



The analysis of the causes of traffic accidents known by road users and means of prevention in Gbado-Lite city (Democratic Republic of the Congo)

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Abstract

This survey was carried out in the Province of Nord-Ubangi, precisely in the city of Gbado-lite between 2014 and 2017 from the observations made about the behavior of road users, of survey questionnaires submitted to the target population and the statistical data collected by the road circulation police (PCR) as well as the agency of the National Society of insurance (SONAS) city of Gbado-Lite. We supposed that the rate of accidents recorded in the city of Gbado-Lite would be raised. To verify this hypothesis, we resorted to the analytic method accompanied by the documentary technique and questionnaires.

The findings showed that most road users facilitate the move of female sellers but there are several disadvantages to this mode of transportation which worries the local population. This bad behavior of road users causes several road accidents. Thus, prevention measures have been proposed in order to reduce the traffic accident rate. These findings confirmed the hypothesis of the current study. In conclusion, the rate of circulation accidents known by the road users is still increasing, however the means for their prevention are nearly non-existent that it is more that imperious to dedicate some efforts there in order to put them in place.

Keywords: road users, accident, perceptions, prevention, gbado-lite, Democratic Republic of the Congo

1. Introduction

The UN General Assembly has decreed October 12 of each year as "International Road Safety Day", the Democratic Republic of the Congo (DRC) has decreed October 13 of each year as International Road Safety Day. The use of roads by both drivers and pedestrians is a major concern that led the United Nations body to vote for the road safety 2011-2020. As for the DRC, it has set up a ten-year national action plan for road safety, which has been structured around five main areas of intervention, namely:

- The strengthening of the organizational and operational capacities of institutional road safety stakeholders, through Workshops and training;
- Research focused on the risk behaviors of road users.
- Raising awareness among road users in order to make them adapt safer behavior;
- An advocacy for the introduction of road safety at the primary school level with the updating of the school's traffic regulations.

Moreover, traffic accidents are so frequent that the rate continues to rise on a daily basis; prevention measures are essential. Thus, our concern revolves around the question of whether there are effective accident prevention measures in the city of Gbado-Lite or not. As an interim response, we believe that there are no means in place to prevent accidents in the city of Gbado-Lite.

In conducting this study, the main objective is to encourage the provincial or even urban authority to take a courageous and documented decision by setting up a structured road prevention policy within the framework of a specialized technical service such as the National Road Prevention Commission (NRPC). The

results of this study could be used by road users to observe safer behaviours and to enable managers to reduce the statics of traffic accidents because it is a matter of preserving human lives.

2. Material and Methods

The method is defined as the set of steps that the mind follows to discover and demonstrate the truth that the scientist reaches an interesting and admissible conclusion. For this study, we used the analytical method and documentary techniques along with questionnaires.

These instruments allowed consulting the information contained in various written documents and other media in order to produce a result and also to collect information that could verify the hypothesis of the current study.

Before carrying out our in-depth study on the causes of traffic accidents and its means of prevention in the city of Gbado-Lite, it seems appropriate to indicate or fix ideas on some common concepts.

2.1 Conceptual definition

- Accident: an unforeseen event that has unfortunate consequences. An unexpected event, occurring suddenly, that causes material or physical damages.
- Traffic accident: it is an unforeseen event occurring during the circulation of road users (pedestrians, vehicle drivers, motorcyclists, etc.)
- User: it is a person who has the right of use something specific to the context of application.

- Road user: it is anyone who uses the road as means of transportation and communication. He can be a pedestrian, a cyclist, a motorcyclist, a driver, a vehicle driver. Anyone who uses the road as a means of transport and communication. The use of the road requires compliance with a highway code.
- Road: The term road refers to the entire right-of-way of any road or street open to public traffic;
- Prevention, it is an action to prevent, action to be taken for certain risks.
- Prevention Means: Are all the measures put in place to prevent certain risks, dangers or accidents. Road signs, markings and traffic lights are preventive measures.

The Highway Code, a set of laws and regulations governing the use of public roads by road users, in order to prevent risks, is a very decisive element.

Transportation is recognized as one of the sectors that contribute to the integration of a country's socio-economic activities and also to their cross-border impact, such as trade between different countries. There are different types of transportations:

- Maritime transportation
- River transportation
- Air transportation

- Rail transportation
- Road transportation

The latter is undoubtedly the best known and oldest of all transport worlds; it occupies the lion's share among all the others and offers the following advantages: flexibility, ease of change and unloading. As much as there are several types of transport, there are also several means of transportations, including cycling, motorcycling, lorry, train, boat, etc. In the province of North Ubangi, precisely in the city of Gbado-Lite, there are bicycles, motorcycles, trucks, cars as a means of land or road transport; one could also mention the plane as a means of transport in the city of Gbado-Lite, thanks to Moanda International Airport.

2.2 Causes of accidents and means of prevention in the city of Gbado-Lite

As pointed out, the most commonly used means of transport in Nord-Ubangi province in general and in the city of Gbado-Lite in particular remain the land or road transport modes; thus, the most visible are: bicycle, motorcycle, truck, cars, pedestrians and others. The accidents are hazardous and are justified by numerous causes, namely: speeding, drunkenness, poor road conditions, lack of road signs, excessive loading, as shown in the figure 1 below.



Fig 1: Some illustrations of taxi transportations and charges carried on these engines in Gbado-Lite city

3. Results and Discussion

As part of the current study, the investigation was on the bicycle transport commonly referred to as "Toleka" by the "Tolekiste". The results of this investigation are presented in the figures 2 to

7.

The figure 2 gives the means of locomotion widely used in Gbado-Lite city.

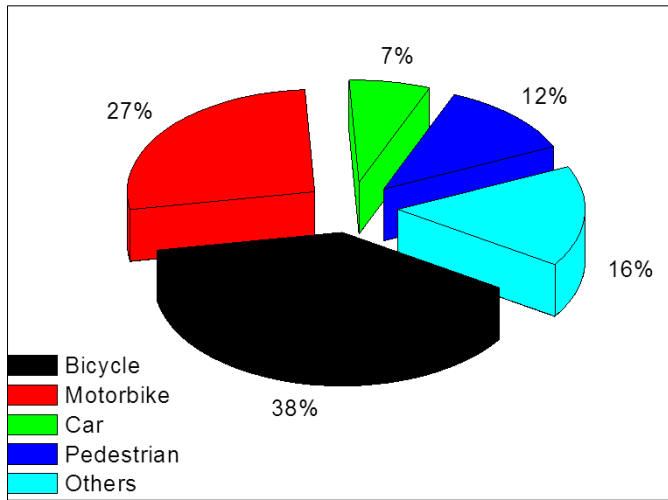


Fig 2: Various means of transport used in Gbado-Lite city

It was observed that the "Toleka" bicycle taxi is the most commonly used means of transport in Gbado-lite city as reported most of respondents. Some of them do not ride bicycles because of their health, so they prefer to walk. Others means are also used but at a low rate.

From the figure shown above, the virtual disappearance of other modes of transport or their very limited number, the movement of road users is difficult. The "Toleka" or bicycle-taxi phenomenon has been temporarily remedied, saving time and energy. In addition, Tolekist carriers play almost the same role as taxis as long as they drop off their customers at the indicated location. However, there are roads or avenues in some districts that can only be used by Tolekist bicycles; this justifies the high rate of bicycle use in this area.

What are the attitudes of our respondents on the bicycle taxi: Toleka? The feeling of respondents the means of transportation is presented in the figure 3 below.

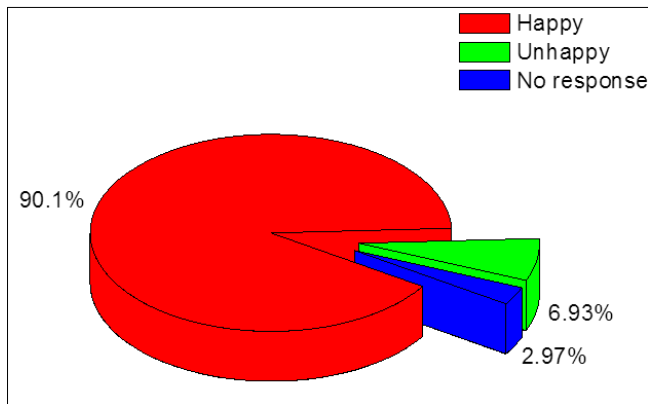


Fig 3: The feeling of respondents regarding means of transportation

The benefits shown above, most respondents (90.1%) are satisfied with the bicycle-taxi phenomenon. But only 6.93% are not satisfied by this means of transportation while 2.97% who did not answer the question. The reason is that they find it humiliating and demeaning to be transported on a bicycle taxi in the city of

Gbado-Lite; the city of the late President Mobutu. Different disadvantages associated to the bicycle taxi transportation are presented in the figure 4 below.

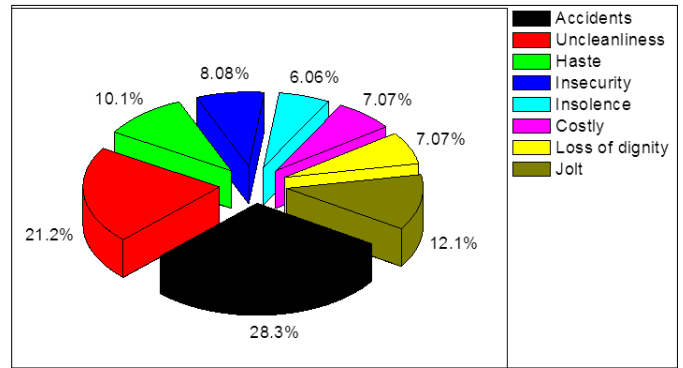


Fig 4: Various disadvantages associated with the bicycle taxi transportation

Since the advent of the bicycle-taxi phenomenon, traffic accidents have only increased, if not from day to day, but on an almost regular basis, it is no less true that their annual rate would exceed that of accidents caused by other means of transportation while they were still numerous. All the female sellers we spoke to have already witnessed at least one case of an accident; some have even been victims. In addition, the lack of time and the search for potential customers do not allow cyclists to be clean. Indeed, they travel the city's various arteries in the morning until sometimes late in the evening; others work until after midnight. The shopping they do makes them sweat and therefore dirties their clothes. It is not surprising that they sometimes exalt a bad smell. The insecurity of which the respondents spoke about is mainly related to natural bad weather such as heat, rain, wind, dust, etc. unlike many vehicles that have means of protection, the bicycle has none and ipso facto exposes the carrier and his customer to all these bad weather conditions.

Different causes of accidents are presented in the following figure 5.

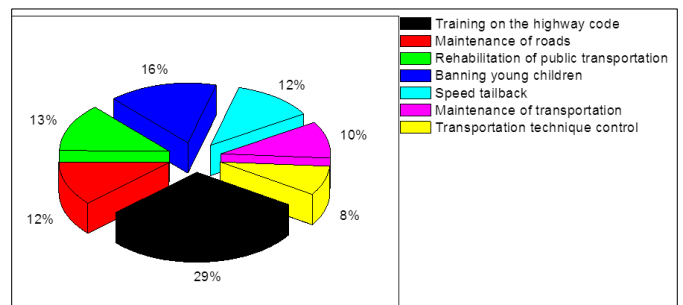


Fig 5: Different causes of accidents of bicycle taxi transportation

Bike-taxi carriers need to earn as much money as possible before they stop their races in order to honor their commitments to their bosses. To achieve this, you have to do a lot of rotations or races. As a result, they rush and often lack control, sometimes resulting in road traffic accidents. It is also important to note that the increasingly disastrous state of the roads, ignorance of the

highway code, level of education, age of the driver, poor state of bicycles, fear of customers, excessive loads, drunk driving. This is due to the fact that many customers prefer to be transported with their packages on the same bicycle, as the use of a cart would be more expensive and would take much longer.

Another fact worth noting is that the population of Gbado-Lite (the Lite people) who have money, realize that the bicycle has become a production unit as a result of its role in urban transport, invest part of their money by buying bicycles, which are used as rentals by transporters for US\$1.8 payment per day and per bicycle or even more; All you have to do is walk along the city's main roads to see the increase in the number of bicycles. This can lead to high mobility and cause traffic accidents.

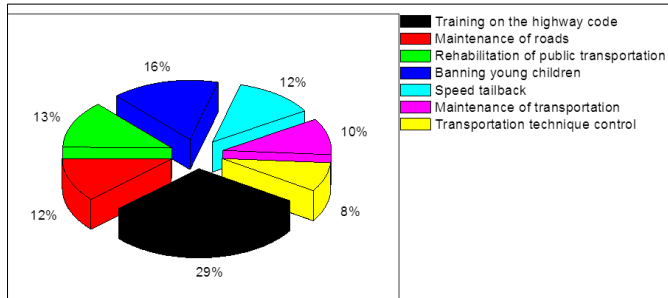


Fig 6: Means of prevention and/or decreasing of accidents

Among the causes of traffic accidents recorded, the ignorance of the Highway Code is one of the most causes frequently cited. As per respondents, it seems that bicycle-taxi are less compliant or even doing not comply with the law in terms of road traffic. This is why the mothers selling in the central market suggested a training on traffic regulations for bicycle-taxi drivers in order to reduce the accident rate. But Kambali et al. (1983) [3] go further and propose that training and information seminars on road safety should be designed for all road users. In short, they continue, we should be able to give a popular education on the Highway Code. In a way, it means "raising awareness" of the problem of road traffic.

It should also be noted that road safety can only be ensured by driving on well maintained and passable roads. Thus, a request is made to governments to develop roads and provide the city with adequate means of transport i.e. the need of rehabilitating public transport. Women vendors also believe that the age of the carrier is one of the causes of accidents. They then estimate that if taxi-bike transport were banned for young children aged from 15 and under, traffic accidents would decrease. But they are unaware that this can only be possible if the socio-economic situation of civil servants agents and officials improves. Otherwise, as at present, young people, or even children, do any work to support themselves and/or their families. It is therefore imperative to make certain proposals that can consider solutions to transport problems in the City of Gbado-Lite.

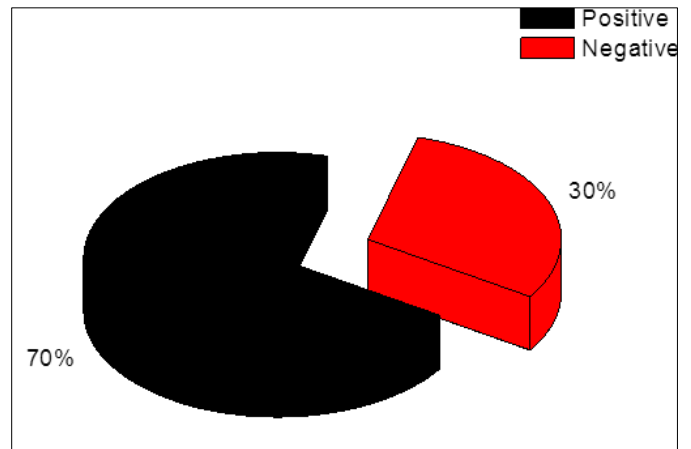


Fig 7: Different opinions of respondents on the solution to the transportation problem

For the majority of female vendors and other road users, the transportation problem is solved. They refer to the advantages listed above and believe that the bicycle taxi provides daily travel instead of other means of transport. However, 30% of road users believe that the use of bicycle-taxi is demeaning or even humiliating and would like public transport to be rehabilitated.

When will this rehabilitation take place? Until this happens, it is undoubtedly true that the bicycle taxi is essential for transport in the city of Gbado-Lite where all other means of transport are almost impossible to find; they are insufficient and cannot be within the reach of all budgets. This does not mean that the bicycle taxi solves the problem; it is, as we said earlier, only an intermediate and temporary solution. However, with the deterioration of socio-political-economic life in our country, we fear that the temporary will last. Our wish is that there be a real change in the DRC so that the living conditions of the Congolese people in general and that of the city of Gbado-Lite in particular can be improved in all areas, including public transport.

4. Conclusion

Since August 30, 1978, the road safety in the DRC has been governed by Act No. 78-022 on the new Highway Code. This law, which replaces Colonial Ordinance No. 62/12 of January 1957 regulating the traffic police and traffic, is based on the Vienna International Convention on Road Signs and Traffic. We can affirm that the use of the road is subjected to compliance with this code, a document to be used by all to know the regulations on road traffic.

Traffic accidents have several causes that we have listed above; this is why preventive measures must be taken in order to reduce accident rates. The findings showed that the accident rate in the city of Gbado-Lite continues to increase due to a lack of effective prevention measures. Thus, we advocate that an adequate and coordinated policy be set up within the framework of the National

Commission for Road Prevention, a technical service placed under the supervision of the Ministry of Transport and Communication Roads of which the main mission is to make all road sections in the country read and readable by roadway signage in order to prevent accidents;. This service, which has just set up in the province of North Ubangi and of which the head office is located in the city of Gbado-Lite, must therefore carry out a vast campaign to raise awareness among road users, namely: drivers of bicycles, motorcycles, vehicles, cart drivers and even pedestrians, to identify them in order to train them to know the New Highway Code and to apply it. Since the road safety is a collective matter, it is important for everyone to adopt a new behavior that would protect them from accident risks that could be avoided simply by adopting responsible behavior.

5. Acknowledgements

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