

THE INDUSTRIES INSERTION AND SPATIAL EXTENSION OF YAOUNDÉ URBAN CITY IN CAMEROON

INSERȚIA ZONEI INDUSTRIALE ȘI EXTENSIUNEA SPAȚIALĂ A REGIUNII URBALE YAOUNDÉ ÎN CAMERUN

*Ndzie Souga CLOTAIRE*¹

Abstract: From inception in Yaoundé in 1923, industrial activity has progressively been implanted in all the central and peripheral urban space. Such spatial evolution transforms the town of Yaoundé into some form of industrial region with a significant incidence of on the production of manufactured goods. This leads to a spatial expansion of the town of Yaoundé whose consequences are seen on the location of industrial establishments and the movement of labour force. In effect, the 112 industrial establishments with more than 20 workers in the industrial region of Yaoundé in 2013 are disparate in the urban and suburban space. They animate the daily life of urban dwellers through diverse movements and trade.

Key-words: industry, oscillatory migration, spatial diffusion, suburban space, metropolis
Cuvinte cheie: industrie, migrație oscilatorie, difuzie spațială, spațiu suburban, metropolis.

INTRODUCTION

In Cameroon, industries are generally concentrated in the two metropolises of Douala and Yaoundé. These agglomerations thus function as industrial labour attraction poles in the local and regional scales. This polarisation has a direct consequence on the circulation of industrial labour and on the spatial diffusion of industries in the rest of the territory. In Yaoundé, industries are found in the urban space and in the immediate and distant suburbs. Such spatial distribution of the activities of the secondary sector impinges on the residential choices of the required labour force leading to several movements. The geographical distribution of industries and industrial jobs in these agglomerations brings out the interrelation between these production units, the spatial of the urban perimeters and the oscillatory movement of the industrial labour force. Industrial activity in Yaoundé is somehow generally supported by the dynamics between the urban centre and the periphery, which a competition leads to new industrial locations at the centre as well as in the surrounding urban and rural areas. This leads to a large diffusion of

¹ University of Yaoundé I / e-mail: clotairendzisouga@yahoo.fr

industrial enterprises in the urban space resulting in the development of a diversity of industrial and residential poles in the urban space.

I-Wide diffusion of industries in the Yaoundé urban space

Since its appearance in Yaoundé in 1923, industrial activity has been presenting presented different facets that differentiate the classical industrial quarters such as Nlongkak, the central town, Nsam, Mvan, etc. from the many new and diversified poles of industrial location. Currently, industrial enterprises of Yaoundé are found in the urban and suburban space. These industrial establishments are variously located in structured, semi-structures and spontaneously inhabited quarters. It is for this reason that industrial activity can be found in the administrative centre, in the industrial zones of Mvan, Ahala and Nsam, in BASTOS and in Melen. This frame in the evolution of industrial activity brings out significant elements in the diversity of production area and the residential area of the industrial labour force. In effect, the 112 industrial establishments actually found in the town of Yaoundé are unequally distributed within the urban and suburban perimeters. These industrial establishments contribute to the daily function of the town of Yaoundé through trade and numerous accompanying movements. No matter where located, these industries use a diversified source of labour whose place of residence reflects the importance of the location of the enterprise in the analysis of these industrial quarters in Yaoundé.

1-Implantation of several industries in the peripheral quarters

Peripheral quarters are location areas for industrial establishments, which although far away from the urban centre, considerably benefit from influence in the spatial mobility of labour force and industrial products, as well as spatial expansion of the town. Experience shows that in the present economic situation, investors of the secondary sector in Yaoundé are more interested in the creation and continuity industrial establishments. As such, the location choice, very much depends on the comparative advantage among several types of location factors. In this light, the urban centre easily integrates the periphery in a strategy of urban renewal often along communication axes (Collier, 2007).

Since the beginning of the year 2000, several wood, building and public works as well as manufacturing of chemical products enterprises expanded into the immediate and distant peripheries of the town of Yaoundé. These expansions are followed by their supplies and staff some of whom continue to reside in the urban space. In this way, several location places for industrial establishments around the capital city lead to the mobility of their headquarters, which continue to multiply and renew (Philippe, 2007). The Cameroonian metropolis of Yaoundé thus provides this peri-central pole with diverse advantages such as financial seats, markets, communication core, vast areas for equipment, relatively low land rents, etc.

In the whole, the affluence of industrial establishments in the peripheries demonstrates the dynamics of industrial activity, especially of certain branches. Between 2000 and 2010, therefore, the location of industrial activities close to the urban perimeters that is in the peripheries involves ten establishments and three branches of activity. These peripheries are attractive and draw several woodwork and sawmill enterprises; enterprises that produce construction material and enterprises that produce chemical products. These locations are disparate and vary in function of the peripheral zone as shown in table 1.

Table 1. Distribution of industrial locations in the periphery of Yaoundé in 2011

Quarters or peripheries	number of industries located	Percentages
Soa	02	11%
Mbankomo	03	17%
Mfomakap	01	6%
Mfou	02	11%
Nsimalen	01	6%
Nkoabang	01	6%
Nkolbisson	01	6%
Ahala	07	37%
Total	18	100%

Source: Field data 2012

These peripheral zones are found to the northern entry as well as to the east and to the south west of the town of Yaoundé. Here, the industrial location is influenced by closeness to the town. Generally speaking, the distance between the central town and the location of industries in the peripheries varies in relation to the importance and the geographical situation of these zones. As such, of the 18 industrial enterprises counted in the area concerned, 37% are found on the valley floor drained by river Nfoundi in Ndamvout (Bopda, A., et Santoir, C., 1996). These industries thus solicited these areas that strew in the industrial zone for several reasons. Among these reasons, there can be cited the possibility to access streams to evacuate waste. Easy access to the railway line and to the main road (national N° 3) linking Yaoundé to the town of Douala can equally be cited. These communications axes allow for easy replenishment of the industries with different inputs. These are mainly chemical industries such as Pharmacam, NOSA, etc. This is equally the case with food processing industries such as SABC, and polygraphist such as SOPECAM. One equally finds and in the majority wood transformation industries. These are the cases of Patrice bois and of SCEP. All these industries are concentrated in this zone where they continue attracting a large labour force while contributing in the mobility of people and goods in the urban space.

Apart from this zone gradually integrated into the urban space, the location of industries equally takes place in certain localities such as Mfomakap (5%), Nkoabang

(5%), Soa (11%), etc.; all these localities or peripheral zones are today feeling the heartbeat of urban life with consequences on the spatial expansion of the town of Yaoundé. Here, distance tends to be reduced in relation to human activities and the occupation of space by enterprises.

The location of industries in the peripheries makes Yaoundé an industrial region since it satisfies its industries with various goods while facilitating trade in raw materials and finished goods of these enterprises. This tendency is observable year after year. The most involved branches are the construction and wood industries, as well as chemical industries. This is the case of SOFAMAG currently located in the Soa zone.

Be they the zones of Soa, Mbankomo, Mfomakap, Nkoabang or Nkolbisson, location in the peripheries accounts for about 17% of total industrial location in Yaoundé. When this location is linked to the change of site by the establishment, this is referred to as delocalisation, which can depend on several reasons based on the objectives and the activities of the enterprise. Delocalisation of industrial establishments most often occurs between more or less distant administrative units that become so to say attraction zones to industrial enterprises.

They equally bring out the dependency linkages between progressive development of the town and its spatial expansion. This influence is felt by a quasi-totality of secondary towns surrounding Yaoundé. Among these can be cited Mbalmayo, Obala, Okola, Mfou for which new industrial locations are directly or indirectly exerting an influence on their physical, economic and human environments (Perroux, 1999). However, these peripheral poles are hardly autonomous due to the general influence of the town.

Since the end of the 1990s, the location of establishments within the peripheries has remained intra regional with the affluence of administrative units closer to Yaoundé; that is not going beyond 20km. Contrarily from the end of the 1990s, location of industries at the peripheries goes further and beyond 60km. This is the case of EGTF Coron, delocalized from Coron in Yaoundé towards the Nanga Eboko since 1999. The essential element here is time. During the period between 1960 and 1985, some localities that are today quarters integrated into the urban perimeters were considered as peripheral zones. However, the SDAU of 1984 endowed the town of Yaoundé with industrial zones adjoining the south (Mbankomo) and the north (Nkometou) peripheries. These zones have attracted and continue attracting several industrial establishments in their different forms and sizes.

A high presence of industries in the planned and semi-planned quarters

The occupation of space by industrial activities in Yaoundé is heterogynous. Since its origin, the town has been hosting economic activities from all sectors of the economy and from all industrial branches. These activities locate following a pattern that is more favourable to promoters than to the strategy elaborated by specialists in territorial management as a whole. In the secondary sector, industrial establishments locate in all the planned and unplanned quarters. This localisation has implications on

the spatial mobility of goods and labour force. It is accompanied by profound and specific mutations in the urban composition and road network.

Generally, the planned and semi-planned quarters have ubiquitous outlook from the economic point of view, especially industrial in Yaoundé. In this context, industrial activity is present in a quasi-totality of the planned and unplanned quarters of Yaoundé. Through these varied and diversified branches, it is integrated into the system of the economic life of the quarters such as Bastos, Nsam, Mvan, Ekounou, Biyem Assi, Nlongkak right in the heart of the administrative and commercial centre. The most indicative sectors of this spatial distribution are permanently wood, the PMI, and to a lesser scale printing press, textile and styling.

Just as factories, warehouses, offices and industrial workshops found at the epicentre and commercial centre, constitute a manifestation of anarchy installed by investors in their location choices. This phenomenon is the cause of reversal in tendency and slowing down of dynamism of the peripheral industrial zone at the north and south entries into the capital city. This accounts for the continuous renewal of the industrial outlook of Yaoundé and the development of its rhythm.

Table 2 brings out the distribution of industries by quarter in Yaoundé. Generally speaking, these are the industrial quarters of Yaoundé. This tendency is still very irregular when analyses by sector or subsector are taken into consideration. The current spatial differentiation in the occupation of the urban space by industrial establishments expresses the fundamental mutations observed in the secondary sector these last years in Yaoundé. It is a type of mutation that generally affects the jurisdiction of the Mfoundi division. It constitutes a necessary and important element at the level of employment offered by secondary sector and by general growth of the industrial landscape of the town. This falls in line with the objectives that the state of Cameroon seeks to achieve through industry. This in the short term has to be a booster to job creation and the fight against unemployment and poverty.

Table 2: Distribution of industrial establishments in the quarters of Yaoundé by branch of activity

Quarters	Number of establishments	Percentage
Byem-Assi	7	7%
Nsam	5	4%
Mvan	11	10%
Ekounou	4	3%
Nlongkak	12	12%
Nkomo	2	1%
Mvog_Mbi	3	2%
Ahala	7	7%
Centre town	10	9%
Bastos	3	2%
Others quarters	48	43%
Total	112	100%

Source : Field data (2012)

In detail, the spatial location of industrial establishments as described in table 2 shows a preponderance in the quarters of Mvan, Nlongkak, the central town, Nsam and Ahala. However, compared to the rest of the town and in accordance to different advantages accruing to these quarters (planned and unplanned quarters as well as the peripheries), the secondary activity has remained a faithful pattern that favours the location of industries in areas where promoters have a free hand. In the whole, 44% of the industrial enterprises in Yaoundé are located in places other than those found within the designated industrial zones. They actively take part in the construction of the urban network and the movement of labour force from one point of the town to the other.

These enterprises develop original strategies for the promotion and consolidation of industrial jobs in Yaoundé. Planned quarters such as Bastos and relatively planned quarters such as Omnisport, Mvan, Biyem Assi, etc. attract a majority of industries. In this context, we can talk of a clear opposition between incentive state measures and the choice of location areas of secondary activities in Cameroonian towns. This opposition although significant spatially and economically speaking have consequences on human life.

The examination of the table and the spatial distribution map of industries bring out two industrial poles in Yaoundé: the central town and the industrial zone of Nsam and Mvan. The central town benefitted from industrial location at the dawn of the independence of Cameroon. Attracted by markets, relationships and relative security, industries were preferably located in these quarters. These were mainly polygraphist industries, bakeries and the only textile branch in Yaoundé. Even during the period of full economic growth this tendency has remained almost the same. Progressively, industries started occupying the whole central town right to the same proportion of Nlongkak.

Just as in the central town where advantages in terms of replenishing industries with all sorts of goods made possible by the communication network, the industrial zone of Nsam and Mvan appear to be a perfect location zone for industries. This zone provides industrial promoters diverse advantages since its creation in 1978 by the Cameroonian government. Today still, most of the industries in Yaoundé are located and continue to solicit this zone. Here, there are found industrial enterprises of all branches but the wood and chemical industries are the most represented. Even the largest public owned polygraphist industries are located here since 1978. It is the same for large industries producing gracious drinks that are located in this industrial zone before the attainment of the independence by Cameroon. Generally, it should be said that the quasi-totality of industries located in the industrial zone are either large or average in size. These industries also benefit from the intensive use of high technology in their daily functioning. Clearly speaking, the industrial location zones are not only in the peripheries, planned and unplanned areas. Yaoundé industries are located all over where promoters find space and adequate development conditions.

Other location spaces of industry in Yaoundé

These are quarters with spontaneous settlement on the MAGZI industrial zone situated at the south entrance of the town of Yaoundé. These zones are increasingly experiencing industrial activities. These are preferred areas of attraction for the opening of secondary activities. Only two branches dominate in the framework of this approach. These are SMI and wood industries. However, other branches of activity, when found in these areas, grow using artisanal methods. This concerns manufacturing of blocks or workshops for the manufacture and repairs of electronic and mechanical appliances.

In detail, wood workshops, bakeries and building and public works establishments are omnipresent in Yaoundé. They profit from a good geographic representativeness in the urban perimeters. But, due to the inappropriate organisation and the most often complex status, a good number of them operate in an informal and clandestine manner. Quarters highlighted here such as Mokolo, Nkolbikok, Obili, Manguier, Briqueterie, Mvog Ada or Mvog Mbi have formally been the first areas of affluent location of industrial activities right up to 1980.

Industrial establishments contribute to the functioning of the economic life through their interaction with the peripheral environments. In this approach, the urban perimeters unceasingly continue to attract new locations and creation of enterprises. Concurrently, some promoters continue soliciting the periphery of Yaoundé for the location of a more or less large number of establishments.

In Yaoundé like elsewhere in Cameroon, an industrial zone has been developed since 1983 (cf. photo) to promote a better allocation of land and spatial resources required for the development of industries. This zone is situated to the southern entrance of the town. It covers quarters in which are found a large number of industrial enterprises and establishments are found. These very important industries for the economic dynamics of the town, for Cameroon and the central African sub region supply several direct and indirect jobs to the urban population. This region owes its originality to a relief with valley bottoms drained by the Mfoundi River. The industrial zone developed and planned by the state in Yaoundé since 1927 has profited from the construction of the railway linking the political capital to the sea port in Douala (Bopda et Christian Santoir, 1995).

After the independence of Cameroon, MAGZI was created with the aim of reinforcing the industrial policy of Cameroon through promoting the development of secondary activities. Other than the first zone created at the entrance of the town of another zone has been created in Nkomo. Unfortunately, the rapid expansion of the settlement contributed to the abandonment of these zones. Further, other zones favour the spatial growth of the town especially by the demarcation of the urban structure by activities such as found on fig. 1.

Fig. 1 shows that at least two industrial zones have been previewed by the different master plans of the town of Yaoundé. In the same manner, this town clearly has economic considerations that are contrary to vocation as the

administrative and political capital of Cameroon. This situation is observable in the efforts of planners to create transformation plant in respect to the spatial growth of the town as testified by the following data.



Photo 1. A partial view of the MAGZI industrial zone of Yaoundé south. It is surprising to realize that in spite the development realised on this space, few industries locate here in a proper manner. They still prefer to anarchically locate all over the town and its environs.

B-Consequences of the spatial location of industries on the movement of industrial labour force in Yaoundé

The town of Yaoundé is increasingly playing the double role of political capital and industrial town. At the level of the administrative region of the centre, this town stands out as an industrial region that attracts and creates several industrial jobs on a daily basis. The geographic distribution of industries is responsible for the numerous labour migrations linked to the movement of industrial labour force. In this regard, distances between the town and its suburbs henceforth seem reduced for actors of industrial employment in Yaoundé.

The spatial distribution of industrial units in the town of Yaoundé reveals that they are located in the near, average and distant peripheries. These locations influence the residential choices of the labour force that can be motivated by economic reasons at the period of choosing a settlement area. It is clear, for this reason that the permanent mobility of paid worker is one of the manifestations of this situation. To this effect, a significant portion of the Yaoundé industrial labour force live in several localities that are not part of the urban periphery or under the administrative or territorial competences of the town of Yaoundé. This integrates the industry into the clear spatial relation with the consequences on the tentacular effects of the town.

This labour force is equally for all branches of activity and from professional categories. It is made up of men and women who voluntarily or are compelled to reside in the closer suburbs of the urban perimeter. Each morning they try to overcome the notion of distance that separates the residential from the work places all in contributing to the understanding of the interrelationship between the place of

work and the place of residence. The immediate consequence of this situation is the increase in the number of movements by the labour force flux from one of the industrial region of Yaoundé to the other as on fig. 2.

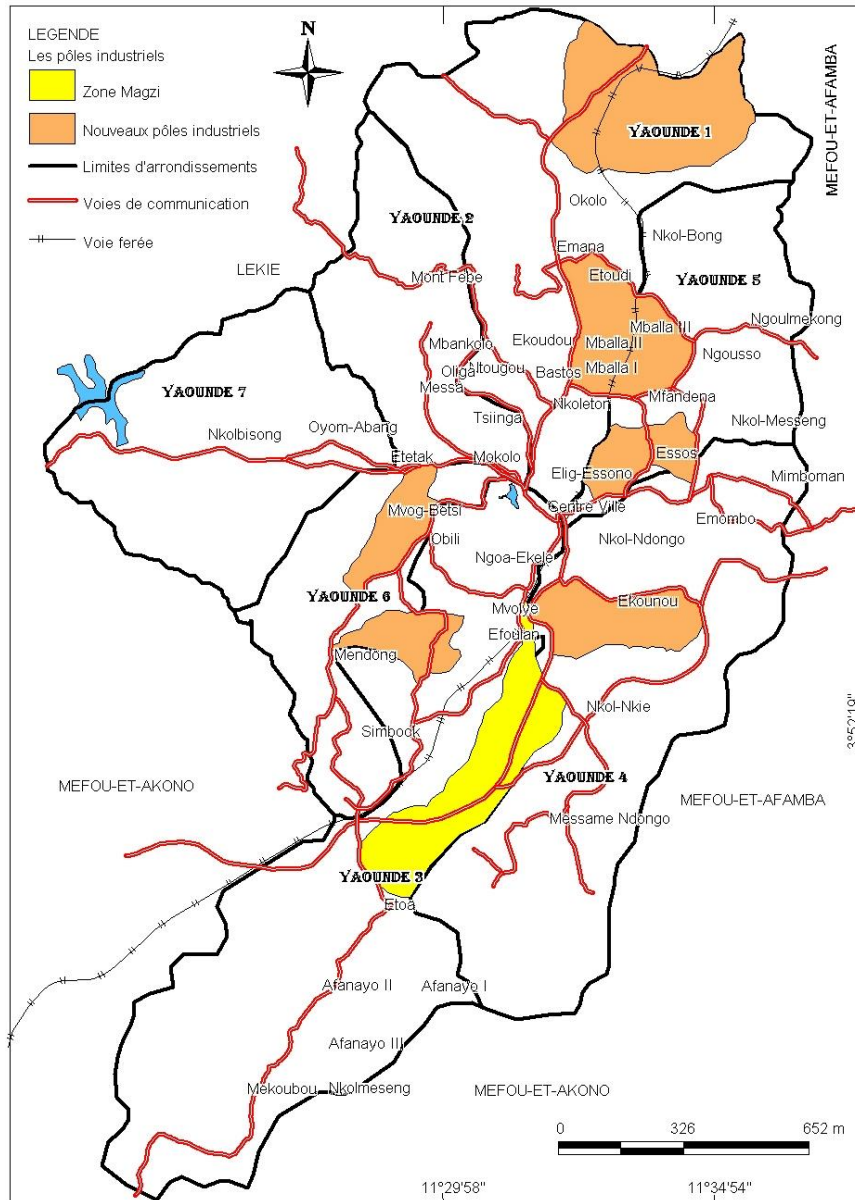


Fig. 1. Industrial zones previewed by Yaoundé SDAU
 Source: CUY, MINDUH/SDAU (2004), Field data (2012)

Today, secondary activity is found in all localities situated around the town of Yaoundé. These localities are in permanent network with the rural world or in certain cases with the surrounding towns whose influence by the Yaoundé metropolis in their daily life and evolution is unquestionable (Ndock Ndock, 2009).

The location of a production unit in a place encourages the movement of people and goods. They have effects that are linked to the dominant economic activity and on the physical and human environment of the enterprise. This is also an approach that integrates the idea according to which the installation of an enterprise in a place is a source of employment and organization of the territory. In the specific case of structured and semi-structured quarters, the location of industrial establishments increases the influence of labour force in the daily volume of movements even within the town of Yaoundé.

In a clear manner, industries that are located in Yaoundé show labour migrations that are henceforth common place among the workers working in them. Several alternating flow of workers between the town of Yaoundé and other surrounding administrative units are recurrent. These flows are higher when it concerns workers living in zones such as Mfou and its environs in the Mefou Afamba and Soa. It is the same situation for Mbankomo in the Mefou Akono approximately in the same proportion. On the other hand, this migratory flow of workers is low as it concerns the exit of industrial labour force from the town of Yaoundé towards these administrative units. As such, despite SOFAMC situated in the Mefou Afamba and which attracts a relatively high labour force (67%) from Yaoundé, other movements of actors in industrial job towards industries located in surrounding administrative units are negligible, the proportion varying between 3 and 5%.

The geographical position, sector specificities as well as oscillatory migration of the active population schematically contributes to constructing the heterogeneity of the urban and suburban space of Yaoundé. If industries have the tendency to locate in all the zones, it should be noted that the residential strategy of the labour force at times leads them to increasingly desire those zones in which they can be open to all the domains. In this condition, it is important to know the evolution of movements in the life style and working hours of industrial workers. These movements with time also express the increasing dissociation between the place of residence and the location of industrial activities. Here, the movement between house and work plays a determining role in the increase of traffic between the urban centre and the close peripheries and surroundings. It is here that the town of Yaoundé is situated in the context of metropolises that brings in the surrounding secondary towns in the production system, the linkages and exchange of persons and services. All these secondary towns are influenced in their daily functioning by the proximity of Yaoundé that offers many opportunities to their population as well as to its residents.

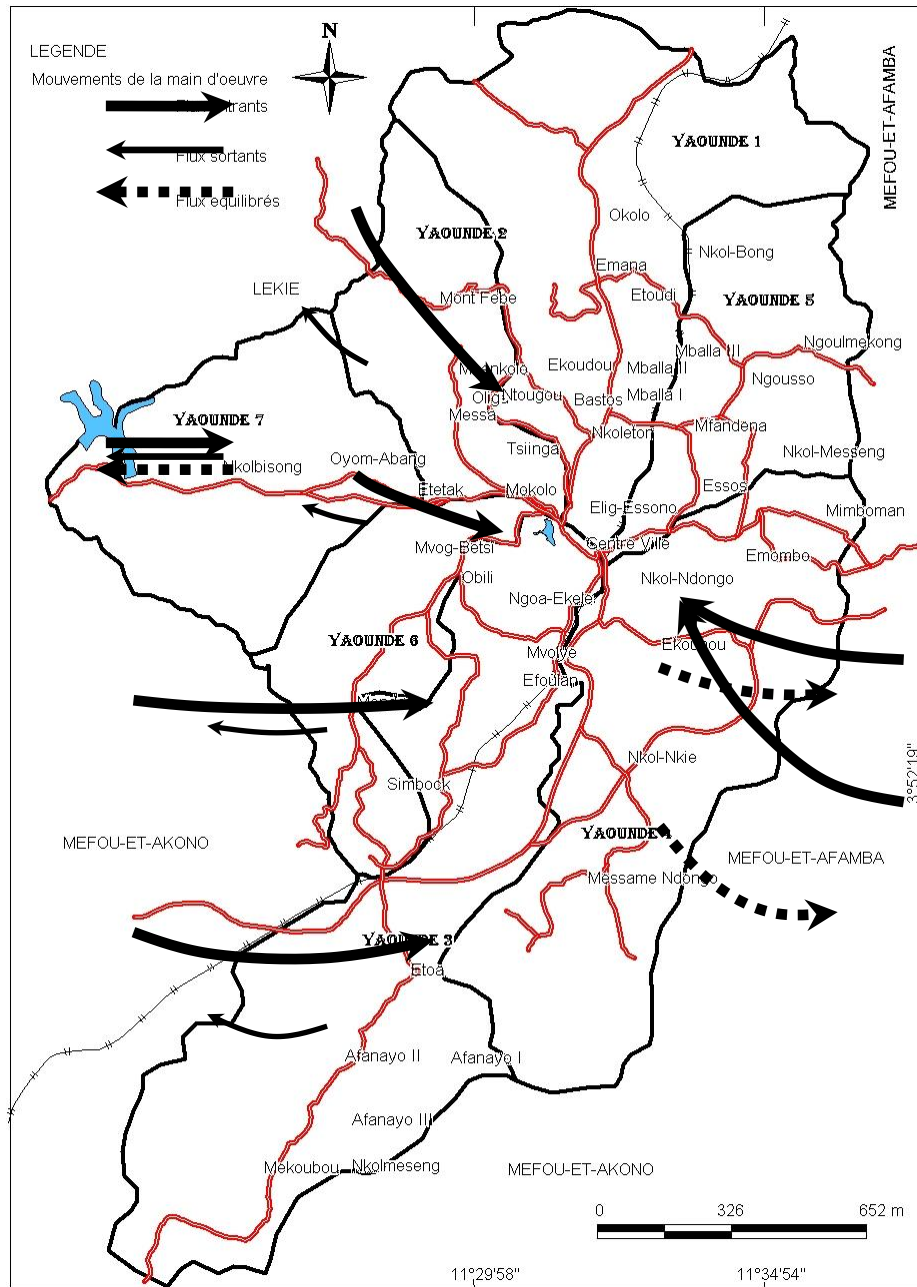


Fig 2. The alternating movement flux of actors in industries in the territory of Yaoundé
 Source: Field data 2007-2012, Enterprise files 2012

The flow of labour force from one point of the town to the other shows a clear disequilibrium between internal movements and movements towards the peripheries. This disequilibrium becomes significant in understanding the reshuffling that can occur between urban zones and others or between sub divisional council and the other. In this context, labour force moves on a daily bases towards all possible directions. Distances between place of residence and job site vary between 1.5 and 30km. These distances covered every day by Yaoundé industrial workers are done either within the within agglomerations or between agglomerations and the peripheries vice versa.

The oscillatory and daily migrations of industrial workers cover fairly large territory at the centre regional scale. This flow of works brings out the place and role of some roads in the town of Yaoundé. As such, the road linking Mendong and central town attracts close to 28% of the workers. This gives them the opportunity to settle in these localities as land lords since land is still relatively cheap compared to that in the central town. In some cases equally (12%), it is either family residence or place of birth for these numerous individuals whose past generations have observed the rapid growth of the town of Yaoundé since independence.

The distribution of peripheral labour force reveals a contradiction between the planned urban sector often characterised by secured remunerations and the unplanned sector where employment is at times considered as disguised unemployment. In such a way, time constraints in relation to distance between place of residence and the central town as well as job site, the need for profit making and saving for future investments as many of the elements that play a non negligible role in the understanding of this phenomenon. In spite the advantages, there is equally an upset in the scale of time and space whose consequences are quickly felt socioeconomically.

CONCLUSION

In Yaoundé, several industrial establishments of varying sizes are increasingly taking a determinant position in the organisation of space. In different degrees, these enterprises in certain urban and suburban spaces, either due to circumstances or simple strategy to profit from opportunities linked to their territory. Globally, these industries participate to the economic dynamics of Yaoundé and to the mobility of people and goods. They are sources of employment in Yaoundé. As such, the occupation of the urban and suburban spaces by paid workers of these industrial establishments in Yaoundé leads to oscillatory migrations of industrial labour force between the town and its immediate and distant suburbs. This movement of labour force from one quarter to the other, from one town to the other or from one region to the other reveals an increase in the number of movements linked to industrial activity. Granted, these movements that go along with economic mobility are not as many compared to that of

administrative workers, but they demonstrate that the place occupied by industrial activity in the daily life of the spatial growth of the town of Yaoundé is important.

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