

Motorbike Calamities and Urban Chaos in Cameroon: A Yaounde – Kigali Experience Sharing for Harmonious City Biking Culture in Sub-Saharan Africa

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Abstract — Salvaging motorbike calamities and urban chaos would not only safeguard lives but achieve urban tranquility in Yaounde and Cameroon. The disorder in this transport sector observed in Yaounde can be uncurled and riders called to order as solution to the chaos accrued. This article exposes the shortcomings of biking transport as inadequate training and reckless riding have led to the urban chaos and calamities observed. If it does not occur from high speed, perhaps it would be a mentality problem. Some 140 questionnaires were administered to motor bike riders, clients, and transport authorities in Yaounde. Field observation and interview sessions were organized to have first-hand information on calamities in the city. Hotbed neighbourhoods of accidents were captured through a GPS and transformed into maps and tables. An in-depth documentary research at the Ministry of Transport and its delegations as well as the national institute of statistics was done to have data for analysis. Findings adhere to the fact that total identification of riders, mandatory use of helmets for rider and passenger as well as stringent speed limits with unadorned sanctions can be used to address the situation. This paper advocates that the Kigali experience in the management and control of motor bike transport be shared in Yaounde so as to reduce, if not curb urban mayhem and wanton accidents.

Index Terms — Motor bike calamities, urban chaos, city biking culture, Yaounde–Kigali experience, Cameroon.

I. INTRODUCTION

Motorbike transport proliferation in Sub-Saharan Africa can make or mare urban freight traffic if not checked [1]. It is not only considered as a cheap means of transport at proximity levels of the city but is as well known for its easy accessibility into neighbourhoods. Most Sub-Saharan cities especially those of west and east Africa use these means of transport frequently [2]. In some of these cities such as Abidjan and Kigali, the sector is organized. While in others such as Ouagadougou and Lagos, much work is still to be done. Several other African cities fall in this case with that of Yaounde being a cause for concern. The multiplication of this form of transport and control in Cameroon in general and Yaounde in particular has become a daunting task. It does not only add to the urban chaos in the city, but as well increases the transport calamities which leaves much to be desired. Cameroon like other developing countries is handicapped by an urban facility planning and implementation that is far from aligning with good planning principles and practices. Owing

to the wanton motorbike calamities accrued from urban chaos and poor planning, this article seeks to evaluate the cause of such incidence and introduce the Kigali experience to salvage city governance in Yaounde. With a population of over 2 million inhabitants [3], Yaounde the administrative headquarters of Cameroon is located between latitude $3^{\circ}46'30''\text{N}$ and $3^{\circ}57'30''\text{N}$, and longitude $11^{\circ}27'00''\text{E}$ and $11^{\circ}37'30''\text{E}$ (Fig. 1).

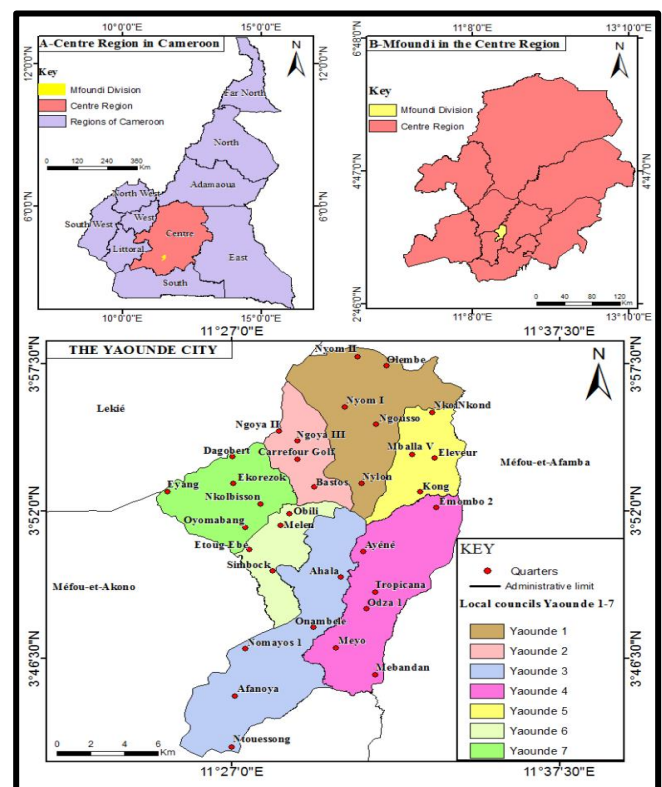


Fig. 1. Location of Yaounde in Cameroon.
Source: Modified from NIC by Tende, 2010.

II. LITERATURE REVIEW

This paper draws inspiration from the numerous literatures written on motorcycle transportation. It articulates on some which were of uttermost interest to the study and draws the line between the ideas of other authors and what comes in new as contribution to science. Motorbike transport is used as a major source of traffic congestion palliative in Cameroon

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[1], as it facilitates movement from one place to the other. It would have been a major source of traffic congestion relief but for the fact that the state of the roads does not permit easy movements. However, due to variation in seasons, the reduction of traffic is felt more during dry than wet ones in the course of the biking movement [4]. Biking transport is credited for fast movements over short distances as time is gained. This advantage in gaining time is accompanied by its commercial influence [2], since the riders use this activity as their source of livelihood. Most riders who are self-employed in this sector feed their families from income gained in the activity. It is therefore important to strive for a sustainable urban transport through biking, where the States and the riders benefit from the activity [5]. The activity should be done in an organized manner with mutual respect and financial obligations met for a win-win end result. This will enable the transport sector to contribute to the economic development of their nations and improve on the standard of living of their inhabitants [6]. The active population dominated by the youths will have an opportunity to employment through motor biking activity [7] and reduce idealness which can lead to high crime wave. The motor biking activity however does not operate void of drawbacks which warrants checks to address the unwanted calamities. The impracticability of some roads in cities of the developing world reduces the chances of the bike riders to make more profit in the discharge of their activity [8]. More money is spent in the repairs of bikes and much delay observed in movements which are costly to the riders. Associated to the economic loss are road calamities in the form of accidents which are triggered by high speed and untrained riders [9]. The accidents expose both the riders and clients to risks which range from simple swollen spots to fractures and even deaths [10]. The motor bike sector though important both to the clients and riders is faced with a lot of disorder which warrants stringent measures for tranquillity to exist. Several action plans aimed at restructuring the biking sector have been put in place by some States to avoid anarchy in the sector [11]. Motorbike transport despite its shortcomings happens to be an inevitable means of transport which facilitates movement in Yaounde [12]. The Yaounde transport sector can share experience with that of Kigali so as to enjoy an organized biking transport activity and reduce calamities at best.

III. MATERIALS AND METHOD

Data collection was done through primary and secondary sources for a qualitative and quantitative research. In the primary data collection process, some 140 questionnaires were administered to riders and clients of 14 hotbed neighbourhoods (Fig. 3) in Yaounde. This was done through a simple random sampling where the seven local councils of the Yaounde city were represented by two neighbourhoods each. Ten questionnaires were administered per neighbourhood for the fourteen chosen giving a total of 140. The fourteen neighbourhoods sampled constituted the most exposed and populated areas of the various local councils so as to permit adequate data collection for analyses. The questionnaire administration was done for five riders and five

clients per neighbourhood to have critical responses for a proper analysis of the research in question. The questionnaire administration was done weekly per neighbourhood for fourteen weeks (September to mid December 2019) in order to have reliable data for presentation of results and analyses. Further primary data was collected through field observation as biking accidents amidst reckless riding and traffic congestion were observed. Interview sessions with the authorities of the Ministry of Transport, traffic police security officers and road users were done to ascertain the disorder observed in this sector. The Geographical Positioning System (GPS) was used to capture hot bed areas of biking calamities and mapped-out in the presentation of results for analyses. The hotbed neighbourhoods were Olembe, Ngousso, Golf, Ngoya III, Ahala, Afanayo, Odza, Tropicana, Eleveur, Mballa IV, Melen, Simbock, Nkolbisson and Oyomaban in all the seven Yaounde city local council areas. This was to enable a total representation of the city as clear picture of calamity incidence in the biking transport sector. An in-depth documentary research through secondary data collection was done to have detailed information on the motor bike sector and use statistics for analyses and presentation of results. The National Institute of Statistics was consulted to have biking calamities over a certain period of time and the Traffic Police Unit consulted to match information gotten from other sources such as news reports and journals. The Ministry and Delegation of Transport in Yaounde were as well consulted to have information on the regularization of the biking sector and drawbacks observed. Data collected were treated and analysed for the presentation of results and discussions.

IV. RESULTS AND DISCUSSION

Findings from field work reveal that motor bike calamities and urban chaos in Yaounde can be resolved through experience sharing with other sub-Saharan cities.

A. Factor Analysis of Motor Bike Calamities and Consequence in Yaounde

Motor bike calamities are effects accrued in the biking activity from daily movements [13]. These calamities if not checked can increase the death toll in a country. The propagation of motor bike calamities in Yaounde can be attributed to several factors. Inadequate training happens to be the major defiant factor with accidents as the evident consequence (Table I).

TABLE I: FACTOR PERCEPTION OF MOTOR BIKE CALAMITIES IN YAOUNDE

Reasons	Respondent	Percentage
Inadequate training	28	20
Few riding permits	24	17.14
Poor state of roads	10	7.14
Overloading	22	15.72
Reckless riding	17	12.15
Violation of traffic rules	15	10.72
Mentality problem	13	9.28
Harsh weather conditions	11	7.85
Total	140	100

Source: Field work, 2019.

Table I x-rays field revelations on the causes of biking calamities in Yaounde. Some 20% of respondents coupled with results from interview sessions show that inadequate

training is the major cause of biking accidents in the city. Schools that train drivers in Cameroon are as well mandated to train riders. Unfortunately, just few riders could testify of haven gone through some training. Some just purchase bikes and do two to three days rehearsals in their neighbourhoods and jump into the roads for commercial transport. The most undesirable scare is the fact that these riders are not acquainted with traffic signs and rules. The result is the wanton road accidents observed which exposes both the riders and clients at risk of injuries and even death.

Furthermore, most riders in Yaounde do not have a permit. Some 17.14% of responses from the field adhere to this fact. A bike rider in Cameroon is required to have a category A license [14] as proof of haven gone through training. Unfortunately, most of the riders found in Cameroonian cities and Yaounde in particular do not own one. Spot checks of such documents done to these riders at time meets stiff resistance as well as causes some to change their course of movements thereby rendering the control exercise uneasy. Associating the lack of training to no riding permit reveals the urban chaos in the biking transport sector and confirms the calamities observed daily. An exchange of experiences therefore is imperative to address the ills of this sector.

Overloading of clients on motorbikes in the course of transportation from one place to the other is also a major factor to calamities observed. Some 15.72% of field responses propound that most bike riders carry more than required number leading to grave consequences. A motor bike is produced and required to carry the rider and client hence, two persons. Rather, what is observed in Yaounde is the unorthodox transportation of three persons (rider, with two clients) and even up to four persons (rider with three clients) in the course of movements (Fig. 2).



Fig. 2. Overloading of clients on bikes in Yaounde. Tende, Yaounde 2020.

Fig. 2 shows the recurrent overloading of motorbikes in the neighbourhoods of Melen in (a) and Nkolbisson in (b), samples of hotbeds in Yaounde. Such overloading is therefore tantamount to instability in riding and pruned to accidents. These unauthorized practices are being done by bike riders on a daily basis and are the recurrent reasons gotten for road accidents in Yaounde.

Aside overloading, reckless riding is as well a factor of biking calamities in Yaounde. Some 12.15% of field data revealed that reckless riding is a bad practice in Cameroonian cities. In as much as vehicle movements are restricted to certain speed limits in urban movements from one place to the other, so does the biking sector. Speed limits and

distances covered by commercial bike riding are not supposed to exceed 40 km per hour. Unfortunately, the contrary is observed on the field as some riders move at high speed irrespective of the number of passengers they have. The type of displacements observed is far from that of an organized movement leading to accidents. Associated to reckless riding is the violation of traffic rules. Field results revealed that some 10.72% of respondents accept this reason as one of the factors of biking calamities in Yaounde. Since a majority of riders have not had proper training and consequently just few riding permits are issued, more than 75% of the riders do not master road signs and traffic regulations. This is observed in the way they violate traffic rules even at the expense of their lives and that of the clients. Such scenarios are observed on daily basis resulting to road accidents.

Owing to the fact that no proper training has been done, the riders even when in situations of recklessness and indiscipline manifest a character of resistance. This confirms one of the factors of calamities as a mentality problem. A 9.28% field revelations confirm the mentality problem as part of biking calamity reasons in Yaounde. The riders with their inability to own permits from the absence of training are faced with recurrent scenarios of traffic violation which exposes them to severe sanctions. This has made the riders to develop violent means of resolving their difficulties when faced with such irregularities in the form of jungle justice. Some either begin the fight even when found guilty of an offence or be the first to raise an alarm despite being the cause of the traffic irregularity. Whatever picture they paint, the biking sector is faced with indiscipline which has triggered road accidents in Yaounde.

The poor state of roads has as well influenced motor bike calamities in Yaounde. The city of Yaounde is made up of several roads ranging from highway to tertiary (Fig. 3). The highway links Yaounde to other towns in the country, while the main roads to the tertiary are internal ones used for movements within the town. Road infrastructure in Yaounde is faced with depreciation and dilapidation difficulties which makes them vulnerable for movements. Most of the secondary and tertiary roads used by bike riders are in this poor state exposing the sector to risk of accidents. Some 7.14% of calamities registered on the filed came from the poor state of roads. The riders in their course of movements are forced to limit their speed due to the state of the roads if not get into an accident which might be harmful both to the rider and clients.

In further analyses, harsh weather conditions have also influenced biking calamities in the city. A 7.85% field results showed that the biking sector is faced with unfavourable climatic conditions which reduced the smooth functioning of the sector. The biking sector whether in the dry or wet seasons meet with harsh weather conditions. It is dust during the dry season and mud during the wet one exposing riders and users to harsh conditions at all times. Since a majority of riders are without helmets as observed on the field, their eyes are at risk of damage from dusty particles and insects which are detrimental to the health of the riders and cause sudden accidents. The rain during the wet season as well reduces the chances of movement and those who do so are at risk of harsh cold and limited visibility which are tantamount to accidents.

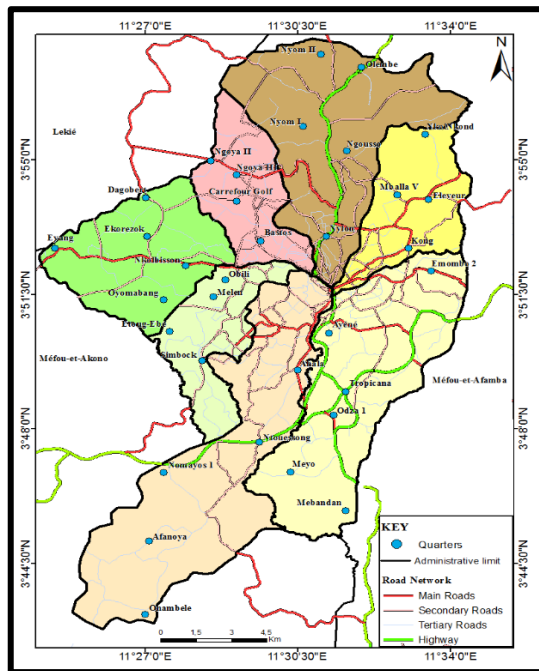


Fig. 3. The Yaounde City Traffic Flow Network. Source: NIC and Field work, 2019.

B. Hotbed Areas of Motor Bike Calamities and Incidence in Yaounde

Hotbed areas of motor bike calamities are those that are more exposed and have recorded more casualties than others. Some fourteen neighbourhoods were identified as hotbed areas in Yaounde (Fig. 4). These fourteen neighbourhoods were identified from field study as hotbed areas due to their total population and traffic fluxes. Field observation and results from documentary sources revealed how these areas experience biking calamities almost on a daily basis. The constant traffic flow in these areas exposed to biking transportation encounters difficulties from the nature of roads, number of clients transported as well as the level of training obtained.

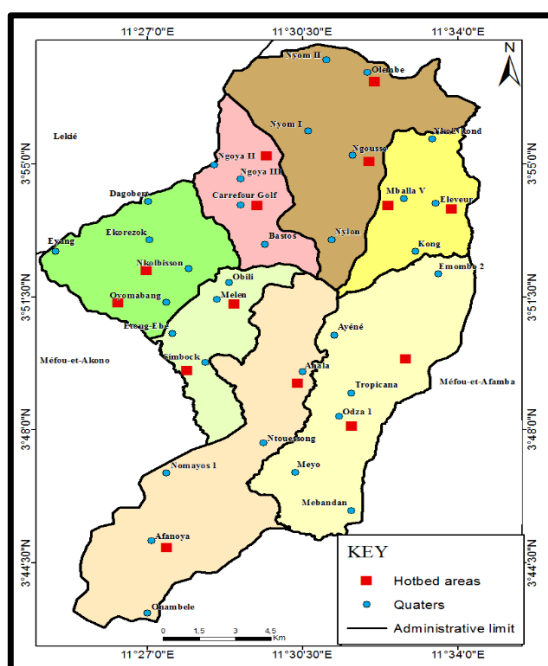


Fig. 4. Hotbed Calamity Areas in the Yaounde City. Source: Field Work, 2019.

Owing to the triggering factors explained earlier in table 1, motor biking calamities have severe consequences as observed in Yaounde (Table II).

TABLE II: CONSEQUENCE-BASED ANALYSIS OF BIKING CALAMITIES IN HOTBED AREAS OF YAOUNDE

Consequence	Number	Percentage
Injuries	41	29.28
Trauma	34	24.28
Damage on Bike	25	17.87
Traffic Disturbance	19	13.57
Transport Delays	14	10
Deaths	7	5
Total	140	100

Source: Field work, 2020.

Results from Table II propound that injuries are the most observed consequence to biking calamities in Yaounde. Some 29.28% of field analyses coupled with observations and interview sessions served as proof of this fact. The bike riders with their excessive speed and overloading instigated by youthful exuberance and lack of training encounter accidents which results to injuries both on the riders and clients. Brushes, scars, fractures, and other disabilities befall the riders and clients in such accidents. Despite the precautionary measures of speed limits and traffic control regulations implemented, these accidents are recurrent. It is therefore important to improve on the control measures in order to curb the situation. Aside injuries as a result of biking calamities in Yaounde are also trauma. Trauma is any severe injury caused by a violent attack or accident [15]. Trauma in this work refers to the confused state of the persons involved in the biking accident. Observations from the field and results from findings showed that 24.28% of clients or riders are traumatized after an accident. Some are either confused and are forced to lie-down for a while before any interrogation, while others lose focus and run to an unknown direction, and some still go unconscious after such accidents. These confused states of the clients and riders involved in an accident are observed in Yaounde and render the sector vulnerable.

Further research revealed that the motor bikes used as well are damaged in the course of the accidents. Some 17.87% from field analysis explained how the damage on bikes happens to be one of the consequences of calamities in Yaounde. The riders either break the lights of the bike or destroy the front wheel or even still damage the entire bike in the course of the accidents. Field visitations to bike repairing sites showed that most of the bikes brought for repairs have undergone some degree of shock to confirm of haven been involved in an accident. With the recurrent nature of such accidents, it is imperative to seek for a long lasting solution. The bike accidents do not go unnoticed as they cause traffic disturbance whenever they occur. Some 13.57% of field results showed that traffic disturbance occurs from motor bike accidents. The accidents whenever they occur attract population concentration and a halt in traffic movements for assistance and control. This unfortunately causes traffic congestion which affects the entire movements of that area for a while. Such traffic disturbances occur on a daily basis indicating that some degree of precaution has to be implemented to avoid such unwelcomed activities.

These traffic disturbances no doubt is associated to transport delays which are some of the consequences of motorbike calamities in Yaounde. With a 10% confirmation of this factor as a consequence, field observation showed that the accidents cause a halt in the traffic for a while and thus delay the normal course of movements for all the road users. Motor bike calamities would probably not be a severe problem if it did not involve the loss of lives. Some 5% of field revelations showed that deaths also constitute one of the consequences of such calamities. It is unfortunate that such recklessness observed leads to the loss of lives. However, it

is a reality and warrants long term measures to be implemented to curb biking calamities.

Further field research x-rayed that motor bike calamities are on an upward trend over the years in Yaounde. This is because the calamity trend shows that the accidents and consequences are increasing every day. Some documentary research on the number of accidents recorded in Yaounde for the last ten years confirms this fact (Table III). However, these statistics are for those declared and recorded meaning that more might have taken place without any documentary evidence.

TABLE III: MOTOR BIKE CALAMITY TREND IN YAOUNDE FROM 2009 TO 2019

Period	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cases of accidents recorded	407	521	576	632	647	689	704	767	845	857	912

Source: NIS, Ministry of Transport and YUC, 2020.

Table III shows that motor bike calamities in Yaounde is persistently increasing despite the measures put in place to control the sector. The number of recorded bike accidents in 2009 was 407 cases and by 2019 it had more than doubled to 912. It is obvious that this increase has been triggered by the increase in the population and the number of bike riders in the city. Yaounde has expanded no doubt with many neighbourhoods sprawling in the four corners of the town. It is not only the political headquarters of Cameroon but is one of the hub cities of economic and educational opportunities in the country. This has therefore pulled a good number of the population into the city and faced with increase unemployment have settled on the motor biking transport sector for survival. Unfortunately, the sector is more disorganized than organized leading to wanton road accidents which have become a threat to city tranquillity in Yaounde. Faced with such difficulties, this paper advances some remedial strategies which are more of a south to south experiencing sharing with the hope to reduce calamities and improve on the biking sector in Cameroon.

C. Yaounde – Kigali Biking Culture Experience Sharing

Motor biking culture is a common practice in Sub-Saharan cities with economic benefits both to the riders, clients and the State [16]. The hope therefore of this paper is not to downgrade the biking sector but raise awareness on the management style which can be improved upon. The Yaounde – Kigali experience sharing is important as it will help both cities to improve on their biking sectors to which other African States can copy. In order to ameliorate the motor bike transport sector in Yaounde and salvage the situation of accidents and anarchy, it is necessary to adopt the following proposal.

A total identification of commercial riders with a uniform colour and barges is mandatory. Through this process, all the commercial bike riders will be forced to register their motor bikes with the Ministry of Transport and rider's permits check to determine if they are fit for the business. This method will therefore enable inexperienced riders to undertake training on bike riding before any permit can be issued. In this way, no rider will be found without any permit and much awareness on traffic signs would have been done to reduce recklessness and unexpected calamities at best. This identification in the form of uniform colours just as the yellow colour for taxi in

Cameroon will permit clients to easily distinguish a commercial rider from a non-commercial one. Such strategy as well reduces the threats of attacks from robbers who use bikes in their daily operations. The mandatory identification of motor bike riders is being practiced in Kigali (Fig. 5).

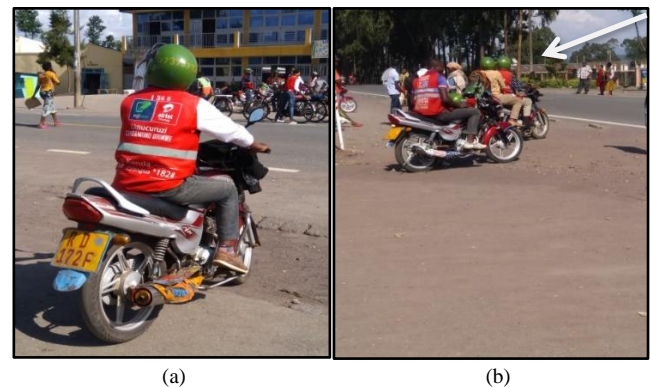


Fig. 5. The Kigali Motor bike sample for adoption. Tende, 2020 Kigali.

Fig. 5 demonstrates the sample of bike rider identification in (a) and a single client possibility of transportation in (b) of the Kigali city. Such identification is compulsory for all commercial riders in Rwanda and any defaulter does not go unpunished [6]. It is the hope of this paper that such measures are shared with Yaounde in order to improve upon the commercial bike transport sector.

Another experience sharing culture should be the compulsory use of helmets for both rider and client (Fig. 5). Safety and security measures practiced at work are for the preservation of lives from unexpected incidents. The Kigali biking transport sector imposes the compulsory use of helmets for both riders and clients as observed in the photos. It has become part of their way of life and all users are aware of the consequences of the violation of such an order [5]. These helmets will prevent severe shocks in case of accidents and help the rider and client stay safe. It is important that the use of helmets be encouraged in the Yaounde biking transport sector and any violation sanctioned. In this way the rate of calamities will reduce, and the number of shocks controlled.

Furthermore, regulatory speed limits in the motor bike sector in Yaounde are necessary to avoid numerous accidents. The bike riders are notorious for high speed and unorthodox overtaking coupled with violation of traffic control lights and

speed breaks. Such high speed especially in situations of overloading and instability always results to accidents with grave consequences. These scenarios occur in Yaounde on almost a daily basis and have rendered the biking sector vulnerable to road accidents. The Kigali biking sector does not permit any high speed in riding [9]. Built boards to indicate speed levels are placed along the roads and security officers found to implement the decision. This has made the riders to adopt low speed in movements and reduced accidents tremendously. Such an experience is recommended in Yaounde to salvage the biking sector from numerous accidents triggered by high speed.

The type of motor bike and its possibility to transport only one client is also an experience sharing method used to curb calamities in Yaounde. The Rwandan government has imposed a uniform type of motor bikes used for commercial purposes (Fig. 2 a). It is impossible for such bikes to accommodate more than one client thereby imposing the number of clients transported at a given time. Any other motor bike used for commercial purposes is rejected giving the sector a uniform bike type used. This method has enormously reduced biking calamities in Kigali. It is important that such experiences are shared in Yaounde in order to avoid accidents. The transportation of more than one or even three clients on a bike will be avoided and the sector will be void of calamities.

A further experience sharing method is the restriction of motor bikes to use some certain roads or transport clients to some administrative neighbourhoods. Commercial motor bike riders in Kigali are not allowed to transport passengers within some city perimeters which are mostly administrative and for security reasons [9]. This has reduced the chances of the riders to go long distances and prevented high speed riding, hence little or no accidents. This experience has as well been introduced in Yaounde which for the time being had yielded many fruits in reducing traffic congestion and road accidents. Unfortunately, its implementation has only been short-lived and has rather exposed decision-making lapses in Yaounde. The riders who were gradually adapting to the new way of life have returned to their chaotic manners. This has resulted to a persistent increase in the number of biking calamities in the city which warrants rapid State intervention. It is the hope of this paper that biking culture experience sharing between Yaounde and Kigali be introduced to help reduce or curb calamities observed.

V. CONCLUSION

Motorbike calamities and urban chaos in Cameroonians towns has been found to be a recurrent plague in the transport sector and does not seem to announce an end time yet. This paper discovered that unorthodox training coupled with no riding permits and reckless riding amongst others have triggered the calamities that occur. The biking sector in Yaounde is characterized by urban chaos as mayhem happens to be the other of the day. Hotbed areas identified just represent a true picture of what goes on in the entire Yaounde city. The biking calamities have resulted to accidents that affect the riders and clients. A blend of calamities and chaos has therefore made the sector to be more unproductive than

economically rewarding. One would rather prefer a transport sector without the biking section than what is observed in Yaounde and Cameroon in general. The calamity situation in Yaounde has multiform consequences with the victims at risk of losing lives if checks are not imposed. This paper therefore serves as an eye opener to the authority to review the organization of motor bike transport in the country. Curative decisions have been taken no doubt, but a lot is still to be implemented to straighten the already bended biking sector which might paralyze the transport sector and city serenity in Yaounde. Since the biking sector is inevitable and has become a necessary means of transport in Yaounde, it is thus incumbent for experience sharing in the biking culture to be encouraged between Yaounde and Kigali and even with other sub-Saharan countries which will not only fortify continental ties but as well resolve the biking problems accrued.

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