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A Review of the Motorcycle Phenomenon on Levelihoods in Eldoret and Kakamega Municipalities

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Abstract
Commercial motorcycle taxi has emerged as an important mode of road transport in many developing countries. In Kenya, it is only in the last one decade or so that this mode of transport, known popularly as boda boda gained prominence following a shift in economic policy geared towards reinvigorating growth. In this paper, we reviewed the phenomenal emergence of this mode of transport in Kenya using data from two urban areas – Kakamega and Eldoret municipalities, both located in Western part of the country. We focused specifically on earnings from the enterprise, ownership structure and the mode of operation. It has been established that the informal commercial motorcycle operation is an important source of livelihood to many poor urban households as it brings in a steady flow of daily income both to operators and motorcycle owners who happen to rent out their motorcycles. The boda boda operations also creates employment opportunity to many unskilled urban labour and further job opportunity to informal sector workers who wish to switch jobs in search of higher rewards. Boda boda business can be done on full-time or part-time basis. Those who work on full-time basis accounted for 82.1 percent while those who work as part-time operators accounted for 17.9 percent. The paper recommends further research on this informal transport sub-sector along rural-urban divide to ensure a more targeted approach aimed at improving livelihoods and eradicating poverty among the youth and other economically disadvantaged groups such as women.

Keywords: Earnings, Ownership Structure, Mode of Operation, Boda Boda

Introduction
In much of sub-Saharan Africa, as in many parts of the developing world, commercial motorcycle taxis - still largely informal (Mutiso & Behrens, 2011; Cervero, 2000), have lately emerged as popular mode of transport both for passengers as well as for ferrying goods (Arosanyin, 2010; Raynor, 2014; Singoro, Wakhungu, Obiri, & Were, 2016; Starkey, 2016; Yakubu, 2012). This is true in both rural and urban areas of these countries (Starkey, 2016).
Motorcycle taxis have several advantages that make them suitable for both rural and urban set-ups compared to other forms of motorized road transport (Starkey, 2016). Many rural areas in sub-Saharan Africa have poor road networks, hindering access to public (Yakubu, 2012). People have to walk and goods moved over considerably long distances to get to the nearest road to access public transport (Yakubu, 2012). Lately, the emergence of informal commercial motorcycle taxis has tremendously reduced this burden. In describing the impact of this mode of transport, Starkey (2016) aptly notes:

Motorcycles can generally be called by mobile phone, allowing timely point-to-point services. They also can travel along footpaths and tracks, and across small bridges. This means they effectively bring road transport services to villages and households living away from the road. (p. 6)

Despite being served by better and modern road network, relative to the rural areas, urban areas of many developing countries suffer from the problem of traffic congestion. The conventional motorized mode of transport consisting of cars, buses, mini-buses, tracks, pickups and lorries, are generally very slow on the high-volume urban roads (Yakubu, 2012). In these circumstances, motorcycles, with lower levels of compliance to traffic laws have the advantage of being timely, faster and affording point-to-point journeys (Starkey, 2016).

In Kenya where both rural and urban transportation is highly erratic, the use of ‘boda boda’, a corruption of the English phrase ‘border to border’ has become the norm. The motorcyclists have become innovative both in usage and approach to their trade. For instance, deep inside rural and peri-urban areas where feeder roads are near non-existent or poorly maintained the ‘boda boda’ operators have become the only reliable providers of transport. This is so, whether the task at hand is taking children to school, ferrying laborers to work (sometimes carrying up-to five passengers at a go) and most vitally being reliable as the “village ambulance” to respond to serious medical emergencies. What is more, it has also been noted that the motor bikes sometimes ferry freight of astronomical weights - weights of about 500 kgs have been reported as having been ferried by the ‘boda boda’ operators. Overall, the informal commercial motorcycle taxi has in many ways revolutionalised the transport system in Kenya in recent decades.

At initial stages bicycles were a major means of transport in Kenya. Motor bikes gained prominence in the last one decade due to inadequate transport services and deteriorating infrastructure, which have frustrated people especially farmers’ inability and efforts to transport and market their farm produce. This is particularly so in rural and peri-urban settings and has been with serious consequences (Kaumbutho, 2013)

A major turning point in the revolution of transport in Kenya occurred in 2006, when the government zero rated the importation of cheap and affordable motor cycles as a way to enable low income households buy and operate them (Mutiso & Behrens, 2011; Government of Kenya, 2003). This was part of an attempt to address poverty issues, unemployment problems among the country’s youth and to ease transport problems in rural areas (Singoro et al., 2016). This policy has certainly yielded a great deal of good results. Official government figures show that imports

1 Authors’ observation during the survey.
of motorcycles have grown with leaps and bounds. For instance, new motorcycles registered in Kenya were 91,151 in 2009. In 2013, there were 125,058 new motorcycles registered, representing an increase of 33,907 units (37.2%) over the 2009 figures (Government of Kenya, 2014).

As stated in its executive summary, Kenya’s economic policy blue print since 2003, Economic Recovery Strategy for Wealth and Employment Creation 2003-2007 states:

The central focus of the Plan is job creation through sound macroeconomic policies, improved governance, efficient public service delivery, an enabling environment for the private sector to do business, and through public investments and policies that reduce the cost of doing business. The Plan also includes an equity and social-economic agenda focusing on reducing inequalities in access to productive resources and basic goods and services.

The response to this economic stimulus has been immense. Thus other than improving accessibility to all areas, the informal motorcycle taxi mode of transport plays an immense role in employment creation and income generation for millions of both urban and rural households (Singoro, et al. 2016).

However, empirical studies that can support these claims and also shape the wider policy debate and agenda for this transport sub-sector are still lacking in Kenya. In the wider East African sub-region, research focus has tended to pay greater attention to organizational structures (e.g. Raynor, 2014), motorcycle traffic safety and regulation issues (e.g. (Raynor, 2014; Howe & Davis, 1999; Starkey, 2016). Conspicuously lacking in this emerging body of literature, particularly in Kenya, is a discourse on the earnings, employment creation, ownership structures and gender relations associated with ‘boda boda’ operations.

A recent empirical study for a sample of sub-Saharan African (SSA) countries and Small Island Developing States confirmed the long accepted thinking that transport capital has been a contributor to the economic progress of these countries. The analysis also revealed that, in the case of SSA, the productivity of transport capital stock is superior as compared to overall capital (Arosanyin & Olowosulu, 2011). As such, sustainable development cannot be realized without a reliable, efficient, safe and cost-effective transport system.

In the West African region specifically, a lot more studies have been conducted focusing on earnings from and employment generation by motorcycle taxis (e.g. Arosanyin & Olowosulu, 2011; Yakubu, 2012). Though important, these studies are not specific to Kenya and do not also, make it clear who actually benefits. There is for instance an intricate relationship between ownership of the motorcycles and earnings. Earnings do accrue to both owners who do not operate their motorcycles but rent them out. There are also the owner-operated motorcycles. Some owners are also women. Women generally do not operate motorcycles. Disaggregating the earnings according to these categories is important for targeted interventions in the sector for purposes of economic empowerment and achievement of sustainable livelihoods for the poor.

The objective of this paper therefore, is to examine the influence of the phenomenon of the informal commercial motorcycle taxi (boda boda) operations in urban livelihoods in Kenya. It
focuses specifically on earnings from the enterprise, associated operational structures and gender relations both in terms of operation and ownership.

The rest of this paper is organized as follows: in the following section we review relevant literature; in section 2 we present the methodology of the study, while section 3 contains empirical results and discussion. The penultimate section contains our conclusion and recommendation for further research.

Methodology

Study Sites
To achieve the objective of this study, we conducted a cross-sectional survey of \textit{boda boda} operators and owners in two of Kenya’s major towns in Western region of the country, Eldoret and Kakamega. Kakamega was chosen as a site for this study because it is among the very first towns in Kenya to register large numbers of \textit{boda boda} operators. Its closer proximity Busia town on the border of Kenya and Uganda may have contributed to this. It is noteworthy that the \textit{boda boda} business started much earlier in Uganda before spreading to Kenya. In its infancy in Uganda in the 1960’s, the bicycle rather than the motorcycle was the mode in use (Howe & Davis, 1999; Mutiso & Behrens, 2011).

Eldoret town on its part was chosen because like Kakamega it is served by an International Highway that runs into Uganda. Moreover, it is the largest urban centre in Uasin Gishu County, North Rift, which also borders Kakamega County, where Kakamega town is located. The choice of the two towns, both of which are also county headquarters, thus brought into the study a necessary diversity in terms of geographical and socio-economic differences and uniformity in terms of their location on International Highways.

Data Types and Collection Methods
We employed a mixed methods approach to both data collection and analysis. The method is characterized by use of both qualitative and quantitative research procedures in collecting and analyzing data. Creswell (2003) indicates that mixed methods research, as a distinct approach is relatively new in humanities and entails employing strategies of inquiry that involve collecting data either simultaneously or sequentially to best understand research problems.

The data collection also involves gathering both numeric information as well as text information so that the final database represents both quantitative and qualitative information (Creswell, 2003). Both qualitative and quantitative methodologies were used for this study. Data was analysed using SPSS computer software version 21.0. A p-value of 0.05 was considered statistically significant.

Empirical Results

Descriptive Statistics
The survey shows that all commercial motorcyclists were male with average age of 31 years. The minimum age was 18 years. About 91.8 percent of the operators were between the ages of 18 and 40 years. About 70 percent are married with mean household size of 6.53. The mean
experience on the job was computed at 52.8 months. The operators work on the average of 13 hours a day.

a) License Owning
Far fewer operators (20%) are licensed compared to 80% who are not licensed.

b) Earning per Hour (Mean Kshs. 300 USD 3)
Commercial motorcycle operation provides employment and earnings to two categories of people. The first category comprises those who are involved in the direct operation of the motorcycles (the commercial motorcycle riders). The second comprises those who have a fleet of motorcycles which they rent out for a fee of Kshs 400.00 daily per motorcycle. For this category, the more motorcycles rented out, the higher their earnings. This paper focuses on the first category.

c) Mode of Operation
There are two types of operators: those who work as fulltime commercial motorcyclists and those who work as part-time operators. Those who work on fulltime basis accounted for 82.1 percent while those who work as part-time operators accounted for 17.9 percent. One striking feature of employment in this informal transport mode is the fact that only 21.7 per cent took to it as their
new job while the rest switched job to informal transport operation. The distribution of previous occupation engaged in shows that 26 per cent were into farming; 18.7 per cent were informal sector artisans; 29.3 per cent were into trading (buying and selling); 21.7 per cent had no job at all while 4.3 per cent were in jobs outside those mentioned above.

d) Ownership of Motorcycle
Due to poverty and inability to acquire motorcycle on their own, about 63.6 percent of the operators use rented motorcycles. Only 44.4 percent have motorcycles of their own, which are used as owner-operator. The distribution of the sources of rented motorcycles shows that commercial rental accounted for 67.2 percent while the combination of family and relations accounted for 32.8per cent. The rent paid provides income to the owners on daily basis. For rented motorcycles, the operator after paying the rent is responsible for fuelling it for operation. Whatever he earns belongs to him. Major repair costs are borne by the owner and not the user.

Earnings among Operators
The result of the stepwise regression of determinants of earnings among commercial motorcycle operators is shown in chart a. The use of log earnings per day yielded three significant factors namely: household size, operation hours and experience, which are all positive. The signs conformed to a priori expectations.
a) Earning (Mean) Kshs 300 or USD 3.

The use of log earnings per hour however, yielded only two significant variables which are household size and experience. The above results show that earnings are positively related to experience. This is due to the fact that the number of trips is a function of knowledge of commuters; and established customer base which develop over time. Also operators with long experience seem to enjoy more patronage for security reasons. In the case of household size, it depicts responsibility factor. Given that commercial motorcycle operation is done on full time basis, operators with larger households tend to be safety conscious and maintain their motorcycles to avoid loss in their earnings stream.

b) Log Earnings

| Variables          | Earnings Kshs 700 | Earning per Hour Kshs 30 |
|--------------------|-------------------|-------------------------|
| Household size     | 0.069 (3.606)     | 0.070 (3.706)           |
| Operations per Hour| 0.064 (3.159)     |                         |
| Experience         | 0.003 (2.316)     | 0.003 (2.021)           |

The probability that a motorcyclist would earn at least Kshs. 700 per day, which is equivalent to informal sector daily earnings, given that he rented his motorcycle, operated on part-time basis, has no driver’s license and not being a member of the motorcycle union is 0.2849. The probability that a commercial motorcyclist will earn at least Kshs 700 daily given that he owns the motorcycle, operated on full time basis, has driver’s license and also a member of the union is estimated at 0.8118. The above worst and best case scenarios were estimated by holding household size, experience and hours of operation at their mean levels. The implication of the above is that even if you left an informal sector job for the motorcycle business to take advantage of earnings, the probability of earning above informal sector daily average will be low except if you own your motorcycle; have driver’s license; work on full time basis; and you belong to a motorcycle union.
Boda boda trade is older and well organised in Kakamega municipality than in Eldoret and as such a number of older people in their 40s are operating this business in Kakamega. Operators in Kakamega municipality generally work for longer hours than their counterparts in Eldoret town, working for up to 14 hours a day. In Kakamega municipality some boda boda operators wear uniforms for identification.

The Motor bikes are designed to carry only one passenger at a time but some carry two passengers especially when the other passenger is a younger person, with him or her sitting on the crossbar. Goods weighing 500 kgs have been seen on boda boda, in which case the operators can only push the Motor bikes. Generally, women are the main customers of the boda boda industry, yet very few women are actually operating boda boda as drivers. Transport charges are regulated by associations, and are based on distance and whether it is a person or goods. Goods will normally fetch a higher charge. In Eldoret, it costs approximately Kshs 30 to move a person a distance of 1km and Kshs 50 in Kakamega municipality. There are seasonal variations in charges with fares going up during rainy seasons. Boda boda provides an average income of Kshs 700 and Kshs 300 per day in Eldoret and Kakamega municipality respectively. Eldoret has fewer number of boda boda operators and hence the competition is low, bringing higher returns compared to Kakamega municipality. Incidentally, many boda boda operators do not consider themselves as employed despite the fact that they earn more than most lower-cadre civil servants and farm workers.

The maximum distances covered per day range from 70 km in Kakamega municipality to 30 km in Eldoret. The distance of 70 km is actually composed of many short trips along the Kakamega municipality highway which is relatively flat and the road is in very good condition. Off-road tracks are normally undulating and rough and hence distance covered along such tracks is limited.

Results from expert interviews in both municipalities revealed that early marriages in Kakamega municipality are rampant among young boda boda operators compared to Eldoret, and so is HIV/AIDS, and these problems have been attributed to cross-border trade and boda boda business. Paradoxically, women who are married to boda boda operators complained about their husbands’ loss of libido, which on the other hand attributed their lack of sexual condition to long hours of hard work, which made them to be too tired to be interested in sex. Other ailments include frequent bouts of pneumonia and chest pains.

Discussion
Three major implications are discernable from the analysis above. First, the informal transport sub-sector has been shown to be an employer of urban unskilled labour. The shift from other informal jobs to boda boda does not guarantee earnings above the informal daily average except when some conditions such as ownership of motorcycle, acquisition of driver’s license, membership of union are met.

Second, using the Mincerian equation based on the log of earnings did not bring out the significance of education in this informal transport mode. The categorization of earnings using binary response provided a clue to the effect of levels of education on earnings.
Thirdly, safety factors were found not to be significant in determining earnings except license holding. It shows the risk taken by users. The users care less about issues such as Highway Code awareness of operators, use of safety helmet, etc. The improvement of earnings in this job will depend mainly on government commitment to regulations of their activities in the areas of driver’s licensing, usage of crash helmet, etc. Secondly, the government should not only regulate but make adequate provision for their operations by moving from the mixed traffic notion to segregated traffic in road design and construction.

**Conclusion**
This paper has examined the phenomenon of the informal commercial motorcycle taxi (*boda boda*) operations in urban Kenya with a specific focus on its net effect on earnings to households, associated operational structures and gender relations both in terms of operation and ownership. It has been established that *boda boda* operations serve as a source of income to many households, both that own motorcycles and those that rent them form the owners. It is therefore an important source of livelihood to many urban households. It has also been established that commercial motorcycles operations creates employment for jobless unskilled labour and job opportunity for informal sector workers switching job for improved earnings. There is the need for further research on informal transport earnings especially along rural-urban divide to ensure a more targeted approach aimed at improving livelihoods and eradicating poverty among the youth and other economically disadvantaged groups such as women.
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