Challenges Facing the Community in using Public Transport: A Case of Nkuhungu Ward in Dodoma City Council

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Abstract

The study of assessing challenges facing the community in using public transport was conducted at Nkuhungu ward in Dodoma city council. The objectives of this study was to assess challenges facing the community in using public transport, to evaluate availability of commuter buses, examine the challenges and determine possible measures. Methodology of study applied qualitative and quantitative data collected from respondents were summarized, coded, be analyzed and entered using statistic package for social science (SPSS) computer software used descriptive statistics to obtained means, frequencies, percentages and cross tabulations were used to obtain relationships between variables. The result reveals that the availability of commuter buses in Nkuhungu is good about 68.8

Index terms— community, transport and public.

1 Background of the Problem lobally

Transportation accessibility is fundamental for individuals' need to engage with their community, for obtaining employment, goods and services, health and education, and for socializing ??Cvitkovich et al, 2001). According to a World Bank study ??2002), the challenges of public transport worldwide have been associated with globalization, urbanization, fiscal decentralization and economic transition. The growth of the population and density of the buildings in the cities only add further to the difficulties of traffic and plague to endless congestion, grave air pollution, alarming accident rates and lengthy travel time to work ??Drakakis-Smith, 2003). In the developed countries such as America, German with high experience of aging population and disable people they face many challenges during the access of public transport because there is no support to help them while accessing public transport (Jill, et al, 2017). Due to growth of cities, demand s for work and high migration from rural areas to urban areas, urban population become high and plays a very important role in evaluating the supply and demand of transport. As the cities expand geographically transportation demand increases proportionately as distances of services and workplace may become more dispersed, Thus, this increase has changed the morphology of the cities and enlarged the challenges in the public transport systems, have resulted in congestion and delays in both passenger and products from the different places to reach the market; high level of pollution, fatalities and injuries have been increased ??Mrema, 2011).

Regardless of African countries had 2.06 million km of roads, resulting in a road density of 6.84 km per 100 sq. km in 2001 and network had expanded to 2.42 million km by 2005, with a proportional growth in the road density to 8.3 km per 100 sq. km ??UN, 2009). But still the main problem for urban transportation in Africa is definitely the rapid urban growth scenario that is seen in basically all of Africa. ??Matthias Nuessgen, 2015); since African public transportation sector is quite distinct in the different kind of settings since there i s a push factor in the rural setting that makes people leave rural areas and move to cities for the access at least basic services like the market or medical assistance or water and Interregional traffic which acts more along the supply and logistics side.

In sub Saharan countries, the urbanization level is estimated at around 36% of its total population. South Africa is the most urbanized, with 60% of its population, followed by Angola at 55%, Ghana at 49%; and Nigeria

at 47%. Among the nine key markets in the region, Kenya is the least urbanized at 21%.In terms of urbanization rates, however, Mozambique's urban population has been growing the fastest among the nine key markets over the 2005 to 2008 period, at an average of 2.2% per year, with Angola and Tanzania tied for second place at 1.7% . One main weakness of transport systems in Sub-Saharan Africa is the lack of transport infrastructures. For various reasons, roads are p oorly maintained, or not maintained at all throughout the continent. Moreover, very few are paved. The different maintenance policies developed for the maintenance of built roads have been rarely implemented only around 15.1% of road s in Sub-Saharan Africa are paved; which means that there are not enough infrastructures for transport. However In the majority of the African large cities, urban transp ort it has been arteries to some situations where traffic is difficult if not impossi ble, existing roads are often old and may be geometrically incompatible with average speeds today. Some arteries have very steep downward slopes, in particular in the case of inter-urban transport. Thi s huge increase in traffic is also partly due to the sharp rise in the importation of second-hand vehicles from Europe in recent years. **??**Trans-Africa 2008).

Despite the available modes of transp ortation, South African transport is still plagued with several challenges. These comprise of low ridership, lack of public transport accessibility in rural areas, equity imbalances and congestion (Jennings, 2015). The South African public transport industry is currently under immense enquiry as captive users of these systems face unsafe, unreliable and costly systems (Walters, 2014). In the 2013 National Household Travel Survey, findings obtained revealed that 68.8% of South African households use taxi services daily, followed by commuter bus (21.1%) and commuter rail operations (9.9%), (Statistics S.A 2014:6). Mitizi (2017) argues that bus services do not cover certain routes leaving commuters with the option to walk long distances or use another form of transport to get to their destination **??**Mtizi 2017). However, buses are regarded as a safer option when compared to the other modes of transport. Several mini-bus taxis operate without licenses and, in some cases; they are driven by unlicensed drivers with habit of breaking most of the rules of the road and taxi fares are not stagnant. There are high rates of sexual harassment reported from taxi drivers as well as high rates of traffic crimes committed. Train users rep orted were generally more than satisfied (37%) with train services" (NHTS, 2014: 8). However, the major problem is that Metrorail trains have been flawed by the constant lack of structure in terms of schedules.

In Tanzania Public transport carrying over 90% of the passengers and 75% of the freight traffic in the country. The road network in Tanzania currently comprises 86,472 km of roads, of which 12,786 km are trunk roads, 21,105 km are regional road s and the remaining 52,581 km are district, urban and feeder roads (Tanzania Invest, 2019). Regardless of having good road networks public transport sector began to experience various challenges that in one way or another undermined the quality of services offered, al so lack of institutional mechanism for regulation of the sector this is highlighted by the failure of the private sector transporters to comply with laws and regulations guiding the sector **??**Howe et al, 2000). To reverse this situation, the government, in 2003 enacted a National Transport Policy and also put in place transport regulatory authorities and several institutions to address the transport sub-sector challenges. (SUMATRA, 2012) .The government of Tanzania tried to establish various agencies such as DART Agency to improve the quality of public transport in Dar es Salaam and address all challenges facing public transp ortation in the city **??**JICA, 2008).But still in city like Dar es Salaam witnesses reported that commuters made the decision after spending many hours waiting for buses. Commuters' expression of anger took place exactly two years since the rapid buses project took off. When the BRT project started on May 10, 2016, a lot of people thought that it would bring a taste of modernity in the chaotic Dar es Salaam's public transport system, but problems started right from the start. (The Citizen 2018). Dodoma i s among the regions in Tanzania mainland. The region is the official capital city of Tanzania. Since the region is a capital city of Tanzania, transfer of government functions to the region i s still going on **??**Lussuga, 2008). Dodoma municipality has a total of 1524.1 of road s network which i s 48.6 km paved roads, gravel roads 191.7 km and 283.8 km of earth road. (Dod oma Municipal Profile, 2012) The region acts as a center for different political and economic activities where by p olitical leaders and investors come to Dodoma for different activities. Based on the population and housing census of 2012 Dodoma District had 410,956 whereby males are 199,487 and females are 211,469 (URT, 2012). The region population is still increasing more rapid because of the increase in different human economic activities such as trade and opening of higher learning institutions which triggered massive influx of people in the region. Current data on population projection in Dodoma shows that the population is about 414906 (CDA, 2011).The increase of population in town influences the demand of transport facilities like air transport, road transport and railway transport.

Nkuhungu is an administrative ward in the Dodoma Urban district of the Dodoma Region of Tanzania. According to the 2002 and 2012 census, the ward has a total population of 26,088 but still the number of population increases fast and high due to increase number of people who shifted from Dar-essalaam to Dodoma due to government shirt. Due to high increase number of population exist in the ward and social economic activities such as schools, work areas the demand for the public transport has been higher which makes some people to hire Bodaboda, Bajaj and tax to rush them to their area of destination since it has been found that number of public transport become in hence from this research it will going to address the challenges community face in public transport.

2 a) Statement of the Problem

Rapid urbanization is one of the reasons for the challenges that community faces in using public transport. As population continues to increase and as the city continues to sprawl, more people live and work in the city and make more trips within the urban area, often over longer distances. The population of the City is estimated at 410,956 people (NBS, 2012) with majority of people using public transport for their movements like going to work, school and home (JICA, 2008). Consequently, the limited Capacity of existing transport infrastructure is stretched to the limit and thus, it has become a constraint to cope with the public demand for travel. Since the basic problem in the study area are there is no ratio between the number of household who depends on the public transport with the number of commuter buses but also during the travel buses are not available at time and there is high waiting time of buses in the bus stop. This is like many cities in the developing countries and within the country like Tanzania Dar-es-salaam experiences a poor public transportation system. The existing public transport system is characterized by, congestion and delays, excessive gaseous emi ssions from vehicles, increasing road accidents, inadequate road infrastructure, poor vehicle condition, poor infrastructure for non-motorized modes, low bus fares insufficient to cover operating costs, poor cust omer services, and unc omfortable travelling conditions. Different studies have been carried out to investigate the challenges facing the community in using public transport similarly to several empirical studies such as Mlagara (**??**016

3 b) Significance of the Study

The study expects to provides solutions to community members toward s the challenges of public transport and hence the findings of this study will be provides the effects community members get while they use public transport which will be useful for the policy makers and service providers such as SUMATRA and EWURA to come up with the laws which will make a public transport as a user friend to the community members especial to those who depends on it. But also these findings will give the base of references to the other researchers who are interested in the public transport a pave way t o make further research on public transport.

4 c) General objective

To assess the challenges facing the community in using public transport especial in Nkuhungu ward in Dodoma city council.

5 d) Specific objective

i. To evaluate the availability of commuter buses for the passengers during their travel . ii. To examine the challenges facing passengers in using commuter buses. iii. To determine possible measures to overcome the challenges that community faces in using public transport.

6 e) Scope of the S tudy

The study will be conducted at Nkuhungu ward in Dodoma city council with aim of looking of the challenges community face in public transport in the study area and hence to identify the measures to resolve challenges faced by community towards public transport.

7 II.

8 Literature Review a) Theoretical Review

The Iceberg Theory and static theory (Samuelson 1952) bases the c ost of shipping on a relative price rather than relative quantity. In the words of David Hummels traditional "iceberg" formulation, transport is treated as an exogenous friction (r) that is fixed and proportional to the value shipped, with the value-added of transp ortation services treated as pure waste, or "melt". Krugman (1991a, 1991b) formulation of the iceberg transport of cost s is: This theory treats shipping markets as a static mechanism where a system of variables must link together supply and demand into balance. According to Hofstra University this model represent a well-functioning transport markets where supply meets transport demand. Most theories, which were dedicated in market's equilibrium, come from this static notion about shipping economy. A "stochastic process" is a random process changing with time. Directly, in probability theory, a stochastic process is a time-sequence representing the progression of some system characterized by a variable that varies as a subject of a random difference.

9 b) Empirical Review

Nelson (2013) on the study of traffic jam and its social impact, the case of Dar es Salaam city in Tanzania, The study employed a case study research design with the data series range from 2013 up to 1989 The result reveals that 100% of his respondent s agreed that they were aware of traffic jam since 76.1% of respondents use public buses (Daladala) as their primary mode of transport while only 23.9% use other means of transport such as train and private cars as their primary mode of transport and also the result implies that 58.7% respondents spend two to three hours on traffic jam daily while 19.6% respondents spend more than three hours on traffic jam .The study concluded that traffic jam has a greater impact on special groups of people such as pregnant women, especially

when they are on the way to give birth. The study suggested that, there should be a modern railway transport systems across the city to provide more transport options to the residents and also construction of flyovers and restricted policy at all main road junctions that face the problem of crossing from one side to another side.

Msigwa (2013) studies on Challenges Facing Urban Transportation in Tanzania, the study used time series data from 1973 to 2011 and use adopted literature review documents methodology. The findings reveals that, urban transp ort faces Parking difficulties, Vehicular growth, High frequency of Accidents in Tanzania urban centers, Environmental ,noise pollution and a new policy in Tanzania currently being under the assistant of the Department for International Development (DFID). Hence the study recommended that there should be a provision of traffic light at major junction of the cities and provision of off-street parking facilities according to the design of the city. Also government through ministry of work should maintain Regular maintenance of roads in cities and adopting restricted car use in some city areas.

Jill, et al (2017) assessed the public transportation an investigation of barriers for people with disabilities study with the time series data from 2015 to 2002.The study used a web survey, and use participatory approach methods through email invitation.

The results indicate three out of the top six barriers to public transportation experienced by people with disabilities were related to characteristics of the driver, inappropriate driver attitude, and driver's lack of knowledge. Alerting passengers about upcoming stops is a basic necessity for travel , and was reported as a barrier by more than 30% of respondents. The study concluded that physical and attitudinal barriers to public transportation are the major critical problem which affected people with a variety of disabilities. The study recommended that public transport vehicles they should equipped with stop signals and text that assist auditory disable people, a cell phone applications with GPS capabilities should be developed to provide feedback directly to the individual.

Mlagara (2016) using time series data from 1987 to 2013on impact of public transport system on the academic performance of primary school students in Dar es salaam, Tanzania. The study used a case study research design. And interview was used as a method of data collection. The finding reveals that students who use public buses said that they experience many challenges when travelling to and from school. The challenges include delays to reach their destinations because they have t o wait for the buses that are not scheduled. The study suggested that the government should make a close follow up to regulate the services provided by private bus owners especially on handling students who use these buses. Furthermore, Parents should register their children to nearby school from home so that they don't have to travel long distances going to school and returning home after school.

David (2014) studies on Challenges of Public Transport Service Provision in Rwanda with time data series from 2014 up to 1951. The study ad opted a case study research design and use questionnaires and interviews data collection method s. The findings reveals that there is various factors which public transport in Rwanda face such as challenges of public transport service provision to employees where 25% of respondents demand there is High taxes, 48.3% says there is Lack of clear rules and regulations in the industry, 12.5% says there is Political interference and 10% says there is High cost of investing and challenges of public transport service provision to commuters where 9.4% of respondents says The vehicle, usually break on the journey, 6.7% says there is Political interference, 11.6% says Reckless driving, 66.8% says Lack of clear rules and regulations by operators and government. The study recommended that there should be a clear employment regulation from the government aims to tame the high labor turnover in the sector and to review the lending policies of financial institutions so as to enable bus operators 'use their vehicles as collateral security to take loans.

10   III.

11   Methodology of the Study a) Study Area

The study was carried out at Nkuhungu ward in Dodoma City. The city of Dod oma i s located at the South Eastern end of the Tanzania Central Plateau at an elevation of 1,200 meters above sea level. The city is located at the geographical center of the c ountry on the vital central Railway line. The city lies between 4 to 7 degrees' latitude south of the Equator, and 35 to 37 degrees' longitude East of Greenwich. The city covers a total area of 2,576 km 2 . The topography of the city is mainly flat with some small, gently sloping hills (Brinkhoff, 2017). Nkuhungu is an administrative ward in the Dodoma Urban district of the Dodoma Region of Tanzania found in the southern part of Dodoma region with high number of recreations and offices and large number of household, according to the Majimbo (2016) Nkuhungu ward it has about 26,088 peoples that is highest number of population than any wards found s in Dodoma city council and hence due to high population the studied area become more preferable for conducting the research since it experience high public transport challenges regardless of having many public transport service providers.

12   b) Research Design

The study adopted cross sectional research design. Research design is the set of methods and procedures used in collecting and analyzing measures of variables specified in the research problem (Kothari, 2004).Cross sectional research design were used in the study to collect data from one point at a time from a selected permanent community members found at Nkuhungu ward . This design was applied due to limited resources like time and finance.

13 c) Data Ty pes and Source

The study involved qualitative data and quantitative data. Source of data was primary data source only. Qualitative data were expressed in terms of words and quantitative data were expressed in terms of numbers. A primary source was obtained direct from human p opulations which were the respondent.

14 d) Data Collection Method and Tool s

Method used was structured interview. While the tool used t o gather data from this study was questionnaire. Questionnaires were used to community members found at Nkuhungu ward. Selections of these method was considered since were able to provide reliable information's but also was time and cost effective compared to other methods.

15 e) Sampling of Respondents i. Sampling frameand sampling unit

The sampling frame of this study was the list of households lives at Nkuhungu ward while sampling unit of this study was individual household at Nkuhungu ward. The individuals' households were reliable and able to provide information's concerned the challenges that community faced in using of public transport but also effects and measured taken to overcome them.

16 ii. Sampling size

Sample size was specific number of items selected in the population (sampling frame) or, total population which was used . This included 96 respondents as computed below. The sample size was obtained by simple random sampling. The study was taken in five streets allocated at Nkuhungu. Selected respondents were under simple randomization and willing participated in the research. Kothari (2004).

Formula is:$?? = ???? \ 2 \ ???? \ 2 \ ?? \ 2$

Where:

? e is the desired level of precision (i.e. the Margin error), ? p is the (estimated) proportion of the population which has the attribute in question, ? q is 1 -p.

? $((1.96) \ 2 \ (0.5) \ (0.5)) \ / \ (0.1) \ 2 = 96$ Then a sample size was 96 respondents.

17 iii. Sampling procedures

Respondents were selected by simple random procedure from a list of all households at Nkuhungu ward. The list founded from ward, involved both levels of education primary, secondary, college and those who did not attended school. Also all genders c onsidered.

18 f) Data processing and analysis

The collected data was edited; classified, coded and summarized by using Statistical Package for Social Science (SPSS). Qualitative and quantitative data collected from respondents were summarized, coded, be analyzed and entered using statistic package for social science (SPSS) computer software used descriptive statistics to obtained means, frequencies, percentages and cross tabulations were used to obtain relationships between variables.

19 g) Limitation of the Study

There was a problem of language barrier, given that the respondents were not familiar and users of English language a researcher had to translate words from English language to Kiswahili so that respondent could attend to questions as a result it consume a lot of time in collecting data from one respondent to another. Most of the respondent s were not willing to give information. This was attributed to their insufficient knowledge and perception toward s community affairs. Unless assured the information will be confidential. The researcher used people who played as links to give the respondent confidence that it was confidential and will use for the purp ose of this research only as indicated in my inquiry letter and permit. Getting the permission to be allowed to carry out the study was another challenge.

IV.

20 Results and Discussion

21 a) Demogra phic Informati on

The respondent who participated in the study was asked to provide information concerns with their gender, marital status, level of education and age. It was important to have this information so as to know a profile of a respondent . The findings from Table 1 show that, the age of respondents classified into four group s. 63(65.6%) respondents were between 16-30 ages, 26(27.1%) respondents were between 31-45 ages, 4(4.2%) respondent were between 46-60 ages and 3(3.1%) respondent were between 61-75 ages. Half of respondents were female 63(65.6%) and 33(34.4%) were male respondents. This confirm that majority of respondent age is between 16-30.Also

female respondent were many compared to male that shows female were more corporative about 63(65.6%) female respondent participated. The findings in Table 2 show that, 45(46.9%) respondents were single, 47(49%) respondent s were married, 2(2.1%) were separated and 2(2.1%) were widow. Education level of respondent s are as follows 44(45.8%) were primary level, 35(36.5 %) were secondary level, 12(12.5%) respondent were college level and 5(5.2%) were not attended school. This revealed that many women respondent are married 49%, followed by single respondents 46.9%. Separated and widow respondent who participated 6%. In education many of respondents ended up at primary level 45.8% and 5.2% had not attended any school. From Table 3 reveals that, ab out 66(68.8%) respondents said that availability of commuter buses is good, 2(2.1%) respondent bad availability of commuter buses,1 (1.0%) very bad availability of commuter buses while 27(28.1%) respondent said moderate availability of commuter buses. So this implies that in Nkuhungu ward there are many commuter buses despite of the population to be so high as information given shows 68.8% agreed there are many buses in the ward and 1.0% disagreed that there are many buses in the ward . respondent s, unnecessary bus stop 7(7.29%) respondents, violence 10(10.42%) respondents, few buses during evening 7(7.29%) respondents while changing route 6(6.25%) respondents. This implies that many commuter bus service provider they do not communicate good with their customers use of abusive language and jargon words, al so the buses use long time waiting for passengers to come and fill in the sits .The problem of over carrying passengers looks like a big challenge to passengers as caused congestion and air bone diseases instead of carrying level sit. From Table 4 findings difference with David (2014) on challenges of public transport service provision in Rwanda were by 25% respondent demand there is high taxes, 48.3% lack of clear rules and regulation, 12.5% political interference were the challenges that Rwanda faces in using public transport. The information presented on Table 5 indicates the suggested possible measures that respondent thought would reduce the challenges that community faces in using commuter buses Education and training 24(25%)resp ondents suggested, Building bus stop near community 4(4.17%) respondent, Laws and policy enforcement 10(10.42%), Good communication 12(12.5%) respondents, Standard s carrying capacity 10(10.42%) respondents, Increase public transport 6(6.25%) respondents , Increasing night routes 9(9.38%) respondents. Giving out ticket 8(8.33%) respondent s, Good customer care 13(13.54%) respondents. This implies that the trainings and education are the most important things to do 25%respondent suggested and good customer care 13.54% of respondents. The building of bus stop only 4.17% resp ondent addressed it while there is big need of building bus stop because are few and far from community. Table 5 revealed difference measures how to overcome challenges that community faces during using public transport while David (2014) on challenges of public transport service in Rwanda suggested that 50% respondents formulate transport policy, 5% provision of loans to investors, 4.2% creation of public employment association, 5.8% training employee and 35% government should allow fair completion. Information provided by the Table 11 shows that, the effects that community faces in using public transport. Stolen of properties 16(16.67%) respondent s, Late to work and school 5(5.21%) respondents, Time wastage 25(26.04%) respondents, Accident 5(5.21%) respondents, Loss of money 9(9.38%) respondent s, Diseases 8(8.33%) respondents, Conflicts 10(10.42%) respondents and Congestion 18(18.75%) respondent s. This revealed wastage of time is one among big effect that many passengers faces about 25(26.04%) respondent address it as many commuter buses use long time to arrive at the destination. Student and workers are being late to school and work 5(5.21) respondent addressed that. This result contrast with Mlagara (2016) on impact of public system on academic performance of primary school student in Dar es Salaam only showed one effect that student face late to school but failed to look into other field while Table 11 revealed that all people involved not only student and other effects were analyzed so that the difference.

22   V. Conclusion and Recommendations a) Conclusions

The study was to assess challenges that community faces in using public transport specifically commuter buses. The study reveal s that they were challenges facing the community in using public transport especial in Nkuhungu ward in Dodoma city council, since there is a big number of population in the wards that not all of the population have equal access to public transport as many of bus stop being far from community and other challenges such as bad communication 17 (17.71%) resp ondent, over carrying capacity 16 (16.67%) respondents, poor customer care 12 (12.5%) respondents. Also faces several effects while using this public transport of commuter buses such as Time wastage 12(12.5%), stolen and crimes 16(16.67%) and congestion 18(18.75%) Al so there were number of possible measures that respondent s addressed such as education and training 24 (25%), law and policy enforcement 10 (10.42%) and good customer care 13(13.54%).

23   b) Recommendations

i. The service providers and their crew should wear uniforms to avoid confusi ons and misunderstandings. Al so they should give out tickets to their customers so as to safety of the luggage and clear amount of bus fee, routes and bus plate number. This will reduce unnecessary loss of properties and ensures good customer care. ii. The ministry of home affairs and Sumatra should review their laws and policy and enforce them. Presence of laws and policy would govern the service providers to be efficient and effective with their works. This will assure safety of the commuter buses users. iii. Dodoma city councilor, Sumatra and other stakeholders should increase bus stop and construct bus stop near the community which bus stop are so far from the households at list 100 m after each bus st op this will reduce some of criminal issues that community members faces and reduce some

331 costs like taking public motorcycle up to the bus stop for one thousand s. iv. Training should be provided to the
332 service providers and their crew by stakeholders and owners of the buses concern with how to provide service,
333 work ethics and owners of the buses they must provide full time employment t o physical, mental and health
people.

1

Variable

Figure 1: Table 1 :

2

Variable

Figure 2: Table 2 :

3

Variable	Frequency (n %)
Good	66(68.8)
Moderate	27(28.1)
Bad	2(2.1)
Very bad	1(1.0)
Total	96(100.0)
	Source: Author's Compilation from SPSS Version 22.

Figure 3: Table 3 :

334

4

Variable

Figure 4: Table 4 :

5

Variables

Figure 5: Table 5 :

6

Variables	Frequency (n %)
Stolen of properties and crimes	16(16.67)
Late to work and school	5(5.21)
Time wastage	25(26.04)
Accident	5(5.21)
Loss of money	9(9.38)
Disease	8(8.33)
Conflicts	10(10.42)
Congestio n	18(18.75)
Total	96(100.0)
	Source: Author's Compilation from SPSS Version 22.

Figure 6: Table 6 :

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