Analysis of a planned neighbourhood of Kinshasa and its mix with spontaneous extension neighbourhoods: the case of the Maman Mobutu City *

Análisis de un barrio planificado de Kinsasa y su mezcla con barrios de extensión espontánea: el caso de la ciudad de Maman Mobutu

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Abstract: Kinshasa, one of Africa's most densely populated capital cities, has been grappling with the issue of informality in its planned settlements. This paper, aiming to understand this issue comprehensively, has employed a unique and rigorous qualitative and quantitative analysis. The research includes material and site surveys, allowing for a detailed study of the transformation of the Mamam Mobutu Garden City. Built-in the 80s on an existing informal village, the project later faced an invasion of illegal settlers and constructions. The surroundings have also witnessed the radicalisation of precarious communities, posing a threat to achieving sustainable human development.

Keywords: Kinshasa, garden city, informality, human settlement.

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* This article presents the results of the research conducted by Manlio Michieletto and Victor Bay Mukanya at the ISAU Kinshasa, DR Congo.

Resumen: Kinshasa es una de las capitales más pobladas y densas de África; en las últimas décadas, la informalidad ha engullido asentamientos planificados realizados antes y después de la Independencia de 1960. Mediante un análisis cualitativo-cuantitativo, recopilando material y estudios *in situ*, el artículo pretende estudiar la transformación de un proyecto urbano, la ciudad jardín Mamam Mobutu, construida en los años 80 sobre un poblado informal existente, que posteriormente fue víctima de una invasión de colonos y construcciones ilegales. El entorno también ha sido testigo de la radicalización de comunidades precarias hacen peligrar la consecución de un desarrollo humano sostenible.

Palabras clave: Kinsasa, ciudad jardín, informalidad, asentamiento humano.

1. INTRODUCTION

In 1920, Kinshasa had about 25,000 inhabitants and gradually increased its population until it reached 50,000 in 1940. At the beginning of the 21st century, the city experienced a process of rapid urbanisation caused mainly by the rural exodus and massive displacement of people fleeing the civil war in eastern DRC[1]. This population increased in the 1980s, going from 2,052,873 to 6,140,419 in 2000. The latest statistics (2023) report a population close to 17,000,000[2].

Kinshasa comprises about 35% of the Democratic Republic of Congo's urban population. It has faced enormous housing, sanitation and infrastructure challenges in the last two decades. Sustainable urban planning and good governance must be implemented to clean up the urban environment and ensure tenure security to remedy this situation.

This massive demographic growth is at the root of the complex phenomena of rapid expansion of Kinshasa towards its peripheries and the appearance of precarious, irregular neighbourhoods that develop alongside planned areas. The conurbation was done outside of any urban planning, resulting in illegality and, by extension, a spontaneous expansion that materialises in a sort of stratification tending to an abstraction of the sociodemographic, spatial, environmental and economic factors. The term spontaneous is intended as a residential district developed by its inhabitants, often after illegally occupying the land, in which both the housing and the public facilities are constructed outside the usual market and public sector mechanisms.

As said, several precarious neighbourhoods develop informally on the city's outskirts or next to planned communities, leading to an involuntary mix between different social classes. Low-income households mainly inhabit spontaneous neighbourhoods, which lack public urban amenities and basic infrastructure compared to planned neighbourhoods.

About 396,620 registered households are settled in precarious neighbourhoods, where living conditions are despicable, inadequate and

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[1] Kinshasa en detail, Preface by Léon de Saint Moulin in "Kinshasa my city, my capital", Edition l'Harmattan, Paris, 2014.

[2] https://en.wikipedia.org/wiki/History_of_Kinshasa

intolerable in the 21st century[3]. These difficult living conditions have created a significant influx in the uncontrolled development of Kinshasa, making it, at the same time, one of the most populated cities in Africa, behind cities like Lagos and Cairo. In fact, according to UN studies, the global urban population will reach 6,6 billion inhabitants in 2050; the majority will be in the countries of the Global South. Moreover, according to the report of the Department of Economic and Social Affairs of the United Nations, the city of Kinshasa will become the 21st most populated city in the world[4].

While remaining one of the least urbanised cities in Africa, Kinshasa presents a varied urban structure composed of the old urbanised cities and the new non-urbanized districts, which are generally precarious. This accelerated, unplanned and uncontrolled urbanisation disrupts the urban fabric by concentrating several populations in unhealthy neighbourhoods. Low-income households usually inhabit these neighbourhoods, which are created on sites unfit for construction and need more urban amenities and basic infrastructure.

1.1. Objective of the study

In contrast to planned neighbourhoods, spontaneous neighbourhoods are conceived without the supervision of government authorities in response to immediate housing needs and rapid unregulated urbanisation, whose structures are built improvised, with inefficient use of space and a generally high population density.

On the other hand, planned neighbourhoods result from urban design and planning developed by urban planners, architects, or government authorities. They are generally organised in an orderly manner, with laid-out streets, well-defined activity zones, planned green spaces and public facilities. Creating these neighbourhoods involves deliberate design, land allocation, planned infrastructure, and building regulations.

Knowing that (illegal) neighbourhoods inflict their characters on planned neighbourhoods by destroying them, this research aims to examine the negative influence of spontaneous neighbourhoods on planned neighbourhoods of Kinshasa by highlighting the different impacted aspects such as infrastructure, safety, the environment, and the quality of life of residents.

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[3] Statement by Ms. Bafalanga Atosa, Secretary General for Town Planning and Housing, on World Habitat Day, Kinshasa, October 6, 2014.

[4] According to the United Nations Department of Economic and Social Affairs report for Kinshasa.

2.   METHODOLOGICAL APPROACH

A qualitative and quantitative analysis have enabled the identification of the critical aspects of a planned settlement, Maman Mobutu, and its proximity and mix with spontaneous neighbourhoods.

In the first half of 2023, the authors interviewed residents and municipal officials from Maman Mobutu City to collect their perceptions and experiences. During the same period, this data collection was supplemented by field observation to assess the state of the infrastructure and the environment and social dynamics. Visiting the area allowed a physical assessment and data collection through sketches and photos. However, analysing documents such as government reports or archives was challenging. As mentioned above, the absence of academic studies, press articles or relevant previous publications has pushed the authors to rely on the data collected.

The infrastructure and urban dynamics have also been critically analysed by evaluating the state of the city's roads, water and sanitation networks, electricity and other public services. Therefore, the Maman Mobutu and spontaneous extensions studies allowed us to compare the quality and availability of services by conducting analyses at different levels.

Based on the current state of the targeted neighbourhoods, the urban analysis focused on the accessibility characteristics and the urban and social morphology, highlighting an exhaustive diagnosis that allowed us to determine the set of urban problems and issues to which these neighbourhoods are subject today, whether on the scale of their social parts or their relationships with their general environment. The analysis of the spatial dimension made it possible to measure the degree of impact of spatial components on users' feelings and their spatial practices. The morphological analysis aimed to define each district's significant morphological entities and produce a map of their overall atmosphere and features. Analysing security and the environment allowed us to notice the rate of crime and violence in these juxtaposed neighbourhoods.

3.   MAMAN MOBUTU GARDEN CITY IN KINSHASA

At the beginning of the 20th century, the garden city concept emerged as one of the global urbanisation models. However, Ebenezer Howard's idea (1898) of designing self-sufficient communities away from large cities and integrated into rural areas will give rise to numerous interpretations and variations throughout the world, very different from the original model of Letchworth, a garden city started in 1903 north of London under the supervision of Raimond Unwin and Barry Parker. Also, the African continent first experienced such urban development models as interventions planned and guided by the colonial authorities and, in some cases, replicated after the independence at different latitudes. Maman Mobutu settlement

was intended to expand Kinshasa with a "green" satellite, paving a more sustainable future for the equatorial megalopolis.

3.1. The birth of a new capital for a new country

When Henry Morton Stanley arrived in Congo, the current city of Kinshasa comprised several villages around a common market, including Kintambo, Lemba, and Kinshasa. It was from the "teke" tribe chiefs that Stanley bought, in the name of the King of the Belgians, a station that would allow him to appropriate the space of the city of Kinshasa and later acquire the entire country. The landscape of Kinshasa is made up of trees, mainly baobabs and Malebo palms (*Borassus ethiopia*), which is still the town's symbol, giving the capital the nickname of "Kin Malebo". However, several trees had to be cut down to build in the current city, just as the market disappeared. Kintambo became Léopoldville, while Kinshasa retained its name.

Taking the name of Léopoldville, in honour of the Belgian sovereign who became the sole master of the territory, more substantial buildings were built to make it a capital of the greatness of the Colony. An effort is also made to house the locals in better conditions than in the labour camps. The OCA (Office des Cités Africaines), which has built around 40,000 homes in the European Colonies, half of which were in Léopoldville, proposed relocating indigenous people from informal neighbourhoods into settlements of terraced houses supported by public services.

The urban growth of Kinshasa, regulated by the colonial authorities before the Independence, was founded in 1975 as the first attempt to set up guidelines for its development. The study of the plan began in 1972, and it is still the latest master plan that targets the whole city, overseeing a linear expansion along the Congo River bank. The development of the residential quarters advanced, especially south of Kinshasa City, as the urban population increased. Most of these residential areas were located on sloping land, and the population density was 200-300 persons per hectare before the conurbation, doubling in the last decades.

The city is still growing towards the southern and eastern directions, and the Maman Mobutu settlement that in the 80s appeared like a satellite surrounded by nature is now strangled by the informal conurbation (Figure 1).

3.2. The birth of a new settlement in Kinshasa

The new settlement was planned in 1985 to receive 500 houses, but due to high demand, 723 houses were built at the end of its construction (1990). Located on a hill slope, its morphological structure required special attention for managing rainwater and the distribution of plots. It had a well-structured sewerage and drainage network, a fully asphalted road network and concrete pavements.

Moreover, electricity and water were distributed regularly. The city also had two recreational circles, a shopping centre, two large churches, a kindergarten, a primary school and a secondary school.

Over the years, because of the high population growth of Kinshasa, the green spaces, the slopes of the hill and the national "N1" road have gradually been occupied and anarchically built. One of these informal constructions is the precarious districts of Matshotsho, a community that became known as "Manzanza" or "555"[5] quite recently (2006-2007), inhabited by relatively poor populations. This difference in social class raises the level of insecurity in Mama Mobutu City, which is progressively destabilised from both security and infrastructure points of view.

Figure 1: The City of Kinshasa's urban expansion with the Maman Mobutu Project is on the west-southern side. Source: Image edited by Manlio Michieletto and based on the .dwg map of Kinshasa (2024).

[5] The name 555 comes from all the houses in this neighbourhood built from sheet metal, thus alluding to the 555 brand aluminium pots.
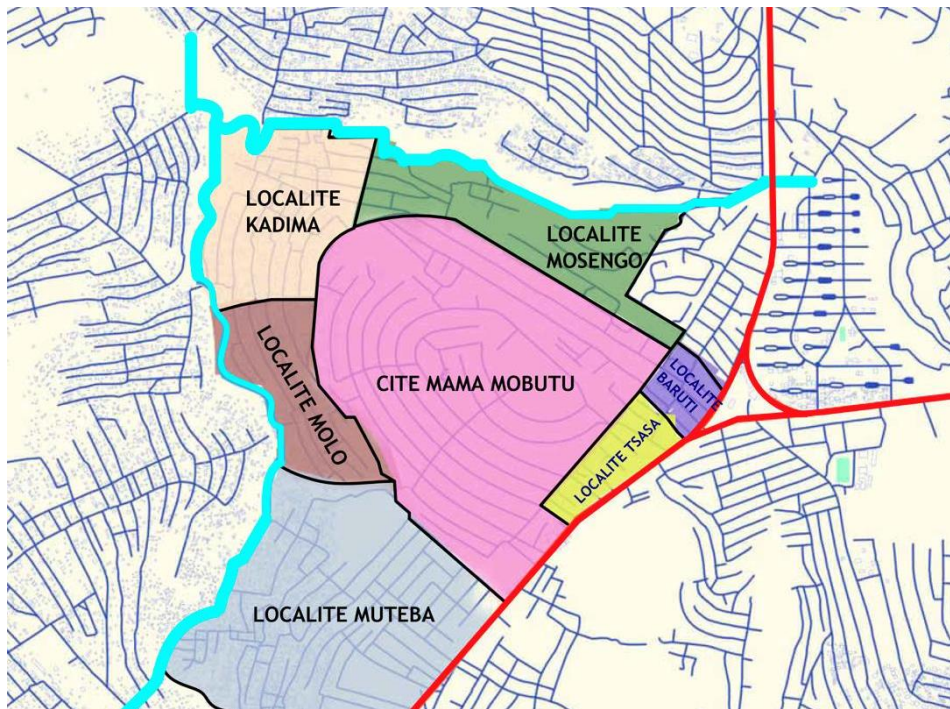
Figure 2: Map of Maman Mobutu settlement with the surrounding neighbourhoods (localities).
Source: Prepared by Victor Bay Mukanya in 2024.

3.3. The Maman Mobutu's neighbourhoods

The city, Maman Mobutu, is a locality in Mount Ngafula[6]. Extending on 938,564,40m^2, with a population of 4,540 (Figure 4), it represents the biggest community in the *Commune* (District). It is surrounded in the north by the localities Kadima and Boongi; in the south by the localities Tsasa and Baruti; in the east by the locality Molo; and the locality Mafumu to the West (Figure 3). In addition to these six neighbouring localities, the Mama Mobutu district has three other localities close to Mama Mobutu: Dumez, Mosengo, and Mataba, visible on the north side of Figure 3. The spiral shape of the housing development of Mama Mobutu is influenced by relief because it is built on a hill whose slope is quite strong (12%). The steepest line is "the alley of the hill", in the centre of the neighbourhood (Figure 5); it has a uniform slope of 10 to 15% and connects the top of the hill (the recreational circle "the hill") and the central collector located at the Lukunga River (lowest point), the natural former border of the Mama Mobutu city (Figure 2).

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[6] The Mama Mobutu district is the most inhabited in the commune of Mount Ngafula with 23,364 inhabitants.

Figure 3: Sketch of the Maman Mobutu Settlement with the surroundings. Source: Prepared by Victor Bay Mukanya in 2023.

LOCALITIES	NATIONAL POPULATION					FOREIGN POPULATION					TOTAL
	H	F	G	Fi	TOTAL	H	F	G	Fi	TOTAL	
BOONGI	355	386	587	646	1974				2	2	1976
DUMEZ	297	353	468	789	1907		4	2	4	10	1917
KADIMA	236	267	464	531	1458	2	3		1	6	1464
MAMA MOBUTU	894	1003	1267	1370	4535	2	4	1		7	4542
MASUMU	356	409	874	926	2569				3	3	2568
MATAPA	135	212	370	414	1131		3	4		7	1138
MOLO	316	353	607	608	1914				3	3	1917
MOSENGO	358	388	599	662	2007	1				1	2008
MUKETALA	103	126	240	260	729			2		2	731
BARUTI	364	382	257	772	1975						1975
TSASA	498	652	1097	1119	3364	5	6			11	3375
TOTAL	3913	4532	7027	8127	23599	1	20	9	13	45	23651

Figure 4: Synoptic table recording the most recent census of the general population, fiscal year 2015. (H=Hommes; F=Femmes; G=Garçons; F=Filles). Source: Prepared by the authors.

Figure 5: The sloppy site of Maman Mobutu Settlement on a view from the central alley. Source: Image taken by Victor Bay Mukanya in 2023.

3.4. Integration into the urban environment

Mama Mobutu City is located on the edge of the national 'N1' road, about 30 km from the city centre. In a not very easy environment to manage, the land's natural slope was used to the maximum for constructing roads and gutters. The operation required the digging of the hill, thus causing poorly stabilised embankments that produced several landslides, especially after heavy rains, which justifies the existence of massive retaining walls in some parts of the city.

To solve this problem caused by rainwater, the Office des Voiries et Drenage (OVD) implemented drainage ditches along all the avenues. Each drain into the oversized gutters built along all the aisles perpendicular to the slope, and the latter falls into the big collector downhill to release water on the Lukunga[7]. The road network of Mama Mobutu is composed of avenues drawn parallel to the contours and perpendicular alleys connecting the different routes - ten streets and two sidewalks. Fir Avenue could be the third avenue in Mama Mobutu because it joined the last villa to the fir forest at the time.

Figure 6: The crowded entrance to the settlement is invaded by informal activities. Source: Image taken by Victor Bay Mukanya in 2024.

[7] The river is located at the bottom of Matadi Kibala Hill. At the time, it constituted the natural border of Mama Mobutu City.

4.   ANALYSIS OF THE SPATIAL DIMENSION

At the time of its construction, all the houses were white; this mix of the white and the green of the vegetation presented a play of volume and pleasant prospect, at once monotonous and diversified. The desire to integrate the subdivision into the site was originally to offer buyers homes ensuring well-being enhanced by the natural splendour of relief. Using a stepped architecture with vast garden spaces, the designer's concern was to give the inhabitants a good view. Unfortunately, the houses have transformed their forms, modified their colours, and used materials, giving the city a sad and disorderly composition.

The avenues all have an average width of 6 meters, needing more space for sidewalks. This constraint, therefore, requires pedestrians to share the same area as cars; it is a rather delicate choice because children and persons with reduced mobility are in permanent danger on these roads. All the streets end in a *cul-de-sac*, aiming not to multiply the neighbourhood's penetrations.

4.1. Housing typologies

The grouping of houses does not consider their types; they are isolated, each in a plot, and arranged in opposite symmetry (mirrored) two by two along the avenue (Figure 7). At first sight, one has the impression that the numbering of the villas is disordered, but it is only the effect of a spiral numbering starting from the city's centre to these ends. However, the avenues were not named then, and the villas' unique numbering caused many problems in finding the addresses, so the inhabitants decided to call the streets.

The houses of Mama Mobutu City are of the single-family type divided into two main models: type "5" and type "3" (Figures 8, 9 and 10). The plots are also in two dimensions: parcels of 30x50 m for the peripheral parcels and 30x25m for the interior lots.

All houses are organised on one level; an interior corridor serves the rooms. The kitchen and the store, which need to be bigger, facilitate local habits, which generally involve using the outside space to prepare food. The living room, facing the street and the garden, offers a relatively pleasant collective space.

One functional feature of Mama Mobutu villas is that the service area is opposite the night zone. This provision requires going through the living room from the kitchen to the bedrooms. Some occupants operate very heavily and consider this the most significant defect of these villas.

The villa Mama Mobutu allows the use of the outdoor area as a living room terrace, so most homeowners have turned this space into a covered porch that adjoins the house. The addition of rooms is possible because of the house's "L" shape.
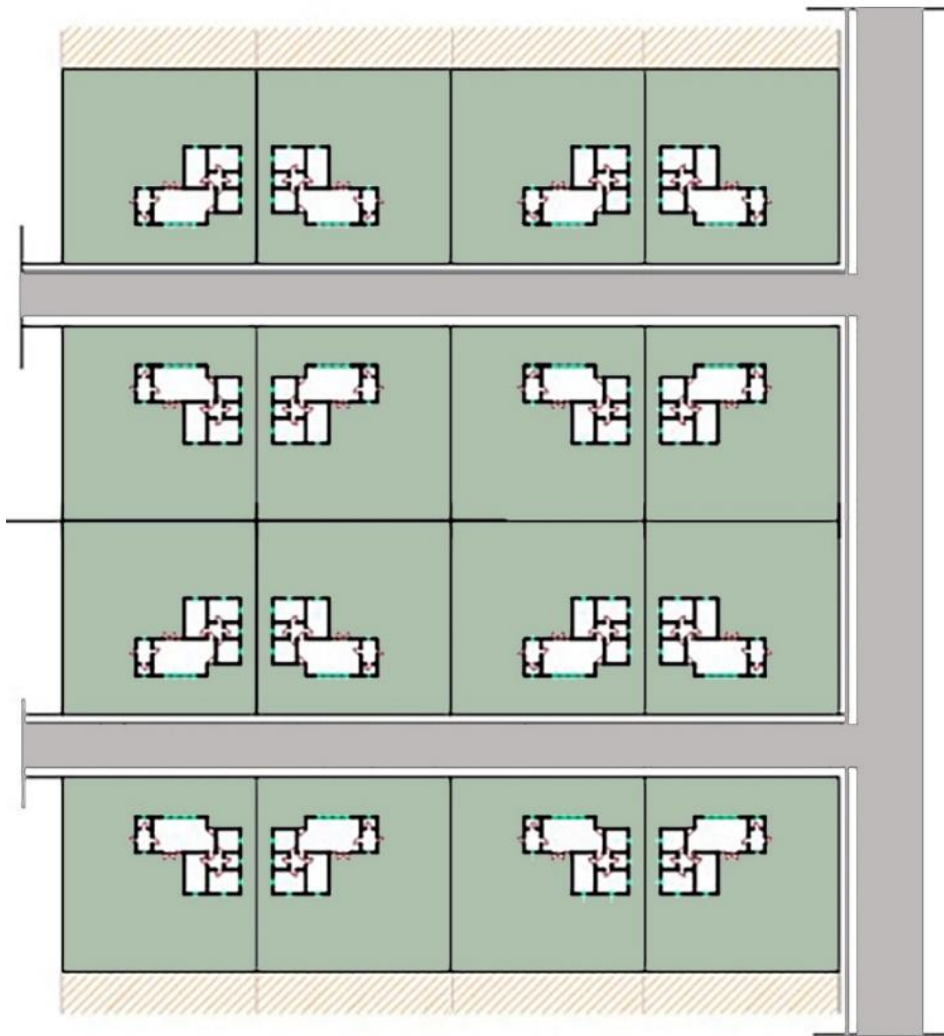
Figure 7: Site plan of a typical housing pattern. Source: Prepared by the authors.
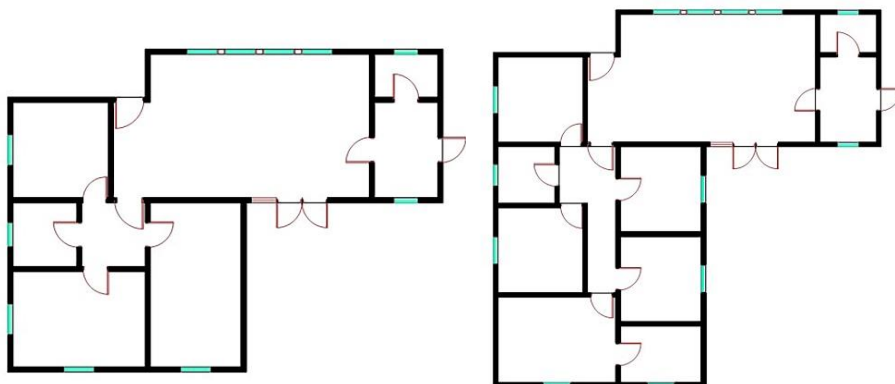
Figure 8: Plan views of the house types "3" and "5". Source: Prepared by the authors.

Figure 9: Exterior view of the house type "3". Source: Image taken by Victor Bay Mukanya in 2023.

Figure 10: Exterior view of the house type "5". Source: Image taken by Victor Bay Mukanya in 2023.

4.2. Public and collective spaces

Mama Mobutu no longer has formal public spaces, green parks, or playgrounds for outdoor entertainment and relaxation but informal places where few commercial activities gather (Figure 11). Recreational centres, namely "COLLINE" and "INSS," are trying to compensate for this lack. Still, these two infrastructures must respond to the needs at the neighbourhood level and the current population. Nowadays, the forest is an excellent place to take a relaxing walk.

Figure 11: Informal public space. Source: Image taken by Victor Bay Mukanya in 2023.

5.   ANALYSIS OF URBAN FABRIC TRANSFORMATION

The current conditions are so opposed to Mama Mobutu's original idea of a dormitory city that it was destroyed. Several factors are at the root of this destruction. The main factors concerned are the transformation of the urban fabric by these occupants, the destruction of basic infrastructures by collective mismanagement, and the birth of new habits due to the arrival of outside populations.

5.1. Subdivision of the plots

Becoming a habit in Kinshasa, fragmentation of plots is a widespread practice. The city of Mama Mobutu is not spared. Indeed, for almost ten years now, the owners have been selling and breaking up their plots, causing enormous difficulties in managing the energy and sanitation of the neighbourhood. The electricity and drainage channels originally planned for 500 villas bear the weight of about 40% of the parcelled-out plots, and the energy requirement significantly increases.

Another mischief of fragmentation is the promiscuity in the plots; the consequences of promiscuity are the high risk of disease, the involuntary fusion of habits and deplorable sanitary conditions.

From an administrative point of view, fragmentation and duplicity of ownership imply the duplication of cadastral numbers; at the time of reconstitution of documents, managing the file, even at the level of public heritage management services, creates many difficulties.

5.2. Houses transformation

The analysis could have been limited only to the fragmentation of the plots, but unfortunately, even the houses are fragmented in the settlement. Many families share the same house transformed for the cause. However, some transformations are palpable in beautifying the landscape and responding to climatic needs; this is the case for those who add a covered terrace for outdoor living. Some increased the kitchen size and added the service terrace, which was not provided initially due to the family's growth (Figure 12).

Figure 12: Scheme of a typical house extension. Source: Prepared by the authors.

5.3. The destruction of basic infrastructures

In 2009, the city Mama Mobutu had one of the biggest fears of its existence; the big central collector pouring water into the Lukunga was destroyed by stone sellers who broke the base to sell the obtained gravel. Despite the mobilisation and the will to fight against the consequences of this destruction, the erosion caused by unconcentrated water is gradually changing, devouring the city and transforming it into a disaster zone. On the walk through the city's streets, Mama Mobutu informs of the dilapidated avenues, starting from the main entrance to the last road (Figure 13). The asphalt is almost wholly deteriorated, covered with sand and even vegetation. There was no assistance from the sanitation services except for some shy initiatives taken by the neighbourhood's young people, which consisted of patching a few potholes, but again, without the public institutions or experts' involvement in the matter. Believing that to do well, the destruction state of infrastructure is accelerated.

Initially, Maman Mobutu City had two recreational circles and a shopping centre. Over the years, mismanagement of the public good has destroyed and closed these community facilities.

Figure 13: The ongoing conditions of most of the Maman Mobutu roads and alleys network.
Source: Image taken by Victor Bay Mukanya in 2023.

5.4. Influence of neighbouring communities

Like most major cities, Kinshasa suffers the burden of high population growth and sees these peripheral districts being occupied and invaded illegally. This complex phenomenon of rapid city expansion to its peripheries causes the

emergence of precarious and irregular neighbourhoods that develop next to the planned communities. This expansion is generally outside the tenets of urban planning, resulting in an illegal spontaneous increase that materialises into a kind of destratification which tends to an abstraction of sociodemographic, spatial, environmental and economic factors.

Maman Mobutu, part of a neighbourhood on the city's outskirts, is a victim of this destructive phenomenon. Although currently recognised administratively, the localities Kadima and Mafumu, commonly called "manzanza" or "555", are inhabited by poor populations. Faced with the luxury of the inhabitants of Mama Mobutu, there is a frustration that will generate multiform insecurity.

6. CONCLUSION

This study gave us a vital diagnosis of Mama Mobutu City, helping us understand individuals' needs and aspirations and, above all, the attitudes to be observed by government decision-makers when organising Congolese cities.

The conclusions were based on the results of data analysis, highlighting the negative influences of spontaneous neighbourhoods on planned neighbourhoods in Kinshasa. In short, improvised neighbourhoods significantly impact planned neighbourhoods, affecting various aspects of urban life, from infrastructure to security, including the environment and social dynamics. Maman Mobutu's analysis also made it possible to formulate recommendations on urban policy to mitigate these harmful effects and improve the quality of life in all city neighbourhoods.

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