

CONTRIBUTION OF BUTANE GAS TO THE DYNAMISATION OF INTRA-URBAN TRANSPORT IN DALOA

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RESUME

Suite à la période de l'instabilité politique (de 2000 à 2011) en Côte d'Ivoire, la circulation urbaine ayant été morose à Daloa, est désormais animée par des engins vétustes de taxis, munis de fûts à gaz-butane. Le laxisme des structures étatiques a également favorisé leur dépendance aux activités artisanales de transvasement du gaz-butane. Néanmoins, avec l'usage récurrent de ce "carburant gazeux", la maximisation des gains financiers de ces promoteurs du transport intra-urbain se réalise au détriment de la sécurité des navettes des usagers. L'objectif de ce travail porte alors un regard critique sur le transport intra-urbain actuel à Daloa. La méthodologie mise en œuvre découle d'une recherche documentaire puis, une observation de terrain pour la quête d'informations et de données. L'enquête par questionnaires est réalisée par le biais d'un échantillon d'exploitants de véhicules de taxis, d'artisans livrant illicitement du gaz-butane. L'entretien semi-directifs s'est enfin effectué au sein de la direction régionale des hydrocarbures, de la direction technique de la Mairie, de la direction régionale de l'assainissement et de la salubrité. Ainsi, l'étude relève le bouleversement des activités relatives au transport intra-urbain à Daloa dues aux troubles sociopolitiques. Face au difficile renouvellement du parc de véhicules de taxis, la résilience des promoteurs du transport collectif de masse a suscité un intérêt majeur pour le produit gazeux des fûts B₆ et B₁₂, destinés aux ménages domestiques.

MOTS CLES : Côte d'Ivoire, Daloa, contribution, dynamisation, gaz-butane, transport intra-urbain

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ABSTRACT

Following the period of political instability (from 2000 to 2011) in Côte d'Ivoire, urban traffic in Daloa has been gloomy and is now driven by antiquated taxis equipped with butane gas drums. The laxity of state structures has also encouraged their dependence on artisanal activities of decanting butane gas. Nevertheless, with the recurrent use of this 'gaseous fuel', the maximisation of the financial gains of these promoters of intra-urban transport is achieved to the detriment of the safety of the users' shuttles. The objective of this study is to take a critical look at current intra-urban transport in Daloa. The methodology used is based on documentary research and field observation to gather information and data. The questionnaire survey was carried out through a sample of taxi operators and artisans who illegally deliver butane gas. The semi-structured interview was carried out at the regional directorate of hydrocarbons, the technical directorate of the town hall, and the regional directorate of sanitation and health. Thus, the study notes the disruption of intra-urban transport activities in Daloa due to socio-political unrest. Faced with the difficult renewal of the taxi fleet, the resilience of mass transport promoters has led to a major interest in the gaseous product of B₆ and B₁₂ drums, intended for domestic households.

KEY WORDS: Côte d'Ivoire, Daloa, contribution, dynamisation, gas-butane, intra-urban transport

INTRODUCTION

In Côte d'Ivoire, in the national regions located in the interior of the country, the urban space is expanding along with the deterioration of the means of transport. Urban mobility is struggling to create real regional economies throughout the country (I. Kassi, 2007, p.74). As for the emulation of democracy in the Ivorian creed and the explosion of the precariousness of the habitat of the city dwellers, the period of socio-political unrest (from 2002 to 2011) allowed the usefulness of an urban transport system in Daloa to be gauged. However, the master plan of the said city predisposed it to be an essential link in the urban system of the country. For it was intended to polarize the economy of West Central Côte d'Ivoire (W.G. KOUKOUNGON, 2012, p.90). In fact, the origin of this asset dates back to 1929 when the rurbanization of the original village was carried out through colonial activities. Indeed from December 10, 1891, the administrative division of colonized territories in West Africa, allowed its territorial support to be designated colony of Côte d'Ivoire (A.J. DJAH, 2014, p.56). Nevertheless, the pacification of this French entity having lasted long and difficult years allowed the creation of military circles. They then put a stop to the vellétés and attitudes of nomadism of the resident peoples. As for the territorial administration according to the law n° 59- 4 of March 28, 1959, it divided the said colony into four departments and then, designated their respective chief towns (A.J. DJAH, 2014, p.57). Except for the other departmental entities (Abidjan, Bouaké and Korhogo), this pretty city of Daloa was designated the chief town of the 2nd department of the said colony of Côte d'Ivoire (W.G. KOUKOUNGON, 2012, p.83). But since 1960, with the evolution of administrative activities over the decades, its status as chief town is successively assigned to the sub-prefectural entity in 1961, to the region of Haut-Sassandra in 2011 and finally, to the Autonomous District of Haut-Sassandra from 2021.

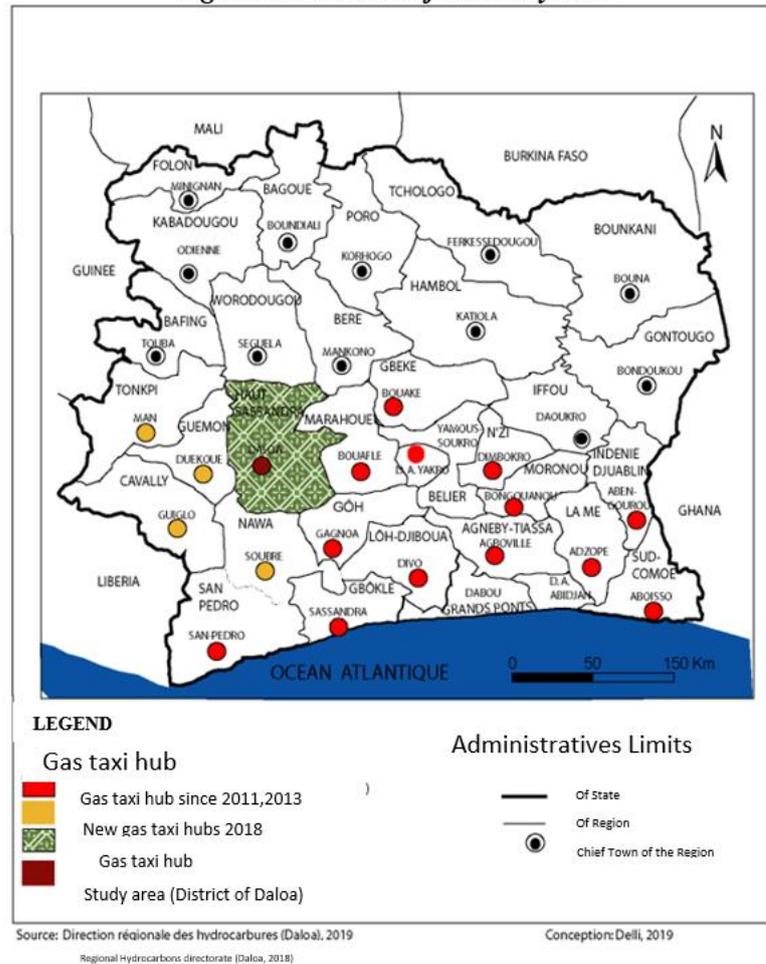
In addition, like other activities of urban populations, socio-political unrest has created an additional difficulty for urban traffic in national cities (K.J.C. DÉLLI, 2019, p.102). In the past, traffic jams, loss of time during urban commuting, and the continual deterioration of road axes were the main causes of traffic jams. Today, traffic in Daloa is carried out by means of antiquated cabs (I. KASSI, 2007, p.83; T. GOZÉ, 2014, p.115). The regular rides of these means of transport, equipped with butane gas drums, have also intensified road insecurity in national cities. The paradox is that in this third largest national city in terms of population, the lack of passenger safety is taking place in conjunction with the activities of the decentralized structures of the Ivorian state. This raises questions about the real role of local authorities in the face of the dysfunction of urban transport activities in Daloa. The aim of this study is to take a different look at this mass transit system. It is being carried out at the same time as the artisanal handling of butane gas in this national city. It is specifically to evoke the dynamization of the activities of the promoters of the intra-urban transport, of the after socio-political turmoil in Ivory Coast.

1- Methodological approach and data collection materials

1.1- Location of the study area

Daloa is located in the central-western part of Côte d'Ivoire (Figure 1 below). It is swept by a transitional equatorial climate, characterized by significant rainfall, having contributed to the emergence of a real dense rainforest. This original territory, located at the crossroads of the colonial lines, was once populated by the Gouro. But with colonial activities combined with the migration of peoples, most of this territory is now occupied by the Bété people, who also come from the large region to the west of the country (from neighboring Liberia) (G.M. YODÉ, 2017, p.80). Notwithstanding, forestry operations, the advent of perennial crops and trade routes have helped foreign populations (allochthones and allogènes) to settle down over the decades in this national region (W.G. KOUKOUNGON, 2012, p.103). The joint activities of the populations then constantly drive the spatial spread of the said original territory. Becoming an ideal pole of load breaks, the current urban area is estimated at 945 km² with 361,427 souls residing there for various economic activities (K.J.C. DÉLLI, 2018, p.34). The satisfaction of housing needs has thus allowed the realization of 42 neighborhoods and 7 village-neighborhoods, parcelled out by a road network of 1,090 km long (Mairie, 2021). Despite the limited modernization of urban roads, Daloa is 385 km from Abidjan, 141 km from Yamoussoukro and 265 km from San Pedro.

Figure 1: Location of the study area



In addition, the years of political instability have disrupted the habits of city dwellers. The incivism of the latter now leads to the illegal operation of various popular activities in public spaces. Indeed, the scarcity of passengers combined with the inflation of fuel costs underlies the inappropriate acts of the promoters of intra-urban transport. Older cabs, now equipped with drums, carry users across the city on "gasoline". This phenomenon, which began in the country's savannah zone, still persists in most of the country's cities, located in the great forest south of the country (Figure 1 above).

1.2- Data collection and processing method

The methodological approach to this reflection was based on scientific contributions, such as the work of N.F. KACOU (2014), A.F. KONAN (2014) and K.J.C. DÉLLI (2018). These authors are unanimous on the need for fuel-auto products in urban mobility. These petroleum products also contribute to the well-being of users, especially with the use of gas-butane at home. However, intra-urban transport in most of the country's forest cities is currently dependent on them to the detriment of domestic needs. Daloa is the third largest city in the country in terms of population and is therefore an ideal site for this study. In addition, the field survey or direct observation made it possible to administer a series of questionnaires to certain users, namely, service station managers, artisans selling retail butane gas, the promoter/taxi driver couple, and to households. Finally, the activity ended with interview sessions in some government structures: the technical department of the town hall and the departments of some decentralized structures of the Ivorian government (Ministries of Energy and Petroleum, Housing and Urban Planning, Environment and Sustainable Development, Sanitation and Hygiene). However, in contrast to some very small numbers, the number of cab drivers is estimated at 1,103 being linked to the active machines (or parent population). To do this, the sample size (of the survey) is obtained using COCHRAN's (1977) method, using Bernoulli's test:

$$n = \frac{Z^2(PQ)N}{e^2(N - 1) + Z^2(PQ)}$$

Indeed, we assume that n = sample size (sought); N = size of the parent population; Z = 1.96 being the margin coefficient (determined from the confidence threshold); the margin of error being e = 5% then, P = proportion of cabs supposed to have the sought character (cabs running on gas-butane). This proportion, which varies between 0.0 and 1.0, is the probability of occurrence of an event. In the case where no value of this proportion is available, it is fixed at 50% (0.5). Finally, Q = 1 - P is the probability of failure, or the probability of a negative outcome (cabs using diesel or petrol).

Applying this formula, under two conditions, namely, $P= 0.5$ and $Q= 0.5$. With a confidence level of 95% then, $Z = 1.96$ and the margin of error $e = 5\%$ or 0.05 . We have

$$n = \frac{1,96^2 \cdot 0,5 \cdot 0,5 \cdot 1103}{(0,05)^2 \cdot (1103-1) + (1,96)^2 \cdot (0,5 \cdot 0,5)}$$

$n = 285$ is therefore the number of cabs that were the subject of our study.

However, to compensate for any refusal to answer the questions by cab drivers, it was necessary to readjust the sample size. We assume a minimum response rate in order to compensate for any losses. The sample size is then multiplied by the inverse of the response rate. In this case, the response rate is estimated to be 90%, contributing to the correction of the sample size; n corrected = $(285 \times 100) / 90 = 316.66$ or 317 cabs. As for the survey, it took place from November 01 to 31, 2021. However, ten (10) neighborhoods were chosen according to certain criteria, namely, the presence of markets, health and school facilities, some paved roads, etc. (The remaining 17 cab drivers were selected from the 7 village-districts. The results of the information and data processing led to this study. It was possible thanks to the computer tool and the help of software adapted to the various treatments (Word, Excel, QGIS and Adobe Illustrator). As for the camera, it was essential for the shots.

2- Results

In Côte d'Ivoire, socio-political instability has led to a gloomy economic situation, difficult for the promoters of mass transit in Daloa. The drastic decline in revenue has led to the resilience of these operators. Now equipped with old taxis, they use butane gas from drums intended for domestic households as fuel for urban transport.

2.1- Impact of socio-political unrest on public transport activities in Daloa

2.1.1- Eroded road network hinders taxi operators' activities

In Côte d'Ivoire, the socio-political unrest from 2002 to 2011, which disrupted economic activities, was the result of a series of events. In fact, with the death of the first politician in 1993, a spiral of mistrust and crisis of confidence emerged and disturbed the peace of the national population. As a result of misunderstandings or misunderstandings relating to constitutional texts, the population's way of life was marred for years by acts of violence, fratricidal confrontations, looting and sabotage of economic activities. This was also followed by the dysfunction of state structures, with its attendant advent of artisanal, anarchic and informal activities in public spaces. From then on, with the difficulty of controlling them, the demographic explosion and the impoverishment of city dwellers, the road network became a receptacle for popular businesses and then for artisanal sites for the delivery of butane gas. This generalised occupation has a greater impact on the offers relating to the transport of users and their goods. The efficiency of urban traffic is diminishing over the years because of the household waste littering or obstructing the urban roads. These roads are further degraded by the almost non-existent drainage system for rainwater and household waste. The eroded roads then become inappropriate for taxi traffic. As a result, the reliability and ease of movement of users is derisory due to the absence of a foundation for this urban transport sub-sector. However, the spatial arrangements throughout the city provided for the creation of infrastructure and equipment for the consequent provision of transport. Instead, pseudo bus stations, inappropriate taxi stops and the absence of temporary and permanent parking sites for all motorised vehicles characterise this urban area. This informal urban transport system was then raised with the overcrowding of the populations who fled the armed confrontations in the north of the country. In this difficult context of mobility, state activities resumed their normal rhythm in 2011.

However, despite the appeal made to local authorities, the deterioration of urban roads contributes to maximising accidental risks during the convoys of users to their destinations. In fact, in the aftermath of the socio-political crisis, the collection of municipal taxes was the priority of these decentralised state structures. These are the agreements (or authorisations) implicitly established between local authorities and their constituents. From then on, acts of incivism or indiscipline, acquired at times of political instability, intensified popular trade in the vicinity of the roads and on the shoulders of the roads. Urban traffic is then marked by numerous traffic jams and loss of time during commutes. Thus, for a total of 1,090 km of urban sections, only 10% of these roads are used for permanent and regular taxi movements (regular circuit). Specifically, 90% of the total road network is unsuitable for the movement of four-wheeled vehicles (irregular route). Moreover, this rarity of taxi vehicles is mainly observed in the districts on the outskirts of the city centre. The period of political instability in Côte d'Ivoire has therefore led to the inactivity of the municipality in Daloa and the degradation of the roads, hindering the activities of taxi operators.

2.1.2- The era of cycles reducing the number of taxi drivers

In Côte d'Ivoire, the conflict situation between the loyalist and rebel forces favoured the massive arrival of cycles contributing to the motorisation of urban transport in Daloa. In fact, in 2002, the failure to overturn the constitutional order led to the partition of the country into two territorial zones. During the years of political negotiations for the return to normality, two rival clans coexisted until the end of the second quarter of 2021. These Ivorian entities were separated by a buffer zone, occupied by the neutral United Nations forces (UN-CI). However, this situation has given rise to various illicit trafficking between these national zones and then between the rebel zone and certain neighbouring countries. Indeed,

with the absence of customs agents' activities in the north of the country, fraudulent items from the rebel zone are transported to the buffer zone and then to the loyalist zone. As with many freights, the cycles are acquired in neighbouring countries to satisfy customers in the buffer zone and in the southern forest area of the country (loyalist zone). With the continual deterioration of the roads in Daloa, the need for bicycles has increased, as the population's movements have depended on them over the years (Plate 1).

Plate 1: Transport of users and goods by cycles.



Source: A.F. KONAN, August 2021

This spontaneity of motorisation of urban transport having crystallised the attention of users around these machines, has then reduced the demands on taxi operators. Plate 1 of the above photographs shows their regular use in Daloa. The desire to have a cycle became more widespread due to the defective state of the roads. Moreover, despite the resumption of state activities in the country, the administrative authorities (especially those of Daloa) are still struggling to regulate this activity. Nevertheless, their advent continues to boost urban traffic because these new services are provided by tricycle owners. In fact, their accessibility is linked to a set of shops or sales warehouses in the centre of Daloa. The purchase prices range from 300 to 700,000 CFA francs for two-wheelers and from 800 to 1,800,000 CFA francs for tricycles. This acquisition of machines combined with that of fuel products (petrol, diesel, lubricants), has led to an increase in the number of regular circuits throughout this urban area. As a result, the daily income of mass transit promoters has been reduced to the benefit of tricycle or motorbike taxi owners.

2.2- Difficulty in renewing the taxi fleet in Daloa

2.2.1- Promoters of intra-urban transport with informal activities

In Côte d'Ivoire, when analysing the planning of national cities, the policy since the 1980s has been to create economic poles in the national regions. This assertion implies the option of a checkerboard master plan, adopted to urbanise the original villages. The master plan of the road network, which was then induced in any urban area, contributed to the establishment of a mass transit system. For the urban transport system with efficient infrastructure and equipment should generate a significant amount of urban traffic. The spatial basis of the physical support of any city is then undeniable for the said urban development of national regions. Contrary to the physiognomy of the colonial roads, those resulting from the subdivisions since 1980 occupy vast areas throughout certain urban territories. The landscape of the roads in the cities of Yamoussoukro (political capital) and Daloa illustrate this assertion. The said policy aimed to create economic centres based on real urban transport systems. In fact, the futuristic function of the city of Daloa was already initiated by the coloniser in 1929. According to the law n° 59- 4 of 28 March 1959, it was once designated the chief town of the second department of the colony of Côte d'Ivoire. It is still the capital of the Autonomous District of Haut-Sassandra. It thus concentrates most of the urban population (estimated at 361,427 souls), state and private decentralised structures of the Centre-West.

However, the period of socio-political unrest and the inactivity of state structures have highlighted the need for an intra-urban transport system in Daloa. This lack of transport infrastructure and equipment (bus stations, stopping points and parking lots, etc.) is said to be at the root of the informal activities that underlie the poor quality of urban mobility. In fact, during the 1980s in Daloa, the need for travel was real with the population growth and the tonnages of goods, and the long road routes resulting from the multiplication of neighbourhoods and sub-neighbourhoods. However, as the Ivorian state had not been able to lay the foundations for a mass transit system, it could not offer these services to the citizens of Daloa. Faced with this situation, some actors with a few private vehicles initiated solitary actions to satisfy their travel needs. The paradox is that the "rules of the game" established by the State of Côte d'Ivoire to harmonise this sub-sector have led to informal and artisanal public transport in the individual mode. This solitary impetus of these actors has not been able to benefit over the years from significant support (organisational, structural, financial). The amateurishness of these family microenterprises, operating in an unequal and clandestine manner, has led to a series of informal and anarchic transport

services. They thus became more pronounced during the said conflict period. The mediocre attire of the drivers, the lack of courtesy, and the speedy journeys made on these eroded roads attest to this lack of professionalism.

2.2.2- Constraints relating to the renewal of the taxi fleet

In Daloa, promoters of intra-urban transport are faced with enormous financial difficulties. The decades of activity have resulted in derisory financial profits to envisage new acquisitions of vehicles. Of course, the decline in financial income is linked to the short distances of the so-called regular routes, but the eroded roads lead to regular mechanical breakdowns of these means of transport. However, most of these vehicles were previously used by certain purchasers before being used as taxis. In addition to their precariousness, various obstacles are unfavourable to this quest for financial profit. In fact, the rate at which financial gains are maximised depends on two parameters, namely fixed and regular financial expenses (Table 1).

Table 1: Basic expenses related to taxi activities in Daloa

Documents and others	Costs
Purchase of the vehicle (second-hand) and green colouring	3 to 5,000,000 F.cfa
Municipal tax	4,000 CFA francs per month
Patent (or tax linked to the activity)	120 000 F.cfa/year
Union tax	200 F.cfa/ day
Police requirement (or racket)	1,000 F.cfa/ day
Technical visit/vignette	60 000 F.cfa/year
Gas drum installation	200 000 F.cfa
Gas taxis	10 000 F.cfa/day
Liquid fuel taxis	15,000 F.cfa/day
Owner's earnings	12 to 15,000 F.cfa/ day
Vehicle registration (or transfer)	42 000 F.cfa
Insurance	20,000 F.cfa/month

Source: Union, 2021

In general, all travel services start with an informal contract. It is established between the owners and operators of taxi vehicles. Indeed, the daily revenue required varies between 15 and 20,000 CFA francs for a monthly salary of 80,000 CFA francs. The paradox is that some operators who run their own taxis claim to collect between 25,000 and 30,000 CFA francs per day.

Plate 2: Pedestrians, cycles and taxi vehicles animating urban traffic in Daloa



Source: Own shots, August 2021

According to these operators, this income is increased during the first ten days of the month and even during festive periods. This pseudo-contract is rather in favour of the drivers. However, the costs of mechanical breakdowns of the vehicles are borne either directly by the owner or indirectly by the passengers. Users with different choices (taxi vehicles, cycles and walking) implicitly refer to the difficulty of taxi owners (Plate 2). Indeed, customers participate through the pricing of their various destinations. However, since 1990, the cost of the journey has always been fixed at 200 CFA francs at each destination. However, the impoverishment of the urban population and the poor quality of the road network force these actors to offer special fares to their customers. These are special prices related to the distance and/or volume of goods. In addition, the offers of motorbike taxi operators reduce the potential customer base of taxi drivers. This is because the eroded roads are to the advantage of the tricycle or motorbike taxi owners. Finally, the absence of bank accounts for this activity, the illiteracy of these actors and the psychosis linked to bank loans constitute obstacles to any project to renew the taxi fleet.

2.3- Use of butane gas to revive taxi drivers' activities in Daloa

2.3.1 - The new configuration of taxi vehicles carrying passengers

In Côte d'Ivoire, the joint actions of oil companies and the public administration contribute to satisfying the needs of nationals for various petroleum products. To this end, the country's localities have specific depots and warehouses for the reception of these petroleum products transported from the ports of Abidjan and San Pedro: liquid and gaseous freights and a variety of lubricants. However, political instability has intensified over time the illicit handling of these port cargoes, which are transported and stored in the city of Daloa. The scarcity of taxi vehicles in the service stations has led to the substitution of official car fuel with 'gaseous fuel'. This option is the result of various illicit acts, namely the replacement of taxi vehicle tanks with butane gas drums, the choice of site and the activity of artisanal decanting of butane gas. The retail sale of the contents of B2 and B12 drums is a deliberate choice because they are subsidised by the Ivorian state for home use. In fact, these illicit operations, which began in the rebel zone, have gradually spread to the country's forest zone. The paradox is that the current activities of public structures are struggling to curb road insecurity. For, accidental risks are plausible with the regular movements of taxis equipped with butane gas drums through the urban territory of Daloa (Plate 3 below).

Plate 3: Artisanal decanting site and refuelling of the taxi vehicle with gaseous product



Source: Personal shots, August 2021

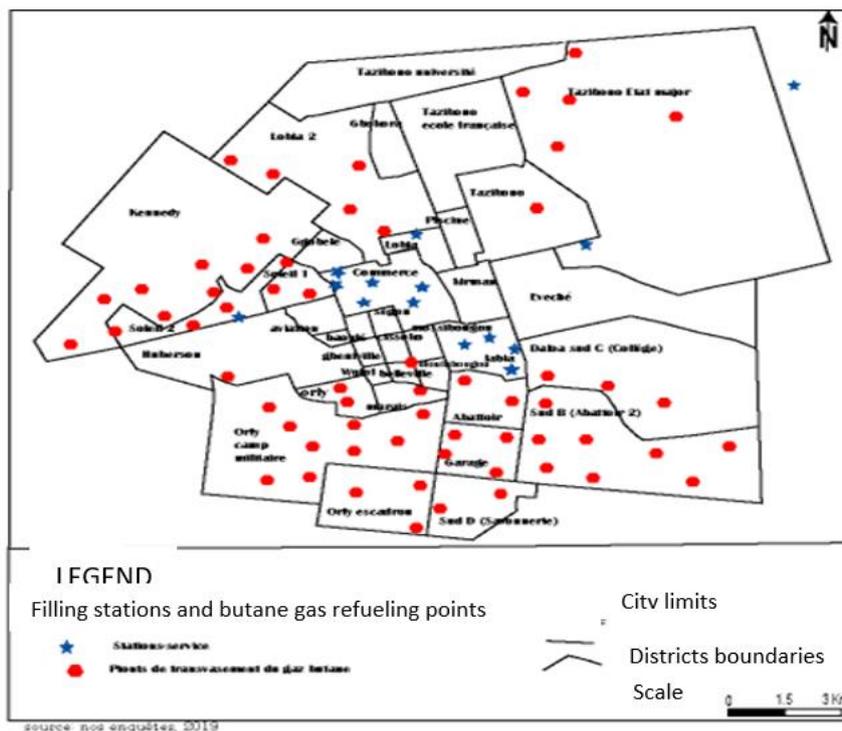
Faced with the various difficulties hindering the maximisation of financial gains, the promoters of intra-urban transport in Daloa continue to perpetuate mafia practices. According to some taxi operators, the daily cost of buying fuel for the car is reduced with the use of 'gas fuel'. Apart from the cost of acquiring the gas drum, estimated at 200,000 CFA francs, they claim to increase their monthly income or profits. The B6 and B12 drums are the first choice of these fraudsters. They admit to making more financial profit from the sale of their contents. In fact, according to the respondents, the expenditure on liquid fuel is 28,000 CFA francs compared to 12,000 CFA francs for 'gaseous fuel' for one day's activity. As for daily revenue, it varies between 15,000 and 20,000 CFA francs, or profits of between 3,000 and 8,000 CFA francs. Thus, financial profits are increasing to the detriment of technical visits, which are compulsory to obtain the vignette. Moreover, the persistence of racketeering activities seems to encourage these various illicit acts and even mediocre offers from promoters of intra-urban transport in Daloa.

2.3.2- Accessibility of butane gas for the activities of taxi operators

In Côte d'Ivoire, the petroleum code and other administrative texts contribute to the supply of various petroleum freights to national localities through approved actors. The gas freights are then transported to Daloa from the ports of Abidjan and San Pedro. Nevertheless, the political wars have favoured the advent of new sources of employment for a population in search of means of subsistence. Artisanal decanting points are multiplying along with the demand for this "gaseous fuel". In view of its explosive and dangerous nature, only the national company (PETROCI) has the sole approval (or authorisation) to handle this gaseous substance. It is carried out within a legal framework with safe equipment in appropriate sites. However, through a number of makeshift warehouses, butane gas is fraudulently sold in Daloa (Figure 3).

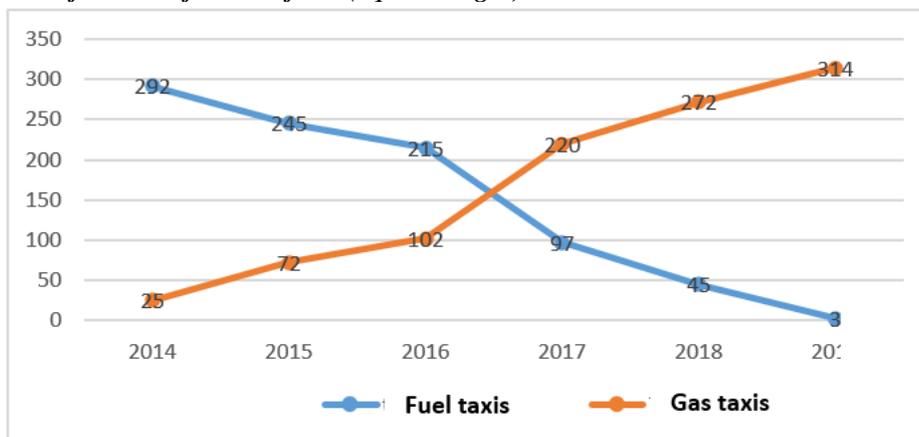
Figure 3: Artisanal sites for decanting butane gas in the city of Daloa

Figure 3: Artisanal sites for decanting butane gas in the city of Daloa



The country's road network contributes to the regular arrival of these port cargoes in this town. With these multiple sites of artisanal decanting of the said urban territory, the operators of taxi vehicles have easy access to this "gaseous fuel" for their daily activity. According to the trade unionists, most of the 1,103 taxi vehicles use 'gaseous fuel'. Figure 4 below implicitly shows the service provided to taxi vehicles by service stations in favour of small-scale butane gas sales outlets.

Figure 4: Evolution of the use of the two fuels (liquid and gas) in Daloa



Source: Local Hydrocarbons Directorate, November 2021

Moreover, illicit operations are carried out near residential areas, markets and even places with a high concentration of people. It is true that the illicit use of butane gas has revitalised the gloom of urban traffic in Daloa, but road insecurity (or the lack of it) is real during users' commutes. Pending a political decision, only certain agents of the national police and their accomplices enjoy the said financial profits. For, the economic sciences based on the principles of "laissez-entreprendre" and "laissez-faire", have thus given rise to a plurality of accidental risks, linked to the activities of the promoters of intra-urban transport in this national city.

3- Discussion

3.1- The harmful effects of socio-political unrest on urban activities

In sub-Saharan Africa, since the 1990s, the stakes of presidential elections have not ceased to cause socio-political upheaval. In the absence of a counter-power, the accession to the supreme magistracy has led to the control of all political, judicial and economic activities of the country. Since 2002, this assertion corroborated certain causes of political instability in Côte d'Ivoire. These have led to armed clashes between Ivorian 'brothers in arms'. However, the lack of trust between the belligerents and the partisan interests underlying their actions has encouraged economic malpractice during these years

of co-management of state structures. The dysfunction of public entities, consciously orchestrated by each side of the warring parties, has allowed them to enrich themselves illicitly to the detriment of the needs of the people. Fraud and corruption are becoming a mode of governance within the various state structures. As a result of these inappropriate acts, the economic base of the national cities collapsed during the said conflict period. This was precisely because of the scarcity of formal activities and jobs, the precariousness of urban housing and the explosion of various pathologies that characterised the lives of city dwellers during the years of the military-political crisis.

In the country's urban areas, popular, artisanal and illicit activities continue to proliferate on the verges, on the pavements or obstructing certain road sections. However, this situation is contradictory to the essence of Article 40 of Decree No. 64-212 of 26 May 1964, regulating the use of roads open to urban traffic. It is indeed recommended to motorists to facilitate the movement of other motorized vehicles during their temporary or permanent parking. However, the non-respect of the aforementioned orientation is linked to the presence of popular commerce, which occupies most of the road axes. The inactivity of the municipality during the period of political instability, has also increased the acts of incivism of users in Daloa. For K.F. N'GUESSAN (2014, p.187), this mishmash of the city's physical infrastructure has tarnished the reputation of state structures. For local authorities are struggling to resolve the thorny issue of the small size of existing markets. Indeed, the explosion of impoverishment of city dwellers and the quest for means of subsistence contribute to the sale of food, newspapers and various articles on public roads.

For W.G. KOUKOUNGNON (2012, p.109), the municipality's ticketing system has implicitly favoured the construction of shops along certain urban roads. Socio-political unrest then accentuated the multiplication of artisanal activities, especially informal ones, in public spaces. However, this author implicitly refers to the difficult correlation between the dynamism of the urban population and the capacity to accommodate existing markets. This assertion underpins the absence of eviction projects and even the derisory services for cleaning up public spaces in Daloa. However, these sales activities are a source of mounds of household waste in the streets. T. GOZÉ (2014, p.221) and A. GUAMÉNÉ (2018, p.86) rather emphasise the dysfunction of infrastructure and equipment for the management of this urban waste. The stagnation of unhealthy and foul-smelling water in the city's makeshift gutters is still noted by the latter. Thus, this insalubrity or sanitary insecurity of the cities contributes to exposing the lives of users to various pathologies. For M. KONE (2018, p.32), these are malaria, diarrhoeal diseases and typhoid fever, the most recurrent in the town of Daloa. By pointing to political instability, this author is also clear that it has caused so much harm to the population, as has the poor quality of the care offered to the population in the national regions. Health care personnel are said to be demotivated because of the dilapidated infrastructure, equipment and health facilities. Thus, the failure of the health system has led some patients to resort to buying pharmaceutical drugs (illicit and prohibited) from the streets. Finally, K.F. N'GUESSAN (2014, p.229) and K.J.C DÉLLI (2018, p.103) have further elaborated on the accidental risks associated with the artisanal handling of oil derivatives. According to these authors, the decline of urban economies during the years of socio-political unrest has led to the resilience of city dwellers working on various informal, artisanal and illicit activities for their survival.

3.2- The negative impacts of socio-political instability on the urban transport sector

In Côte d'Ivoire, the fundamentals of the urban system combined with the urbanisation policy are an unfinished vision of national policy. Urban growth in Abidjan, Bouaké and Daloa is weighing heavily on urban infrastructure and services. Certainly, I. Kassi (2007, p.249) has noted this malfunctioning of these urban services, but she has also indexed the socio-political unrest that has intensified it during the course of the project. In fact, according to this author, the diversity of the offers made by the promoters of intra-urban transport paradoxically lengthens the duration of users' commutes. Moreover, these offers are made in an environment of insecurity, atmospheric pollution and interminable traffic jams in large cities. From these observations, she concluded that the Ivorian state and its development partners have failed in their mission. For, in the construction of urban road networks, they are still struggling to provide a transport system appropriate to urban mobility. Indeed, the absence of easy, inexpensive and safe travel is a feature of life for the inhabitants of Abidjan, Bouaké and Daloa. The precariousness of the offers made by taxi operators is linked to the absence of urban transport conferences and, above all, the lack of professionalism of these economic actors. Moreover, during the period of the military-political crisis, the difficulty in acquiring spare parts for taxi vehicles and the deterioration of roads had a negative impact on the quality of these services (K.F. N'GUESSAN, 2014, p.145). Racketeering activities implicitly contribute to the advent of road insecurity. For they underlie the refusal of actors to acquire administrative documents or even to use obsolete vehicles running on 'gas fuel' throughout the urban territory (K.J.C DÉLLI, 2018, p.68). Finally, motorbike taxi promoters have fewer administrative constraints to offer services at attractive costs. In turn, local authorities should work towards better service proposals for urban traffic in Daloa, as it is now the capital of the Autonomous District of Haut-Sassandra.

3.3- The need for petroleum products for urban mobility

In 1960, the country gained its political independence and then officially consolidated its oil base with international firms in 1963. Since then, oil freight traffic from the port of Abidjan has intensified over the decades with the multiplication of cities, especially their spatial spread (A.F. KONAN, 2014, p.99). With the texts inherited from the coloniser and then modified in 1973, 1992 and 2000, oil cargoes are transported to the interior of the country (Direction des hydrocarbures, 2021). In fact, with the activities of the bitumen units since 1978, the project for the modernisation of national routes and that for the embellishment of road networks and public spaces, the aesthetics of the national cities are improved. Roads also contribute to urban mobility in the Ivorian regions. The need for travel in urban areas is met through the purchase of motorised vehicles and the easy access to fuel for cars. The attractiveness of the city thus requires a perfect urban traffic

and a better aesthetic. For A.F. KONAN (2014, p.203), urban mobility is unevenly distributed throughout the Ivorian territory. This is because the country has a regional disparity of reliable urban transport system to induce real urban economies.

In addition, K.J.C. DÉLLI (2018, p.78) states that most towns in the forest zone have a high consumption of petroleum products because large depots and public and private warehouses are located there to meet these needs. However, despite the various illegal oil sites and fraudulent activities, this author mentions the need for oil products for the real development of the country's urban economies. As for the local director of hydrocarbons in Daloa (2021), the military-political crisis has generated and intensified various illegal and fraudulent activities. According to this public official, the city of Daloa is also one of the national localities where most taxi vehicles run on butane gas. The need for petroleum products in the said city has multiplied the sites of illicit sale of gas-butane, lubricants and retail sale of fuel along the roads. The laxity of the state structures illustrated by the absence of regular controls, has thus favoured the activities of these mafiosi in Daloa. For K.F. N'GUESSAN (2014, p.145), the current fight against illegal gold washing is desired by national politicians, unlike the oil sector which needs to be cleaned up. This is because the sector generates thousands of billions in taxes for the public coffers (A.F. KONAN, 2014, p.248). Moreover, the lack of feedback of the pecuniary resources collected at different levels of the oil system would justify the rise of these fraudulent activities. The flourishing of informal and artisanal activities is a guarantee of financial gain for modest households, but it thwarts the real imbrication of the well-being of city dwellers. The virtual absence of documents inherent in the activities promoting bicycles and taxi vehicles is also a departure from the explosion of the urban economy. Finally, the authors are unanimous that urban traffic in Daloa is carried out on the basis of several financial malpractices.

Conclusion

In Côte d'Ivoire, as with other economic activities, the movement of users and goods has been disrupted during the socio-political unrest. Urban traffic in Daloa will thus depend on gas-butane, a petroleum derivative intended for domestic households. In the face of economic gloom, the resilience of the promoters of intra-urban transport to adapt underpins this reflection. It aims to take a critical look at the transport services they offer in Daloa. The articulations of this work are then obtained at the end of a quest for information and data. This was done through interviews with resource persons, and then through interviews conducted within the state structures assigned to the smooth running of intra-urban transport. This activity has enabled the need for petroleum products in urban traffic to be understood. The effectiveness of urban transport offers is then linked to the high demand for urban mobility. With the volume of the urban population, goods and the lengthening of the road axes, family and informal businesses have been set up to offer urban transport services for years. Nevertheless, socio-political instability has led to the emergence of multiple difficulties, hindering the commuting of users through the city of Daloa. In this urban area, the continuous deterioration of the roads, the unfair competition from cycle promoters, have reduced the number of customers and even the drastic drop in revenue for taxi operators. Faced with these difficulties, urban transport promoters decided to adapt their taxi vehicles in order to substitute the traditional car fuel with butane gas. This illicit act, combined with the artisanal activity of decanting this explosive product, has become an activity with high financial returns. Consequently, the scarcity of travel opportunities for taxi operators is no longer an issue thanks to the advent of taxi vehicles equipped with butane gas drums in Daloa. Thus, urban traffic has gradually become more dynamic, especially with this era of motorisation of intra-urban transport.

However, the glaring lack of infrastructure and equipment for urban transport illustrates the lack of supervision and financing of the sector in Daloa. During the conflict period, amateurism also led to uncivil behaviour, such as the use of gas-butane as a fuel for cars. This new configuration of transport equipment underpins the refusal to acquire the administrative documents inherent in the providers of transport services. Combined action by state and private decentralised structures could therefore make it possible to broaden the tax base of the Ivorian state. But there is also the safety and security of the urban population in Daloa that would result from this.

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