural transport needs and options should be understood from the point of view of rural people (differentiated by age, gender, occupation and income) in order to provide better rural transport services that meet different needs.

Keywords: Motorcycle taxi; Rongo sub-county; rural mobility; rural transport needs

1. Introduction

A transport system that is responsive to needs enables rural villages and their individual's access to necessities, services, and opportunities that could improve their quality of life [1,2]. This is especially so due to the reality that most services and opportunities tend to be concentrated in urban areas [3]. Rural people need an accessible, consistent, efficient, effective, safe, and secure transport service capable of transporting people's goods and their supporters, if necessary.

One major study on rural transport services showed that rural African populations had limited access to rural transport services when compared to rural communities in non-African countries of

similar economic status [4]. Poor maintenance and provision of road infrastructure plus poor availability of transport services, unreliability, high fares, and security issues are widespread restrictions on rural travel, particularly because ownership of motor vehicles and intermediate means of transportation is often restricted to rural elites. Certain vulnerable groups—the young, the old, infirm, and women—face particular mobility difficulties; in the case of women and girls, this may possibly include cultural constraints on their movement [5].

In many rural parts of Africa, motorcycles taxis (MTs) have become the most prevalent means of motorized transport in most rural areas [3]. This could have been due to increased transport demand and inadequate conventional rural transport services [6] such as (four-wheel) taxis or buses. In these rural areas, MTs complement existing public transport services by transporting people between villages and the road network, where long-distance transport services are available. They play a vital role in linking people to services, farms, and markets. The journeys that were previously made by foot or bicycle are now made using a MTs.

The MTs operate on a relatively short distance (usually less than 10-20 km). They operate from 'stands' in towns and business centers and stops along the main roads for passenger service providing access to feeder routes. In general, MTs begin in urban areas [1], where there is a high demand for point-to-point transport services, it stretches out to the peri-urban areas and then to broader villages before entering remote rural areas [7].

Men are generally seen to dominate the activities related to the MT transport [8]. The fares charged by the MT riders vary depending on distance, time, locations, weather conditions, day, or even location of approaching a MT rider for example on the road or at a stage. However, the user can either bargain or search for another rider at a more reasonable price [9]. The fares go up during rainy [10] and may decrease by approximately 60% if two passengers are carried [1]. Although rural MT users often complain that the fares per kilometre for rural MTs are typically more costly and say they prefer to use conventional (four-wheel) taxis or buses, when these are available [11], it is the lack of timeliness (or absence) of such alternatives that provide the 'market' for MTs [1,12].

MTs provides even the most remote rural communities with a means to access essential services and livelihoods. According to [12], MTs offer benefits such as flexible access to the main routes plied by lower-cost public transport services such as conventional (four-wheel) taxis. It also provides door-to-door travel, which is of particular use to older or disabled passengers. They offer timely transport of people and goods, with no waiting time, and take people straight to their required destinations. Rural inhabitants really appreciate this [11]. The efficiency advantages obtained when MTs can be accessed by mobile phones are particularly impressive [1,5]. As noted by [13], several riders use mobile phones so that they can be called by customers. However, travel on MTs can be risky, with little or no protection [14,15]. The result is that where there are many

MTs in use, there are often increasing numbers of crashes, injuries, and fatalities, to which the authorities have to respond [9].

Despite the perceived advantages of a motorcycle taxi in rural Kenya, its use still leaves much to be desired. For instance, the riders have to contend with the socio-psychological challenge of low-profile vocation; road accidents, environmental health hazards such as eye irritation, sunburn, nasal and bronchial related diseases; abuse and harassment from criminals; and pervasive noise. In addition, some commuters do not patronize the mode as a result of the following reasons: gender, religious issues and perceived risk, including the risk of being injured in a crash. One wonders: How satisfied are the rural people with motorcycle taxi transport?

Existing studies on MT transport focus on Sub-Saharan and Asian cities, but rarely in rural areas. They concentrated on the problems, regulatory approaches, and barriers for change while focusing only on MT riders— demographics, ownership, and associations. Overall, there is a knowledge gap in the level of satisfaction with MT transport services in rural Kenya. In assessing whether MTs are a problem or as a solution to rural public transport issues in Rongo Sub-County, the users' satisfaction and perceptions are valuable especially because they are the main MTs customers. This awareness is crucial to transport planning, particularly in the pursuit of an equitable mobility system in rural Kenya, Africa and beyond. In assessing whether MTs are perceived by rural people to be convenient or a nuisance, the users' satisfaction and perceptions are valuable especially because they are the main MTs customers. The users' satisfaction and perceptions could identify the MT's characteristics, performance, and potential for addressing rural public transport problems. This study sought to assess rural people's level of satisfaction with MT transport services, taking Rongo Sub-County, Kenya as a typical case.

2. Research Methodology

The study is a cross-sectional descriptive survey that employed a mixed-method approach that used different methods, including a survey, observation, and analysis of secondary data, for collection and analysis of qualitative and quantitative data. The study was conducted in Rongo Sub-County, in Migori County, Kenya in the months of November and December 2019. The study site was purposively selected because it is a typical case of a peri-urban Kenyan setting. The main respondents consisted of all the heads of household in the Sub-County, from whom a sample of 395 was drawn using Taro Yamane's formula [16]. The formula states:

$$n = N/[1+N(e)^2] \quad (1)$$

where n is the required sample size, N is the Size of the target population and given as 29,087 household heads (KNBS, 2019), and e is the error term (.05).

Respondents were selected through the two-stage cluster sampling technique, in which the study area was first divided into the seven locations that comprise Rongo Sub-County. Two locations were purposively selected - Central Kamagambo which is predominantly urban and West Kamagambo which is predominantly rural. A sampling frame was drawn for each of the selected locations, from which respondents were picked using the systematic random sampling method. Data from main respondents were complemented by information gathered from key informants, who included six village elders, four ward administrators, and two chiefs. All key informants were purposively selected from the study area.

Data from the main respondents were collected through a semi-structured questionnaire, which was administered by research assistants to ensure a high response rate. The questionnaire obtained information about travel patterns of MT users; average MT trip distance; frequency of MT use; MT trip purposes; reasons for MT use; riding styles of MT users; and MT users' satisfaction. To complement the questionnaire, two focus group discussions (FGDs) were conducted, one in each of the selected locations. Each focus group discussions had eight participants of the same sex and age group, and discussed travel patterns of MT users; average MT trip distance; frequency of MT use; MT trip purposes; reasons for MT use; riding styles of MT users; and MT users' satisfaction. All key informant interviews were conducted by the principal investigators, and collected data about travel patterns of MT users; average MT trip distance; frequency of MT use; and MT users' satisfaction. Observation was conducted at the main termini and along the main roads. MT trip density at different time periods within Rongo Sub-County; and safety concerns were observed.

The study achieved a response rate of 73.2 per cent. In total, 395 questionnaires were distributed out of which 289 were duly filled and returned. Part of the non-response was attributed to the non-availability of household heads who were busy working during the day and were reluctant to participate in the study because it could interfere with their earnings. Based on [18], the response rate was deemed adequate for the generalization of the study findings to the target population. The validity of the survey is based on criterion validity using standard benchmark as a good indicator for travel patterns of MT users; average MT trip distance; frequency of MT use; underlying factors leading to the uptake and use of MTs and peoples' level of satisfaction with MTs. IBM SPSS V.25 software was used for data analysis. The measured variable was found to be reliable based on Cronbach's alpha coefficient of .86. Considering [19] recommendation of a minimum of .75 Cronbach's alpha value, the internal consistency of the data-set was reliable.

Informed consent was sought from the selected household heads. Respondents were also assured of their anonymity and confidentiality of all information obtained. Quantitative data collected was analysed using descriptive statistics using and findings presented in frequency tables and bar charts. Qualitative data were analysed thematically and presented in narratives.

3. Results and Discussions

This study sought to establish peoples' level of satisfaction with motorcycle taxis in rural Kenya taking Rongo Sub-County as a typical case.

2.1 Analysis of Demographic Characteristics of Household Heads

This study revealed that more than two thirds (79.6%) of households in the study area male-headed, as is typical of rural areas in Kenya [20]. Slightly more than half (52.9%) of all household heads are aged between 31-50 years, as indicated in Table 1. Of greater interest, however, is the revelation that one-tenth of the household heads were either below the age of 20 (4.2%) or above the age of 70 years (6.2%), in conformity with the population structure in developing countries. Data in Table 1 indicates that the level of literacy in the study area is fairly high, with approximately two-thirds of the respondents (63.4%) having attained at least secondary school education out of which 29.8% of them have attained post-secondary education. Only about 1.7% of the respondents did not have any formal schooling.

The study also found that more than two thirds (71.3%) of the respondents were married, and only 4.5% were single and had never been married, as shown in Table 1. According to [17], the average household size in Rongo Sub-County was at 4.3 members. In the present study, the average household size is 4.1 which is close to 4.3 hence consistent. The study also revealed that slightly more than half (53.3%) of the respondents were engaged in peasant farming and approximately fifth (21.8%) were engaged in petty trading. Of important note, only 16% of the respondents were in formal employment. The findings on respondents' occupation could explain the fact that on average, the majority of the respondents (66.5%) earn less than Kenya Shillings 25,000 per month, as indicated in Table 1. This implies that unemployment is high relative to levels of income.

2.2 Motorcycle Taxi Users' Satisfaction

The study required the respondents to rate their satisfaction with the MT transport service. The findings are presented in Table 1.

Table 1 Motorcycle taxi users' satisfaction. Source: authors

Strongly Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total	Min.	Max.	Mean	Std. Dev.
24	33	56	143	33	289	1	5	3.44	1.098
8.3%	11.4%	19.4%	49.5%	11.4%	(100%)				

As indicated in Table 4, the level of satisfaction with MT is slightly above average, with a mean of 3.44 on a scale of 0-5. Approximately two-thirds of the respondents (60.9%) were either satisfied or very satisfied with MT. Only one-fifth of the respondents (19.7%) were strongly or

otherwise dissatisfied with MT. This is a very interesting finding when seen together with qualitative data from FGDs. Whereas only one-fifth of the respondents expressed dissatisfaction with MT, qualitative data revealed that an overwhelming majority of the respondents perceive MTs as being very recklessly ridden, by riders of questionable character. Indeed, there was a general consensus in all the FGDs, that MTs are an unsafe mode of transport, with a very high likelihood of involvement in accidents. This apparent contradiction may be attributed to the perception that MT is affordable, convenient, and time-saving. Furthermore, MT riders are believed to be very well versed with different alternative routes and tend to know most places, reducing the likelihood of getting lost, or wasting time asking for directions.

The study also compared the levels of satisfaction against respondents' gender and level of income to establish any underlying differences or influences. Figure 3 presents a comparison of the levels of satisfaction with gender.

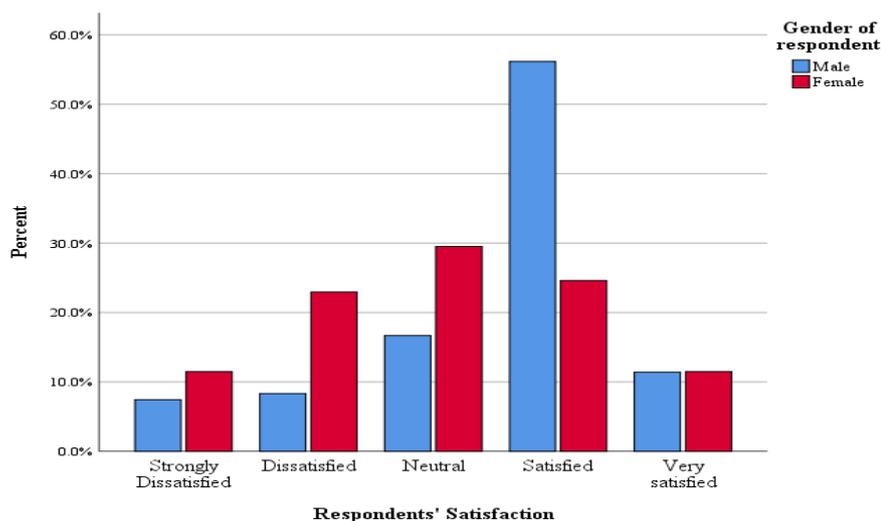


Fig. 1 Respondents' level of satisfaction with MT, segregated by gender. Source: authors

Figure 1 reveals that male respondents were more satisfied with MT services than their female counterparts. Three gender themes emerged from FGDs. Firstly, female respondents were more concerned about safety compared to their male counterparts. Secondly, female respondents appeared to be more taken aback by MT riders' perceived bad behaviour, than their male counterparts. Male respondents did not appear to find issues with the riders' behaviour, with some respondents even finding words of praise for the riders' apparent bravado. Thirdly, male respondents consider MT to be affordable, as opposed to females, who find it expensive. This finding corresponds with the data in Table 3. The neutral stance by women could be attributed to the women's concern about MT safety risks while preferring them for their speed and convenience. The findings agree with other studies on MT transport. For example, by 2001, on the Jos Plateau in

Nigeria, MTs were patronized more by men than by women. Despite safety issues associated with MTs, young women still saw MTs as a lifeline [21].

In addition, Figure 2 compares the respondents' satisfaction levels based on different levels of income.

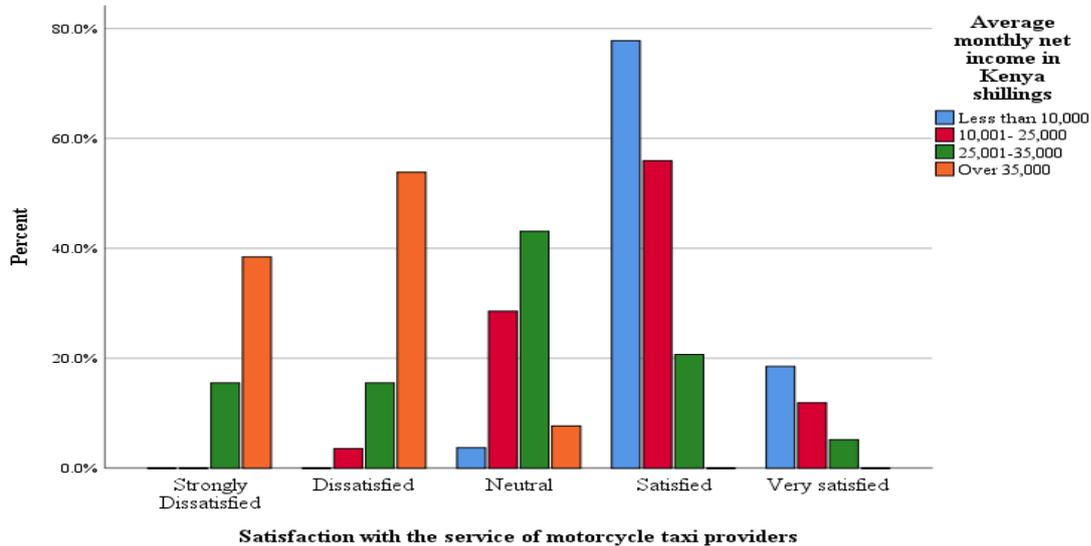


Fig. 2 Motorcycle taxi services satisfaction level based on respondents' levels of income. Source: authors

Figure 2 indicates that respondents with lower levels of income were more satisfied with MT services than respondents with high levels of income. The higher satisfaction level among the respondents with low levels of income could be attributed to the lifestyle changes and improved income derived from MT transport. The lifestyle changes and improved income derived from MT include the low initial purchase cost, low operating cost which is generally related to the superior fuel economy or efficiency of MTs in relation to cars, their relatively low maintenance cost and perhaps the most important in Kenya's context, is the employment opportunities it offers to our unemployed youths.

The respondents with high levels of income were either neutral or dissatisfied with MT services. This could be attributed to the drivers' behaviour and safety risks associated with MT transport. Thus, most respondents were satisfied with the MT services, largely because of the physical attributes of the MT, while negative reasons were mainly related to MT riders' mannerism, unprofessional driving, and poor safety. Similarly, [22] noted that although the MT business posed a lot of risks to the youth riders, most of them were unwilling to stop the business because of the socio-economic benefits they obtained through it.

In this study, two household heads with comparable demographics backgrounds responded contrastingly about the affordability of MT transport. The first said: *"I do not use a motorcycle taxi because it is too expensive that I cannot afford"* (Respondent 127, Male, Age 35). In contrast,

another respondent indicated that: *“Their prices are reasonable in view of the fact that... I mean, from physical observation, the poor man will travel using a MT”* (Respondent 21, Male, Age 35). Table 2 presents the association between the affordability of MTs based on gender and average family monthly income.

Table 2 Affordability of motorcycle taxi transport based on gender and levels of income. Source: authors

		Expensive		Affordable		Total	
Gender	Male	46	(15.9%)	184	(63.7%)	230	(79.6%)
	Female	44	(15.2%)	15	(5.2%)	59	(20.4%)
	Total	90	(31.1%)	199	(68.9%)	289	(100.0%)
Average family monthly income in Kenya shillings.	Below 10,000	9	(3.1%)	99	(34.3%)	108	(37.4%)
	10,001-25,000	55	(19.0%)	29	(10.0%)	84	(29.1%)
	25,001-35,000	4	(1.4%)	54	(18.7%)	58	(20.1%)
	35,001 and above	22	(7.6%)	17	(5.9%)	39	(13.5%)
	Total	90	(31.1%)	199	(68.9%)	289	(100.0%)

Rural women generally have the largest financial restrictions when it came to the use of transportation [27], and one would expect transport affordability to be a gender issue. This is supported by data in Table 5 which reveals that male respondents consider MT to be affordable, as opposed to females. Surprisingly, the study findings in Table 5 revealed that even among respondents with low levels of income, the affordability of MT services was regarded as being very positive, while some respondents with high levels of income considered MT as expensive. They were considered affordable by most respondents with middle-income levels. This suggests that the respondent's perception of MT as expensive or cheap may not be based on their levels of income.

The findings agree with other studies that socio-economic considerations form the major driving force for the growth of MTs [1,11,23]. The findings have however dispelled one of the commonly held illusions that levels of income influence perceptions on MT affordability. Opinions on affordability hinge closer to the respondent's appreciation on lifestyle changes and improved income derived from MTs, rather than on the levels of income. According to [13], those engaged in formal or informal sector wage employment seem likely to have received benefits from the enhancement of their income-earning activities through the greater mobility afforded by MT usage. Therefore, in this study, it was expected that the levels of income would influence the MT users' perception of its affordability. However, the study findings have dispelled one of the commonly held illusions that levels of income influence perceptions on MT affordability. In this study, opinions on affordability hinge closer to the respondent's appreciation on lifestyle changes and improved income derived from MTs, rather than on the levels of income.

4. Conclusion

This study performed a rapid satisfaction survey to gauge MT rural peoples' appreciation and satisfaction towards the MT transport. This awareness is crucial to transport planning, in particular in the pursuit of an equitable mobility system. While the satisfaction of the respondents ranged from neutral to satisfied, there were clear differences between the groups. Most of the positive reasons have been associated with physical attributes of MTs (time-saving, convenient, and affordable); while negative narratives were more closely linked to the MT drivers (mannerism, unprofessional driving, and poor safety). The majority of women remained neutral. Respondents with low levels of income reported higher satisfaction rates; their income levels did not influence their perceptions of MT affordability. Even so, rural people have not ignored the importance of MT transport in meeting their access to locations and activities needs. Most respondents were satisfied with the MT services, largely because of the physical attributes of the MT, while negative reasons were mainly related to MT riders' mannerism, unprofessional driving, and poor safety. This study strongly recommends that rural transport needs and options need be understood from the point of view of rural people (differentiated by age, gender, occupation, and income); in order to provide better rural transport services suitable for different needs.

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