Commercial Motor Bike Transport and Poverty Reduction in the Bamenda Urban Space, Cameroon

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Abstract: Cities in most parts of sub-Saharan Africa have witnessed a significant growth in the commercial motorbike sector, as the urban poor consider it a means of livelihood security. However, the debate on whether this sector contributes to poverty reduction remains inconclusive. In the context of Cameroon, knowledge gaps exist with regard to the role of commercial motorbikes in poverty reduction. Taking the case of Bamenda, a primate city par excellence which has witnessed a steady growth in the sector, this paper: (i) analyzes the trends and drivers in the growth of commercial motorbike transport, (ii) identifies the determinants of actor’s engagement in the commercial motorbike transport, (iii) evaluates its contribution in reducing poverty. Using a semi-structured questionnaire, 150 male bike riders, drawn from 3 Municipalities were randomly sampled. This was complemented by field observations and expert interviews. The simple linear regression model attributed a 65.8% increase in the growth of the commercial motorbike sector to unemployment ($R^2 = 0.658$). Furthermore, a strong positive correlation (0.768) was

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PUBLIC INTEREST STATEMENT

Many cities in sub-Saharan Africa face several transportation challenges. Some of these challenges include poor road connectivity, traffic congestion and the use of poor quality transport services. This applies to Cameroonian cities, with Bamenda being a good example. These problems persist amidst rising population growth and urban poverty. Consequently, the use of motorbike transportation has been increasingly solicited as it addresses two interlinked issues: Firstly, it serves as a safety net for the urban poor who increasingly seek employment. Secondly, due to poor road network connectivity, city dwellers increasingly prefer the use of motorbikes to navigate through their respective neighborhoods. However, the actual contribution of the sector to poverty alleviation remains unknown in Bamenda. This study therefore provides concrete evidence on the factors that led to the growth of the motorbike sector in Bamenda, and its contribution to poverty alleviation. The study highlights some potential contributions to poverty alleviation, while also proposing policy recommendations to improve on the performance of the sector.
observed between the level of education and actor's involvement in the motorbike sector, while a positive correlation was established between the growth of the commercial motorbike sector and poverty reduction (0.479). Despite signals of a positive contribution, we observed that the synergistic interactions between the administrators of the sector and the bike riders would improve sector coordination and enhance the financial performance of the sector. This paper contributes to theoretically position the commercial motorbike sector as a potential contributor to urban poverty reduction.

**Subjects: Urban Studies; Urban Theory; Human Geography**

**Keywords: Motor bike; determinants; unemployment; poverty; Bamenda**

1. Introduction

From the beginning of history, human sensitivity has revealed an urge for mobility leading to a measure of society's progress. For any country to develop with the right momentum, modern and efficient transport as a basic infrastructure is required (Adefolalu, 1981). Transport is a crucial sector in the socio-economic development of nations and regions, thus, transportation is essential to achieving the goals of poverty reduction and sustainable development (Kometa & Kimengsi, 2013; Starkey & Hine, 2014). Different modes and means of transport have been used over the years but the prominent modes include water, air, rail and road transport. Water transport existed since the early times and the first complex ships were launched in the late 18th and 19th Centuries in Western Europe. Rail transport appeared during the industrial revolution in Britain about 1825 and was later constructed throughout the developed world (Jarocka & Glinska, 2016).

The most recent and arguably the most dramatic change especially in the Sub-Saharan African transport milieu has been the expansion of the commercial motorbike transport, which gathered pace in the 1990s (Porter, 2013). Once considered as luxury in many parts of Africa and owned by a few, motorcycles have today become the main transportation option for many Africans, especially for the last decade (AFRIC Editorial, 2018). In many countries where motorcycles are common, informal commercial motorbike services have developed. This phenomenon has been recognized in other developing countries in Asia (e.g., Indonesia, Cambodia, Thailand, and Vietnam), Africa (e.g., Nigeria, Cameroun, Benin, Uganda, Kenya, Rwanda, Sierra Leone and Tanzania, etc.) and Latin America (e.g., Brazil, Colombia) (Starkey, 2016). The World Health Organization (WHO) estimates that motorcycles and three-wheelers constitute an approximate share of 33% of all transport modes in Sub-Saharan Africa (WHO, 2015). As of 2003, Douala, Cameroon's economic hub, had over 22,000 motorbikes. This increased to 25,000 in 2008 (Olvera et al., 2012). They are viewed as avenues for the reduction of poverty. In this regard, commercial motorbikes usher in economic opportunities including the employment of motorcycle mechanics and spare part dealers (Karema, 2013), income earnings (Ogunrinola, 2011), and serve as a livelihood strategy for the urban poor (Kimengsi & Fogwe, 2017).

Conceptually, poverty is commonly defined based on household and income per person. In this study, poverty is construed following the World Bank's definition—a situation where an individual is living below the international poverty line of less than US$1.90 per day, prompting the individual to be unable to cater adequately for his/her basic needs such as food, clothing and shelter, unable to meet social and economic obligations, and has limited access to social and economic infrastructure such as education, health, potable water and sanitation (Work Bank, 2015). Fighting poverty therefore remains a plausible objective in Sub-Saharan Africa (SSA), given its negative short, medium, and long-term welfare effects (Kimengsi et al., 2020). In Cameroon, from 2001 to 2007, the national proportion of people living below the poverty line remained virtually stable, dropping slightly from 40.2% in 2001 to 39.9% in 2010 (GESP, 2010). Despite its rich natural resources, Cameroon remains one of the poorest countries in Sub-Saharan Africa (Work Bank,
2015; in Kimengsi et al., 2020). The Fourth Cameroon Household Survey (ECAM 4) of 2014 shows that out of an estimated Cameroonian population of 21,657,488 in 2014, 37.5% are poor. While poverty is rife in rural settings, there is growing urban poverty—linked to the streaming of the rural poor into cities (Fogwe, 2020).

In Bamenda City, signs of poverty are noticeable in quarters such as Abangoh, Sisia, New Layout, Ngomgham and Mulang. Rapid demographic growth has been accompanied by an increase in poverty especially amongst unemployed youths. The above scenario has forced many Bamenda city dwellers to embrace the informal sector (commercial motorbikes in this case) as a veritable source of employment which, to them, is a perfect panacea to poverty. Previous research efforts on this subject carried out in Cameroon and Bamenda have largely focused on exploring the constraints encountered in the practice of measures to prevent the occurrence of motorbike accidents (Bodzewan et al., 2017; Ngabmen et al., 2000), their links to intra-urban transport (Sop et al., 2019), and injuries linked to motor biking among secondary school students (Asonganyi et al., 2016). A recent study evaluated the commercialization of bike riding perceptions in providing an alternative to the major urban problem of traffic congestion in Bamenda (Fogwe, 2020). However, what seems to have eluded urban geographical literature, at least in the context of Bamenda, centres on (i) the evolution and key drivers of commercial motorbike growth, (ii) the determinants of actors’ engagement in this sector, and (iii) the contribution of this sector to poverty reduction. This knowledge gap hinders the introduction of effective reforms to improve upon the sector. From a methodological standpoint, most of these studies addressed the question of motorbike transport using the descriptive approach, suggesting the dearth of empirical evidence that draws from mixed-methods analytical approach. Besides seeking to close the identified knowledge gaps, this paper demonstrates novelty by employing a mixed-methods approach to empirically verify the extent to which the commercial motorbike sector contributes to alleviate poverty. In doing so, we provide evidence, which could further theoretically position the commercial motorbike sector in the discourse on urban poverty reduction. This study is justified on the following grounds: Firstly, the commercial motorbike sector is witnessing a significant increase in Cameroonian cities; yet it is not clear whether this sector significantly contributes to poverty reduction. Secondly, there have been persistent calls to regulate (and even ban) this activity in some neighbourhoods with limited knowledge on the extent to which it may stall efforts to reduce poverty. Thirdly, urban development policy in Cameroon currently demands fresh evidence to shape its future orientation—one of the sectors being considered is the commercial motorbike sector. The evidence derived from this study contributes to inform the urban transport development policy for Bamenda and similar SSA cities.

The next sections of this article is structured as follows: In Section two, we provide a succinct review of the literature on the commercial motorbike sector in sub-Saharan Africa (SSA). Section three presents the materials and methods. Here we briefly describe the study area, and the data collection and analysis approach employed. Section four reports on the results of the study, focusing on the evolution and drivers of commercial motorbike growth, the determinants of actors’ engagement in this sector, and its contribution to poverty reduction. The last section concludes and also highlights future research needs.

2. A succinct review of the literature on commercial motorbikes in Sub-Saharan Africa
The expansion of the commercial motorbike sector in sub-Saharan Africa (SSA) is linked to the economic crisis of the 1980s, the defects of the structural adjustment program, and the collapse of public transit. In Nigeria, the commercial use of motorcycles could be traced back to the 1970s (Adefalu et al., 2013; Olubomehin, 2012). In a related dimension, Ladino (2012) showed that rapid urbanization and the failure of the public mass transit system precipitated the growth of the sector. The economic crisis of this period precipitated unemployment, which pushed many people to engage in the commercial motorbike sector. In other parts of SSA such as Niger, Cameroon, Togo, Benin, Uganda and Kenya, this sector began in the mid-1980s (Agossou, 2004). In the context of Bamenda, this sector is treated as being fairly recent (Fogwe, 2020). Kumar (2011)
however held that the ease of entry; low capital requirement and the ability to navigate congested and poor-quality roads with relative ease are some of the factors triggering the growth of commercial motorcycles. This further thrives under loose regulatory systems. In the same vein, Muggier (2017) noted that, loan repayment flexibility for motorcycle riders, government support and government policy (e.g., import duty exemption) caused many Kenyans to engage in the sector. In Cameroon, Ojong (2011) held that informality in the operation of commercial motorbikes and the lack of professionalism have led to its growth, in terms of the number of operators and in the number of motorcycles.

The introduction of the commercial motorbike sector brings with it a host of opportunities including employment to motorcycle mechanics and motorcycle spare parts dealers, local revenue generation through taxes on motorcycle riders, as well as motorcycle registration and licensing (Karema, 2013; Aluko, 2018). Oggunrinola (2010) proved that earnings realized from commercial motorbikes surpass the (then) minimum wage in Nigeria; this perhaps made the sector to be attractive to many educated youths. This view is shared by Adefalu et al. (2013) who revealed that the stable income and relatively higher freedom in commercial motorcycle operations attract people into the occupation. To Fogwe (2020), income is a key determinant of household youth involvement in the commercial motorbike sector. This view is shared by Kimengsi and Fogwe (2017) who stated that youths increasingly engage in commercial motorbikes as a livelihood strategy—even in declining towns. Ladino (2012) revealed that commercial motorcycle operators contribute to government revenue generation, while Kumar (2011) views the sector as an impact creator in terms of poverty alleviation in SSA. By speeding up transactions, transporting people and goods, bike riders contribute to the economy (Bürger, 2011). Despite its relevance, the sector is challenged by traffic congestion, rising informality and the lack of awareness on the laws/regulations relating to road use (Fortune, 2010). Added to these, WHO (2009) explained that the incessant accidents linked to the sector is a key challenge. This view is also shared by David and Asiwome (2017) who opined that the worst impact of commercial motorbikes is perhaps the high rate of motorcycle-related accidents recorded daily. Added to these are health risks linked to pneumonia, cold and catarrh (Zuure & Yiboe, 2017).

3. Materials and methods

3.1. Study site

Bamenda City (Figure 1) is located at the heart of the Western Highlands of Cameroon, characterized by elevations ranging between 1000 and 2000 meters above sea level (Saha & Tchindjang, 2017). Bamenda lies between latitude 5°94'N and 5°98’N of the equator and longitudes 10°15’E and 10°18’E of the Greenwich Meridian (Kimengsi & Fogwe, 2017). It is the capital of the North-West Region with Headquarter in Mezam Division and covers a surface area of about 37.560 km² (Bamenda City Council Report, 2015). Bamenda is bounded to the West and South West by Momo Division and Bali Sub-Division, respectively; to the North it is flanked by Bafut Sub-Division, North East by Tubah Sub-Division and to the South by Santa Sub-Division. It is made up of three Sub-Divisions (Bamenda I, II & III). The town lies between the High Lava Plateau (Up Station) at an altitude of about 1400 m above sea level, falling along the Cameroon Volcanic Line and the Low Plateau (Down Town) at an altitude of 1100 m above sea level separated by an escarpment (Kimengsi & Fogwe, 2017).

The study was carried out in the city of Bamenda, focusing on three municipalities—Bamenda I, Bamenda II and Bamenda III. Historical and explanatory research designs were used to investigate the evolution and drivers of commercial motorbike transport sector in the city of Bamenda. Historical research design enabled us to collect, analyze and describe the different events linked to the evolution of the commercial motorbike sector within the Bamenda urban space (Buckley, 2016). Explanatory research explains, predicts and controls relationships between variables (Sue & Ritter, 2012), focusing on how one or more variables (independent or explanatory variable) affects the dependent variables (Yin, 1994). These designs were used to investigate the
contribution of commercial motorbike transport sector in reducing poverty within the Bamenda urban space, determinants of actors' engagement in commercial motorbike sector and challenges faced. The target population included all registered commercial motorbike riders within the Bamenda urban space, which covers Bamenda I, II and III subdivisions. Other respondents targeted in the study were, the City Council officials, officials from the Delegation of Transport, North West Region and the commercial motorbike rider association official. Cluster sampling method was used to group the commercial bike riders for easy data collection. With this sampling method, the different bike riders were grouped into different major clusters or parks and each cluster given a name as presented in Table 1.

A Simple random sampling method was then used where two major clusters per sub-division and 25 riders per cluster or Park area were chosen at random without any bias to represent the study population. Simple random sampling allows each commercial motor biker an equal and fair chance of being selected to form part of the sample size. The study made use of both primary and secondary data sources. Primary sources of data collection involved the use of field observation techniques, interview and administration of questionnaires while secondary sources were mainly document analysis and archival material. A thorough field observation was carried out to observe the activities of commercial bike riders during the rainy season (September 2019) and the dry season

| Sub Division     | Cluster or Park Location                                                                 |
|------------------|----------------------------------------------------------------------------------------|
| Bamenda I        | Mile One junction, Customs, Ntenefor, Akumbele, Abangoh,                              |
| Bamenda II       | T-junction, City Chemist, Hospital Roundabout, Rendezvous Junction, Nghomgham Junction, Mbengwi Park, Nanga Junction, Nobel man, Mile 8 Mankon, Ntarinkon Market Park Area |
| Bamenda III      | Mile 6 Nkwen, Starlight College Junction, Mile 3, Mile 4 Nkwen, Farmer's House, New Road, Family Pharmacy, Below Foncha, PNEU, Mobile Nkwen, Mile 2 junction |

Source: Fieldwork (2020)
(January 2020). These two periods were chosen so as to ensure that seasonal differences which could potentially affect motor biking were factored in. Interviews were conducted to obtain vital information on issues related to the commercial motorbike sector especially concerning its evolution, functionality, contribution to poverty reduction and the challenges of the sector within the Bamenda urban space. The following four officials were interviewed: Chief of Service for Archives and Documentation at the Bamenda City Council, Regional Chief in charge of Land Transport and a transport specialist at the North West regional Delegation of Transport, and The President of the bike riders Association. An interview guide of 10 questions structured in line with the objectives of the study was design for the Bamenda city Council, the Regional Delegation of Transport North West and the commercial motorbike association leader. We designed a questionnaire consisting of 45 questions focusing on the evolution, functionality, contribution to poverty reduction and the challenges of the sector within the Bamenda. A total of 150 questionnaires were used to sample 3,000 registered riders giving a 5% sampling fraction. 40% of the questionnaires were distributed to riders on their waiting queue for them to fill at home and to be collected later, 10% of the questionnaire were distributed at their popular places of resting during break around their parks or cluster areas while 50% of the questionnaire were filled during the period of bike repairs around the cluster areas as this gave ample time for the riders to effectively fill the questionnaires while waiting for their bikes to be serviced. Data collected was analyzed in two phases. Phase one involved the descriptive analysis of results using qualitative techniques, while Phase two centered on inferential analysis. The Simple Linear Regression Analysis and Pearson Correlation Coefficient were employed. The simple linear regression model is preferred due to the simplicity adopted in predicting the relationship between unemployment (independent variable) and the growth of the commercial motorbike sector (dependent variable). It is equally relevant as it estimates the actual value of an outcome variable rather than its mean value (Ross & S. M., 2009). The Pearson Correlation Coefficient was employed because of its relevance in establishing a relationship between two variables (Sarah & Watters, 2008). In this case, the level of education and actor’s involvement in the motorbike sector on the one hand, and the growth of the commercial motorbike sector and poverty reduction on the other hand.

- The models used are presented below:
- Simple linear regression is calculated as follows:

\[ Y = a + bX \]

Where \( Y \) = dependent variable

\( X \) = independent variable

\( b \) = slope of the line

\( a \) = the y intercept (value of y when x is zero)

The Pearson Correlation Coefficient \((r)\) is calculated as follows:

\[ r_{xy} = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2} \sqrt{n \sum y^2 - (\sum y)^2}} \]

Where \( r_{xy} \) = Pearson Correlation Coefficient between the two variables

\( n \) = number of observations

\( x_i \) = value of x (for the observation)

\( y_i \) = value of y (for the observation)
The value of $r$ always ranges from 1 to -1. Positive values indicate positive correlations while negative values indicate inverse or negative correlations. A value of 0 indicates no correlation between the two variables.

4. Results

4.1. Socio-demographic correlates of sampled population

As presented in Table 2,

the sector is male-dominated with the dominant age group being 20–30 (48.7%). This age group is closely followed by the age bracket of 31–40 (28.0%). Most of the riders are residing within the Bamenda III Council Area (45.3%), followed by Bamenda II Council area (36.7%). Majority of the riders are secondary school dropout (36.7%). This is closely followed by those who attended primary school only (30.7%), High School (20.7%), those with tertiary level of education (7.3%) and the least those with no formal education just (4.7%). In terms of marital status, 40.6% of the riders are single as against 59.4% who are married. The majority of the riders have no child (37.3%), closely followed by those with a single child (34.0%) and those with 2 children (22.7%) while only 6.0% have 3–4 children and above.

| Variables                   | Frequency | Percentage |
|-----------------------------|-----------|------------|
| Gender of riders            |           |            |
| Male                        | 150       | 100        |
| Female                      | 00        | 00         |
| Total                       | 150       | 100        |
| Age group                   |           |            |
| <20 years                   | 9         | 6.0        |
| 20–30 years                 | 73        | 48.7       |
| 31–40                       | 42        | 28.0       |
| 41–50                       | 19        | 12.7       |
| 50+                         | 7         | 7.4        |
| Total                       | 150       | 100        |
| Sub-Division of resident    |           |            |
| Bamenda 1                   | 27        | 18         |
| Bamenda 2                   | 55        | 36.7       |
| Bamenda 3                   | 68        | 45.3       |
| Total                       | 150       | 100        |
| Level of education          |           |            |
| No former education         | 7         | 4.7        |
| Primary education           | 46        | 30.7       |
| Secondary education         | 55        | 36.7       |
| High school education       | 31        | 20.7       |
| Higher Education            | 11        | 7.3        |
| Total                       | 150       | 100        |
| Marital status              |           |            |
| Single                      | 61        | 40.6       |
| Married                     | 89        | 59.4       |
| Total                       | 150       | 100        |
5. Evolution of commercial motor bike transport sector

Findings revealed that Bamenda is amongst the last areas to witness the spread of motor biking as a commercial venture. According to the findings, the failure of government controlled transport company SOTUC and later SOCATUR due to managerial problems and government’s inability to continue subsidizing the transport sector gave a leeway for the development of informal commercial motorbike sector in Cameroon and Bamenda city in particular (Table 3).

As presented in Figure 2, the number of commercial motorbikes within the city of Bamenda was 200 by the year 2000 when the sector started in Bamenda City. By 2005, the number rose to 800 and then to 2000 in 2010. By 2015 number of riders increased to 3000 and by 2020, the number of riders within the Bamenda urban space as provided by the BCC stood at 5000. The Figure shows an increasing trend, indicating that from inception, the number of riders within the City of Bamenda have been on the rise, explaining why today most of the road junctions within the City of Bamenda are crowded with riders on the queue waiting for passengers. Most of these bikes originate from the Asian continent with majority coming from China. Some of the dominant brands include Sanya, Kymco, Nanfag, Sanli, BLI, Lifan, Senke, Galaxy, ZKC amongst others. The major clusters within the City of Bamenda include City Chemist Round about, Hospital Roundabout, Ntarinkon Park, Mobile Nkwen, T-junction and Mile 3 Nkwen having 30 commercial motor bikes and above in their queue (Figure 3).

6. Drivers of commercial motorbike growth within the Bamenda Urban Space

6.1. Unemployment and poverty

Findings reveal that the rising level of youth’s unemployment is a major trigger to the growth of commercial motorbike transport sector within the Bamenda urban space. The National Institute of Statistics (NIS) 4th Cameroon Household Survey (ECAM 4) shows that out of an estimated Cameroonian population of 21,657,488 in 2014, 37.5% were poor with North West occupying 13.2% of the figure. From the findings, majority of the unemployed people in Bamenda city are youths of between 20 and 30 years of age. Field evidence revealed that 50% of commercial bike riders are youths who had no source of employment prior to joining the sector. Observations reveal that the expansion of this sector has been triggered by youth unemployment—youths have
therefore embraced the sector as a panacea to their unemployment crises, fostering the growth of the sector. A respondent recounted that:

As more and more youths make their way to the city from the surrounding divisions such as Bui, Boyo, Momo and Menchum, a good number of them decided to engage in the bike sector before switching to other sectors.

The need for self-employment and income augmenting accounted for 60% and 34.1%, respectively, as reasons why operators are in the business.

7. Flexibility of the service/ easy maneuverability

The growth of the commercial motorbike sector in Bamenda City is equally attributed to the flexibility of its services. As reported by respondents, motorbikes are quick, able to travel on roads that are in poor condition, provide door-to-door services. Convenience, door-to-door service, savings in time, ability to serve low density areas, and flexibility are additional reasons for the growth of commercial motorbike sector in the city of Bamenda. We observed that commercial motorbikes provide accessibility to outlying peripheral areas, typically home to low-income groups, which are inaccessible by four-wheeled vehicles. Most of the roads in Bamenda were designed when the city had no Master Plan and so houses were raised in many areas without following urban norms, consequently some of the Quarters, such as Sisia
and Ntankah Quarters do not have good access roads that township taxis and other vehicles can easily move through except with the use of commercial motorbike service. A respondent recounted that:

commercial motor bike operates as a personal mode allowing direct connections across orbital routes instead of multiple transfers and longer times by taxi to reach destination. There is no road that is too narrow and there is no area too remote for motorcycles to reach within the Bamenda city. Also, they are faster and save time than other means of transportation. They can maneuver their way through traffic congestion and they do not stop like commercial vehicles at bus stops to pick passengers.

For most areas of the town, traffic flow remains a daily huddle especially during rush hours (7–10 am and 5–8 pm). With such traffic, vehicles remain standstill for many hours and the only easy means to move at this juncture is with the use of commercial motorbikes that can easily maneuver with their small size through the traffic. City chemist, Ngen Junction, Mobile Nkwen, Veterinary Junction, Food Market Street and Hospital Roundabout are major areas of traffic during rush hours in Bamenda city.

8. Effect of the anglophone crisis
Twenty Percent of the riders have joined the sector because of the Anglophone crisis in the country that started since 2016 in the North West and South West Regions of Cameroon. Bamenda City has been the heart of education, most especially at the secondary and High School levels with renowned private Colleges. However, for the past four years, the city has witnessed a great decline in enrolment into these schools as students and teachers have been targeted and forced to abandon schools due to the crises. This has forced many youths who are unable to go to school to join the commercial motorbike sector, which is considered by many of them as a source of quick income. This is one of the reasons why the number of riders have increased tremendously between the period 2015 to 2020 with the addition of 2000 bike riders more than any other timeline.

9. Increase in urban population and insufficient paved roads
The growth of the commercial motorbike sector in Bamenda city is equally triggered by the expansion of the urban population without a corresponding increase in urban road development. Figure 4 shows the evolution of the Bamenda urban population.

As presented in Figure 4, the urban population of Bamenda increased from 337,000 in 2010 to 428,000 in 2015, and to 533,000 in 2020. The urban population of Bamenda City is projected to reach 873,000 by 2035. The urban surface has expanded as well into areas such as Mulang, Ntankah, Mile Six Nkwen, Mile Seven Alarfumbi Mankon amongst others, areas which initially were great agricultural zones. In Bamenda II, for instance, there was an increase in the surface area for settlements from 2100 ha to 3540 ha, while in Bamenda III, the surface area for settlements increased from 1389 ha to 2943 ha between 2000 and 2015 (Gwan & Kimengsi, 2020). Unfortunately, this expansion is not matched with an increase in supply of public transport and paved roads. Growth in the commercial motorbike transport is a “bottom-up” response to a shortage of transport affecting private vehicles, road infrastructure and public transport.
Table 4. Comparison between documents needed to run a commercial motorbike and a commercial taxi in Bamenda city

| List of main documents needed to operate a commercial motor bike | cost(FCFA) | List of main documents needed to operate a commercial taxi | Cost(FCFA) |
|---|---|---|---|
| Driving license category “A” | 85,000 (average) | Driving license category, “B” | 90,000 (average) |
| Registration certificate | 20,000 | Registration certificate (Carte Gris) | 34,000 |
| Insurance | 18,000 | Insurance | 35,000 (for 3 months) |
| Certificate of road worthiness | 5,000 | Windshield license((Vignette) | 25,000 |
| Jacket | 1,000 | Public road transporter license (Carte bleue) | 20,000 |
| Payment of global tax (impôt liberatoire) | 12,000 | Payment of global tax (impôt liberatoire) | 13,125 |
| Windshield license((Vignette) | 2,000 | Certificate of road worthiness (visite technique) | 5,000 |
| Transport capacity (Capacité de transport) | 50,000 | Motor park fee | 5,000 |
| Badge(bache) | 5,000 | | |

| Total cost | 143,000FCFA | Total cost | 232,125FCFA |

Source: BCC, 2020, Regional Delegation of transport for North West, (2020), Fieldwork, June 2020
transport. Operators of commercial motorbikes have capitalized on these shortfalls to fill the gap thereby increasing the number of commercial motorbikes on the roads. Field study carried out show that from Food Market, passing through City Chemist Roundabout, Sonac Street, Ngen Junction, Mobile Nkwen, Mile Two Junction right up to Amour Mezam, the roads are all degraded and need urgent maintenance with many potholes making movement of vehicles cumbersome except with the use of commercial motorbikes. This in a nutshell has triggered the growth and continue to foster the growth of the commercial motorbike sector within the Bamenda urban space.

10. Ease of entry

This sector is growing tremendously because it is a business free for all entrants. Unlike other professions which may require a certain level of qualification, the riders of commercial motorbike do not require any special qualification to commence the activity. People of all categories can easily make their way into the sector. Findings also show that many of the riders simply do not go for any proper training prior to their engagement into commercial riding as compared to other occupation such as teaching, nursing or tailoring, where one must spend two, three and even four years for training. 75% of the riders are those trained around the quarters, some use playgrounds as their training centers. After this the next thing is to get a motorbike and enter the street. With this, it is therefore very easy for them to commence the activity. In a chat with a 35 years old anonymous rider, who has worked as a commercial bike rider for 10 years, this is what he told us in the field:

I was trained by my friend in the quarter and I only contributed money for fuel. After that my elder brother donated his bike for me to start the business.

Table 4 present a comparison made between documents needed to run a commercial motorbike and those needed to run a commercial taxi and indicates that it much easier to commence and operate a commercial motorbike than a commercial taxi, even though many of them still end up not acquiring these documents. The documents needed to operate a commercial motorbike as listed in Table 4 are not only small but are cheaper to obtain compared to those needed to run a commercial taxi in Bamenda city thus encouraging many actors to join the bike sector and promoting its growth.

11. Quick income offered by the sector

Growth in the commercial motorbike sector within the city of Bamenda is also because it is a source of quick income for the actors involved. According to findings, a smart commercial bike rider working for someone else can easily make between 2,000 and 2,500 FCFA as profit per day while a rider riding his own bike can easily make between 4,000-5,000FCFA as profit per day. Summing up all these, a rider can earn a monthly income ranging between 60,000 and 75,000 FCFA for those employed by others and monthly income between 120,000 and 150,000 FCFA for

| Income variation   | Riders with Non-Bike ownership | Riders with bike ownership |
|--------------------|--------------------------------|---------------------------|
| Daily income       | 2.500FCFA excluding feeding and petrol fee | 5.000FCFA excluding feeding and petrol fee |
| Weekly income      | 17.500FCFA                      | 35.000FCFA                |
| Monthly income     | Average of 60,000FCFA excluding maintenance fee of at least 10,000FCFA | Average of 130,000FCFA excluding maintenance fee of at least 10,000FCFA |

Source: Fieldwork, June, 2020
those who are self-employed. Quick instant incomes drained more and more youths into the venture triggering the growth of the sector. 75% of commercial motorbike riders are into commercial motorbike riding because of the quick income the sector offers. Such quick income is so tempting to youths especially those who want to make quick money at the shortest time possible thus a driving force fostering the growth of the sector within the Bamenda Urban Space (Table 5).

12. A loose regulatory framework
The emergence and growth of the commercial motorbike transport sector in Bamenda is also facilitated by shortcomings in local public transport regulations. When the first motorbike appeared in Bamenda, motorized two-wheelers were thought of exclusively as a personal transport mode. The administrative and regulatory authorities did not even envisage their use for public transport. The increasing role of commercial motorbikes in public transport gradually led the authorities to take more notice of them. Order N° 291 of 30 June 1975 regulates the profession of taxis in towns but did not mention the use of motorbikes as a taxi. Nevertheless, the Prime Minister’s Decree N°2008/3447/PM/ of 31 December 2008 sealed the conditions of exploiting a motorbike for commercial purposes in the public transport system. But enforcement of this law has been problematic. Most commercial motorbike operators in Bamenda still do not have the necessary licenses and administrative documents and do not also comply with other formalities such as the need for the driver and passenger to wear a helmet or the need to paint the bike yellow. Many can escape from the absence of the requirements needed to operate a bike thus reasons why the sector is growing yearly. The sector is growing partly because of the illegal nature of operation carried out by the operators. Most of the bikes are not registered at the council. Although field work shows that they are about 5000 commercial motorbike riders in Bamenda City, only about 3000 of this number are registered commercial motorbike riders according to sources from the BCC. According to one anonymous rider who is a part time primary school teacher and a commercial motorbike rider for more than five years,

we are never asked to present any papers at majority of the control points. When they stop us, all we do is to pay 500FCFA at every control and we are allowed to go.

The Linear regression was performed to ascertain whether the growth of the commercial motorbike transport sector is a function of unemployment (Table 6).

| Model | R   | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-----|----------|-------------------|-----------------------------|---------------|
| 1     | .811a | .658     | .656              | .31373                     | 1.589         |

a. Predictors: (Constant), Unemployment
b. Dependent Variable: Growth/development of commercial motorbike sector

| Model | Sum of Squares | Df  | Mean Square | F     | Sig. |
|-------|----------------|-----|-------------|-------|------|
| Regression | 28.026  | 1   | 28.026      | 284.741 | .000a |
| Residual   | 14.567  | 148 | .098        |       |      |
| Total      | 42.593  | 149 |             |       |      |

a. Dependent Variable: Growth/development of commercial motorbike sector
b. Predictors: (Constant), Unemployment
Table 8. Coefficient table for unemployment and growth of the commercial motorbike sector

| Model   | Unstandardized Coefficients | Standardized Coefficients | t     | Sig. | 95.0% Confidence Interval for B |
|---------|-----------------------------|---------------------------|-------|------|---------------------------------|
|         | B                          | Std. Error                | Beta  |      | Lower Bound | Upper Bound                   |
| 1       | (Constant)                 | −2.519                    | .198  | −12.725 | .000 | −2.910 | −2.128                   |
| Unemployment | .858                    | .051                      | .811  | 16.874 | .000 | .758  | .959                      |

a. Dependent Variable: Growth/development of commercial motorbike sector
From Table 6, unemployment is responsible for 65.8% increase in the growth/development of the commercial motorbike sector in the city of Bamenda \((R^2 = 0.658)\). The table also revealed that the model would be 99.8% reliable if applied to the entire population of the study area rather than just the sample that was used for the survey. More details on the analysis were revealed by the ANOVA (Table 7).

Table 7 shows that the model was significantly better for predicting the outcome variable than the mean. At one degree of freedom, the model significantly predicted growth of the commercial motorbike sector in the city of Bamenda \((F (1, 150) = 248.74, p < .001)\). The coefficient table (Table 8) for the variables shows the contribution of unemployment to changes in the growth of the commercial motorbike sector in the city of Bamenda.

Based on Table 8 a unit increase in the standard deviation of unemployment is responsible for 0.811 increase in the standard deviation of growth in the commercial motorbike sector. The p-value of the analysis of less than 0.05 imply that unemployment significantly contributes to the growth and development of the commercial motorbike sector in the city of Bamenda thereby confirming that the growth of the commercial motorbike transport sector in the city of Bamenda is a function of unemployment.

13. Determinants of actors’ engagement in the commercial motorbike transport sector

Using the Pearson’s correlation matrix (Table 9), a strong positive correlation of 0.768 was observed between level of education and actors involved in the commercial motorbike sector. The p-value of the analysis is less than 0.05 indicating that the nexus between both variables is statistically significant. Hence, low level of education is accompanied by increase in actors’ engagement in the commercial motorbike sector. There is therefore a diminishing number of actor’s engagement in commercial motorbike riding with increasing level of education as many actors will prefer to work in other sectors than commercial motorbike with increasing level of education and training. The implication of this result is that, the higher the level of education, the lower the degree of engagement of actors in

| Table 9. Pearson correlation matrix between level of education and actor's engagement |
|-------------------------------------------|------------------|------------------|
| Level of education | Pearson Correlation | Sig. (1-tailed) | N | Actors engagement | Pearson Correlation | Sig. (1-tailed) | N |
|---------------------|---------------------|------------------|---|---------------------|---------------------|------------------|---|
| Level of education  | 1                   | .768**            | 150 |                      |                      |                 |   |
|                      | Sig. (1-tailed)     | .000             | 150 |                      |                      |                 |   |
| Actors engagement   | .768**              | 1                | 150 |                      |                      |                 |   |
|                      | Sig. (1-tailed)     | .000             |     |                      |                      |                 |   |
|                      | N                   | 150              | 150 |                      |                      |                 |   |

**Correlation is significant at the 0.01 level (1-tailed).
commercial motorbike riding and the lower the level of education, the higher the level of engagement into commercial motorbike riding.

14. Monthly (Seasonal) variation of income

Monthly variations in incomes were observed. During the raining seasons especially during the peak (July August and September) when torrential rains are so frequent, there is a dropped in income for both parties to 4000FCFA on average for self-employed riders and 2000FCFA on average for riders employed by others as presented.

Figure 5 revealed that the trends in the monthly variation of commercial motorbike income. December month has the highest income on average as many activities are always programmed during these periods including cultural festivals, and Christmas celebration took place during this month that necessitate the movement of people with the use of commercial motorbike. Generally, most riders prefer the dry season than the rainy season as more income is made during this season. Although majority of the months have similar monthly income, the month of July, August and September have lower average income due to excessive rains. The area that has a big question however is in the sphere of housing where 5% could obtain a home of their own and the number only increase by 5% to 10% after their engagement into commercial motorbike riding. One of the respondents narrated.

I cannot tell you that this sector is bad, because it is from there that I feed my family, and I can assure you that my family of two children has three square meals per day, my two children were schooling at Greenlight primary school Ntarinkon before the crises came in. I also used money from my commercial motor bike riding to buy my children dresses and other needs.

However, the contribution made in health are beyond average and that for housing is extremely low indicating that bike riders might find it difficult to establish a home of their own with just the income emanating from commercial motorbike activities. The overall assessment shows that the commercial motor bike has alleviate the poverty level of the riders in areas such as income, education, sanitation, health and housing which are key indicators of poverty. Based on Table 10, the Pearson Correlation Coefficient between the two variables is \textbf{0.479} while its p-value is less than \textbf{0.05}. This implies that a moderate positive correlation exists between poverty alleviation and growth of the commercial motorbike sector in the city of Bamenda. Thus, growth in the commercial motorbike sector is accompanied by moderate progress in poverty reduction.

| Table 10. Pearson correlation matrix between growth of the commercial motorbike sector and poverty reduction |
|---------------------------------|---------------------------------|---------------------------------|
| Growth of commercial motorbike sector | Pearson Correlation | .479** |
| Sig. (1-tailed) | .000 |
| N | 150 |

| Poverty alleviation | Pearson Correlation | 1.000 |
| Sig. (1-tailed) | . |
| N | 150 |

**Correlation is significant at the 0.01 level (1-tailed).
15. Conclusion

Commercial motorbikes transport within the Bamenda urban space started in the year 2000 with 200 commercial motorbike riders and today the number has swelled up to more than 5000 commercial motorbike riders. Based on the results, the following conclusions are derived: Firstly, the growth in the commercial motorbike sector is linked to rising unemployment. Most youths (including graduates) who move into the city easily engage in commercial bike riding, since the entry criteria is not demanding in terms of time and money. However, the dynamics of the categories of unemployed people who embrace this sector needs to be given due attention in future studies. Secondly, the low level of education of urban actors precipitate their increasing involvement in the motorbike sector. Most of the Bamenda Youths are taking the sector as a starting point to begin life and move into other areas in future. It should be noted that this activity is exclusively carried out by males, as the study did not observe any female bike rider. This creates an interesting avenue to understand why females do not engage in the commercial motorbike sector. Furthermore, whether this activity is practiced on a full-time basis or serves as a complementary activity to other portfolio of livelihood strategies needs to be determined. Thirdly, while the motorbike sector demonstrates signals of a positive contribution to poverty, future research needs to establish the extent to which this sector could support long-term poverty reduction in growing cities. Also, while this sector remains a veritable sector for the economy of Bamenda and a panacea to youth unemployment and poverty reduction synergistic interaction between the administrators of the sector and the bike riders is strongly required to improve sector coordination and enhance the financial performance of the sector. This paper contributes to theoretically position the commercial motorbike sector as a potential contributor to urban poverty reduction.

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