The Influence of Ineffective Governance on the Motorcycle Sector in the Transport Industry in Kenya

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ABSTRACT

The history of paratransit public transport in Kenya can be traced back to the illegal trans-border trade between Kenya and Uganda at Busia town in the early 1960s. From the mid-2000s there has been unprecedented rapid growth of motorcycles as a form of public transport in Kenya. However, the motorcycle sector has remained loosely governed despite its continued prolific growth and numerous benefits to the population. Therefore, this study sought to examine the influence of poor governance on the motorcycle sector in the transport industry in Kenya. The study was guided by four specific objectives: To establish the influence of unfair policies on motorcycle sector in the transport industry in Kenya; to determine the influence of poor economic growth on motorcycle sector in the transport industry in Kenya; to assess the influence of equity and inclusiveness on motorcycle sector in the transport industry in Kenya; and to establish the influence of efficiency and effectiveness on motorcycle sector in the transport industry in Kenya. The research design adopted for the study was a qualitative meta-analysis of the literature on the governance of the transport sector in Kenya retrieved from online databases. The researcher, guided by the four study objectives, did a systematic synthesis of over thirty (30) existing literature on transport and mobility in SSA (*see references*) by searching and retrieving relevant literature from Kenya and other countries from major electronic databases including Google Scholar, JSTOR, ProQuest, PubMed, ISI Web of Knowledge, Science Direct, and EBSCO, among others. In addition**,** unpublished materials in Kenya and other SSA countries were also used, as well as journals in transport history, sociology, geography and other related disciplines.

Keywords: Public Transport; Motorcycle Transport; Transport Governance; Mobility in Sub-Saharan Africa; Paratransit in Kenya; Sustainability of Motorcycles.

INTRODUCTION AND BACKGROUND INFORMATION

Public transport systems in contemporary Sub-Saharan Africa (SSA) have undergone significant changes in recent decades and SSA countries are heavily reliant on paratransit services (Behrens, McCormick, Mfinanga, 2016). This is because public transport services in Sub-Saharan have had challenges in recent decades and this has been attributed to the disappearance of the large State companies and the overwhelming development of the informal sector with its many different actors (Diaz Olvera et al., 2012). Mostly, the sector is composed of privately owned and operated means of public transport that include *matatus*, motorcycles *(popularly known as boda boda*), bicycles, and tricycles (*tuk tuk*).

These transport services are private services operating in the public sphere, and among them, the use of motorcycles is growing rapidly in different countries in the world (Kumar and Barret, 2008). This is due to the global increase in motorization particularly in low and middle-income countries, and the disorganized

and inefficient transport systems in many developing countries. Porter, et al., (2020) observe that urban incomes have increased and there are more new and second-hand vehicles in the market. This has led to exponential growth in traffic in these countries. This is mainly when governments reduced or removed the taxation on imports for example in motorcycles in Kenya. This is one of the reasons for the increase of motorcycles in Kenya.

Motorcycle taxis offer an innovative alternative transport for many in the world. The only difference is whether the motorcycle is used privately or commercially. Generally, in the Global North, most motorcycles are for leisure while in the Global South, their use is either for personal or commercial transport. In some SSA cities like Niamey (Capital City of Niger) and Bamako (Capital City of Mali), motorcycles are used for private transport (Pochet, 2017); while in Kenya, Uganda and Rwanda, they are used mostly for commercial purposes. Within SSA countries, the adoption and use of motorcycles has become very popular and they are known by different names. In Doula Cameroon, for example, they are referred to as *bendskin;* in Uganda and Kenya they are known as *boda boda;* in Benin, they are known as *zemidjan*; in Niger *kabu-kabu*; in Nigeria *okada* or *alalok;* and *oleyia* in Togo.

Notably, there has been an evolution from a well-regulated and organized public transport system to an unregulated system dominated by paratransit over the years and this was not a conscious decision to deregulate the public transport in most SSA countries but rather an innovative response to a growing demand for transport. This commercial opportunity arose due to the failure of state-owned public transport initiatives (Kumar, 2020).

Statement of the problem

Motorcycle taxis offer an innovative alternative transport for many in the world either privately or commercially. Generally, in the Global North, most motorcycles are for leisure while in the Global South, their use is either for personal or commercial transport. In some SSA cities like Niamey (Capital City of Niger) and Bamako (Capital City of Mali), motorcycles are used for private transport; while in most Sub-Saharan countries like Kenya, Uganda and Rwanda, they are used mostly for commercial purposes. The history of paratransit public transport in Kenya can be traced back to the illegal trans-border trade between Kenya and Uganda at Busia town in the early 1960s. From the mid-2000s there has been an unprecedented rapid growth of motorcycles as a form of alternative public transport in Kenya because of the historical lack of efficient public transport.

However, the motorcycle sector has remained loosely governed despite its continued prolific growth and numerous benefits to the population. Although it is apparent that the growth of motorcycles as a popular alternative was not planned for, it is an innovation that meets the mobility needs of many people in Kenya and should therefore be systematically studied to propose practical remedies. Therefore, this study sought to examine the influence of poor governance on the motorcycle sector in the transport industry in Kenya in a bid to fill in the existing dearth of scholarly literature in this area.

Study objectives

The study was guided by four specific objectives as follows:

1. To establish the influence of unfair policies on the motorcycle sector in the transport industry in Kenya
2. To determine the influence of poor economic growth on the motorcycle sector in the transport industry in Kenya
3. To assess the influence of equity and inclusiveness on the motorcycle sector in the transport industry in Kenya
4. To establish the influence of efficiency and effectiveness on the motorcycle sector in the transport

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industry in Kenya

THEORETICAL FRAMEWORK

This study was guided by the propositions of the Path Dependency theory. As reviewed by Lindamood (2023), Path Dependency theory is an economic and social science concept that argues that although the development of institutions and technology depends on organizational structures, beliefs, and values, it also incorporates the role of history, positing that the role that history plays is crucial to understanding organizational behaviour, how institutions work, and how technical standards develop. Accordingly, the key premise underpinning this study as borrowed from the tenets of this theory was that the historical emergence of the motorcycle transport sector in Kenya over the years affects how the sector has continued to grow and develop, how constraints in the governance of the industry have continued to manifest, and what form management of those constraints has continually taken. Path dependency can have a significant effect on politics, policymaking, decision-making, and economic and market development (Lindamood, 2023). Also, as opined by this theory, it was evident that Path Dependency effects were visible from small-scale technical standards in the motorcycle sector in Kenya to large-scale national institutions and patterns of economic development. As such, the role that history plays is crucial to understanding organizational behaviour, how institutions work, and how technical standards develop.

RESEARCH METHODOLOGY

This was a qualitative meta-analysis study that adopted desktop research to rigorously review secondary data to inclusively describe the phenomenon under investigation. Hammersley (2020) supports qualitative meta-analysis as a great research design as it allows more interpretive than aggregative systematic review of data. The researcher, guided by the four study objectives, did a systematic synthesis of over thirty (30) existing literature on transport and mobility in SSA (*see references*) by searching and retrieving relevant literature from Kenya and other countries from major electronic databases including Google Scholar, JSTOR, ProQuest, PubMed, ISI Web of Knowledge, Science Direct, and EBSCO, among others. In addition**,** unpublished materials in Kenya and other SSA countries were also used, as well as journals in transport history, sociology, geography and other related disciplines.

STUDY RESULTS

The study findings are as presented in the following two subsections, 4.1 and 4.2, based on the study objectives.

Factors impeding proper governance of the motorcycle transport sector in Kenya

The study examined seven factors in the effective governance of the motorcycle transport business in Kenya following path dependency emergence and growth of the sector as discussed in sub-sections 4.1.1 to 4.1.7 that follow.

Historical lack of efficient means of public transport

In Kenya, buses were the first to offer organized mass transport for passengers, especially in Nairobi. Kenya Bus Services (KBS), which was owned by the Overseas Transport Company of London, started its operation in Kenya in 1934. KBS remained the sole operator of bus transit until the 1970's when it collapsed. Meanwhile, the *matatus* were endorsed and were working. In 1986, *Nyayo* Bus Service was introduced and subsidized by the Government but they faced the same challenges as KBS and after operating for seven years they shut down. In 1991, Stagecoach started operating but shut down in 1998 due to many challenges

including high operation costs and competition from *matatus*. This brought an end to the operations of public road transport services funded by the government.

Matatus started operating before independence in the mid-1950s. They came into operation due to a lack of public transport in areas around Eastlands (the outskirts of Nairobi city) occasioned by colonial restrictions (during and after colonialism). After independence in 1963, there was significant population growth, especially in Nairobi. For example, the population of Nairobi stood at 4,397,073 as per the 2019 National Census (KNBS, 2020). This growth resulted from rural-urban migration. Consequentially, increased urbanization and working far from home due to urban sprawl, increased the need for transport. The surge in demand for transport due to increased population, superseded incremental planning for the provision of adequate road infrastructure. As a result, alternative modes of transport begun springing and this saw the start of the proliferation of motorcycles in urban areas.

Efficient public transport should improve access, be affordable, safe, reliable and generally socially just. While motorcycles may not be efficient in the sense of this definition, they became popular and continue to attract business because they offer flexibility and are reliable. They may not be safe, but they take a person closer to where he/she is going and one can always get a motorcycle even at night when *matatus* and other transport means are not operating. Though the issue of affordability is not clear for long and short trips, a commuter can always negotiate with the rider unlike in buses and *matatus*. Motorcycles are also used to "beat the jam" which is common in main towns. The fact that the public transport systems lack some of these characteristics means that most people are drawn to motorcycles as a favourable mode of transport, and in some situations, motorcycles could be the only available means of transport.

This historical factor of the lack of an efficient public transport system over the years indeed led to the inception and continued adoption of motorcycle paratransit. Although it is apparent that the growth of motorcycles as a popular alternative was not planned for, it is an innovation that meets the mobility needs of many people in Kenya. Thus, there is an opportunity to create new trajectories to a more sustainable mobility, in the future, in this sub-sector by stepping into the past to look into the future.

Persistent high unemployment rates

According to the International Labour Office (2007), unemployment and poverty are the two basic problems that are plaguing many developing nations of the world. For example, in Kenya in the 1980s structural adjustment programs and later neoliberal policies in the 1990s rendered many people jobless. State-owned organizations were privatized and subsequently downsized. This was a condition for further funding because to qualify for loans, the governments were required to reduce expenditure. This led to many people losing their sources of livelihood.

High unemployment translates to low incomes. Literature indicates that the high levels of unemployment have also forced the youths in middle and low-income countries to turn to motorcycle transport as a source of income (Peden, et al., 2004). In Kenya, unemployment is among the pull factors that influenced the growth of motorcycles (Nyachieo, 2015). On the one hand, the motorcycle business presents a solution to the many unemployed persons because some people think of operating motorcycles as a source of income, and this has been the case in Kenya. On the other hand, due to low incomes, many people do not own cars for use in their travel and transportation needs and as such they use motorcycles to enable them to go to their places of work, markets, and schools among others.

Consequentially, this provides work for motorcycle operators who would otherwise be unemployed. First, the sector also offers self-employment for those riders who are actual owners of their motorcycles, and secondly, the motorcycle sector offers employment (a state of having paid work) when owners of motorcycles hire riders to work for them. Therefore, the long history of unemployment led to the fast

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adoption of motorcycles and influenced government decisions such as the zero-rating of all motorcycles below 250cc (Nyachieo, 2012).

Zero-rating of all motorcycles below 250cc in 2008

In 2008, the Ministry of Finance in Kenya zero-rated all motorcycles below 250 cc. The zero rating of duty levied on imported motorcycles was meant to create employment for young people. This meant that more people were able to acquire motorcycles (Nyachieo, 2015). This could also have been done in the spirit of neoliberalism and precarity seeing the high levels of insecure employment or income in the country. In addition, riders could be seen as individual economic actors who were expected to compete to maximize profit and support market operations (Feldman, 2019).

By making motorcycles cheaper and more available, the government gave the unemployed an opportunity to get a means of livelihood to fend for themselves and their families. Before the zero-rating, many people could not afford motorcycles because one needed at least Kshs.150,000 (1,666 Dollars) to acquire a motorcycle but the motorcycle price slash following the zero-rating in 2008 meant that even less than half of the older price viz. Kshs.70,000 (778 Dollars) one would acquire a motorcycle. This also meant that those who had money could buy many motorcycles and then hire riders to operate the motorcycles for them. Others got loans from financial institutions and SACCOs to acquire motorcycles for business hence creating a means of livelihood for them. The zero-rating of all motorcycles therefore contributed to employment and a growing number of motorcycles improved mobility and accessibility.

That notwithstanding, the resulting unprecedented growth led to increased road crashes, insecurity and environmental pollution. This is because, unfortunately, there were no rules and regulations to govern the motorcycle business at its inception. In addition, transport planners lacked a chance for proper planning for motorcycles especially because, at its inception, motorcycle was not considered as a means of public transport. Nevertheless, currently, there is an opportunity in the new infrastructure development plans to integrate motorcycle transport into the main transport system because of its important role thereby eradicating the mistakes that led to the current chaotic situation.

Lack of strict entry requirements and flaccid regulatory framework

When motorcycles were first used in Kenya for public transport, they did not have any legislation to govern their operations. This was exactly what happened with *matatus*, they started operations without any legislation and were later endorsed through a Presidential decree in 1973. This set the stage for the chaos observed in this sector. When their operations began in earnest in early 1998, there were no rules or regulations governing the sector with most riders having no riding/driving licenses and their motorcycles not licensed. However, following the *Michuki* rules in 2004 (Legal Notice 161 of 2003; traffic rules and regulations that came into effect in 2004 enforced by the then Minister of Transport, the late John Michuki), the sector has had some semblance of order. This historical factor has shaped the sector to date. With time, some more regulations were enacted, for instance, the National Transport and Safety Authority (NTSA) Operation of Motorcycles Regulations, 2014. In 2019, the legislation was made more elaborate after the sector recorded many deaths and injuries related to motorcycles in Kenya. This means that for about two decades, the sector was running without any serious regulations, a situation that resulted in a lot of agony for many families who lost their loved ones, especially breadwinners.

Apart from slow and minimal legislation in the sector, implementation of the few existing regulations has also been an issue. Chepchieng', Kyalo & Mulwa (2011) observe that laxity among law enforcement officers influenced the quick unregulated growth of motorcycles in Kenya. This is because, it looked like a venture where anything goes because, of course, when there are no consequences for breaking the law, there is nothing to deter others from repeating the same violations. For example, if all riders/operators are

required to register their motorcycles but they do not do so and yet they continue to operate, then newcomers will not register and will still operate. This scenario of the motorcycle business being an endeavor without specific entry requirements and rules for continuity has over the years made entry into the motorcycle business very easy thereby attracting more actors. As a matter of fact, all one needs is their presence and a motorcycle to ride and they are in business. Sometimes even age does not matter as long as one can 'ride' a motorcycle. This has consequences, especially on safety.

In addition, the availability of credit facilities has made it easier to buy motorcycles (Kumar, 2011) resulting in an even greater increase in the number of motorcycles that are in operation. Because operators must service their loans i.e. those who took loans to buy them, they engage in dangerous behaviors like overloading and speeding to make enough money for their use and for servicing the loans. For those hired to ride, they must submit the specified amount daily to remain employed. This always leads to motorcycle-related accidents (Nyachieo, 2015).

Failure to recognize motorcycles as part of Kenya's public transport

For a long time, by law, the motorcycle was not legitimately considered as a public means of transport in Kenya. In applying the path dependency theory, Kenyan policymakers were behaving like the motorcycles did not exist and therefore 'refused' to acknowledge their presence and impact in the day-to-day lives of the people as well as the country's economy. This can be construed as resistance to change because policymakers were either over-cautious or simply ignored the inclusion of a new actor in the public transport sector. This has had implications and has influenced the operations of this sector up to date because, without proper legislation, it is impossible to maintain order. Therefore. the delayed decision to gazette motorcycles as a public transport service has significantly contributed to the current state of affairs in the sector.

The Kenya National Integrated Transport Policy (2009) puts motorcycles under Non-Motorized and Intermediate Means of Transport (NMIMTs) and also indicates people using NMIMTs risk their lives by utilizing these means of transport because there is no appropriate infrastructure for them. The lack of infrastructure could be attributed to a lack of recognition. If the sector was recognized as it grew organically, it would have been planned for in terms of integrating it within the existing transport system. This would have made it more orderly and probably reduced accidents. In addition, such recognition would have also meant having sufficient regulations in place earlier.

Unprecedented increase in the number of motorcycles

Even after the 2008 zero-rating initial effect, in recent years, the number of motorcycles in Kenya has continued to increase rapidly. For example, between the years 2005-2011, they increased by a factor of 37.7 from 3,759 to 140,215. By 2017 the motorcycles were 186,434 (Republic of Kenya, 2019). See Figure 1 that follows:

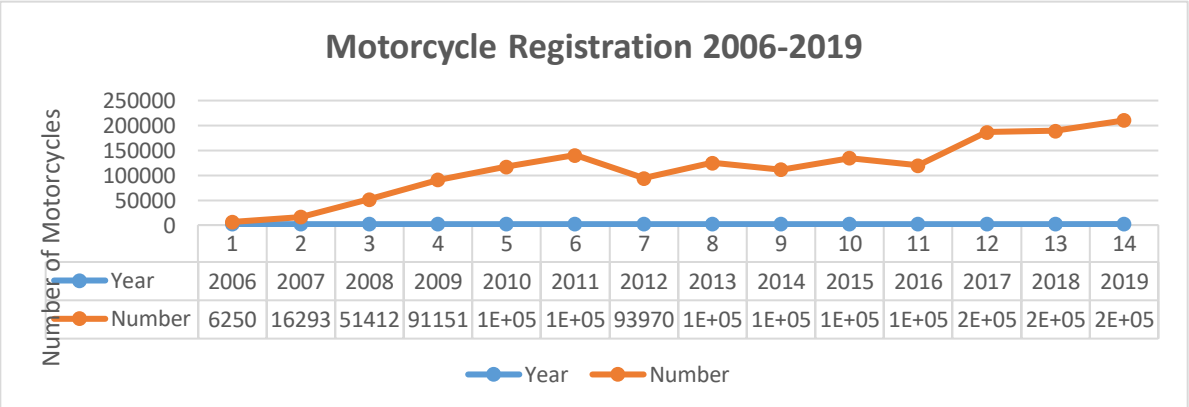

Figure 1: Motorcycle Registration 2006-2019; Source: Republic of Kenya, 2019

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Motorcycles do not just facilitate mobility; they also ensure accessibility to areas that other means of transport cannot access especially in rural areas as well as unplanned settlements in the urban areas. The motorcycles are used for short trips mainly in urban areas and are perceived to compete for the same passengers with *matatus.* In rural areas, motorcycles are used as feeders ferrying the pillion passengers to the main roads and highways where they can access other modes of transport e.g. a *matatu* to their final destinations. The good part of this unplanned arrangement is that the conflict that is normally there between commercial motorcycles and *matatus* is reduced. This is because the riders are taking passengers to the *matatus*. Motorcycles also act as facilitators of mobility by taking care of passengers in areas with fewer people because such areas do not attract *matatus* due to their low returns as a result of low passenger traffic.

However, full integration of motorcycles into the public transport system has not been realized as evidenced by the lack of motorcycle infrastructure in most towns according to the integrated National Transport Policy (2009).

This notwithstanding, the motorcycle sector may continue to experience exponential growth especially because of the political economy of motorcycle transport and lack of organized public transport.

Prevailing political economy of motorcycle transport in Kenya

Several prevailing political dimensions affect the governance and operations of motorcycle transport in Kenya. Three of these are discussed in this section. First, motorcycles as a source of income for the individual and the Government; second, motorcycles as a political tool; third, motorcycles as a political force. All these dimensions affect the trajectories of motorcycle proliferation and related issues.

According to the Motorcycle Assemblers Association of Kenya (2019), there are about 600,000 commercial motorcycles currently operating in Kenya, each earning an average of Sh1,000 a day which translates to an annual turnover of Sh219 billion. This contributes to the GDP as well as individual income through direct and indirect employment. Motorcycles offer employment to many people and have improved their living standards (Nyachieo, 2013). For direct employment, the sector operates under a business model composed of two categories; owner rider and hired rider. Owner riders are actual owners of the motorcycle they ride, they therefore are the managers of the money they make from ferrying passengers and goods daily. Hired riders work on a contractual agreement where they have a daily goal of an agreed-upon amount of money that must be remitted to the motorcycle owner. The amount depends on the area of operation mostly rural or urban. Indirect employment is through support or auxiliary services, which include spare parts shops, garages and petrol stations. This important sector is likely to attract interest from the political circles.

The motorcycle sector can be considered as a political tool. Motorcycle operators are many, and organized in SACCOS or bases; politicians for their interests often use them, especially during elections. In return, motorcycle rider groups get “protection” from law enforcement officers to continue to operate even without stages or licenses. This is one of the main challenges in the implementation of rules and regulations in this sector. These groups are “protected” by powerful people within the political circles who do not want anyone to ‘touch’ the riders. In addition, some politicians are known to buy motorcycles for some riders for them to convince other riders to vote for them.

Because of this “immunity” for political reasons (mostly elections) and other factors, the riders have therefore become a strong political force in many countries in SSA (Konings, 2006; Goodfellow & Titeca, 2012). As Konings (2006) further points out, the riders seem to be “owners” of the road. In Kenya, motorcycle riders defend their interests through protests as observed in different towns in Kenya. These protests sometimes paralyze transport and other businesses for hours. These riders mostly complain about police harassment. The riders also harass other road users, especially car owners. For example, in case of a

crash, where a motorcycle person is injured, the other riders usually rough up the motor vehicle driver even when the rider is on the wrong.

With such a background, it becomes difficult to get political goodwill and without political goodwill, support for implementation of rules and regulations is significantly hampered. A good example is when riders are banned from the Central Business District (CBD), they collectively approach those in positions of power within their constituencies or towns. These politicians, more often than not, are persuaded to protect them in return for their votes. These political dynamics may influence policy formulation, its execution and any other interventions in the sector.

Challenges arising from poor governance of motorcycle transport in Kenya

The study, through its second objective, further investigated three major challenges arising from improper governance and the unprecedented prolific growth of the motorcycle transport business in Kenya over the years.

Motorcycle related crashes and road safety

One of the most sustained challenges in road transport in Kenya and many sub-Saharan countries is motorcycle safety (Konings, 2006; Kumar, Barrett, 2008; Mahlstein, 2009; Nyachieo, 2015; WHO, 2018). Motorcycle-related accidents have been on the increase since this sector started operating (Kenya Road Safety Status Report, 2015). According to NTSA (2016), motorcycle-related accidents are on an increasing trend. According to the Global Status Report on Road Safety, (WHO. 2018), death by road user category puts riders of motorized 2- and 3-wheelers at third place (see figure 2). The decisions made or not made to guide motorcycle operations then and now have directly or indirectly contributed to this situation. It is, therefore, possible that this can get worse if no interventions are made.

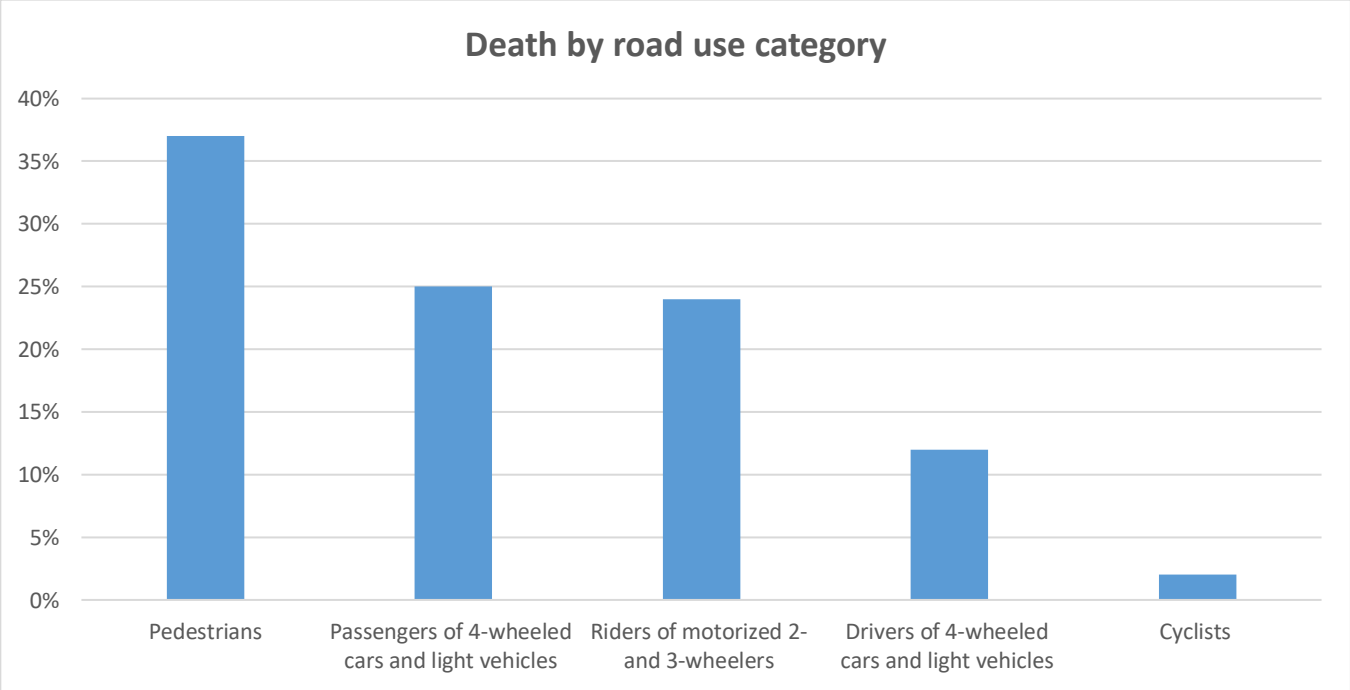

Figure 2: Death by Road User Category; Source: Adapted from WHO, 2018

Most of the reported crashes are associated with lack of adherence to traffic rules such as speeding, wrong overtaking, limited use of helmets for both rider and pillion passenger, lack of reflective jackets, for visibility, and lack of rider training among others (WHO. 2018; Nyachieo, 2015). Some of the suggestions

given to reduce injuries and deaths in motorcycle-related crashes include improved use of helmets for both riders and pillion, motorcycle lanes, motorcycle Anti-lock Braking Systems (ABS) and reflective jackets for visibility.

The many accidents in this sector can be attributed to all the seven factors explored earlier in this paper. But non-adherence to existing rules and regulations resulting in such things as lack of rider training, and the ever-increasing numbers of motorcycles together with the fact that the motorcycles have to share the road with fast-moving vehicles, have led to the high and increasing number of deaths and injuries in this sector. This need not be the case because the implementation of rules and regulations can greatly help reduce motorcycle-related accidents.

Security

It is an emerging undeniable reality that some motorcycle operators are involved in criminal activities in several towns in Kenya. According to the National Crime Research Centre (2018), the motorcycle sector poses a major threat to security noting that armed robberies at *Mpesa* shops, shopping malls and in the estates are now carried out by gangs on motorbikes. This is based on a report from a survey conducted in at least 24 counties. The report also points out that some motorcycle operators collude with organized criminal gangs to attack their victims. The report indicates that if regulations are not put in place to deal with the issue, the situation might get out of hand. After such crimes, it is very hard to follow up because majority of the motorcycle owners are not registered.

Environmental pollution

Traffic is a significant contributor to harmful emissions of particulate pollution in cities of the developing world. This kind of pollution is known to lead to respiratory infections and global warming which causes climate change and therefore has adverse effects. As much as motorcycles contribute to the economy by moving people, their contribution to pollution should be given serious consideration and ways to reduce it adopted. This should be urgent owing to the increasing numbers of motorcycles, and the proposition that compared to vehicles, motorcycles emit disproportionately high amounts of air pollutants.

According to a Swiss study to be published by Vasic and Weilenmann (2005), motorcycles collectively emit 16 times more hydrocarbons, 3 times more carbon monoxide and a “disproportionately high” amount of other air pollutants compared to passenger cars. Some hydrocarbons have been linked to global warming, while others are suspected to be carcinogenic (American Chemical Society, 2006). Therefore, extensive use of motorcycles is socially costly and contributes to the deterioration of the environment. However, the emerging market of electric motorcycles (EMCs), fueled by the changing landscape in technology, provides an opportunity to mitigate such impacts (Hernandez, Kockelman, Lentz & Lee, 2019).

DISCUSSIONS

For motorcycle transport in Kenya to be sustainable, there is a need to look into the past to explain the present and secure the future by taking appropriate action. The consequences of actions not taken in the past may never be undone, but some changes can be made in the present to redeem the situation because what we do in the present constructs the future.

Presently, to address the lack of efficient, safe and reliable means of transport, Kenya is in the process of establishing Bus Rapid Transit (BRT). Plans are underway to ensure this gap is filled including the establishment of the Nairobi Metropolitan Transport Authority (NAMATA) by the Kenyan Government in 2017. NAMATA’s mandate is to address the challenges in the transport sector, especially in the Nairobi Metropolitan Area (Republic of Kenya, 2018). The authority is tasked with formulating a sustainable

integrated public transport strategy that includes a mass-transit system, which incorporates both bus rapid-transit and commuter rail. This will not mean completely doing away with motorcycles but improving the sector as motorcycles will, most likely, take up the role of last-mile connectivity by connecting the different proposed mass transportation systems.

Failure to recognize motorcycles as public transport as well as lack of strict entry requirements and flaccid regulatory framework are two factors deemed more serious of the seven factors leading to the main challenges faced in the sector. Worse, although regulation has had more interventions since 2018 through more elaborate legislation, implementation of rules and regulations remains a challenge. If implementation is improved, it could work to reduce motorcycles-related accidents and make the sector more orderly.

On environmental pollution, electrical motorcycles can be introduced to reduce pollution. Following the Fourth UN Environmental Assembly in March 2019, Kenya's first electric mobility pilot was launched. This is an important step in Africa's shift to electric mobility. This initiative requires continued collaboration between the Kenya Energy Regulatory Commission, Kenya Power & Lighting Company Limited and the UN Environment Programme (UNEP), who in 2019 agreed on the deployment of an initial 50 electric motorcycles donated by TAILG, a Chinese company, as the first extensive electric motorcycle pilot in East Africa. This was finally done in 2021 and it helped a long way in raising awareness for electric mobility. Most importantly it gave crucial data to stakeholders for policy formulation.

As a new development, there are now digital platforms hailing motorcycles. These require applications where a rider applies for a ride via personal mobile phone. In Kenya, they include *Uber, Taxify, Bolt, Little Cabs, Safe Boda, Mondo Ride,* and *Vuta* ride among others. They present a more orderly way of sourcing and transporting pillion passengers. Maybe this is the future of motorcycles though this too has some challenges to be tackled such as the user's ability to download the application or having the type of phone that can support such applications.

Also, as the sector gets more recognition because of its role in the transport system in Kenya, there are new developments like Google Maps' motorcycle navigation mode. This helps riders navigate and avoid restricted roads, gives suggestions for better routes and shortcuts to be more efficient, and shows accurate arrival times.

In addition, in 2019 the Government formed a task force to streamline operations of the motorcycle sector and its responsibilities included: examining the existing policy, institutional, legislative and administrative systems governing the public motorcycle sub-sector; evaluation of the market environment for the operation of the motorcycle business; and coming up with recommendations aimed at making reforms to the sector. Though later, this is a bold step in the right direction because by all indications motorcycles are here to stay.

In summary, motorcycles are the late entrants into the paratransit mix and with their exponential growth and a lag in coming up with regulations, the sector started on a chaotic note. However, with the National Transport and Safety Authority Operation of Motorcycles Regulations of 2014, and the formation of a Task Force in 2019 to look into motorcycle operations, the future of motorcycles looks bright, with the likelihood of more intentional streamlining and regulations.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In summary, the study findings revealed that following its path dependency trajectory history, the motorcycle sector in Kenya faces major challenges that currently make it unsustainable. Nevertheless, looking at the seven factors that led to this situation, there is an opportunity to create new trajectories to a more sustainable mobility future without ignoring path dependencies. In so doing, transport planners and policymakers may mitigate current problems and avoid repeating the mistakes that led to the current

unsustainable situation.

The study, therefore, concludes that the past has a bearing on the current state of motorcycle transport in Kenya and to attain sustainable mobility, the past needs to be understood, the present interrogated and the future secured by ensuring that past mistakes are corrected and not repeated. The lessons learnt in this sector are that it is always good to start on the right footing: had legitimate recognition of this mode of transport happened early enough, there would have been timely intentional policy formulation and regulations which would have made the sector more organized and thus more sustainable for enhanced mobility especially in the urban areas where motorcycle numbers are soaring every day.

The study recommends that opportunity be tapped to integrate well-planned motorcycle transport routes into the main transport systems from the currently increased infrastructural development that is going on in Kenya in cognizance of the fact that the important role played by motorcycles in improving mobility and accessibility as well as creating employment cannot be wished away in this developing economy.

Secondly, the study also recommends review and stern implementation of the National Transport and Safety Authority Operation of Motorcycles Regulations of 2014, and intentionally focused implementation of the recommendations of the 2019 Task Force be undertaken without further delay.

Finally, this study recommends that further research be done with specific regard to environmental pollution issues that arise out of the use of petrol/diesel-fueled motorcycles to recommend comprehensive solutions towards the achievement of climate change mitigation and adaptation goals within SSA countries.

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