

URBAN PLANNING AND PROBLEMATIC OF PUBLIC SPACES CONSTRUCTION IN THE CITY OF DSCHANG FROM 1960 TO 2014: ANALYSIS OF THE CASE OF GREEN SPACES

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Abstract:-

After independence, the authorities of the young Cameroonian state had equipped most cities in the country with many documents for planning and management of urban space. This is the case of the city of Dschang in west Cameroon which, inspired by the colonial plans of town planning and development of the city, produced two important development documents respectively in 1963 and 1982. These Planning documents focused on the construction of public space including green spaces, amenity and aesthetics. However, despite the importance of the latter, it was till the creation of the University of Dschang in 1993 and then the influx of students from the year 2000, the city registered more than 50,000 inhabitants in 2010. This led to the emergence of a new urban dynamic with more consideration of green spaces by the actors of city construction. An ecological dynamic which takes into account the perspective of the old city development plans, has helped guide the development of the city. The analysis of Dschang city planning documents, the observation of urban space dynamics (with a remarkable contribution of aerial photographs), interviews with 300 households and resource persons show that the public spaces of the Dschang city are spreading more and more into green spaces. This participates more in increasing the tourist and cultural vocation of the city while building new landscapes.

Key words: - Cameroon, Dschang, land use plan, green spaces, public spaces, urban territory and urban landscape.

INTRODUCTION

On the 5th of October 2015, during the World Habitat Day celebration under the theme "Public spaces for all", the UN Member States adopted the 2030 Sustainable Development Goals for cities that intend to allow universal access to public green spaces for all city dwellers. Cameroon has not remained on the sidelines of this initiative, although it may be noted that the crisis of the 90s led to the disengagement of the Cameroonian state and accentuated an urban planning deficit in most cities of the country (ASSAKO, 2007). This deficit was mainly reflected by the non-respect of the urbanistic forecasts, in particular the lack of green spaces in the city which is predominantly built up. This is why the introduction of adapted vegetation humanizes public spaces and increases the quality of the urban landscape. With the intensification of the University of Dschang since 2000, there has been more interest in public spaces, with the aim of offering young people recreational areas and increasing the attractiveness of the city. It is in this context that this article analyzes the evolution of the planning of Dschang city from the colonial period to 2014 by raising the paradox between the scarcity of green spaces in the urban landscape and its inclusion in planning documents. Results presented in this article are based on data from cartographic documents and archives of the municipality, Land and Surveys and Divisional Delegation of Urban Planning and Housing of Dschang city, and many libraries at the national scale. Also interviews were conducted with the former Mayor Momo Bernard and some administrative authorities of the city. Similarly, we carried out a survey of 200 households. The choice of this sample was made by quota using the actual occupancy map of the areas reserved for the creation of public spaces from which 418 households were enumerated and 200 surveyed.

1. Green spaces as previewed in Dschang urban planning documents

Urban planning documents are development plans that set out the basic orientations of urban planning, the general destination of plots and the programming of equipment. On the one hand, it determines the conditions that make it possible to limit the use of space, to control travel needs, to preserve farming activities, to protect green spaces, cultural heritage, natural sites and landscapes, and so on. On the other hand, to provide sufficient building space for economic activities and public facilities. For this purpose, the city of Dschang had several plans:

1.1. Green spaces in the 1963 Dschang Master Plan

This plan was a continuation of the plan of the colonial era. This plan stipulates that in 1963 the Dschang urban perimeter was estimated at 650 hectares, with 20 hectares of green spaces (4.4% of the total area). The 20 hectares of green spaces was designed for the creation of parks, public gardens and playgrounds. On these spaces was banned all new constructions, with the exception of sports, socio-cultural or recreational buildings and buildings necessary for the maintenance and guarding of these sites.

1.2. Green spaces in the 1982 Master Plan (PUD)

This plan appears as a desire to consolidate that of 1963. The interim report on the study of the state of urbanization of Cameroon in 1990, provided in the section green spaces and recreation, an urban park per 100 000 inhabitants, an equipped garden for 10 000 inhabitants, a green space summarily arranged (mixed afforestation) for 5 000 inhabitants. In 1982, the city of Dschang covered an area of 1,500 hectares in which green space represented 120 hectares or 8.8% of the total area. In 1982 the green spaces in Dschang represented 47 hectares in the south-western part of the city, (Aza'a, Lefock, Famla, Ngui, Mingou, Mingmeto, Signal); 40ha in the north-east (Tsinbing, Femteu, Fiankop, Tsinfem, Sugar cane, Tsinkop, Fiala, Madagascar districts); 15ha in the center (Gendarmerie, Shopping Center, Azuenla); 10ha in the south-east (IRAD, Toutsang); and 8ha in the north-west (Tchoualé, Hausa district, Caplamé, Kentsop Foghap).

In 1980, the planification of the Sacred-heart catholic mission, which covers an area of 20 hectares, was the priority for the development of a strolling ground and a remarkable panoramic site. The steep slopes found in this area make urban planning difficult though it is not far from the city center and it is accessible on foot. In the 80s, the public green spaces existing in Dschang were of the residual type, essentially made of vegetal cuts created by the thalwegs within which there is a risk of developing a spontaneous habitat. At that time, the creation of a park was planned downtown (on the site of the current ground stand).

1.3- Parceling plans

The creation of parcels is the initiative of the State, local authorities, or private individuals, physical or moral person on their respective properties and are carried out in compliance with urban planning documents in force or following general rules of urban planning and construction. In addition to the urban plan of 1964 and 1982, the lands and survey archives have revealed that over the years, Dschang has benefited from several parceling campaigns to meet an ever increasing demand which has given to its center the current frame (Table 1).

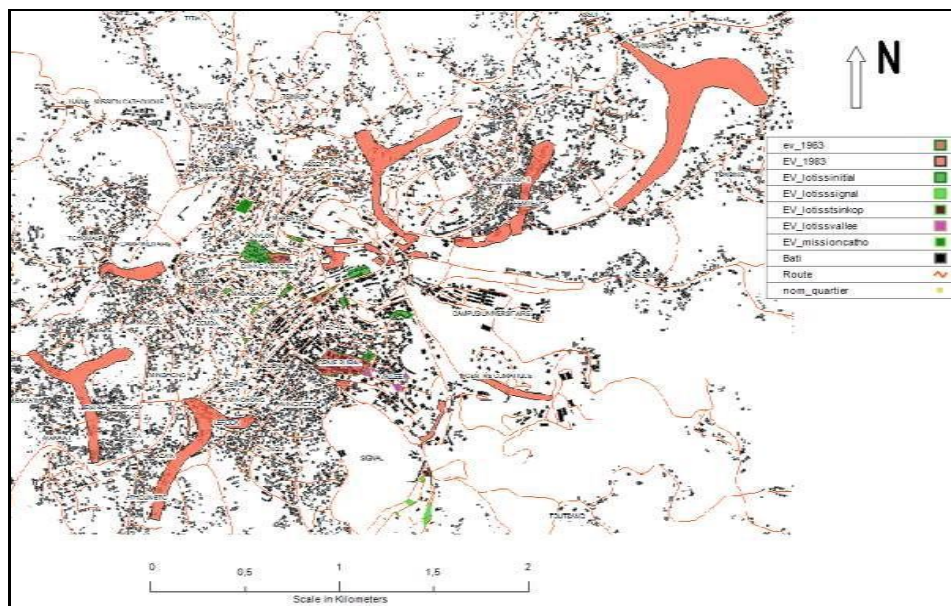
Table 1: Green spaces in the various parcels of the city of Dschang from 1960 to 2009

Names of parceling plans	Dates of parceling	Surface of all parcels	Surfaces of green spaces	Total number of parcels	Number of parcels of green space
Vallée parcel plan	8/09/2009	16ha65a16ca	0,0201ha	193	7
Signal parcel plan	13/02/1978	05ha67a76ca	0,2090ha	144	3
Initial parcel plan	1966	30ha59a91ca	About 1 ha	1208	9
SONEL plan	02/07/1989	07ha 00a 72ca	0	102	0
Hospital parcel plan	14/03/1980	1ha 30a 60ca	0	32	0
Toutsang parcel plan	15/06/2002	02ha 77a 16ca		54	0
Catholic Mission parcel plan	1972	20ha 53a 91ca	0	191	0
Lake parcel plan	1982	1ha 90a 07ca	0	30	0

Source: Field survey 2014. Adapted from the different parceling plans of the city of Dschang

The planned green space in the Tsinkop estate was intended for the creation of a kindergarten. The one at Signal was intended for the development of a communal forest that would at the same time be the green lungs of the city of Dschang. Formerly this space had an area of 48 hectares but over the years, it disappeared under human action (28 hectares). The green spaces provided for in the plans were also intended for the construction of squares, which are fenced public gardens located in the city and generally provided with benches and games for children. With its trees and lawns, the square is a small public space of about 1,000 to 20,000 m², located in the heart of an urban area. A square is usually enclosed by a grid, a fence or by low hedges.

Map shows all the public green spaces planned between 1963 and 1982.



Source: Dschang PUD of 1964, 1982 and the different parcels subdivisions of the city of Dschang Conceptualization: NIMPA Christiane. Drawing: KEUMO Romeo, Geomatic Laboratory of the Uds May 2013

Map 1: Green spaces as preview in the Dschang City Development Plans of 1964 and 1982

Map 1 summarizes all the green spaces that have been included in the various development plans of Dschang. This representation is made with very fine colors allowing to see the habitats that have devoured its spaces.

2. Current state of green spaces in Dschang

In the city of Dschang, green spaces in 2014 refer to all the spaces of passage and gathering for all city dwellers, either in the public domain or in the private domain (Table 2).

Table 2: Summary of types and location of existing public spaces in the city of Dschang

	Types of green spaces in the city of Dschang	Localisations, Remarks
1	Gardens	CANAN, the café UCAO located towards the St Augustine Church
2	The Esplanade of the council Hall	Represents a place of parades, demonstrations of all kinds located in front of Camtel office
3	surroundings of public and private buildings	the various delegations such as that of public works and agriculture, the Rectorate buildings, those of hotels such as Malt and Hospitals
4	Green spaces of the university, secondary and primary institutions	They are found in university institutions: UDS, ISTD located besides braseries depot, secondary schools such as government bilingual high school, CONODIC, Menoua espoir college
5	Family gardens	These are villas of the administrative quarter, and some houses in the neighborhoods such as: Madagascar, Ngui, Foréké and Keleng
6	Planified roundabouts	This is the case of the CAPLAME, the gendarmerie, the former bus station, the police station of the 3rd division
7	Sport	Stadium of CENAJES, those of the university campus, the municipal stadium, IRAD.
8	Cemetery	There is only one cemetery in the city of Dschang at the Grand Mission.

Source: 2014 survey

Table 2 depicts that there are limited recreational green spaces for walking, relaxation, rest and sporting activities for public use as well as equipment for the animation of the city. The 30 ha recreational and sports garden created in 1987, located in front of the FrancoCameroonian alliance building remains the only open green area of proximity to the inhabitants of Dschang. The rest of the spaces consist in particular of surrounding of certain public buildings of the city. The green spaces in the city of Dschang can be classified into two categories. It is essentially:

- Private gardens (climatic center) and botanical gardens (museum of civilization). These are spaces that benefit from a diversity of plants, rest areas, games and other entertainment equipment. As a result, they have a very high attendance rate throughout the year.
- Green spaces surrounding public building: These are spaces that seem very popular for a greater part of the year, even if they contain almost no animation equipment or diverse attractions. These spaces are generally recent.

The totality of green spaces existing in the city of Dschang amounts to 191 640 m². Given that the total number of inhabitants is 200 000, the ratio between green spaces and the inhabitant in the city was computed at 0.9 m² / inhabitant. This is lower than the international standard accepted by the World Health Organization (WHO) which is 10 m² / inhabitant.

3. Understanding the deficit of green space in the city

Rapid urbanization leads to concentration and saturation of space. With this, the city does not have enough time and means to prepare and accommodate a large number of city dwellers.

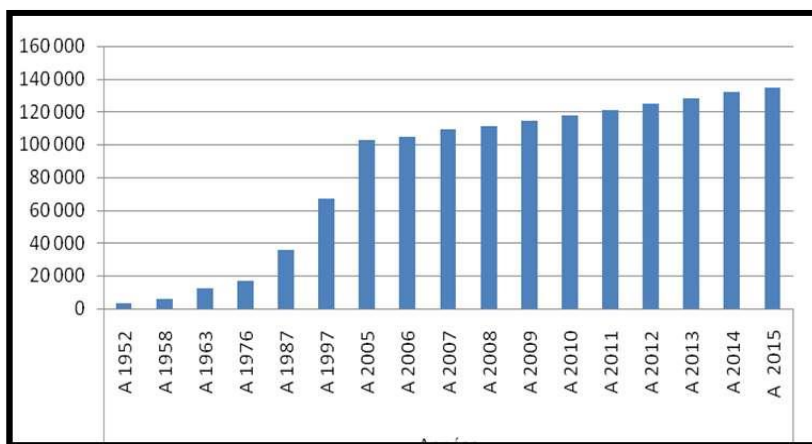
3.1. Urban growth and unplanned sprawl

In 1952, the city had only 3,000 inhabitants. In the aftermath of independence, the relative decline of the population between 1963 and 1967 would be linked to the transfer of the provincial capital from Dschang to Bafoussam. In 1968, the population was estimated at 15 000 inhabitants because the city was considered a refuge city for the rural population fleeing the insecurity instituted in the countryside by armed rebellion.

Between 1976 and 1987 the population increased from 17,814 to 35,717. It had more than doubled in the space of 11 years, surely benefiting from the relocation of the National School of Agronomy (ENSA) from Yaoundé to Dschang. After 1987, the boom is evident, stimulated from 1993 by the creation of the University. In 1995, the population was estimated at 43,197 people with an annual growth rate of about 3.18%, while the national average was 2.9%. B. Kouambo (2004) estimates the population of Dschang at 53,542 inhabitants in the year 2000. In 1997, the annual statistics record of Cameroon gave the figure 67,000 inhabitants. These divergences show that the population is growing at a rate that is difficult to control due to student influx. The 2007 population census estimated an urban population of over 75,000 inhabitants. Today, the city is experiencing one of the strongest growth rates in the region.

Population explosion and agricultural extension are the first causes of the disappearance of public space and green spaces. In the case of the city of Dschang, urban growth has been fairly strong for about 10 years, in the demographic (natural growth and migration balance) and functional (intellectual, commercial, administrative, religious, military, therapeutic and tourist) dimensions. The spatial dimension of this growth presents a very slow evolution, which results in a heaping of the population as well as the destruction of the vegetal cover.

The rapid population growth is linked to natural increase, the flow of rural exodus and secondary migration or return of urban dwellers affected by the economic situation in other cities. These people returned to Dschang in search of employment. The population in Dschang town has been increasing steadily from 1952 to 2015 (figure 2).



Source: POS of Dschang 2010

Figure 2: Evolution of the population of Dschang from 1952 to 2015

The solution to population growth is seen in the increase in urban perimeter (table 2). This occupation of space is anarchic and horizontal. Building spaces are becoming increasingly rare in the center of the city of Dschang which pushes citizens to occupy areas reserved for green spaces. For example, the case of the former Dschang Independence Square which has been the subject of an illegal sale.

Table 3: The evolution of the urban perimeter of Dschang in relation to population evolution

Years	1903	1960	1963	1976	1980	1984	2006
Surfaces in hectares	Less than 5	89	214	471	520	537	1300
populations	3 000	6 000	12 073	16 630	35 717	38 000	109 76

Source: Plan of Land Use of the City of Dschang 2010

Table 3 shows that the evolution of the urban perimeter is based on demographic growth, which is an attempt to meet the growing needs of the population in terms of housing and nutrition.

3.2. Inadequate means to extend urban services throughout the city

In principle, a city should be characterized by dynamic activities growing steadily thanks to the multiplication of attractive urban functions, as well as by a better comfort and access to collective facilities of good quality for the majority of the inhabitants. Unfortunately, a critical observation and some quick surveys proves the opposite in the private economic field and in that of public infrastructures. This insufficiency leads to the saturation of urban centers in which there is almost no green spaces. In many cities of the Third World, the state of the road creates the isolation of many neighborhoods. The lack of suitable structures for the evacuation of water causes catastrophic erosion which the public authorities and plot buyers are unable to control. The main difficulty encountered in the protection and development of green spaces lies in the financial plan and the absence of a real political will. There is not enough money to make real leisure parks in the city of Dschang.

3.3. The question of the Mayor's police power and its limits

The establishment of green spaces is done by the public authorities and by a real estate developer for ecological, recreation, attractiveness and promotional purposes. The integration of biodiversity in public spaces requires initial and ongoing training of designers of public spaces, but also teams that will have to maintain or monitor or animate them.

On the one hand, the authorities promote the sale of green spaces more than they protect them. Curiously, instead of trying to develop these different places, the authorities behave more as predators than protectors of public property. In this regard, many of the sites scattered throughout the city of Dschang have been threatened either with spoilation or sale by the authorities for their private accounts. An example is the case of the former place of independence of Dschang, which was almost sold if not of the intervention of the population, which fortunately has become very conscious. The municipal authorities still sold most of these green spaces. They give building permits on areas that were intended for the development of green spaces.

On the other hand, the lack of collaboration between the authorities who run the city causes the disappearance of green spaces. The land and surveys for example carry out parceling without the opinion of the MINDUH. Similarly, the inability of the municipality of Dschang to serve the city with extensive urban infrastructure pushes the population to congregate in the center.

3.4. Counter-use of green spaces for public spaces and urban landscape of Dschang

The cities of the inter-tropical world are experiencing rampant urbanization that does not go hand in hand with economic development. This results in urban poverty, which is at the root of many dysfunctions in the management and control of urban development.

3.4.1. Public spaces occupied by housing

Dschang nowadays has around forty neighborhoods, most of which are located on the hillsides and in disregard of the 1982 Urbanism Master Plan. There has been intensification of commercial buildings. More than 60% of these constructions do not respect the norms of town planning; hence, all the green spaces of the city of Dschang envisaged in the various parceling plans were occupied by private individuals. Thus during our fieldwork we were able to count 200 parcels, distributed as follows:

Table 4: Spatialization of housing construction on green spaces in the city of Dschang

Quarters	Number of houses built on green spaces	Year occupation
Azuenla	44	1990
Keleng	10	2005
Canne à sucre	63	1986
Foréké	68	1999
Vallée	15	1994
TOTAL	200	

Table 4 demonstrates that the construction of houses in the Canne a Sugre quarter took place in 1986, in Azuenla, it was carried out around the 1990s, then comes the valley in the 1994, Foréké in 1994 and Keleng in 2005. In fact, the oldest habitats are found in the Cannes a Sugre and Azuenla neighborhoods, made of clay bricks and with temporarily construction materials. In these neighborhoods, it is shocking to notice that the houses are built 2 steps from the river called "Dschang Water". In Overall, we found that majority of green spaces planned for 1982 near rivers and lakes were polderized and built as seen in the the valleyquarter. Indeed, in the 1980s, the city of Dschang had 8 lakes and today there are only 2 left: the municipal lake and Lake 8 in front of Government Bilingual High School are those that survived reclamation.

From the year 2000, with the intensification of the university, green spaces were increasingly used for the construction of mini-cities (in the Valley, Keleng, Foréké and Azuenla quarters). This is how we see the transition from the type of construction with earth brick to another type of construction modern materials, meeting the requirements of students and teachers of the University.



Picture: Nimpa 2014 Picture1: the habitat along the slopes of Signal Hill.

3.4.2. Green spaces occupied by agriculture

In the city of Dschang, urban agriculture is practiced on tiny parcels permanently occupied with plantain and in the rainy season by seasonal crops (corn, cocoyams, potatoes, plantain, cassava and yam etc.)

The practice of agriculture in the city of Dschang is:

- More sentimental than productive: among the Bamileke, agriculture is an aspect of civilization. In the city, she reminds the woman of her peasant origins;
- A space marker: agricultural development means ownership and avoids illicit sales or appropriations of land. It is therefore practiced on plots until the owner has money to build;
- A way to maintain the plot and avoid colonization by wild vegetation and indicate the presence of the owner;

- A supplement to the household budget deficit, which must itself produce a portion of what it consumes. Indeed, the financial and employment crisis that began in the late 1980s gave this other dimension to urban agriculture and contributed to its rediscovery.

4. Valorization and promotion of public spaces in the city of Dschang

The public space is a collective living space for city dwellers; it is a place of social cohesion, of encounter with others. These are areas of economic activity, cultural expression and political discourse. And when these public spaces are non-existent or poorly maintained, they can lead to social segregation, economic decline and cultural poverty, deterioration in the health status of the population, as well as violence and insecurity.

4.1. 1st case study: action of the Former Mayor MOMO who seized the old place of independence from a former deputy of the city

Regarding the protection of public spaces, we can cite the patent example of the former Independence Square which was sold to a former deputy of the city but Mayor MOMO Bernard radically opposed and stopped construction works on it. The latter, with the aim of discouraging the buyer, has implanted two panther statues for the general public. However, this did not discourage the builder, so it is during a site visit on May 13, 2013 that construction works were stopped (Pictures 2).



Photo: YEMMAFOUO Aristide, 13 May 2013

Pictures 2: stop of construction work on the former Independence Square by Mayor MOMO.

Regarding the development of green spaces in Dschang, the former Mayor MOMO Bernard intended to launch an afforestation project in April 2013 in order to plant 1000 trees along the streets of the city. The purchase of these plants amounted to 1,542,500FCFA. He also intended to develop the following spaces:

- The space behind City council Hall,
- The space located on the street behind the pharmacy Panka,
- the pace behind the Lefock bus station,
- the Signal Hill: which is an urban forest accompanied by urban infrastructures (Churches, schools, hospital ...),
- the space located at the Yves Junction before the bridge
- the space located below the CAPLAME bridge

4.2. 2nd case study: measures taken by the urban municipality of Dschang

The implementation of the land use plan in 2010 (P.O.S) in order to regularize land use and scrupulously ensure respect for its various uses. The POS is a legal guarantee to be determined for a period of 05 years, providing general rules and servitudes that the municipality wants to ensure in the use of its space. It has two types of documents: textual documents and graphic documents produced on scales between 1/5 000 and 1/10 000.

The putting in place of a certificate of urbanism in order to protect the green spaces plan in the PUD of 2014. The planning certificate, following chapter II of the decree n ° 2008-0739-PM of April 23rd, 2008, is an administrative document making it possible to inform the applicant.

Conclusion

This article aimed to analyze the role of urban planning in the construction of public spaces in Dschang. At the beginning of this study, we posed a problem of human and social Geography especially that of the well-being of the population. It involves the analysis of the nonrealization of green spaces envisaged in the development plans since 1963 and its impact in the city of Dschang. Our goal was to help make known the green spaces that had been planned, their importance, what they have become and the consequence of their nonrealization.

Based on the results, the following recommendations were made. The authorities in charge of the management of the city of Dschang should create new public spaces in densely populated areas of the city where most of the students reside like Madagascar, Keleng, Foreké and Paidground. Reclaim some public spaces initially planned through the eviction the current occupants. It is necessary to provide a space for a municipal cemetery near the stone quarry at Ngui, on a plot of approximately 4 ha. However, it should be noted that green spaces are essential for city dwellers, for nature in the city keeps the city alive. In the same way, the quality of the living environment of our agglomeration is based on the richness of its green spaces. Thus, the current situation depends on actions taken in the past. Moreover, the actions of the moment condition the future. Thus, by protecting green spaces, future generations are assured of a supply of resources for a sustainable development, a pleasant living environment and optimal living conditions.

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