

Road Accidents in Urban and Rural Areas

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Abstract: Motorcycles transport commonly known as (Boda boda) in Tanzania has been growing up in the recently years in both urban and rural areas. Since motorcycles transport being authorized to carry passengers in the Tanzania it has been associated with many accidents resulting to large number of deaths and injuries in the country. Most of the Road Traffic Injuries victims are passengers, motorcyclists and pedestrians. Males are over represented in all causes. Most of the deceased were 18-29 years old. The major social-economic benefit of this study was to found out the main causes and measures of reducing the number of accidents associated with motorcycle transport service in both urban and rural areas.

Key words: Motorcycles, accidents, fatal, injuries, Tanzania.

1. Introduction

Road traffic injuries claim more than 1.2 million lives each year and have a huge impact on health and development. They are the leading cause of death among young people aged between 15 and 29 years, and cost governments approximately 3% of GDP. Despite this massive and largely preventable human and economic toll, action to combat this global challenge has been insufficient. The third Global status report on road safety shows that low and middle-income countries are hardest hit, with double the fatality rates of high-income countries and 90% of global road traffic deaths. Vulnerable road users – pedestrians, cyclists and motorcyclists – make up half of these fatalities, by WHO Global Status on Road Safety, 2015 Report) [1, 2].

Motorcycles transport commonly known as (boda boda) in Tanzania has been growing up in the recently years in both urban and rural areas. This means of transport has been used by a large number of people in the country due to the facts that it is the fastest means of transport for someone to reach anywhere. Up to June 2014 the number of motorcycles that has been registered was about 1.2 million and currently it's

about 1.5 motorcycles been registered in the country.

2. Country Profile

Tanzania is an East African country about 5° south of the Equator with a population of about 45 million in 2012 (National Bureau of Statistics, March 2013) [3-8]. Tanzania is a relatively large country located in East Africa with a total area of 945,087 square kilometers. Tanzania has 30 administrative Regions as well as about 128 districts.

3. Study Area

The study was conducted in Dar es Salaam region (Tanzania), where most of people use this mode of transport. The population of Dar es Salaam is 4,364,541 according to the official 2012 census, increasing at 5.6 percent per annum from 2002 to 2012.

Study was conducted in three representative districts (Kinondoni, Ilala and Temeke) within Dar es Salaam region. The selected districts are well known in the use of motorcycles transport service. A large number of respondents involved in the study areas are those who engaged in providing the service (motorcyclists) and the users of the service (passengers).

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Fig. 1 Tanzania Map.

Table 1 Districts of Dar es Salaam Region and its population.

District	Population (2012)	Area km ²
Ilala	1,220,611	210
Kinondoni	1,775,049	527
Temeke	1,368,881	656
Total	4,364,541	1,393

4. Methodology

The study used both qualitative and quantitative methods of research by conducting physical surveying on sample districts. A cross-section descriptive study was conducted from June to September 2014 whereby different people interviewed using structured questionnaire. The Data obtained was entered into a statistical package for social studies (SPSS) program (version 15) for clearing, coding and statistical analysis [2].

5. Formulae

The study covered 289 people obtained through sampling techniques calculated by using single

population proportion formula,

Formula

$N = Z^2 p (1-p) / E^2$ whereby, N = is the minimum sample size required

Z = 1.96 at 95% confidence interval

E = is a margin of sampling error rate 5%

P = Proportion of motorcycle crash accidents victims (25%)

Substituting these values to the equation above; $N = 1.96^2 * 0.25(0.75) / (0.05)^2$; N= 289

6. Findings

This study found that, most of the crashes occurred between motorcycles and motor vehicles were (70-80%) compared to other studies shows (50-55%). Crashes between motorcycle and motorcycle are of (10%) compared to other studies shows (7%), motorcycles and pedestrian (5%) compared to other studies shows (10%), lone motorcycle (5%) compared to other studies shows (11%), motorcycles and bicycles (5%) compared to other studies shows (3%).

Table 2 Motorcycle accidents occurred in Tanzania from January 2015 to June 2015 compared with accidents occurred from January 2014 to June 2014.

Year	No. Accidents	No. Deaths	No. Injuries
2015	4079	1747	4826
2014	3170	1423	3622

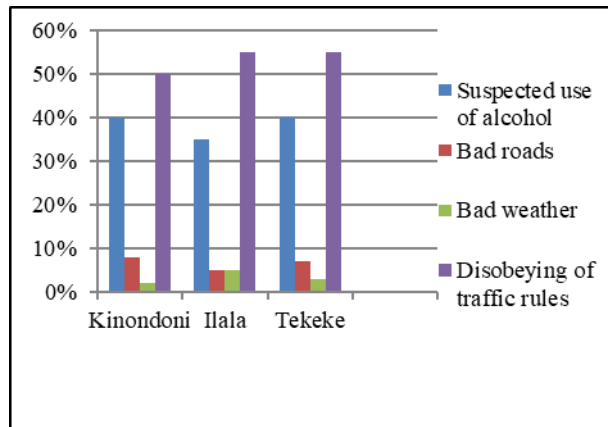


Fig. 2 Contribution factors to motorcycle accidents.



Fig. 3 Accident caused by the behavior of carrying overloaded luggages.

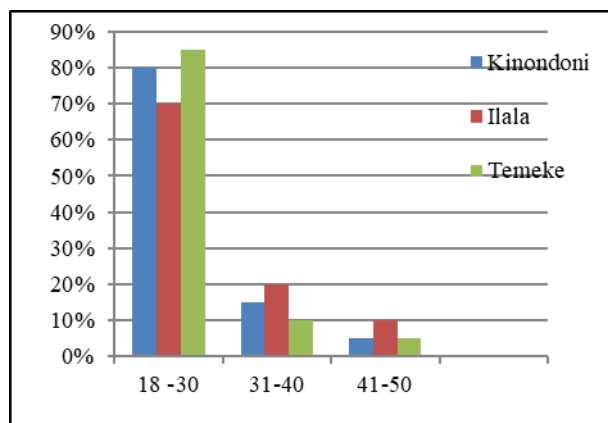


Fig. 4 Age group of motorcyclist's v/s the percentage of accidents associated.



Fig. 5 Motorcyclist behavior of carrying more than one passenger and without helmets.

Table 3 Motorcyclists with riding license and without license.

	Kinondoni	Ilala	Temeke
	(%)	(%)	(%)
With license	60	70	50
Without license	40	30	50



Fig. 6 Accident mechanism; Motorcycle - Motor vehicle Crash.

7. Issues Impacting Road Safety in Most Developing Countries

Lack of enforcement on road traffic laws and regulations.

- Speed management, which lies at the heart of an effective approach to reducing deaths and injuries, is notably poor in many countries.

- Lack of road safety education to road users
- Fake licenses "A lot of fake licenses"
- Corruption

- Lack of education for operators
- Roads are not perceived as dangerous
- Lack of accident registration (Data Collection and Management)
- Roads continue to be designed and built without sufficient attention to the needs of the most vulnerable road users.

8. Conclusion

Road traffic injuries and deaths place a heavy burden on national economies as well as on households. In low- and middle-income countries, they particularly affect the economically active age group, or those set to contribute to family, society and the workforce in general. Unfortunately, road safety has not been taken as a serious issue. Probably these problems seem to be more urgent or important but if we analyze the cost related to the victims, or serious injured people that will not work anymore or may be depending on the government helps to live due to the consequences of the accidents, the road safety topic becomes more important than they originally thought.

9. Recommendations

Strictly enforcement of road traffic laws that instruct the riders to attend pre-riding courses and to make assurance that they have been tested by traffic police before possessing a riding license.

Conducting several checks on alcohol use to motorcyclists during riding.

Initiate road safety education to road users.

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