

# **MISSION 1 : DIAGNOSIS**

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

|                 |   |
|-----------------|---|
| <b>AIMF</b>     | International Association of Francophone Mayors     |
| <b>AFD</b>      | French Development Agency                           |
| <b>API :</b>    | Investment Promotion Agency                         |
| <b>APS :</b>    | Preliminary Draft Summary                           |
| <b>BAD</b>      | African development bank                            |
| <b>BET</b>      | Technical consulting firm                           |
| <b>BIT</b>      | International Labor Office                          |
| <b>BM</b>       | World bank  |
| <b>BT</b>       | Low Tension   |
| <b>BTP :</b>    | Building and public works                           |
| <b>CAC</b>      | Communal Additional taxes                           |
| <b>C2D :</b>    | Debt relief and Development Contract                |
| <b>CCE :</b>    | Assessment and Evaluation Commission                |
| <b>CDE :</b>    | Camerounaise des Eaux                               |
| <b>CES :</b>    | College of Secondary Education                      |
| <b>CFA</b>      | Financial Community of Africa                       |
| <b>CFC :</b>    | Land Property Loan of Cameroon                      |
| <b>CMA :</b>    | District Medical Center                             |
| <b>CNPS</b>     | National Social insurance Fund                      |
| <b>CSI :</b>    | Integrated Health Center                            |
| <b>CTD</b>      | Decentralized Territorial collectivity              |
| <b>CTP :</b>    | Technical steering committee                        |
| <b>CU</b>       | City council  |
| <b>CUB</b>      | Bamenda City council                                |
| <b>DAO :</b>    | Call for tender file                                |
| <b>DGSN</b>     | General direction of the national security          |
| <b>DSCE :</b>   | Growth and employment strategy paper                |
| <b>DUP</b>      | Request for public utility                          |
| <b>EIES</b>     | Environmental and social impact study               |
| <b>ENIEG :</b>  | National School of Teachers of General Education    |
| <b>FEICOM :</b> | Special council support Funds for mutual assistance |
| <b>EU</b>       | European Union                                      |
| <b>FFOM :</b>   | Strengths weaknesses opportunities and threats      |



**LOT N° 2: SISIA IN BAMENDA**

|                    |   |
|--------------------|---|
| <b>FIMAC :</b>     | Investment financing of micro agricultural and Community production |
| <b>FNE :</b>       | National Employment Fund  |
| <b>GIC :</b>       | Communal Initiative Group   |
| <b>GIE :</b>       | Economic Initiative Group   |
| <b>GIFU</b>        | Urban land grouping initiatives                                     |
| <b>HT :</b>        | High Tension  |
| <b>INS :</b>       | National Institute of Statistics                                    |
| <b>IST</b>         | Sexually transmissible diseases                                     |
| <b>MAETUR</b>      | Urban and Rural Land Development and Equipment Authority            |
| <b>MIHU</b>        | Ministry of Infrastructure, Housing and Urbanism                    |
| <b>MINADER :</b>   | Ministry of Agriculture and Rural Development                       |
| <b>MINESEC :</b>   | Ministry of secondary education                                     |
| <b>MINAS</b>       | Ministry of social affairs  |
| <b>MINDCAF :</b>   | Ministry of State Property, Survey and Land Tenure                  |
| <b>MINDDEVEL :</b> | Ministry of Decentralization and local Development                  |
| <b>MINEE :</b>     | Ministry of water and energy  |
| <b>MINEFOP</b>     | Ministry of Employment and Vocational Training                      |
| <b>MINPOSTEL :</b> | Ministry of Posts and Telecommunication                             |
| <b>MINEPAT :</b>   | Ministry of Economy, Planning and Regional Development              |
| <b>MINEPIA</b>     | Ministry of livestock, Fisheries and Animal Industry                |
| <b>MINHDU :</b>    | Ministry of Housing and Urban Development                           |
| <b>MST</b>         | Sexually transmissible illnesses                                    |
| <b>MT :</b>        | Average Tension   |
| <b>NAEP :</b>      | National Agricultural Extension Program                             |
| <b>NTIC :</b>      | New Technology of Information and Communication                     |
| <b>ONG :</b>       | Non Gouvernmental Organisation                                      |
| <b>ONUC :</b>      | National order of cameroonian town planners                         |
| <b>ONIGC</b>       | National order od cameroonian civil engineers                       |
| <b>ONU :</b>       | United nations organisations  |
| <b>ONAC :</b>      | National order of camerronian architects                            |
| <b>PGES</b>        | Envirenmental and social management plan                            |
| <b>PGU</b>         | Urban governance program  |
| <b>PM :</b>        | For memory  |
| <b>PME :</b>       | Small and Medium Size Enterprises                                   |

LOT N° 2: SISIA IN BAMENDA

|              |                                      |
|--------------|--------------------------------------|
| <b>PMI :</b> | Small and Medium Size industries     |
| <b>PNUD</b>  | United Nations Development Program   |
| <b>POS</b>   | Land use plan                        |
| <b>PPAB</b>  | Participatory slum upgrading program |
| <b>PTF</b>   | Technical and financial partners     |
| <b>RAS :</b> | Nothing to report                    |
| <b>SIC</b>   | Cameroon real estate corporation     |
| <b>TF :</b>  | Land title                           |
| <b>VIH</b>   | Immuno-deficient human virus         |
| <b>VRD :</b> | Roads and Various Networks           |
| <b>ZAC :</b> | Concerted Development Zone           |

## CONTEXT OF THE STUDY

The Government of Cameroon in partnership with the UN-Habitat and its UNDP program under the coordination of the Ministry of Housing and Urban Development (MINHDU) through the Urban Governance Program (PGU) initiated the Participatory Slum Upgrading Program (PPAB) in the 14 city councils of Cameroon. The Participatory Slum Upgrading Programme (PSUP) is a program that aims at improving the lives of slum dwellers by addressing the five indices that characterize a slum namely, inadequate water; sanitation; durability of housing, overcrowding and tenure insecurity, precarious and at risk. To this effect, it is a program that has come to propose a new method to attenuate the effects of the daily indecent life styles of the population.

This resulted in the anarchical development of urban spaces made up of 70% of less-structured habitats, characterized by a virtual absence of basic services (drinking water, access roads, sanitation), land insecurity and indecent housing ( very often in precarious materials).

The strategy document for the sub-sector of urban development and housing, drawn up in 2011, highlights the improvement of sub-structured and under-equipped urban spaces as one of the major axes to be implemented as a priority. This option is part of the Strategy Paper for Growth and Employment (GESP) for the period 2010-2020. In addition, the Government of Cameroon is committed to the achievement of the Millennium Development Goals (MDGs) which, in its target 11 of the Sustainable Development Goal 7, aims at "improving the quality of life". at least 100 million slum dwellers by 2020 "

UN-Habitat, in collaboration with the European Union (EU) and the ACP Secretariat, supports the Government of Cameroon in this objective through the Participatory Slum Upgrading Program (PPAB).

The PPAB is an initiative of the ACP Secretariat, funded by the EU and implemented by UN-Habitat. It aims to improve the living conditions of the urban poor and contribute to MDG 7 and the goals of halving, by 2015, the proportion of people without sustainable access to safe drinking water and sanitation, basic sanitation, and achieve a significant improvement in the lives of at least 100 million slum dwellers by 2020

Presently this program is at its second phase and aims to elaborate the studies of upgrading/renovations punctuated by concrete projects, thus contributing to improve the living standards of the population in the predefined study area.

Thus, following the contract: N° 054 / AONR / PR / MINMAP / CCPM-SPI / 2015 OF 11 MAY 2015, awarded between the Ministry of Housing and Urban Development (MINHDU) and the contractor

POLYGONE Sarl. It is a study has was initiated in continuity with the one initiated by the consulting firm ERA-Cameroon in order to render viable the less-structured quarter of Sisia in the Bamenda city council and more precisely in Bamenda 3 council.

To do so, the objectives of the study were defined, and to these, we added the results to be attained. As such, a general objective in this work seeks to achieve an integrated urban emergence of the entire perimeter of Sisia by an adequate development of excluded neighborhoods. In other words, a territorial emergence does not only improve the living conditions of the greatest number, but takes into account the profitability of the basic urban and social infrastructures and facilities provided. In addition, the improvement of living conditions through access to basic services, the opening up of less-structured neighborhoods, securing land, the production of plots that could increase the supply of housing, businesses and services are envisaged.

### **Objectives of the study**

- Identify and prioritize the less-structured neighborhood of the entire city council concerned;
- Update the feasibility study (conducted within the framework of the PSUP) with a view to improving the urban status of the neighborhood concerned through the implementation of upgrading and concerted development operations;
- Elaborate an exhaustive land survey based on a geo-referenced cartography;
- Develop technical documents for the implementation of neighborhood servicing programs;
- Develop a profitability study of the operation;
- Develop a strategy and preparation of tools for marketing and seeking financing for the planned operations.

### **Expected results:**

- The situation of less-structured and under-equipped neighborhoods is defined and prioritized;
- Social, economic, financial and environmental issues related to neighborhood land development;
- The technical, financial, economic, socio-cultural and environmental elements necessary for setting up real estate operations in the neighborhood;

From a technical point of view, it is a matter of making urban upgrading plans highlighting:

- The diagnosis of the existing with a particular emphasis on the exhaustive survey of land, socio-economic and environmental;
- Proposals for the development of neighborhoods and resettlement areas (with APS and APD files for the structural networks of roads (primary and secondary), drainage and various networks);
- The specific urban planning rules and regulations of the upgrading zone;
- Stakeholder inventory;

The terms of implementation of the (upgrading) project, specifying:

- The roles of different stakeholders;
- The conditions of land regularization;
- Compensation conditions: resettlement of displaced populations, pecuniary or in-kind compensation of landowners;

Added to this we have:

- Reports of studies of social, economic and financial profitability of said operations;
- The environmental and social management framework of the upgrading zones;
- Concept notes for upgrading projects: roads, drainage and various networks (water supply, electricity), liquid sanitation and household waste;
- Sources and funding mechanisms advocated;
- The strategy and marketing tools for seeking funding for the implementation;
- The APS / APD survey of the structural road network (primary and secondary), primary drainage networks, water supply and electricity

To this effect, this study is being repartitioned into five reports that will permit us to respond to the following objectives. These missions were titled as follows:

- **Mission 1: Diagnosis ;**
- **Mission 2 : Studies of the real estate market operations;**
- **Mission 3 : Feasibility study ;**
- **Mission 4 : Technical study of the development programs ;**
- **Mission 5: Strategy for resources mobilization.**

The development of the content of these missions through reports will ease solutions to the different problems. The missions being interdependent, we shall begin with the first mission that comes to situate

and to define the evolution of the project. This mission, which is the springboard to the occurrence of others, will have three parts. Each part entails several groups that are going to explain the data collection procedure. These data will be analyzed to fill the contract specified conditions. Of this note, at the end of our research, the documents will be delivered in two forms:

- A report that will illustrate on the identification and the priority of less structured quarters in the upgrading /renovation process and an analysis of the situation of infrastructure and facilities in the study area.
- A diagnosis analysis, which will bring out the real problems and will give orientations to find solutions to those problems. The land tenure analysis that will proceed will contribute to the identification of owners / the people living in the area.

This report will be accompanied with maps together with graphical data, précising our research and analysis.

The first phase of the work will therefore give a complete diagnosis phase of the study area.

# **PART I : IDENTIFICATION AND SELECTION OF UNDER STRUCTURED QUARTERS IN THE ENTIRE TOWN OF BAMENDA REQUIRING UPGRADING/RENOVATION OPERATIONS**

## I.1 PRESENTATION OF BAMENDA TOWN

The city of Bamenda, capital of the North-West Region of Cameroon, benefits from the example of other regional capitals of Cameroon, a city council. The city of Bamenda is created by decree N°2008/021 of January 17, 2008 and whose seat is in Mankon. It is a City that one discovers from below, an abrupt cliff after a damaged relief from Mbouda. Its quality as the headquarter of the Northwest Region and the seat of Mezam division, indisputably confers to it the position of an administrative unit and the dominant commercial hub of the region. The Bamenda city council is made up of the following councils:

- The Bamenda 1 council whose seat is at Bamenda Nkwen.
- The Bamenda II council whose seat is at Mankon.
- The Bamenda III council whose seat is at Nkwen.

With 322,889 inhabitants after the census of 2005, the urban population of the city of Bamenda as of the year, 2016 is about 355,308 inhabitants according to an evaluation by HTR consulting firm in the Master Plan of Bamenda.

According to the WGS 84 global coordinate system, the geographical references of the city of Bamenda are:

- Latitude : 5°57' 34" North ;
- Longitude: 10°08'45" East;
- The altitude in relation to the sea level is 1413 m.

Site of hills and plateaus, the city of Bamenda is divided into two by a rocky escarpment that complicates in one way the development of the quarters. The Up-Station quarter, is the headquarters of the administration, and regroups the decentralized services of the State and offers an overview of the whole city. It is the fourth largest city in Cameroon in terms of development. It is thus noticed, an induced effect of the urbanization of this city, which pushed the populations to occupy the flanks of hills at the detriment of their own security. This is the case of the populations of the Sisia quarter.



## I.2 IDENTIFICATION AND SELECTION OF UNDER STRUCTURED QUARTERS REQUIRING UPGRADING/RENOVATION OPERATIONS IN THE ENTIRE TOWN OF BAMENDA

### I.2.1 Definition and characteristics of “under structured” quarter

An under-structured quarter is a portion of the urban zone that does not have living structures. Thus, the axes of circulation and transportation are against the rules. Development being based on the infrastructures and other facilities that permit life in the city are either non-existent, or are of low capacity and poorly organized. Therefore the under structured quarter cannot have infrastructural equipment (school facilities, sanitary facilities, security facilities, sporting facilities etc.) as well as infrastructure and various support networks.

According to UN-Habitat, the five criteria of the United Nations defining shanty towns/slums are the following:

- Inappropriate access to clean water;
- inappropriate access to sanitation and to infrastructures ;
- Lack of structural quality of housing;
- over population ;
- Unreliable land tenure security.

As such in an urban zone, with a quarter which, due to its spacial disorganization, also influences the building manner as well as the materials used for construction. With the need of being able to transport the conventional construction materials, the populations often build with sun, dry brick and also, with temporary materials. These buildings are constructed in a heterogeneous manner, with various developments that presents a disgusting face. For these constructions, neither orientation nor rules of construction are respected. Then, the immediate result is that it affects the urban planning in general.

One also notices that in these zones, the population grows every day. We are dealing with a zone of high population density, whose population is in permanent increase. In the same way, the constructions are too close into others, suppressing the least free spaces. These Spaces that can bring lighting and natural ventilation to the existing constructions and their non-existence renders difficult the living conditions in these zones.

The under structured quarter is a dense space, for which the improvement initiative can only be successful if upgrading operations are carried out and thereafter the compensation of the affected

populations or compensation of the populations whose properties have been affected. The quarters here involved can only be viable by whole or partial demolition of some constructions.

### **I.2.2 Proportion overview of under structured quarters in Bamenda town and classification by group**

Like all other headquarters of the region, the city of Bamenda is an old city. Built since the colonial time, this city grew from the old core that formed in the past the village hamlets. These villages constituted since a long time the urban skeleton, have kept their traditional form which is still visible today in the city through big Fondoms like the Nkwen Fandom "Nkwen Fon's Palace".

These villages that developed themselves since the colonial era became so through the road networks which joined the hamlets and the roads that led towards the public places, the water points or markets. Today, several decades later, these axes of circulation form, with these housing nuclei that forms today the old part of the city.

With modernity, the city of Bamenda developed itself, increased in size, especially with the creation of other dwelling centers by inhabitants from other parts of the North West Region, or those coming from other parts of the country. These migrations of people from various origins contributed to the creation of other urban centers and this is how the city continued its expansion. With this rapid development, the public authorities have chosen the free zones, geographically well situated in relation to the others, to set up the infrastructures of defense and the administrative facilities. Today, the zone called "Up station" is the one that shelters various administrations and commanding structures of security and defense forces.

Apart from these two types of zones, we also have the zones that evolve in a free manner, without relying on the old cores and without necessarily connecting directly to these. As we have already mentioned, the under - structured quarters of the Bamenda City Council come from old cores, but the urban pressure created new urban zones with unplanned quarters. Following the land pressure and the saturation of the city centre, but also the strong desire to live in cities and rural migration, new urban zones were created in less suitable prohibited sites for the construction of houses. These zones in the city of Bamenda are quarters situated on hilly sites, liable to flooding zones and sometimes, in very risky declared zones like that of Sisia quarter. The classification of these neighborhoods was done initially by the study on the identification of the stock of slums in the 14 city councils of Cameroon including Bamenda.

To better illustrate the under - structured quarter presentation in the Bamenda City Council, we classified these urban zones according to the level of densification, precariousness, percentage of roads on total area, and urban residential density on total space.

Based on this fact, we have zones of high density that constitute the zones of the first category and the under - structured urban zones of average density that constitute the zones of the second category.

### **I.2.3 Analysis of quarters of Group I (quarters of high density)**

The analysis of less-structured quarters in this first category, which takes into account densely residential quarters, shows surface areas of these quarters per hectare and the neighborhood's residential ratio in the area (Table 1).

**Table 1 : Classification of under structured quarters of Group I**

| <b>Designation of under structured and under equipped zones</b> | <b>Quarter Designation</b> | <b>surface area of Quarter (ha)</b> | <b>Quarter ratio in the zone (%)</b> |
|---|----------------------------|-------------------------------------|--------------------------------------|
| zone 1  | SISIA 1                    | 45                                  | 26,47                                |
|   | SISIA 2                    | 15                                  | 8,82                                 |
|   | SISIA 3                    | 13                                  | 7,65                                 |
|   | SISIA 4                    | 97                                  | 57,06                                |
| zone 2  | NTAMULUNG                  | 75                                  | 35,21                                |
|   | MUZANG                     | 110                                 | 64,79                                |
| zone 3  | NEW-LAYOUT                 | 46                                  | 23,00                                |
|   | MUGHEB                     | 38                                  | 19,00                                |
|   | NTAMBRU                    | 19                                  | 9,50                                 |
|   | NKWEN                      | 33                                  | 16,50                                |
|   | LOWER BAYELLE              | 64                                  | 32,00                                |
| zone 4  | NEW-BELL                   | 110                                 | 43,48                                |
|   | ABANGO                     | 75                                  | 29,64                                |
|   | AZANA                      | 68                                  | 26,88                                |
| zone 5  | ATUAZIRE                   | 80                                  | 58,39                                |
|   | NTAGHANG                   | 57                                  | 41,61                                |
| zone 6  | NITOB II                   | 43                                  | 33,08                                |
|   | NITOB III                  | 67                                  | 51,54                                |
|   | ADEMETTA                   | 20                                  | 15,38                                |

*Source: Field Survey, POLY GONE Sarl 2015*

Table 2 shows the proportion of roads in the study area, stating the length of the roadway per block and the entire quarter, the average road allowance observed and the proportion occupied by roads on the total area of Sisia quarter.

**Table 2 : dustbin Proportion in SISIA quarter**

| Quarter designation | surface Area (ha) | Total length of dust bin (m) | Average quantity of refuse (m) | Dust bin surface Area (m <sup>2</sup> ) | Dust bin proportion in the area (%) |
|---------------------|-------------------|------------------------------|--------------------------------|---|-------------------------------------|
| SISIA I             | 45                | 10059,40                     | 6                              | 60356,40                                | 13,41                               |
| SISIA II            | 15                | 5261,10                      | 6                              | 31566,60                                | 21,04                               |
| SISIA III           | 13                | 3658,20                      | 6                              | 21949,20                                | 16,88                               |
| SISIA IV            | 97                | 10303,80                     | 6                              | 61822,80                                | 6,37                                |
| SISIA               | 170               | 29282,50                     | 6                              | 175695,00                               | 10,34                               |

Source : Field Survey, POLYGONE Sarl 2015

Table 3 shows the density of the residential population per block and the dominant land status in the different zones.

**Table 3 : Population density, dominant land status and main activity in the area of the first Group**

| Designation of under-structured and under equipped area | Estimated population (inhabitant) | Population density (inhabitant/ha) | Dominant land status |
|---|-----------------------------------|------------------------------------|----------------------|
| Area 1  | 17000                             | 100,00                             | non registered plots |
| Area 2  | 21200                             | 114,59                             | non registered plots |
| Area 3  | 20000                             | 100,00                             | non registered plots |
| Area 4  | 25000                             | 98,81                              | non registered plots |
| Area 5  | 14000                             | 102,19                             | non registered plot  |
| Area 6  | 12000                             | 92,31                              | non registered plot  |

Source : Field Survey, POLYGONE Sarl 2015

#### 1.2.4 Analysis of quarters of Groupe II (quarters of average density)

The analysis of sub-structured neighborhoods in this second category, which takes into account residential middle-density neighborhoods, shows the surface areas of these neighborhoods per hectare and the neighborhood residential ratio in the area (Table 4).

**Table 4 : Classification of under structured quarters of Group II**

| Designation of under structured and under equipped areas | Designation of the quarter | surface area of quarter (ha) | Quarter ratio in the area (%) |
|--|----------------------------|------------------------------|-------------------------------|
| zone 7   | NTAGHEM                    | 63                           | 19,27                         |
|  | NTAMBESSI                  | 160                          | 48,93                         |
|  | NTENEFOR                   | 104                          | 31,80                         |
| zone 8   | NTATURU                    | 177                          | 39,33                         |
|  | NJANGA QUATER              | 273                          | 60,67                         |
| ZONE 9   | MENDA                      | 362                          | 78,87                         |
|  | MILE 3                     | 97                           | 21,13                         |
| ZONE 10  | MBATU                      | 60                           | 24,49                         |
|  | NSONGWA                    | 78                           | 31,84                         |
|  | NJIMAFOR                   | 36                           | 14,69                         |
|  | ATUAFON                    | 71                           | 28,98                         |

*Source: Field Survey, POLYGONE Sarl 2015*

Table 5 shows the density of the residential population per block and the dominant land status in the different zones.

**Table 5 : Density of the population, dominant land status and main activity in the Group II area**

| Designation of under structured and under equipped areas | Estimated population (inhabitant) | Density of the population (inhabitant/ha) | Dominant land status |
|--|-----------------------------------|---|----------------------|
| zone 7   | 28000                             | 85,63                                     | Non registered plots |
| zone 8   | 25000                             | 55,56                                     | Non registered plots |
| zone 9   | 24000                             | 52,29                                     | Non registered plots |
| zone 10  | 14000                             | 57,14                                     | Non registered plots |

*Source: Field Survey, POLYGONE Sarl 2015*

***Map 1: Delimitation of less structured quarters in the city council of Bamenda***

### **I.2.5 Analysis of ordinary quarters of the city of Bamenda which are not based on urban planning**

To have an urban zone or a structured quarter is to have a urban zone whose development is based on a spatial development planning, which has as consequence a harmonious urban future. In general, Cameroonian cities evolve in a freeway, without previous planning. For the cities that have a Master Plan or a Land Use Plan, these plans guide their implementation on the field, namely the Land Use Plan but there are often delays in their preparation.

When these documents of operations at the level of the planning are prepared, they are not used or are not implemented at short notice. The difficulties public authorities and municipal authorities have in concretizing the recommendations of these documents leads to the conclusion that these documents are inexistent in several cities.

As far as the city of Bamenda is concerned, all these planning documents exist, but the development of the city is carried out with little regards to the town planning regulations that accompany these documents. Especially in the domain of constructions and as far as the titling of land parcels is concerned, several constructions are mostly done without obtaining building permits.

In the city of Bamenda, the uncontrolled development continues. In this city the Master Plan and the Land Use Plans of the three sub divisional councils already exist and are under implementation. Except that, the whole implementation requires numerous means and the intervention of all concerned actors. Among the above mentioned means, financial resources occupy a preponderant place, which permit the following:

- The acquisition of necessary sites for the implementation of the LUP;
- The putting in place for the efficient and frequent movement of the control team of the councils on the field ;
- Studies in view to the construction of the social infrastructures and refuse collection ;
- The compensation or the resettlement of the populations to be displaced in the setting of the planning operations.

With these difficulties in the implementation, the uncontrolled development of the inhabited zones continues. The hierarchy of roads as defined in the LUP continues to be occupied. It is the same case for reserved areas to facilities that must provide vital urban services to the population.

The ordinary quarter of the city is a quarter of average density, which has carriage ways, electricity network, water, and access to the telephone networks, the integration into the system of purification of

the city and others. Paradoxically, one realizes that the sizes of the parcels are not defined and the plots when they exist are not homogenous, because of lack of constraint on the owners to lay them out before selling. This is why we have big parcels that are close to smaller ones and even to smallest parcels. In the same way, without the application of the town planning documents that set the rules of planning and construction, each city-dweller builds and develops his or her own parcel of land according to his or her financial means and convenience.

It is urgent and more than primordial to apply the recommendations of the LUP in all quarters of the city of Bamenda. Then, intensification operations and the land improvement of these quarters must take over. Thus, these quarters will have their development centered on visible basis of well calculated urban facilities. As much as this won't be done, the land certificates will continue to be given out on parcels of the individuals and constructions are going to be erected on the free parcels. All this will impact the future of the city as a planned city, with projections in a distant future.

To remedy this, authorities can undertake operations of demarcation of the road axes and the public places, as well as of the administrative zones as envisaged in the town planning documents. This demarcation must be done in a visible and sustained way by decrees that aim at making it imposable to all. In this case, when the public authority has the means to invest in developments, let these access ways be free and liberated. In this case, the resettlement operations and compensation that slow down projects of planning won't be current.

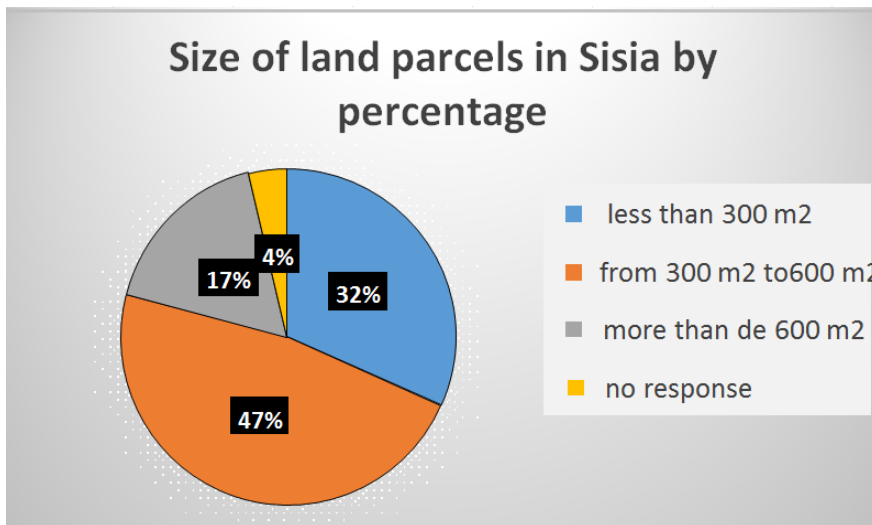
**Table 6 : Table presenting the surface area of land parcels in Sisia**

| Question  |                        | What is the surface area of your parcel? |                       |                  |                               |
|-----------|------------------------|--|-----------------------|------------------|-------------------------------|
| Quarter   | Proprietors questioned | Less than 300 m2                         | from 300 m2 to 600 m2 | More than 600 m2 | Proprietors who didn't answer |
| SISIA     | 1032                   | 327                                      | 489                   | 177              | 39                            |
| SISIA I   | 429                    | 147                                      | 203                   | 64               | 13                            |
| SISIA II  | 158                    | 48                                       | 82                    | 26               | 2                             |
| SISIA III | 79                     | 22                                       | 30                    | 21               | 6                             |
| SISIA IV  | 306                    | 88                                       | 147                   | 57               | 14                            |

**Source : Field Survey, POLYGONE Sarl 2015**



**Figure 1 : Size of land parcels in Sisia by percentage**



Source : Field Survey, POLYGONE Sarl 2015

## 1.2.6 Definition and classification of criteria for selection of under structured quarters

The criteria for the selection of under structured quarters are; Political aspect, population, density, state of land development, assets of the geographical position asset in relation to the entire development of the town.

### 1.2.6.1 State of land development

The state of land development of a quarter clearly influences the choice to engage in priority an upgrading/renovation operation in an urban zone. The authorities in charge of de-concentrated and decentralized administrations in their actions always have development projects for the full betterment of the population. We often see in cities, development projects meant for urban zones, but due to lack of access and fault of operational infrastructures, these projects cannot be executed. Not only does the lack or the insufficiency of land development strangles, but a population that must go out of his/her zone of residence to look for basic urban services , but also it stops the public authorities from achieving these projects that are destined to offer urban services to the populations.

Thus, in the same light of the city being a producer of wealth, an urban zone that is poorly developed or that doesn't have enough infrastructures that facilitate life sees its capacities and its economic dynamism affected compared to the one of its neighbors. Seen from this angle, we can say that the state of land development strongly influences the choice of a zone with regard to the priority in the planning operations.

### *1.2.6.2 Urban density*

The density of the built up area is a factor that is able to influence straight away the choice of zones to be arranged. The urban upgrading/Renovation is an operation that innovates, opens the circulation and the liberation of land reserve favorable to the putting in place of urban facilities. These facilities have to provide the services which city-dwellers need. The density is also a factor associated to the size of the population in a dwelling urban zone. The more there are buildings, the more the population increases. An under - structured and dense urban zone can sometimes be the source of various bad movements or contestation that sometimes set the city in danger. Likewise, this overcrowded and difficult to access areas can in some cases result to outlaws of all kind. If the access to the security forces is limited or impossible, it stimulates the development of delinquency and its effects that are flourishing in our cities. When it is sometimes the case, the public authorities knock it down by leading operations of massive demolition in order to destroy these hideouts that shelter untrustworthy people. It was the case with Briquetterie, one of the most populated quarters in the city of Yaounde where public authorities carried on a vast demolition operation. A group of crooks who assaulted massively in Mokolo market a place near to this quarter went and seeked for hide outs. The dense and dangerous quarter is often a traffic place of all illicit products or the place of proliferation of smuggled goods and counterfeiting. It is common to associate a bad behavior to someone from an unsanitary and dense urban zone. We recall that the majority of the riots that explodes in the cities originates or are planned in these highly difficult accessible areas. We therefore see that the density can be considered as an influential factor in the choices of the quarters to be upgraded.

In the city of Bamenda, the difficulty to obtain statistics which doesn't permit us to boldly take a step ahead because of the climate security on the city security climate. But the lack of streetlights in some quarters and especially the proximity of the region with the neighboring countries are factors that encourage the development of the insecurity and all types of traffic which must keep the city authorities alert.

### *1.2.6.3 The population*

Cameroon is called Africa in miniature and thus, the regional capitals of the country are the firm presentation of the country in a majority of cases. To this effect, the population of the big Cameroonian cities is of various origins, inside and outside of the country. Within the town of Bamenda, one notices a diversity of origin in the composition of its population. We have in priority the populations coming from the other administrative units of the region, who thanks to rural migration, increase the population of the

city. Also found here, are people who come from other regions of the country. This allogeneic population comes to accentuate the present ethnic mixed up in the city. With the peaceful and welcoming spirit as well as solidarity that animate the Cameroonian, this come together is made without problems and it also encourages the expatriates to settle here.

One must recall that, a prosperous urban economy only relies on competition and diversity, Diversity of the actors and diversity of the products and services offered in the economy. The city producer of recommended wealth finds a firm and stable economic position. The diversity of the population that encourages competition and the creation of wealth is then preferred by the public authorities. It is while producing this wealth that the taxability is measured and therefore give the means to the public authorities to invest in development projects.

Apart from this diversity in the masses of the population, there is also the importance of the number. The population through its strong representativeness can influence the choice of the operators because the public authorities always try to satisfy the highest number of citizens.

The city of Bamenda at the end of the third general census of the population in 2005 displayed a population estimated at 322,889 inhabitants of whom 158,302 were males and 164,587 females. An evaluation done in 2016 on the basis of a yearly growth rate of 4.9% as specified by the RPGH places this population to 355,308 inhabitants. At the base, it is an essentially young population of which 44.7% is less than 15 years and 49.9% between 15 and 59 Years. The impact of this youthful population in the quarter is the proliferation of small commercial activities at the outskirts of the big axes that border the quarters. The frequent gatherings of the youth around cheap restaurants and stalls of the quarter reveal the need for entertainment facilities that lack acutely in these quarters. During the school sessions, these youths leave some quarters to go to school establishments of the neighboring quarters, proof of the necessity to implant social and accessible educational facilities there. One of the positive points observed in this youthful population is their implication in the activities of general interest such as the maintenance of the communal water networks and the pedestrian tracks.

#### ***1.2.6.4 Assets of the geographical position***

The position that an under - structured quarter occupies in the global planning of a city is a non-negligible criteria in choosing the primordial operations of upgrading/renovation. The geographical position of an under - structured quarter, can bind to a whole city a degrading and repulsive image. It is the case of the under - structured quarters of the town of Bamenda that are situated on the sites of hills and visible from the downtown. If upgrading operations are carried on in these quarters, this landscape will change and give way to a more attractive and modern sight of the town. Moreover one notices that

some of these quarters like Sisia have natural assets (falls, rocky sites etc.), for tourism and recreational facilities.

It is primordial to conceive their upgrading first, not only to restore a beautiful image of the city, but also to conserve income gotten from tourism in these zones. The geographical position can also influence in relation to areas that are already worn out. It is possible in an under - structured zone that has boundary opposite another developed zone but, and whose rise depends on the combination with the rest of the city. In this case, it is primordial to favor the zone to be upgraded so as to connect the entire town in a viable unique network.

Moreover, to avoid having ruined areas in town as seen in big metropolitan towns of Asia, it is proper to purify the zones reputed as under – structured, so as to carry them to the standards of the city. Then, the geographical position can contribute extensively to put in priority a zone in the process of rehabilitation/renovation of the under - structured quarters. According to the Master Plan (MP) of the city of Bamenda, the development of the city is centered on six priority poles which are:

- Housing ;
- Commercial activities ;
- Industry ;
- Public services and social infrastructures ;
- Public facilities ;
- Entertainment infrastructures.

#### **1.2.6.5 The political aspect**

The city of Bamenda is a melting pot of big political events, and notably, the place where the ruling party as well as the main opposition party began. To this note, the political divisions are expressive enough. We have local and regional political authorities that belong to these two political parties. When one sees the politician's influence on the business of the cities, one cannot conclude that this influence is also perceived in the definition of the priorities with regard to the under - structured urban zone planning that constitutes in all point, the electoral list of all parties.

The game of the agreements or the political alliances that sometimes carry away development projects let few considerations to the logic or to the priority founded on the need or the adequate opportunity of this or that project. Therefore, the political management, while defining its priorities takes into consideration its own interests first, before the interest of the beneficiaries. In this perspective, the political aspect is a non-negligible criterion as for the selection of the quarters to upgrade in the city. On

all accounts made, in the city of Bamenda, one notices the dynamism and the devotion of the two political parties that are present in the management of the business of the city. This way of seeking for the wellbeing of the greatest number blurs the merely political interests and places the population at the center of the preoccupations and thus, assures its evolution.

### **I.2.7 Classification of quarters regarding the process of upgrading/renovation**

The factors which lead to the classification of quarters to be upgraded according to the study of identification of the stock of slums in the Bamenda City Council are:

- The state of development;
- Urban density;
- Population;
- Assets geographical position;
- Political aspect;
- Access to drinking water;
- Hygiene and sanitation, drainage and household waste;
- Land status.

In combining all these factors and analyzing the results of the study, we have the following classification:

**Table 7 : Combination of all the factors**

| N° | GROUPS OF QUARTERS  | ESTIMATED SURFACE AREA |
|----|---|------------------------|
|    | <b>FIRST PHASE<br/>(Quarters of high density)</b>   |                        |
| 1  | SISIA (Sisia 1, Sisia 2, Sisia 3, Sisia 4 )   | 170 Ha                 |
| 2  | NTAMULUNG + MUSANG  | 213 Ha                 |
| 3  | NEW-LAYOUT + MUGHEB + NTAMBRU + NKWEN + LOWER BAYELLE   | 200 Ha                 |
| 4  | NEW-BELL + ABANGOH + AZANA  | 253 Ha                 |
| 5  | ATUAZIRE + NTAGHANG   | 137 Ha                 |
| 6  | NITOB II + NITOB III + ADEMETTA   | 130 Ha                 |
|    | <b>SECOND PHASE<br/>(Quarters of average density)</b>   |                        |
| 7  | NTAGHEM + NTAMBESSI + NTENEFOR  | 327 Ha                 |
| 8  | NTATURU + NJANGA QUATER   | 450 Ha                 |
| 9  | MENDA + MILE 3  | 459 Ha                 |
| 10 | MBATU + NSONGWA + NJIMAFOR + ATUAFON  | 245 Ha                 |
|    | <b>THIRD STAGE<br/>(Quarters of low density or partially developed quarters )</b>                                 |                        |
|    | Ordinary Quarters of the town of Bamenda. Here, the Bamenda city council will fit out according to its priorities |                        |

Source : Field Survey, POLYGONE Sarl 2015

## PART II : SUMMARY ANALYSIS OF STUDIES AND REAL ESTATE OPERATIONS UNDERTAKEN

## II.1 CASE STUDY: UPGRADING STUDIES CARRIED OUT IN THE NYLON ZONE IN DOUALA

### II.1.1 Context and presentation of the upgrading project of the Nylon area

Nylon is a quarter in Douala and being the most populated city of Cameroon (2 768 436 inhabitants according to the last census of 2015). It is the biggest fluvial port of Cameroon through which passes in transit the whole freight of export and import. At an average altitude of 30m above the sea level. Douala also shelters the international airport that drains the majority of the international flights. Its intense economic activity drained in the 1960s a big colony of population coming from the hinterland especially from the West region. These migrants settled in the most unsanitary areas and are liable to flooding zones of the city and built precarious housing facilities. The set of these quarters constitute the operation zone named Nylon, in reference to the oldest of these quarters.

### II.1.2 Map 1: NYLON AREA ZONE OF ACTION

Image 1: Nylon project (zone of action)



Source: MAETUR.



The area is made up of 13 quarters with a surface area of about 720 ha, situated in the south-west of Douala, limited:

- In the North by the United Nations Boulevard,
- In the South by the Douala-Yaounde highway,
- In the east by the MAGZI industrial zone and the 8 km bypass,
- In the west by the airport installations

The 13 quarters are: Nkolmitag, Nylon, Tergal, CCC, Madagascar, Oyak II, Oyak III, Brazzaville, Bonaloka, Soboum, Dibom I, Dibom II, Bilongué.

Swampy, unsanitary, flooded in all seasons, remained virgin until the year 1957, year in which settled the first occupants. They settle in an anarchical manner. There is no health infrastructure: water, electricity and road networks.

In the first town planning document of Douala in 1959, Nylon is declared unsafe for dwelling and housing. The population that still continued to settle there did what they could to improve on their ways of life: building of gutters to drain waters, roads, some facilities of communal interest, meeting and party halls. Later, the missionaries penetrated there for humanitarian reasons and constructed some clinics and schools.

The population increased and progressively, some plots were developed. The human presence pushed away the marshy area. The population in the 1980s stands at about 250 000 people.

In 1980, the state by the Master Plan (PDU1) financed with the cooperation of the World Bank, decided to carryout development in this zone. Its housing structure was already very complex; the houses were tangled in one another, accessibility were difficult and impassable in the rainy season, a majority of houses were in temporary material, but one also could find some concrete houses there.

In every case, the status of the land is uncertain because the new comers settling here pay some money to the customary authorities.

The project consists of the following aspects:

- The construction of basic infrastructures like road network, drainage, drinking water and electricity;
- The construction of collective facilities, amongst which is a big retail market;
- The complete upgrading of quarters by the realization of roads and various networks, the enhancement of land parcels in order to strengthen the rights of the occupants by the delivery of land titles;
- Housing credits, administrative and architectural assistance;
- The support to the communal works;
- The aid to craftsmen;
- The development of the saving and creation of financial mechanisms aiming at the integration of the informal sector in the economy.

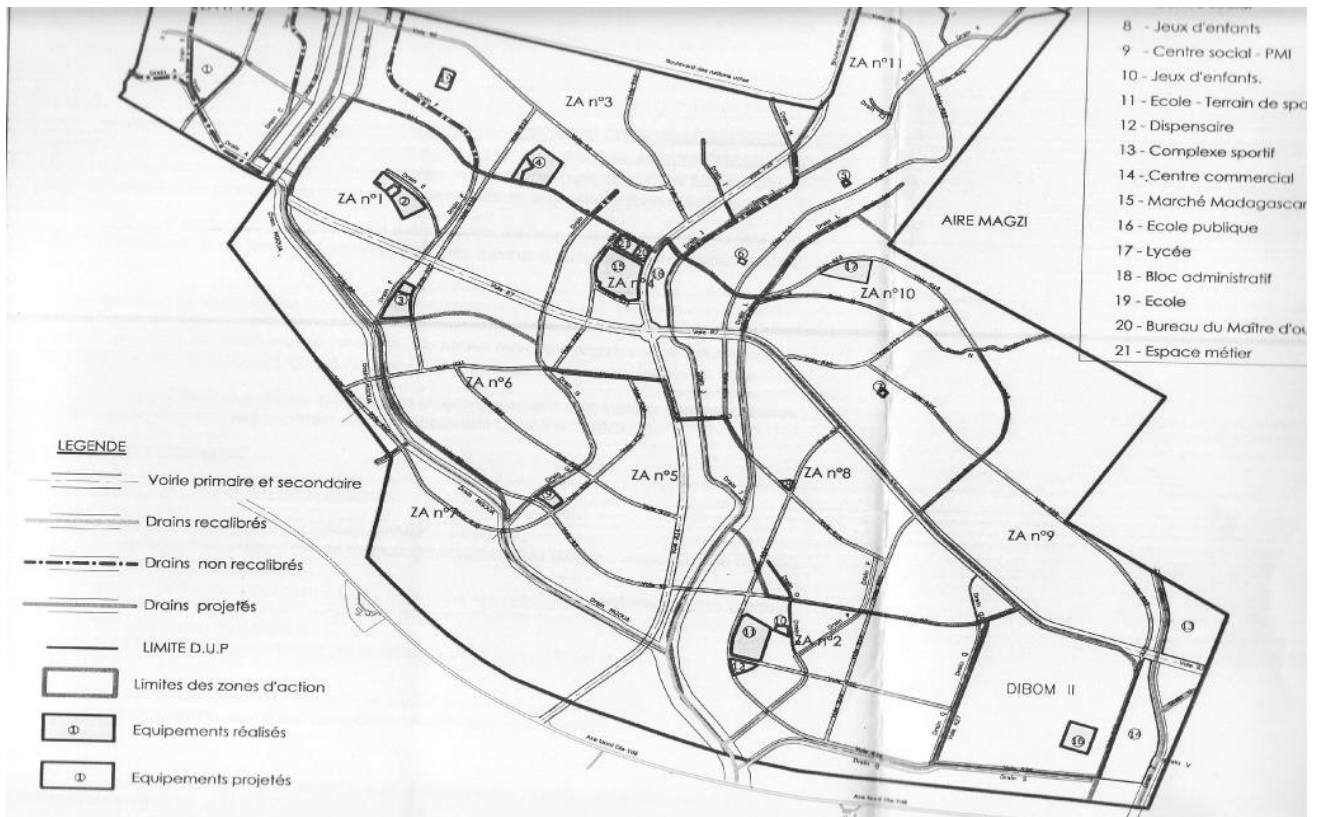
The project piloted by the Urban and Rural Land Development and Equipment Authority (MAETUR), put in place a specialized structure called the Agency of planning and upgrading of Nylon (ARAN) that followed-up the execution.

Some aspects of the project required the displacement of the populations because of the construction of the following: road networks, drainage infrastructures, and the collective facilities. For the necessity to have some lands where the displaced populations could be resettled; a zone of about thirty hectares has been assigned for the resettlement of the population (DIBOM II).

The project which started in 1983 had to end in 1997. The economic crisis of the 1980s strongly disrupted the operation and its execution was stopped in 1993.

### II.1.3 Realizations done before the interruption of the operation for financial reasons

Image 2: Nylon area (realizations done before the interruption of the operation)



Source :MAETUR

- Opening of primary and secondary road networks; drains facilities at about 60%
- 20.000 parcels developed, therefore 20.000 families left on the site.
- Networks of drinking water and electricity constructed.
- collective facilities for instance the Madagascar market with 17200 m<sup>2</sup> counters and 1500 shops, one primary school, a High school, and a hospital.
- Only one quarter out of twelve has been upgraded. At the beginning of the upgrading operations, 8 other zones have been engaged with the opening of road network and land demarcation.

It was planned that the financing of the other zones will be done by the recovering of the investment made on the first financed zone. 3500 of resettled parcels were developed for the demolished population of Nylon in the plots of Dibom II and Ndogpassi II.

To assure the maintenance of the infrastructures, it was suggested out of the project, an aspect called

"support actions ". These actions included the rectification of the common funds of Nylon and the development of savings.

The communal works continued, but the lack of control structures of the populations makes them more and more uncertain. In all, the conditions of existence of either the relocated or maintained population have improved distinctly and the area is fairly well integrated in the urban planning framework.

#### **II.1.4 Nature of the project and existing situation today.**

Due to the accelerated deterioration of various infrastructures and the road networks that were realized due to absence of maintenance, the World Bank and the Swiss Cooperation dissociated from the operation.

#### **II.1.5 Cost of the operation**

**Cost of the operation:** 22 billion FCFA; 15% assigned to the planning of the first zone of action and the resettlement zone meant for the recovering of the costs; that is 3,300,000,000 Fcfa by (20000 parcels) corresponding to:

- 20 000 households on the site, that should pay each 1 500 000. Average indulgence: 18 months.
- Techniques of costs recovery were not coercive; a lot of resistance came greatly from the population that was beneficiary.

#### **II.1.6 Attempted recovery methods**

**1981-1987:** Deadline of 4 months balance at the risk of decay, loan possibility, Land Bank of Cameroon (CFC).

**1988-1992:** moderating nature of MINUH:

- Suppression of the property tax (500 by m<sup>2</sup>) being a decrease of 10% extension of payment from 36 to 60 months.

**1992-1996:** operation "open doors" reduction of 25%.

**1997-2006:** recovery attempt by judicial means.

- All experimentations failed: evoked Reasons: extreme poverty of the populations, but curiously parcels are handed to different people, 20% of the owners invest in construction instead of paying.
- At the land level: the State established 14 land titles certificates for the whole site on behalf of the state to secure the zone.

For the individual parcels, 1640 parcels were being paid entirely, 444 land titles issued and 648 in progress. Out of the 20 000 parcels, 12 000 have been demarcated.

### II.1.7 Reasons for the mitigated success of the project

- Long and expensive procedure to obtain individual land titles;
- Non protection of public land that is being reinvaded;
- No legal setting has been decided for the recovery of the investments.
- The previous technical Studies were insufficient; some infrastructures are out of price in relation to the initial policy of hygiene and sanitation of quarters.

Technical adjustments, following the insufficiency of preliminary studies increased the costs.

- The State didn't honor to its engagements, the organs for Credit didn't respect its engagement to grant 450 000 000 of purchaser loans on the motive that the applicants were not credible.
- The cost of the parcel, 1.5 M for 150m<sup>2</sup> being 10 000 F/m<sup>2</sup>s for the developed land, seems enormous. However, it is derisory if one takes into account the fact that lands of the same standing costs 50 000F/m<sup>2</sup> in average in Douala.

### II.1.8 Recommendations for the success of an upgrading operation:

- **Communication:** The project must be presented to the target population like a succession of measures to come out from precariousness: to avoid giving the impression that the embellishment of the city must be done as a sacrifice by the population.
- A participative approach must associate the population to the elaboration and in the;
- the realization of all phases of the project;
- Apart from the expenses that are incumbent to the State, it must make sure to establish a constraining legal framework for the parties and to look after its application: recovery of investments, respect of the town planning rules, safeguard of the ceased land etc...
- The councils must be bound entirely to the upgrading operations no matter who the works master may be (MAETUR for example) and they must know that they will have the responsibility of the maintenance of the facilities and infrastructures constructed, the respect of the town planning rules.
- The realizations must not be considered by the councils as foreign elements transplanted on their city against their will.

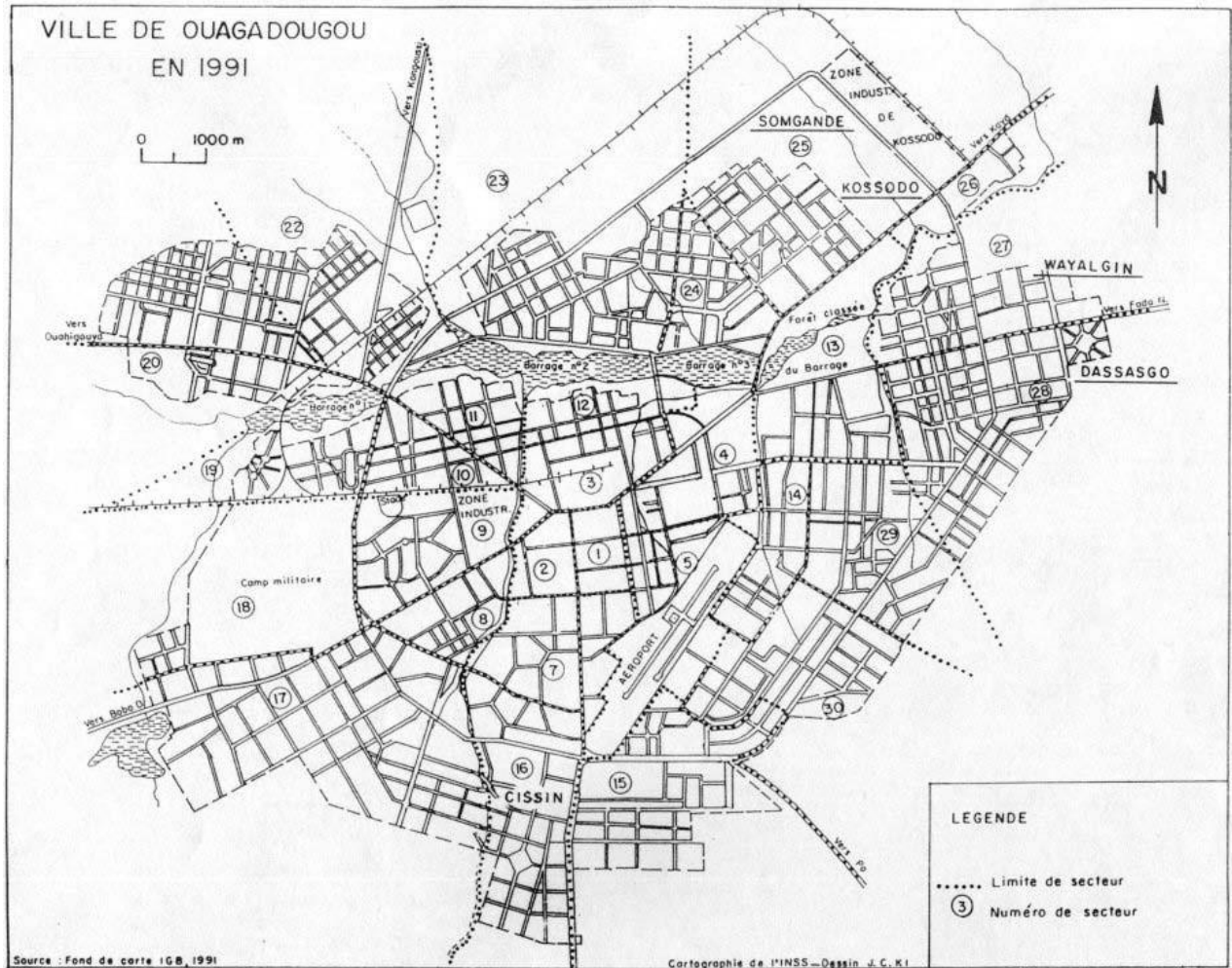
- The involvement of the population to public facilities maintenance is a necessity.
- Organizations of the civil society in the area must be associated to the operations so as to direct the population in educating them to the maintenance of their community.
- The agencies of upgrading must also be able to supervise and participate in the safeguard of the works achieved; from then on, the scheduling of their interventions and the confection of their budgets must take into account this constraint.
- "To alleviate the costs, operations to evolutionary realization are necessary: opening of carriage ways to be tarred later, safeguard of the public areas etc.

## II.2 CASE STUDY: ANALYSIS OF REAL ESTATE OPERATION IN SUB SAHARAN AFRICA: The ZACA (Commercial and administrative activity zone) in Burkina Faso.

### II.2.1 Background and analysis of land developments operations in BURKINA FASO in the early 1983)

In the night of 3rd to 4th August 1983, a revolutionary regime through the National Committee Revolution (CNR) came to power. The name of the country changes to become Burkina Faso, literally «the honest men country” and a total reconstruction of the society as well as the urban space is carried on in order to break the strengths of the bourgeoisie and the customary power - “enemies of the people” that monopolized the land rent. In this goal, the capital is divided since 1983 in 30 sectors [map 1]. This new territorial carving enabled the power to be set free from the customary references and to suppress the traditional kingdoms foundation to the 66 former quarters that make up Ouagadougou. Each sector is directed by an office of the Committees of defense of the Revolution (CDR) elected by the population. The name of the quarters generally signaled the collective identity of the inhabitants or the statute of the district chief and the new configuration aims the heart of the collective belonging while dedicating the administrative power compare with that of the customary power (Hilgers, 2005, 2009).

Image 3: Sectors of the town of Ouagadougou in 1991



Source:

A voluntarism authoritative urban policy is then going to transform the capital in « a sort of urban laboratory to test, to sit and to anchor the Revolution through the transformation of the urban «landscapes. A national land domain (DFN) is created through the Agrarian and Land Reorganization (RAF). The RAF defines three types of scheduling instruments: the master development plan (SDAU) determining the general destination of lands, details of development plans, fixing the types of intervention to make on the plot.

Indeed, two texts voted by the CNR define the RAF: the order (zatu) n°84-050 of August 4th, 1984 standing decision on the Agrarian and land Reform in Burkina, and the decree (kiti) n°404 of August 4th 1985 on the application of the reform defines Four operative methods: the upgrading (reorganization and equipment of the urban shape), the regrouping of lands

(regrouping of the parcels to make them fit to a type of construction), the restoration (development of building) and the renovation (deficient building replacement).

This law is going to permit the authorities to carry on upgrading operations of the laid out quarters in the periphery and to renovate the city center – (in particular through the construction of lodgings - Revolution cities - and the reconstruction of the central market and its surroundings). 60'000 parcels will have been divided in Ouagadougou and Bobo - Dioulasso between 1985 and 1987.

### II.2.2 Social Consequences of this first operations

Although bringing to the less privileged the enjoyment of a parcel, these operations had important spatial and social consequences such as massive displacements of the population towards under equipped spaces, the destruction of their initial life space and the increase of the spatial segregation and the increase of spatial segregation and consistent speculation.

- But this investment is costly and difficult to bear for the highest number of inhabitants. Indeed, the criteria of assigning a parcel and obtaining a building habitat Permit to inhabit (PUH), guaranteeing the enjoyment of this one, obliged the "owner" of the restructured parcel to pour a right of entry on the parcel that is assigned to him, to acquire a right of establishment and to exploit the parcel in the years that follows the assignment. By this, to rebuild with concrete the dwelling buildings. Consequently, the speculation democratizes with the residents of the restructured parcels.
- Some owners resell their parcels before exploitation because of lack of means or because of calculation, others using real "anticipatory" strategies (Marie, 1989) by only constructing a one room house in the periphery while waiting for that zone to be divided so as to benefit from the assignment priority since they benefit from the status as a resident.
- The first goal of the massive parceling, to accommodate the popular class while fighting against the speculation, has thus been thwarted and the land insecurity as well as the social stratification spread. The phenomenon of speculation accentuated the expansion of non-parceled land in the periphery.
- Although there was a massive production of plots for the most resource less during the revolution, the authority was incapable to develop the new divided areas as well as it didn't cope with the management of the land prices that fluctuated according to the areas of the



housing and the materials used for construction. The holders of the PUH were forced to build and rent them out in order to assure the laying out of their investment through clandestine or illegal renting, or to resell the parcel so as to exploit another, or to sell and live in the periphery.

### **II.2.3 The upgrading plan of the commercial area**

Controlled by the Presidency through the DGUT and the General Direction of Architecture and Construction (DGAC), the upgrading plan of the commercial zone aims to give an economic heart to the city, to re-center and to stimulate the commercial activities, to eliminate the mess that prevailed there and to push the economic operators to invest in this zone. To this effect, conditions of the contract had been established and states the levels of the buildings (two floors at least), the assignment of the ground floor to various services (administration and trade, and sometimes to lodgings) and the one upstairs to multifunctional activities of commercial vocation.

This development plan must permit the setting up of a rational organization of the space in order to valorize the productivity of the commercial activity: it is planned that the required densification will involve an increased profitability of the economic activities and a reduction of the working costs of the city. Four zones are defined: a zone where commercial activities are dominant, a zone regrouping trades, services and lodgings, a zone destined to the administrative service, industry and shops, and the last zone is conceived like a garden destined to walking and relaxation. Although accompanied conditions of the contract regulating the conditions of land occupation and features of the buildings, this plan is not comparable to a land use plan and remained relatively imprecise and susceptible therefore to numerous infringements. Indeed, there were new constructions or renovation and the required investments were charged to the owners of the parcels and had to be achieved within three years at the risk of expropriation.

#### **Strong points**

In spite of the delays caused in a majority by private or public financing problems, the downtown landscape changed very quickly in the last ten years. All around the central market, some quarters were built, some buildings were heightened and renovated, the trades and services filled out and a road network replaced the asphalt.

### **II.2.4 The upgrading of the Rood Woko central market**

The decision to clear off the Rood Woko central market, installed at the heart of the commercial zone since 1954, was taken in 1985 because of its lack of hygiene and its untidiness. Except a

market built with concrete, sheltering the traders who sold fresh products, the constructions of the shops were rented on the initiative of the traders without rigorous conditions of contract. The latest paid a moderate tax to settle almost for free on this space valued by a large majority of city-dwellers. However, the excessive amount asked thereafter for the development on the new market was «A way hardly veiled of social selection and elimination of the poor».

Two months after the decision of the Presidency, the site is cleared off authoritatively for the total destruction of all its constructions. Some traders moved then to the parcels at the center that were supposed to shelter the temporary market, others prefer to settle in secondary markets or in the streets of the commercial zone. The development plan of the commercial zone planned that these streets, that were the area of an intense circulation of goods and people, should be pedestrian during the day. This point has not been applied.

After numerous difficulties linked to the financing of the project, the market was finally opened in 1989. Endowed with a supplementary level, the building rests on a base structuring its unity and limits. The creation of a storey market answered "the aspirations of modernity and the needs of space for traders and customers: the Ouagaleses wanted a market that matches what they thought of their city, of themselves and of their time". But the informal implantations repulsed quickly the overpopulation rendering the management of the market very difficult.

### **II.2.5 The ZACA: a prestigious State Project**

The State enlisted two operations of large-scale. Structuring the city in two poles distant of about ten kilometers, these projects denote at once the will of the Presidency to attract national and foreign investors through operations of prestige and to write down its power in the space of agglomeration, and this through the organization of the downtown in an attractive place auspicious to the business - the ZACA - and through the creation of a new part of the city sheltering the seats of the power and the "new rich" residences - "Ouaga 2000".

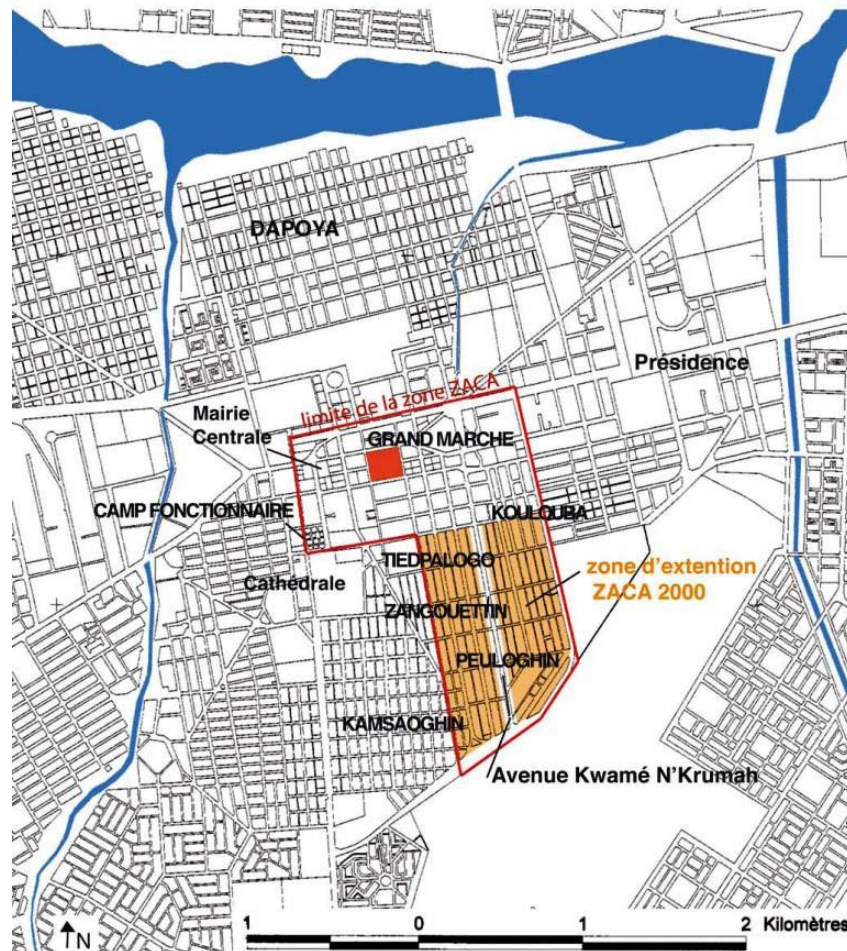
Approved by decree in 1990, the project concerning the Commercial and Administrative activity Zone (ZACA) regroups the upgrading plan of the commercial zone within a surface area of 115 hectares. The project takes back the zoning principles of the former plan and has 'to be a zone of multiple vocation that must energize the downtown as first function and has to confer to the capital features of a city well structured, functional and pleasant to visit, that means, to make it more attractive. This approach of planning and upgrading of the commercial zone essentially resulted in the upgrading of the surroundings of the central market, the Koulouba district and the Kwamé

Krumah Avenue, in an improvement of the structure, rehabilitation of the pavements and the development of car parks.

### II.2.6 The ZACA: building a capital worthy of this name

The project of the extension of the ZACA [map2] was initiated, partially from the observation of the evolution of the downtown and neighboring districts in the first ZACA to the East and the west of the Avenue Kwamé Krumah, which became the dorsal thorn of the project. These mutations resulted from the important real estate investments along the tarred avenues that were materialized by storey buildings for trade and service purposes. According to the Mayor of Ouaga *"the downtown had become practically untenable: there were circulation and activity problems"*. It was necessary therefore, according to the official terminology, to arrange so that it should be "a capital worthy of this name", consequently the Council of ministers adopted a decree "stipulating extension of the commercial and administrative activity zone of Ouagadougou and creation of a project for the development of ZACA" and dedicated this one as project of public utility. The surface of the zone is about **200 hectares**.

Image 4: Situation of the ZACA used of 1990 to 2000



Source : POLYGONE SARL, 2015

The project for the extension of ZACA lies on the observation that "the spatial pressure of the economic activity is done in an inadequate urban structure generating multiple malfunctioning of the downtown" and aims at the following objectives: to refit the road network, to polish the look of the city, to present interesting opportunities for the development of the activities, to promote sustainable development to this zone and to propose a coherent and realistic regulation.

The political piloting of the project is assured by an **interministerial Piloting Council (CIP)** that is **presided by the Ministry of Infrastructures, Housing and Urbanism (MIHU)**. The assignments of the CIP are the following:

- It fixes the main orientations of the project and assures the synergy between the planning and the sectorial policies set to work by the other ministries. A second structure is created - the Office of the Project placed under the supervision of the MIHU - in order to assure the follow-up of the execution of the decisions of the CIP referring to the programs, to look after the respect of the new condition of the contract that was adopted in 2007, and to assure

the link between the CIP, the different technical services and the owners and inhabitants of the zone. Thus, the state created its own tools to control the totality of the project. Indeed, in order to avoid any speculation the latter has in the first place the monopoly in the repurchase of the parcels in the zone of the project.

- Secondly, it has the possibility to expropriate the inhabitants by legal process.
- Thirdly, it constructs via the National Society of planning of the urban Lands (SONATUR), sheltering plots where the expropriated inhabitants purchase after compensation for the parcel, and establishes the conditions of the contract applicable to its exploitation.
- Fourthly, it organizes and participates in the jury of the international contest of urbanism that will lead to development plans.
- Finally, it pre-finances the project entirely and the new parcels purchased by the promoters will then enable the State to recover its investments.

However, the State does not proceed authoritatively to the implantation of the project. Indeed, the Office of the Project instituted a new manner of planning, more consensual, through the hiring of the communication Synergy agency. This one played an important role in the process of acceptance of the project by the population.

The communication elaborated by Synergy passes through the medium of the press, the television and is stuck up on the recent billboard of 4x3 meters. This communication aims to inform the public of the works in progress and to cause the obstruction of the population for an upgrade downtown desired by the State, at the same time at the level of the commercial activities and services that will take place there and at the level of the type of houses proposed to the inhabitants.

Real "pilot project", the extension of the ZACA is unique at the scale of the sub – region, as the general director of the project on duties since August 2008, said *"the land legislation authorizes to expropriate the inhabitants in order to achieve the project, whereas it is much more difficult to dislodge some inhabitants in other sub regional capitals"*. And the fact to have created an ad hoc structure to manage and to communicate, the project in the long run contributed much.

### **II.2.7 The development plan of the ZACA**

Three phases are to be distinguished within the development of the project. First, the State attempted to sensitize the population living in the old districts to accept the project. Including traditional houses, the whole area is declared out of standard, *"so for its architectural features as for*

*the life style that it generates*". Further to the three years of negotiations punctuated by numerous manifestations, several districts of the downtown will be dislodged towards shelter plots in the South outskirt, mainly the one of the C zone of "Ouaga 2000", the widest and the better equipped. The inhabitants have been were compensated after identification of their rights.

An international competition - only real international contest of urbanism since then, is organized by the state to elaborate a development plan. In 2003, the results are revealed and it is a group of offices: burkinabe (G2 Conception), Senegalese (Architecture and Climate) and French (shop Jean-Louis Pujol) piloted by the agency G2 Conception that won the competition. Three months later, the plan is approved by the government. The subject of the contest was the upgrading and the planning of the central zone through emblematic realizations, the architectural and urbanistic norms for development and a public space treatment.

The development plan proposes to balance the north - south axis by a transversal east-west axis where two emblematic portals built-in to buildings containing 7 storey buildings including parking's in the basement, will be built at its extremities: the Memory Door and the Future Door. These two are situated in a mixed zone including the activities of the tertiary type, administration and trade, the two other planned zones being either commercial, in continuity with the central market, or tertiary bound for banks, insurances, companies, offices and international organizations. The buildings are structured in hamlets with interior yards and will form a homogeneous whole regrouping the different parcels. Each lot will have a day care for children. The public spaces structured in such a way that will lead to the treatment of the road networks, the creation of green spaces (of which the construction of a park for children) and a specific urban furniture recalling the cultures of Burkina. The parking is treated like an element of planning and numerous places of parking lots, covered, underground or along the buildings is planned. The continuity with the first ZACA project is regulated and every building of this first zone will be standardized. The tourism is valorized through the creation of a cultural esplanade and a five stars hotel complex. Opposite to this one there will be a monumental space for the cultural promotion overhanging a public place and one open air theatre.

Image 5: The cultural complex of the development plan of the ZACA



**Source:** G2 Group Conception

A temporary condition of the contract accompanies the development plan and prescribed buildings going from ground floor (GF) +1 to GF+7. The new constructions will have receding of five meters from the road network to permit prompt parking. The authorization to construct will be obligatory and all construction projects will be elaborated by an architect. It will be prohibited from changing the destination of the parcel and a minimal time limit of five years from the date when the assignment is granted for its exploitation. The rules of planning and construction are definitely fixed when the Council of ministers approves the conditions of the contract applicable in ZACA in 2008. The latter is accompanied by a condition of the contract applicable to the border areas. The two consist of the constraints in terms of height, color and architectural shapes; the respect of these will permit "to assure the consistency of the project".

But this sought-after consistency is a manner to assure "an orderly landscape" through a town planner specialized in hygiene and sanitation regardless of the inhabitants, demolition operations of old districts "drawing close to a logical exclusion".

Among the facilities programmed above are the Zangouetin shopping mall and the popular restaurants revealing this will of regulating the downtown spaces and the casual activities found there. Closed on a patio and containing stand, are shops, a cinema, conference halls, offices and a space for catering, the shopping mall replaces the popular Zangouetin market razed on the occasion

of the ZACA extension. As for the two popular restaurants bound at the middle level, they will replace the casual activities of catering traditionally disposed on the public space.

From 2003, the site of the ZACA is freed of its inhabitants and the works of demolition begins. The new plan is drawn, followed by the planning of the road and various networks, and the subscriptions of the parcels are enlisted. However, works delayed because of financial problems: the compensation procedures are still in progress in 2009 and the works of drainage cost more than what had been planned. At this point, it will be difficult to make the project profitable because the costs of human living are high.

### **II.2.8 The ZACA: Attraction of national and foreign investors**

Considered as a national priority, the project aims to position the downtown as an international competitiveness center. It is all about, again and always, giving a modern picture of the capital in order to attract the national and foreign investors. *"The objective of the project is to see the picture of the city changing"* with the numerous economic reforms promulgated since the years ninety, the business environment improved considerably in the capital.

Two categories of parcels put up for sale are to be distinguished within the extension of the ZACA. First, 250 commercial parcels (of 500 to 4000 m<sup>2</sup>) have been bought to 90% since 2000, mainly, by Burkinabe traders and civil servants, insurance companies or banks, or by Burkinabe residing abroad. But for the meantime, these people have their land, but have not yet built. The advertisement for these parcels was on Internet, in the press or via embassies.

Secondly, the equipped parcels are destined to big social, cultural centers or hotels, in fact, to the emblematic realizations foreseen in the development plan. They are not even sold and are in expectation of partnership contract with the private. The present communication about the project has besides developed itself in this direction.

### **II.2.9 The Strengths of urban development projects from the beginning to the ZACA Project.**

For the first project, there were financial plans starting from the movements resulting from the project. Because the populations concerned were to contribute to finance the project by injecting financial means to acquire new parcels. Also, they were obliged to occupy the parcels during a period of time and their constructions were obligatorily to have building permits.



The government of Burkina Faso undertook development operations with the aim of bringing land securitisation and offering a framework of a favorable living standard with the blooming of the inhabitants. In the final analysis, this governmental initiative comes to give a new urban face lift which had become unbearable and unsuitable like in the framework of a prosperous urban area.

By the force of the public regulation texts, the government had ordered in this project to clear off the central market of Rood Woko. This force of the law and that of the town planning regulation is not very visible and not very applicable in other cities or similar operations engaged. This rigor led to the success of the operation of ZACA that was launched after and which knew the international repercussion.

For the launching of the ZACA, the authorities marked their power to arrive at the end to an operation which will be successful from beginning to end to be used as an example to the other cities of the country with a similar development level. This vast operation gathered the entire actors and the private consulting firms were at the center of the design of these works.

The assembly of financial recovering made it possible to introduce a vast range of speakers from national to international organizations and private individuals all over the world. This opening and this success were done thanks to the intensification and a better organization of communication around the project. The association of the private individuals in the public initiative contributed to massive adhesion and the diversification of the sources of financing.

The respect of the land laws, the respect of the operations of compensation, the assumption of responsibility of the effects induced in the project contributed to its success.

The ZACA is a successful operation because of the political willingness and the strong determination of the leaders to be modernized was favorable. Then, the land laws which support expropriation at the benefit of the State to achieve projects of this scale considerably helped to fulfill the mission.

## **II.2.10 The limits of the urban development project of Ouagadougou and the one of the ZACA.**

For the first development project, it led to the displacement without conditions of accompanying the population toward zones that were not equipped to receive them. It had the effect of reproducing the under - structured district faced in other sectors of the city of Ouagadougou.

All account made, the speculation of the interested parties took over and some owners yielded their parcels to the highest bidder to settle all over again in zones that were not properly developed. The town planning rules that had been given out were not rigorous enough to force the populations to abide by and to respect the vision of development incited by the project. After the elaboration of the new project of the Rood Woko market, exorbitant amount were asked from former owners was similar to segregation. The former occupants saw themselves preceded due to a lack of means by others, coming from other markets or other cities and who took over to acquire places in the market or boutiques. On this point, the project did not integrate the population till the end.

Upon all account done, the slowness noticed in the project was from the direction of the operations by an inter-ministerial and multidisciplinary team. Often, for this case of piloting, the decisions are not easy to take and things are slow. Also, the fact that the cost study was not well thought of as well as the financial installation contributed to take a lot of time to find trust worthy partners who will be able to bring the sought. The high costs of laying out the road and the various networks contributed to increase the invoice of the project considerably and to make the profitability more hypothetical.

## PARTIE III: URBAN ANALYSIS OF SISIA QUARTER IN THE CITY OF BAMENDA

## III.1 PRESENTATION OF THE STUDY AREA, ITS POPULATION AND SURFACE AREA

### III.1.1 presentation of Sisia quarter within Bamenda

Sisia Quarter within the Bamenda city council is located in Bamenda 3 council. This peripheral quarter is located at the midway between the 3 councils of Bamenda. Specifically, Sisia quarter is located geographically in the south/south west of Bamenda 3 council.

It is delimited:

- From the north by Upper-Bayele;
- From the east by Ndzah quarter;
- From the south by Bamenda 2 Council;
- From the east by Mughel quarter and Bamenda 2 council

***Map 2: Location of Sisia quarter within Bamenda***

### III.1.2 Surface area and classification of the sub quarters

The Sisia quarter is situated in the Bamenda III sub division with an average altitude of 1327m below sea level. It is located 629683.93 South East and quarter 658914.85 North of the Greenwich Meridian. This quarter has a total surface area of about 170 hectares distributed in four (4) sub quarters (Sisia I (48 hectares), Sisia II (16 hectares), Sisia III (19 hectares), Sisia IV (87 Hectares)). The relief is accidental and part of it is characterized by very steep slopes. The highest slope being 205 meters.

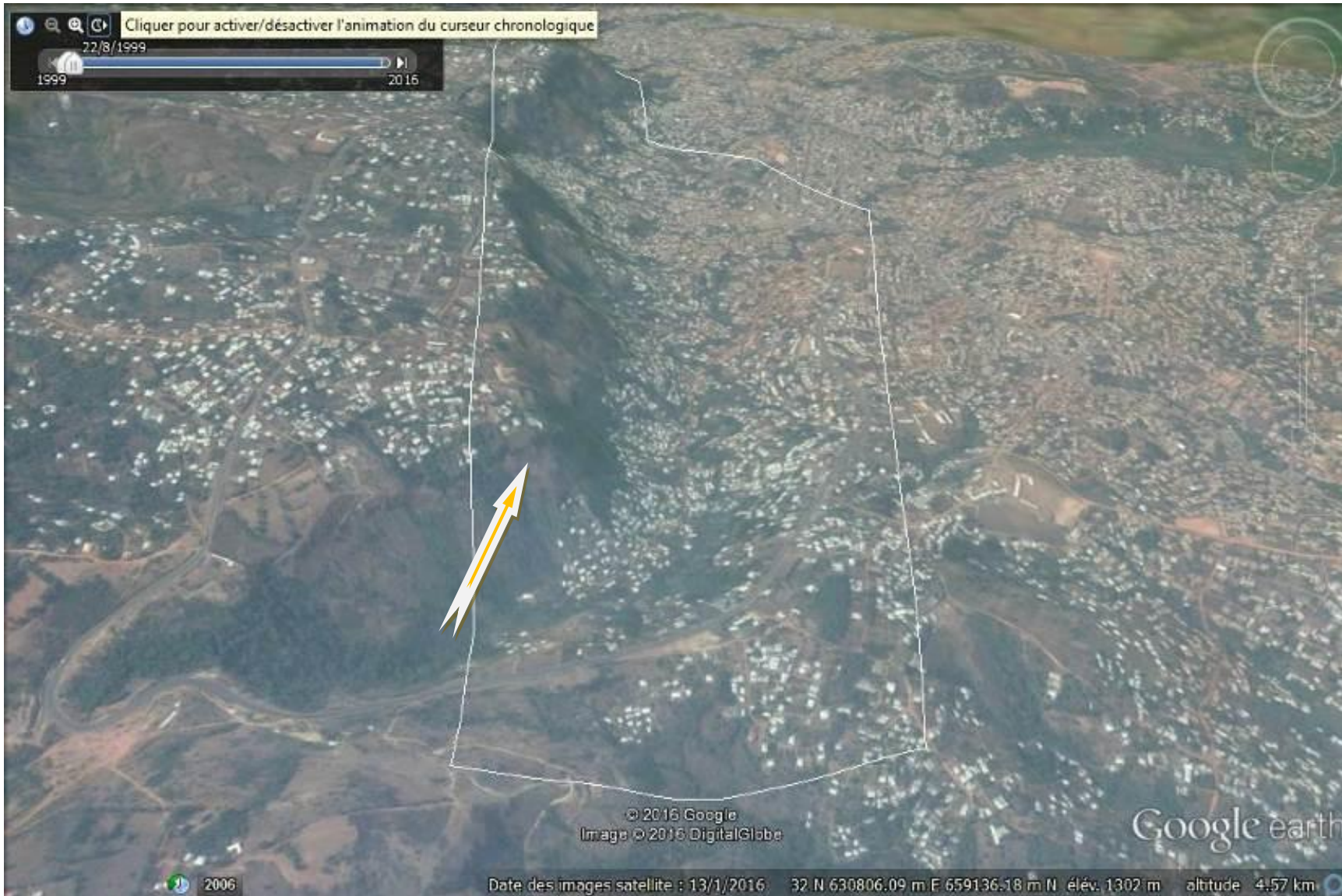
**Image 6: View of the relief**



**Source: Satellite image, 2016 of the Sisia quarter, Polygone Sarl**

The image highlights the important elevation observed in Sisia quarter. The steep slope observed at this level does not reflect the reality of the rocky escarpment found on the site. In the same way, we observe here and there on the site rock clumps in perdition and very dangerous for the safety of the resident populations.

**Image 7: View North-South of the highlighths of Sisia**



The image highlights the important elevation observed in the Sisia district. The steep slope observed at this level does not reflect the reality of the rocky escarpment found on the site.

**Source:** Satellite image, 2016 of Sisia quarter, Polygone Sarl

*Map 3: Topographic map of Sisia quarter*



### III.1.3. The population of Sisia

According to the data collected from field surveys, the population of Sisia is cosmopolitan. In reality, almost all ethnic groups in Cameroon are represented. It is essentially composed of the citizens from the Northwest and the west Regions. Here, we notice a perfect collaboration between the different ethnic groups. There is no segregation in the spatial distribution of residents in Sisia quarter. They all live in a remarkable social cohesive environment.

The city of Bamenda constitutes the hub of the Northwest region that pulls its growth and its development. It is the most populated city of the region and its population like any other in the entire country, continues to grow. From a population of 48.111 inhabitants in 1976 during the first census to 110.142 inhabitants during the census of 1987; and 322 889 inhabitants at the third census in 2005 (3rd General Census of the Population and the Housing (RGPH). It grew at a rate of 4.9% per year, with a population of about 355308 inhabitants in 2016, according to an evaluation of HTR consulting firm in the Master Plan of the city. The population of Sisia was 11,679 inhabitants (3rd RGPH, 2005), and its evaluation in 2015 was 16,458 inhabitants. The fast demographic growth is felt on the land pressure of the zone in the last years.

## III.2 DETAILED PRESENTATION OF THE LAND SURVEY

### III.2.1 Socio-economic data

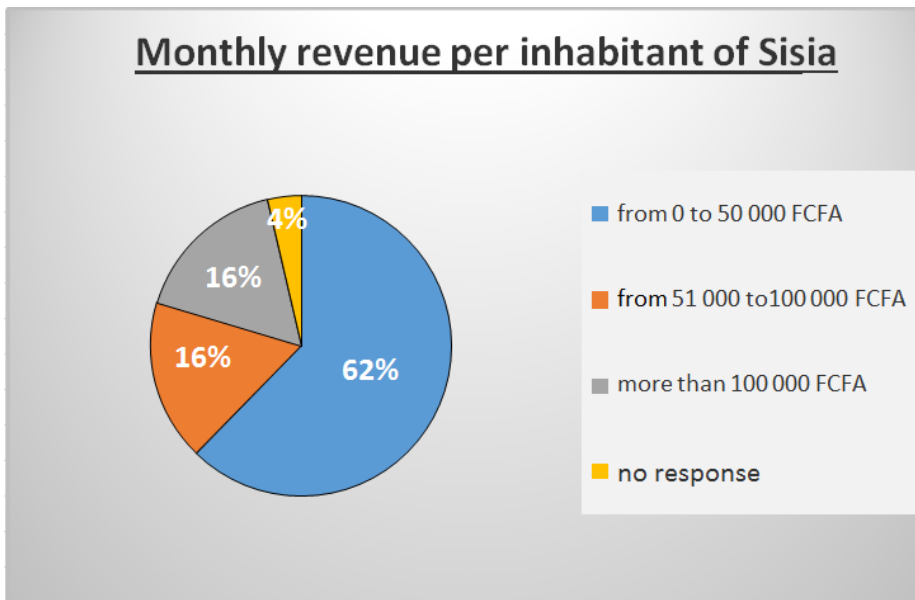
The income of family heads of Sisia are very low; according to the data obtained from the households survey, 39,8% of people interviewed indicated a monthly income of less than 30 000 FCFA, followed by those that have a monthly income from 30 000 to 50 000 FCFA (22.8%). This low income level influences negatively the standard of living of the families, which eventually makes them to engage into informal activities to earn their living. This low income can also explain the low level of education in the quarter. To the question related to the preservation of the human and social rights, such as the education of the children and the access to health care, the challenges always exist. The absence of social infrastructure renders the access to these services very low. Several households are not satisfied with the number of public and communal infrastructures of the quarter. There is neither a public school establishment nor a public hospital in the quarter. The consequences bound with the absence of these services are the high cost of education and health care services because the population must resort to private establishments to have access to these services.

**Table 8 : Average monthly income of family heads in Sisia**

| Quarter   | Proprietor interviewed | from 0 to 50 000 FCFA | from 51 000 to 100 000 FCFA | Proprietors who answered by : | Proprietors who didnt answer |
|-----------|------------------------|-----------------------|-----------------------------|-------------------------------|------------------------------|
| SISIA     | 1032                   | 661                   | 184                         | <b>More than 100 000 FCFA</b> |                              |
| SISIA I   | 429                    | 295                   | 69                          | 108                           | 79                           |
| SISIA II  | 158                    | 81                    | 30                          | 31                            | 34                           |
| SISIA III | 79                     | 41                    | 12                          | 39                            | 8                            |
| SISIA IV  | 306                    | 199                   | 61                          | 11                            | 15                           |

Source: Field Survey, POLYgone Sarl 2015

**Figure 2 : Monthly income per inhabitant of Sisia**



Source : Field Survey, POLYgone Sarl 2015

### III.2.2 Land data

In the study area, few parcels have a land certificates. The idea that the area is considered as "a risky zone", unsuitable for urbanization and thus free of any title, except exceptional measure, is not favorable to the situation. This state of affairs does not permit the authorities to deliver land titles in the study area. The few present land titles in the zone are of long dates and are located at the lower site of the area. One notices in the quarter of Sisia 1 sketches of plots, but still none is approved or poorly organized. Indeed, these layouts are the result of a personal initiative initiated by residents of the neighborhood and following their logic of development.

The land law in Cameroon has undergone numerous modifications since independence. By right, the two legal parallel systems inherited from the colonization (French and English) functioned simultaneously in Cameroon. This continued until 1976 with the adoption of the system of government land property. From then on, several categories of land domain cohabit in Cameroon etc.

- The State's public domain constituted of all marshy areas, rivers, and maritime space;
- The State's private domain constituted of all land parcels that the state appropriates to realize the necessary infrastructures and facilities for the functioning of the society;
- The national domain exploited by the customary owners;
- The private individual domain constituted of titled parcels belonging to physical people or to corporate bodies.

The land property nature in the survey zone doesn't differ a lot from the one of the city of Bamenda. The plots transferred here follow private procedures/usual customary law. The owners, not having a title, resorted sometimes to simple means of transfer without precise measurements. The sold parcels have sometimes been delimited by natural features as streams, or specific plants. The household survey showed that 23.6% of inhabitants are tenants, while 73.6% are Proprietors. Of fortune having acquired land space from a traditional chief or even an aboriginal. Similarly, 80.7% of these owners do not have land titles, but rather a sales certificate issued by an individual under the assistance of the village chief or any traditional authority. The average price of the plot of land in Sisia is 2500 FCFA.

The population that occupied or exploited the national space after August 5, 1974 through succession/inheritance could have asked for a land certificate for their acquired space as communal council property from their parents in accordance with the article 17 (2) of the land ordinance N ° 74/1 of July 6, 1974. Today, the low percentage of the land title possessors could be as the result of the initial prevention of planning in Sisia by the administration. This prevention has not been accompanied by measures to be applied by the state to prevent the inhabitants to continue to occupy and to extend the zone illegally and anarchical. It resulted in the anarchical and uncontrolled occupation of this territory as seen today.

### **III.2.3 Analysis of the situation of proprietors and occupants**

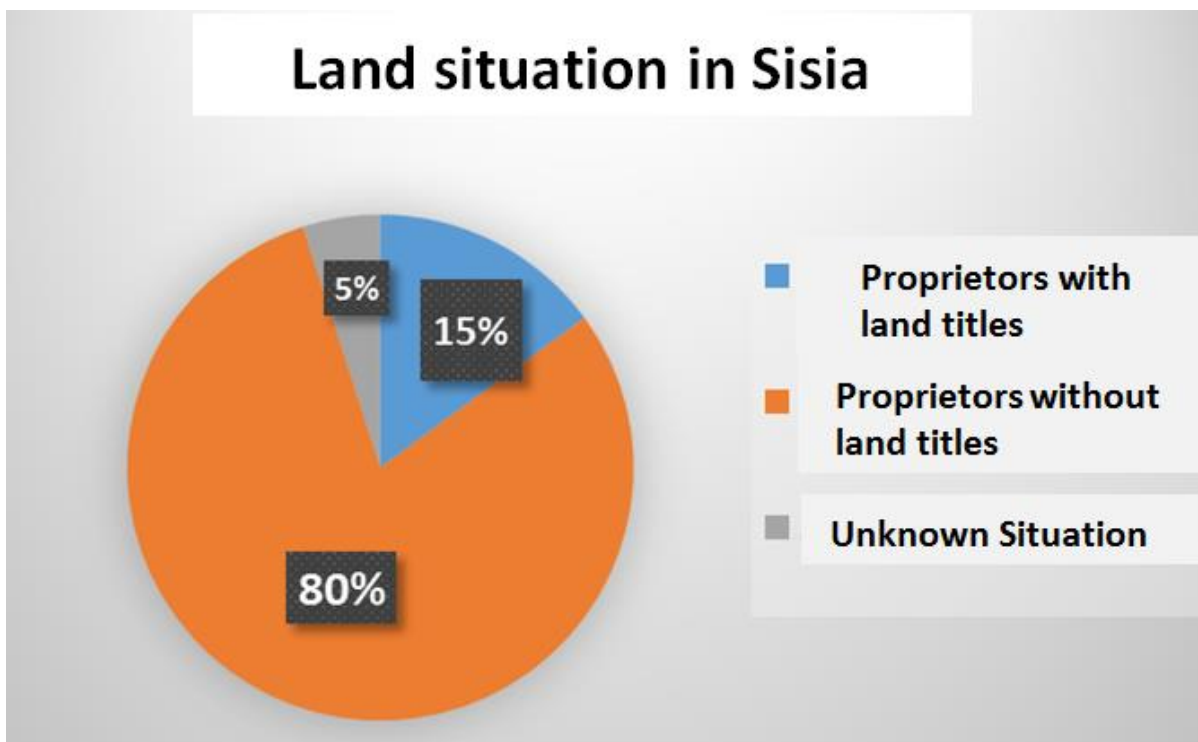
According to works previously carried out by ERA Cameroon in the Sisia quarter, 23.6% of the inhabitants of Sisia are tenants whereas about 73.6% are Proprietors. The results of the land survey who have been carried out by the consultant showed that about 80% of the landowners of Sisia don't possess property title. This situation according to the latter is the consequence of the lack of financial means and also because of the tough procedures for obtaining a land certificate.

**Table 9 : Possession of land certificates in Sisia**

| Is your parcel titled? If not, why? |                 |     |     |             |
|-------------------------------------|-----------------|-----|-----|-------------|
| Quarter                             | Number surveyed | yes | no  | No response |
| SISIA                               | 1032            | 154 | 827 | 51          |
| SISIA I                             | 429             | 86  | 324 | 19          |
| SISIA II                            | 158             | 36  | 111 | 11          |
| SISIA III                           | 79              | 7   | 60  | 12          |
| SISIA IV                            | 306             | 20  | 279 | 7           |

Source : Field Survey, POLYGONE Sarl 2015

**Figure 3 : Land situation in Sisia**



Source: Field Survey, POLYGONE Sarl 2015

We notice that the administrative authorities in charge of the development in the city of Bamenda and mainly the competent services do not issue land title in the study area, but these do not prevent either the occupation of the area which is done, in an anarchical and illegal manner by households looking for homes.

***Map 4: Land use map of Sisia***



### III.3 PRESENTATION OF THE URBANISATION AND SOCIO-ECONOMIC SITUATION OF SISIA

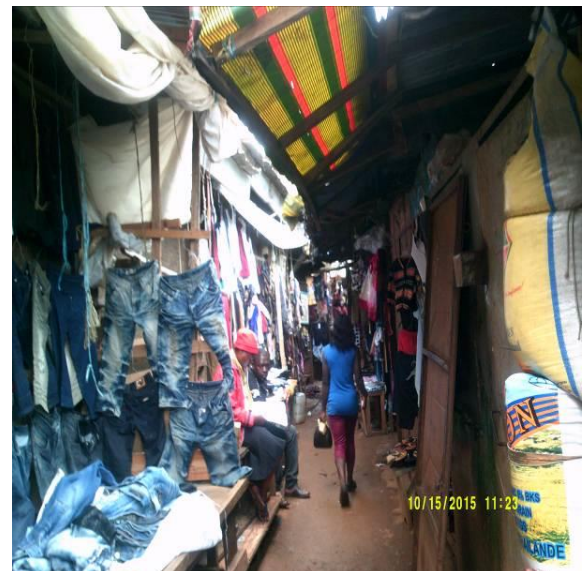
#### III.3.1 Socio-economic activities (see the number of traders in sisia)

##### III.3.1.1 Trade

Trading is practiced in all the inner - quarters of Sisia. According to studies carried out by ERA Cameroon, 4.2% of the total surface area of Sisia is used for commercial purposes. This percentage includes the space occupied by the Nkwen market and the mixed zones where houses and commercial spaces cohabit. The big market of Nkwen is a market at the scale of the whole city. Here, we have the trade of all kinds and all types of products. The proposed ranges are varied enough. Good parts of the traders of this market are installed in the Sisia quarters. This market that is big enough includes other economic activities such as the handling and the transportation of the goods. . Photo 1 is an illustration of some commercial activities at this level.

Trading is also in the other inner- quarters through stalls and stores arranged at the road edges or at the level of road junctions. Night trading activities are seen through small units that especially offer food products and beverages. The pictures below illustrate some economic activities in the area.

##### **Template 1: Commercial activities on the site**



Source : Field Survey, POLYONE Sarl 2015

The photos above show commercial activities at Nkwen Market. Located at the lower part of the site, it contains all types of commercial activities, from wholesale to retail.

### ***III.3.1.2 Industry and handicraft:***

Here, there aren't any big industrial activities. The zone is not classified as an industrial Zone according to the Master Plan of the city and there is a quasi - total absence of Industrial structures in the quarters. On the other hand, as regards to handicraft, we notice a lot of units of small size that render services to people, such as body and aesthetic cares, mechanic workshops, clothing professions, transformation through milling of foods, various repairs, sculpture and many others.

### ***III.3.1.3 Agriculture and animal farming:***

The physiognomy of the zone presents a glimpse of free spaces that are used for gardening and fresh food. In addition, at the foot of the mountains, we have well-structured zones where an organized agriculture is being developed, providing food supplies to the users of these area. Considering the topography of the zone, market gardening is not developed like in other sectors of the city.

With regards to animal farming, we noticed essentially the domestic rearing of pigs. Here, it is still the traditional rearing, where domestic garbage is used to feed the animals. Other animals such as poultry farming (fowls, duck, hen, pigeons, turkey cocks etc.) are seen in this zone. All these animals are being reared traditionally and a good majority walk around on the streets.

**Template 2: Vegetal and natural cover of Sisia quarter**



Source: Field Survey, POLYGONE Sarl 2015

*The photographs above show the plant cover encountered in the Sisia district. The latter is intruded by human developments and is gradually disappearing.*

**III.3.1.4 Transport:**

Being in a zone that does not have a well-structured road network and in good state, majority of the population move on foot. The major transportation means mainly used is the motorcycle, through moto-



taxis. Some inhabitants with an intermediate standard of living have cars for their movement. The taxis ply only the primary way that borders the study zone. The transportation of goods is being done through trucks and even more and more by motorcycles as seen in the photo illustrated below.

**Photo 1: Example of a mode of transport practiced in the area**



Source : Field Survey, POLYGONE Sarl 2015

### III.3.2 The physical and environmental aspect

We are in a zone that is composed of slopes (sometimes very steep) and composed of a plateau. This topographic configuration negatively influences urban planning. The better laid parts are the plateau zones and the less structured are on the slopes of the mountains and the flood plains.

#### III.3.2.1 Sanitation

Here, there is no service for the collection of domestic waste. A majority of the population gets rid of its garbage by throwing them into the existing water courses. The latrines of the houses situated close to the rivers sometimes direct their pipes directly into the rivers and this type of pollution is very preoccupying, considering the transmission of this pollution to other areas. The direct use of the polluted waters from the rivers for laundry or washing of dishes favors the increase of the risk factors.

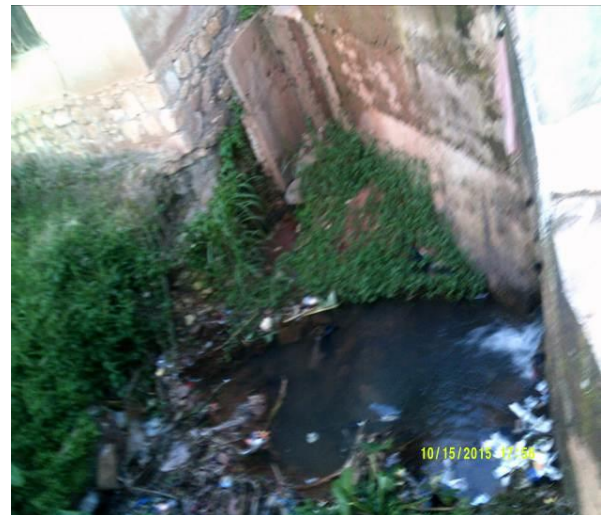
As far as sanitation is concerned, it is necessary to indicate that the latrines are the main type of toilets used in the quarter, and 70.3% of households use this system. On the other hand, 18.5% of households have toilets with septic tanks and 7.9% use complete modern toilets. The rest of the households, with very low proportion defecate in the bushes. As the surveys revealed, majority of the households have

toilets but the real problem of insalubrity is that toilet systems are directly connected to the neighboring rivers. It considerably contributes to the pollution of these rivers that are used again for laundry and sometimes for washing of dishes to a lesser extent the kitchen.

**Template 3: Example of watercourses observed on the site**



**Template 4: Example of a pit latrine hanging near a watercourse**



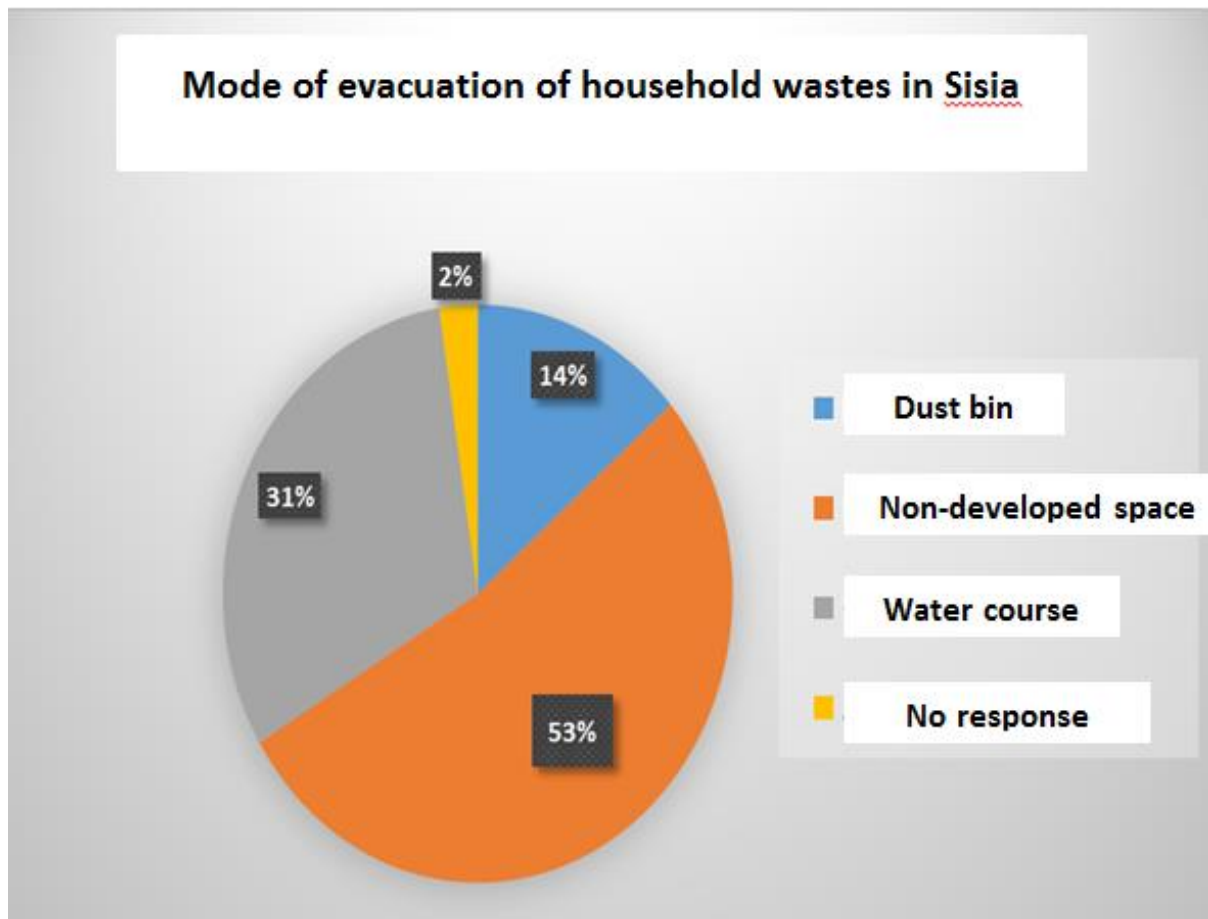
Source: Field Survey, POLYGONE Sarl 2015

**Table 10 : Mode of evacuation of household waste**

| Quarter   | Question asked      |              | Where do you get rid of household waste? |         |             |
|-----------|---------------------|--------------|--|---------|-------------|
|           | Population surveyed | Gabbage cans | Non developed space                      | Streams | No response |
| SISIA     | 1032                | 341          | 544                                      | 122     | 25          |
| SISIA I   | 429                 | 194          | 164                                      | 59      | 12          |
| SISIA II  | 158                 | 63           | 67                                       | 27      | 1           |
| SISIA III | 79                  | 21           | 49                                       | 6       | 3           |
| SISIA IV  | 306                 | 58           | 214                                      | 28      | 6           |

Source: Field Survey, POLYGONE Sarl 2015

**Figure 4 : Mode of evacuation of household waste in percentage**



Source : Field Survey, POLYGONE Sarl 2015

### *III.3.2.2 Hygiene and sanitation*

In the study area, the collection system of household waste doesn't exist. The market that is the biggest daily producer of garbage has only one point for the collection of garbage. The rest of the quarter lacks infrastructures for collection and all households manage their garbage in complicity with the nature. In spite of the existence of a garbage collection service in the city council of Bamenda, Sisia is not served. This service of the city council has only two main trucks for collection of waste, motorcycles, small trucks destined for the collection in the three councils that make up the city council of Bamenda.

This gap in the sanitary investment has encouraged the populations to throw their garbage in gutters, rivers, open spaces, farms and even at the roadsides. During heavy rains, water carries these enormous heaps of litter and converge them towards the vast drainage basins to big rivers. This problem accentuates the phenomenon of flooding that one notices in alluvial plains of the city council.

Another problem that accentuates the poor hygiene is the cohabitation of the housing with animal rearing. In addition to the air pollution because of the odors that emanate from these rearing units, there is also the fact that the waste produced is not evacuated. One therefore sees small islands that are polluted and the quality of air that is deeply affected. Some pictures below can better give a clearer illustration and demonstration.

**Template 5: Example of water runoff and impact on living environment in the Sisia neighborhood**



Source Field Survey, POLYGONE Sarl 2015



Photograph (A) shows the bed of a permanent, stable runoff stream. The photograph (B), presents a disorganized bed erosion factor and destruction of the slope. Finally, the photograph (C) shows an undeveloped road, destroyed by the diffuse runoff of rainwater in the absence of a gutter.

This last photograph illustrates the unwillingness of people to stabilize (through bags of soil) the foundations of their homes, but also a desire to preserve the pedestrian footpath permitting access at the upstream area of the site.

### **III.3.2.3 Development of water course boarders**

All inner- quarters have streams, which are used for disposal of domestic household waste. The phenomenon that is more deplorable is the shrinkage of the river beds by buildings that have their foundations directly implanted in the latter. Several foundations are directly in river beds and these constructions narrow the bed and are increasing flooding. One also notices stone buildings that are meant for supporting the banks of these rivers. Below is a picture of a house directly situated along a water course;

**Photo 2: Example of construction at the edge of a watercourse**



*The photograph above shows a dwelling built directly on the bed of the stream. This situation is a proof of notorious insecurity, but especially of the uncivil nature of the resident populations in the Sisia quarter.*

**Source: Field Survey, POLYGONE Sarl 2015**

### **III.3.2.4 Hydrography**

Sisia is crisscrossed by several rivers that all originate from the mountain sides. These rivers water the study area in a transversal way and offer numerous possibilities to the local population to capture and domesticate the water.

**Photo 3: Example of a watercourse in the Sisia quarter**



**Source : Field Survey, POLYGONE Sarl 2015**

### **III.3.2.5 Risk areas:**

Several flooding zones are located below the outlet of the big river of the study area. This flooding is due to the heaps of garbage under the bridge, nozzles or any other work of art, which has as effect the decreasing the volume of water circulating under the bridge in time of flood and this fact is the reason of the overflow of its river bed.

There are also areas of landslide. One notices several places where there are frequent landslides. As Sisia is situated on the mountain side, this phenomenon is very ocurrent.

The proximity of the mountains with their cliffs and their abrupt flanks sometimes cause landslides from these entities. It is especially dangerous for the population situated directly below as illustrated in the photograph on the left. The steep slopes are also risky zones because the investments to stabilize the ground and be able to build or carryout activities are consequent, case of the picture on the wright.

#### **Template 6 : Example of a risk zone present on the site**



Source : Polygone Sarl, 2015

### III.3.3 The administrative and institutional aspect

Sisia is a Zone managed by the City Council of Bamenda and the sub divisional council of Bamenda III. The presence of these administrative structures is not directly felt, because of the special status of the sector. With all the efforts made, a minimum service exists to preserve this link between the citizens and the administrated.

There exist official development committees in Sisia quarter, one can mention:

- Quarter Development and Security Committee

In addition to the residents committee created especially for this urban program for the upgrading of slums such: this committee is titled:

- The Sisia Supervisory Committee (SSC)

We have the local elected members who on daily basis give account to the local administration .

#### ***Photo 4: Example of Sisia 4 Neighborhood Development Committee***



Source: Field Survey, POLYGONE Sarl 2015

### III.3.4 The built up setting

The housing structure in the study area shows that a majority of ground floor constructions, made with conventional materials (Agglomerated hollow body, reinforced concrete, rubble, corrugated sheet, flooring by cement screed or rudimentary tile etc ...)



**Template 7: Example of constructions observed in the Sisia quarter**



Source : *Polygone Sarl, 2015*

The lower areas of the study area offer the most beautiful and quite spacious buildings. On the other hand, the more one climbs towards the zones of steep slopes and mountains, the more the types of constructions become rudimentary and at risk.

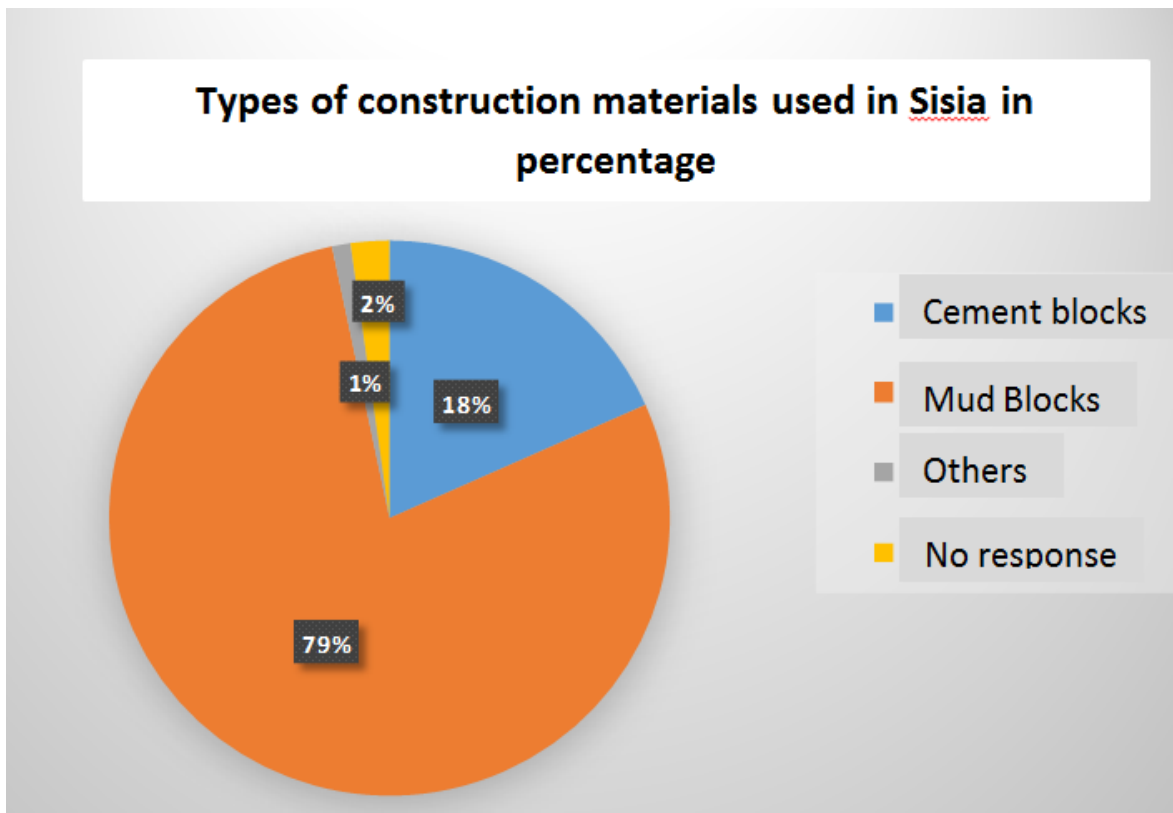
This logic also applies to the standard of housing, and the type of material used for construction. Sanitation management goes hand in hand with this mode of construction. The exception here is low flood areas that combine both conventional and rudimentary construction.

**Table 11 : Main construction materials used in Sisia**

| Question asked |                      |             | What are the main materials used in building your house? |            |        |             |
|----------------|----------------------|-------------|--|------------|--------|-------------|
| Quarter        | Proprietors Surveyed | Sand blocks | Mud blocks   | Wood plank | others | No response |
| SISIA          | 1032                 | 189         | 809  | 0          | 11     | 23          |
| SISIA I        | 429                  | 105         | 312  | 0          | 3      | 9           |
| SISIA II       | 158                  | 40          | 115  | 0          | 1      | 2           |
| SISIA III      | 79                   | 19          | 56   | 0          | 0      | 4           |
| SISIA IV       | 306                  | 22          | 270  | 0          | 7      | 7           |

Source : Field Survey, POLYgone Sarl 2015

**Figure 5 : Type of construction materials (%) used in Sisia**



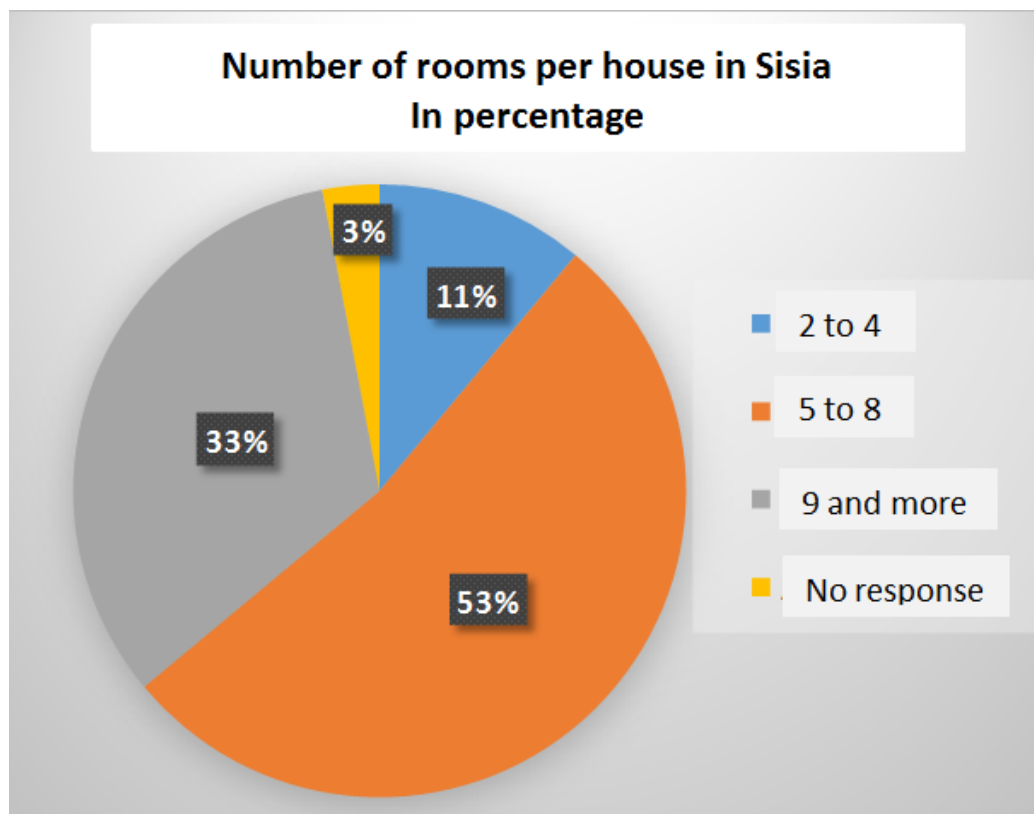
Source : Field Survey, POLYgone Sarl 2015

**Table 12 : Number of rooms per lodging in Sisia**

| Question asked |                      | How many rooms are there in the building? |        |             |             |
|----------------|----------------------|---|--------|-------------|-------------|
| Quarter        | Proprietors Surveyed | 2 to 4                                    | 5 to 8 | 9 and above | No response |
| SISIA          | 1032                 | 114                                       | 546    | 341         | 31          |
| SISIA I        | 429                  | 51  | 223    | 4           | 12          |
| SISIA II       | 158                  | 13  | 61     | 82          | 2           |
| SISIA III      | 79                   | 13  | 38     | 23          | 5           |
| SISIA IV       | 306                  | 30  | 183    | 83          | 10          |

Source : Field Survey, POLYGONE Sarl 2015

**Figure 6 : Number of rooms per house**



Source : Field Survey, POLYGONE Sarl 2015

### *III.3.4.1 Housing density*

Considering the residential density of the study area, it results from the fact that, more than 50% of the population live in zones of average density, while those that live in zones of high density constructions represent 33%. This last zone of high density occupies the smallest parcels of land (about 54% being 300 m<sup>2</sup> or less).

#### ***Photo 5: Example of residential density in the Sisia neighborhood***



*The photograph besides shows a view of residential density in Sisia neighborhood. In this photograph, we notice that the residential density is average. On the other hand, the shot was taken upstream of the site of residential occupation and beside a risky zone and sloppy area.*

Source : Polygone Sarl, 2015

### III.3.4.2 Construction materials

In Sisia quarter, there is no predominance of precarious houses or semi-definite materials that don't respond to the construction norms. Sisia doesn't have any houses with precarious material type that is used elsewhere like those often seen in other shanty towns in Cameroon. The housing typology of Sisia is characterized by a co-existence of houses, ranging from beautiful residences in less populated areas to the tiny houses in zones of high density of construction and of high slope, and of great risk. In Sisia I, Sisia II and Sisia IV one meets some buildings that are more than one storey.

With regard to these materials used, the low incomes earned mainly from the informal sector by most households don't allow most of them to finance a decent lodging.

#### **Photo 6: Example of a roadside building materials factory**



*In addition, there has been a constant threat of deportation that has resulted in many residents of Sisia (especially the first generation of immigrants) seeing the area as a transit camp waiting for resettlement elsewhere.*

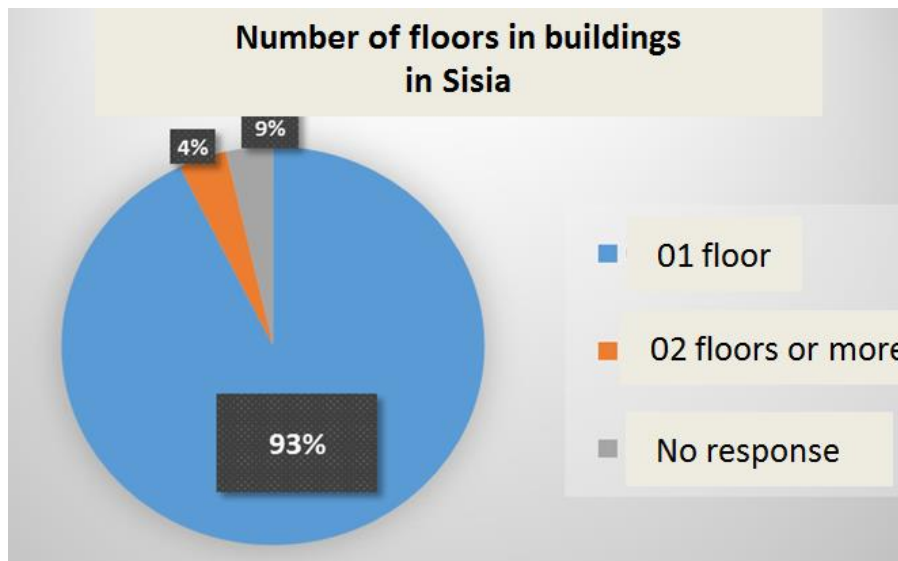
**Source : Polygone Sarl, 2015**

**Table 13 : Number of storey Buildings in Sisia**

| Question asked |                      | How many levels is the building made of? |                    |             |
|----------------|----------------------|--|--------------------|-------------|
| Quarter        | Proprietors Surveyed | Ground floor                             | 02 storeys or more | No response |
| SISIA          | 1032                 | 508                                      | 38                 | 487         |
| SISIA I        | 429                  | 190                                      | 19                 | 220         |
| SISIA II       | 158                  | 79                                       | 10                 | 69          |
| SISIA III      | 79                   | 39                                       | 0                  | 40          |
| SISIA IV       | 306                  | 191                                      | 8                  | 107         |

Source: Field Survey, POLY-GONE Sarl 2015

Figure 7 : Number of storey buildings in Sisia by percentage



Source : Field Survey, POLYGONE Sarl 2015

### III.3.5 Infrastructural equipment

#### III.3.5.1 Road network

The essential part of the road network of Sisia is non-classifiable. . Many roads exist, but their condition is deplorable. This embryonic road network has a scrap of structuring in Sisia I. Here, we have the suitable vehicle ways and pedestrians tracks that join them. The other three quarters have few vehicle roads, except the links that brings closer the different quarters. As the means of transportation is mostly motorcycles, it is comfortable for this means of movement to use the multiple pedestrians' tracks that cross along the zone. The structuring of an area being a priority function of the of its road network structure, we have the under - structured area of Sisia that overflows with a dense network of pedestrian tracks non-suitable for vehicles.

Although Sisia is situated at the heart of the city of Bamenda, the quarter is not easily accessible inside. Indeed, 51.3% of the residents of Sisia reach their households by tracks, whereas only 34.8% among them reach their houses by a road accessible to cars. Several factors explain the hegemony of the pedestrian's tracks in Sisia.

Generally, the land is steep and many households are situated on parcels that cannot be served by normal access roads. Also, the anarchical sale of plots by the land owners, restrict their accessibility because of the absence of provisions with regard to access. Otherwise, the absence of interventions of development operations in the zone is justified by the classification of this area as a risky zone. The presence of ways suitable for vehicles is justified by risk of little interest to the public authorities.

The presence of motorized roads is justified by the fact that these roads are developed on non-escarped spaces and especially, serving most densely densified areas.

Besides the entrepreneurial spirit, team spirit, the collective work of the resident population has contributed to increase the proportion of roadways suitable for vehicles. The populations themselves dug access ways which therefore permitted vehicles to serve some areas of the residence. These activities were under the initiative and the coordination of development committees of every inner-quarter of Sisia. For example, the only suitable road for vehicles of Sisia I "plateau" had been dug in the middle of the 90's during the state of emergency in Bamenda.

This vigilance and team spirit also help maintain these created channels. In spite of their efforts, the problem of access routes still occupies the first position of the priority axes of upgrading of Sisia.

**Template 8: Example of a lane observed in the Sisia district**



LOT N° 2: SISIA IN BAMENDA



Source : Polygone Sarl, 2015

Photograph (A) shows the only carriageway of the site, which is the national road that borders the entire site. Photograph (B) shows a pedestrian walkway of around 2m in the area. Photograph (C) illustrates a 4m long right-of-way link road. Photograph (D) is a track permitting to link the lower part of the site to an upper part by a staircase made with car tires.

Photograph (E) is an illustration of a linkage path deteriorated by rainwater runoff due to the steep slope of the road and the absence of an effective drainage system. Photograph (F) highlights a linkage made in board form as a float bridge-crossing (crossing structure) connecting one quarter to another.

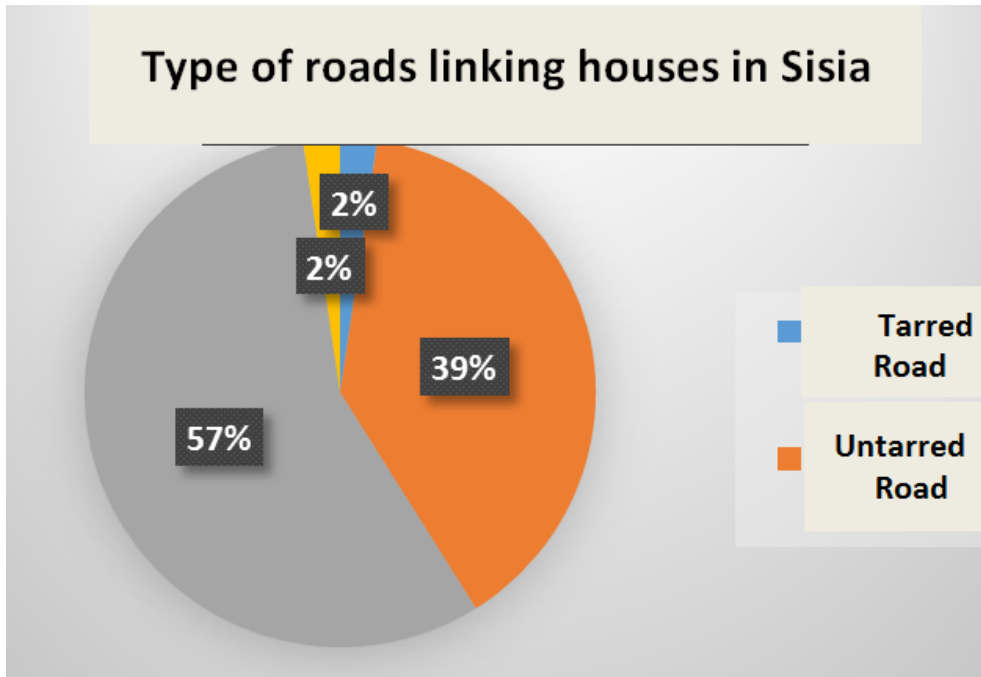
Table 14: ¶Types of roads used by the inhabitants of Sisia

| Question asked |                      | Which type of road leads to your house and what is its present state? |               |       |             |
|----------------|----------------------|---|---------------|-------|-------------|
| Quarter        | proprietors Surveyed | Tarred road   | Untarred road | track | No response |
| SISIA          | 1032                 | 24  | 400           | 584   | 24          |
| SISIA I        | 429                  | 16  | 153           | 248   | 12          |
| SISIA II       | 158                  | 2   | 54            | 100   | 2           |
| SISIA III      | 79                   | 2   | 42            | 34    | 3           |
| SISIA IV       | 306                  | 5   | 133           | 163   | 5           |

Source : Field Survey, POLYGONE Sarl 2015



Figure 8 : Road types used by the population of Sisia in percentage



Source : Field Survey, POLYGONE Sarl 2015

### III.3.5.2 Stream crossings

Art works here are mainly the realizations permitting to cross the numerous existing rivers. We have only one big bridge situated at the border of the survey area joining the Nkwen quarter to the Bayelle quarter, two middle crossing bridges on two arms of the rivers. The rest of the works is being essentially constituted of wood constructions permitting the crossing of the streams. On some roads, there are nozzles and scuppers.

#### Template 9: Example of crossing structures



### III.3.5.3 Electricity network

Apart from the network that borders the adjacent primary way of the zone in Nkwen, we also have the network that comes from Bayelle and that joins the Sisia IV quarter. These networks are the most supplied. For the other one, a transformer exists in Sisia II and it is this one that is supposed to supply the essential part of the zone. There is therefore a deficit because the capacity of this transformer is not enough to meet the household demands. The intermittent seizure of electricity illustrates the energizing deficit problem that exists in this quarter and hence in the whole city.

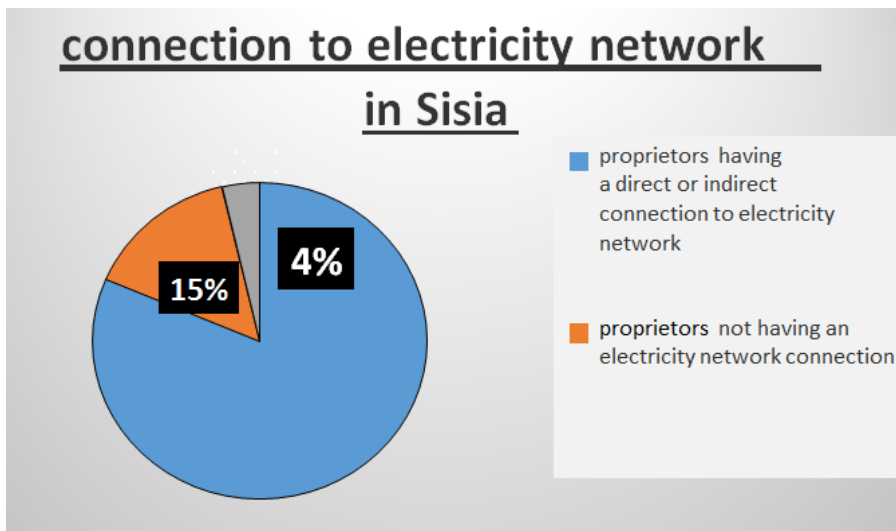
The electricity coverage in the quarter is assured by the public operator ENEO and 88.1% of the households are connected directly or indirectly. As in all non-structured houses, the access to electricity is available to the majority, in an indirect way, via a few connected people or directly by clandestine connections on the distribution network. This reality increases the risks of fire and overcharges on the local network.

**Table 15: Number of houses connected to electricity network in Sisia**

| Quarter   | Question asked       |                                   | Is your house connected to the electricity network? |   |
|-----------|----------------------|-----------------------------------|---|---|
|           | proprietors Surveyed | proprietors who answered by yes : | proprietors who answered by No                      | proprietors who didn't provide any answer |
| SISIA     | 1032                 | 840                               | 154   | 38  |
| SISIA I   | 429                  | 380                               | 35  | 14  |
| SISIA II  | 158                  | 134                               | 23  | 1   |
| SISIA III | 79                   | 52                                | 22  | 5   |
| SISIA IV  | 306                  | 224                               | 66  | 16  |

Source : Field Survey, POLYGONE Sarl 2015

Figure 9: Connection to electricity network in Sisia



Source : Field Survey, POLYGONE Sarl 2015

#### III.3.5.4 Acces to drinking water in Sisia quarter

The network of the national society of distribution CDE supplies part of the quarters of Sisia I and Sisia II. This supply that is only present in some zones of this quarter shows the limits of this network that remain so low. The very rich hydrography of all inner quarters offers the possibility to the populations to make their own networks by developing the springs or the collection in the outflow of the mountain flanks. The topography of the zone helps to establish a distribution network that supplies a majority of the households.

Access to basic urban services is indeed very difficult in Sisia. Provision in drinking water is a daily challenge. The majority of the households have problems of access to drinking water. Only 18.3% of the households in the quarter currently have water at home through the network managed by the CDE, and this segment of the population is located in the lower part of Sisia I. Another part representing 34% of the households get the water from the different springs that sometimes dry up. The communal water adduction is used by 23.9% of the households. Another part of the households (21.1%) buy it at the retail shops at a more elevated cost, while 9.9% of the households get more water from the wells at the risk of pollution because of the coexistence of the latrines close to these water points.

Even the households that get a provision in water from the public network (CDE) are not satisfied with the quality of the service because of the costs of distribution and the quality of the water which is not very convenient. Another factor that disturbs the population is the distance that they have to cover to fetch water.

**Template 10: Example of a water point in the Sisia quarter**



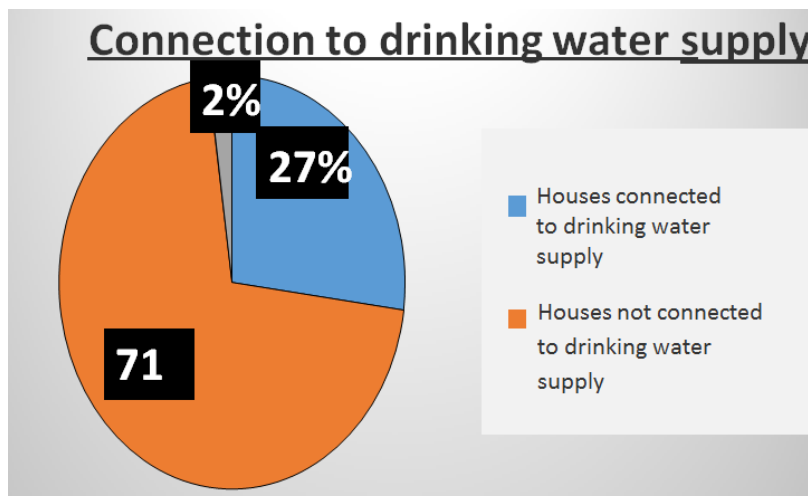
Source : Polygone Sarl, 2015

**Table 16: Connection to drinking water network in Sisia quarter**

| Question asked |                      | Is the house connected to the drinking water network, if not where do you carry drinking water? |                                 |   |
|----------------|----------------------|---|---------------------------------|---|
| Quarter        | proprietors Surveyed | proprietors who answered « yes »  | proprietors who answered « No » | proprietors who didn't provide any answer |
| SISIA          | 1032                 | 315   | 694                             | 23  |
| SISIA I        | 429                  | 154   | 265                             | 10  |
| SISIA II       | 158                  | 41  | 115                             | 2   |
| SISIA III      | 79                   | 15  | 60                              | 4   |
| SISIA IV       | 306                  | 97  | 204                             | 5   |

Source : Field Survey, POLYGONE Sarl 201

**Figure 10 : Connection to drinking water network in percentage**



Source : Field Survey, POLYGONE Sarl 2015

### **III.3.5.5 Telephone network :**

The wire telephone network is scarce in the study area. One sees it covering solely the two big primary ways that border the area. The wireless network is the most used, especially with the multiplicity of telephone operators in the country. Considering the altitude of the zone, we have a full network and the operators have some relay pylons in the quarter.

### **III.3.5.6 Multimédia network:**

One notices, at the level of the poles electric networks distribution, cables for image distribution. Some private operators wove cabling networks to distribute images to households. We equally distinguish a strong extension of these networks that are also supported by sticks and by existing constructions.

## **III.3.6 Superstructure facilities**

### **III.3.6.1 Educational facilities:**

Sisia doesn't have neither a government primary school, nor a Technical High school or a General High school. The only present educational facilities are the nursery and private primary schools of very low capacities and often, very poorly laid out.

### **Template 11: Example of educational facilities in Sisia quarter**



Source : Polygone Sarl, 2015

### **III.3.6.2 Sanitary facilities:**

Recognized health structures do not exist in Sisia. One can notice some private health centers and several microstructures which announce they offer health care services. In the final analysis, the population is obliged to go out of the zone to get better medical care.

**Photo 7: Example of sanitary facilities in Sisia quarter**



Source : Polygone Sarl, 2015

### **III.3.6.3 Commercial facilities:**

Sisia quarter lodges one of the largest markets of Bamenda which is that of Nkwen market. This large market is at the scale of the city from its size and the diversity of the various products found there. It is the only commercial structured space. In addition, other commercial activities develop in the quarter and with the access to the streets, in the day and the night.

**Template 12: Example of commercial facilities in Sisia quarter**





*The photograph on the left above shows a view of the Nkwen market, with its shops. The one on the right is the Oil-lybia petrol station and its related activities. Equally this one besides are stalls and commercial boxes in the quarter.*

*Source : Polygone Sarl, 2015*

#### ***III.3.6.4 Cultural facilities:***

Liberalization in the sector of worships, a phenomenon that is preponderous in the spontaneous quarters is also noticed in Sisia. We have a multiplicity of churches which have the vaults for their faithful. In addition, in private residences, one notices this activity, which sometimes causes harmful sound effects to the nearby population. All the religions are represented in the study area and each religion works for an unquestionable visibility.

#### ***III.3.6.5 Touristics facilities:***

This facility exists, and sometimes, well represented with hotels of two and three stars. One notices also the presence of restaurants and several relaxation corners. The water falls on cliffs and the mountain sides offer a gravitational spectacle from the city, but none of the sites here is developed.

#### ***III.3.6.6 Spatial Development and development axes***

Sisia, being recognized like a spontaneous area of housing reveals indeed an anarchical character in the occupation of space. As the zone does not have a busy roadway, the space to be occupied is not planned and this gives room to unsuitable and anarchical development. We have denser zones, with constructions, which are on the sites of the plates. On the slopes and the hilly zones, we have sparse houses where one notices the domination of livable surfaces. Only Sisia I close to the large primary road shows an elementary sign of planning.

The main types of urban landuse, which are distinguished in Sisia, are:

**Table 17: Type of land use in Sisia quarter**

| N° | LAND USE TYPE                      | PROPORTION |
|----|------------------------------------|------------|
| 1  | uplanned Spnataneous development   | 30,30 %    |
| 2  | Private residence                  | 16,90 %    |
| 3  | Urban agriculture                  | 07,60 %    |
| 4  | Roads                              | 04,50 %    |
| 5  | Trade                              | 04,20 %    |
| 6  | Steep slopes, marshy areas, cliffs | 21,20 %    |
| 7  | Forests and natural sites          | 15,30 %    |

Source : Field Survey, POLYGONE Sarl 2015

To correct the imbalance in the development process of Sisia, the authorities must start and carry out strong urban operations, in coherence while being relating on the standards of town planning in force. The Sisia quarter, located at the heart of the city of Bamenda, develops anarchically to join a network of shantytown under the mountainous chains and beyond whose surface area exceeds 170 hectares. Ten key sectors are at the center of the development in this quarter: access to the basic urban services, the land situation, public and Community facilities, hygiene and sanitation etc.

### **III.3.7 Summary of urban analysis: diagnosis balance sheet**

The analysis of the precarious and less structured quarter of Sisia in Bamenda, the subject of this present study, was done under the banner of urban planning documents (UPD) that the city of Bamenda boasts of. **These include the Master Plan (MP) and the Land Use Plans (LUP) of Bamenda councils**, specifically Bamenda 3.

Thus, Sisia quarter being only a fragment of the city of Bamenda and representing only 170 ha of surface within BCC, it is quite obvious that its natural site is that of the whole city council and more precisely, that of the north-east of the city.

According to data from the master plan, the city of Bamenda is located in the highlands of western Cameroon (1100 to 1700m above sea level). This geomorphological unit forms a basement of alluvium-colluvial origin, mostly covered by ancient volcanism (Moupou M. 1988). An overview of the topography of the area permits understanding two (02) levels of staging:



- Graben which constitutes the essence of the city of Bamenda (1100m altitude on average). Here the city is almost flat, with some mountaneous hills separated by valleys of the rivers. The slopes are not important and give the hills aspects of demiorange.
- The horst that dominates most of the city and includes a large part of the administrative city (SSE). It is the upper part called "Up Station" (with an average altitude of 1500m) which is separated from "Down Town" by a straight escarpment of about 200m of elevation, oriented southwest-northeast in the sector SSE. This escarpment is gutted in places by ravines set up by runoff; these waters are responsible for the transfer of materials from heights to the lower zone. Cirques of erosion are present as well as the niches of detachment. The evolution of this escarpment is accentuated by human activity.

The Hydrography of the region of Bamenda is characterized by the abundance of water courses with confused meshes, the durability of the flows and the great variation of flows in the various seasons. The main river here is the Mezam whose tributaries drain the whole city; it is a stream flowing in a vast valley with a flat bottom which admits a large flood zone corresponding to the major bed. These areas are those of market gardening during the dry season. During the rainy season, this whole valley is occupied by the waters flowing at a high speed.

The rivers draining Bamenda have their source on the side of the average escarpment facing southwest / northeast that runs through the city of Bamenda. They flow north-west to throw themselves into the Mezam flowing in the same direction. This highly humanized environment, the uses made of these rivers suggest a pollution problem that will increase in proportion to the pace of densification of habitat and human activities.

**Hazardous areas:** The area that is at risk of mass movement is the area on the escarpment that divides the city into two topographic units. The slopes here are subvertical and expose the houses below and those on the slope to mass movements such as landslides, collapses and landslides. This risk is even more important that the difference in altitude here is of the order of 150 to 200m.

**Flood risks:** The swampy areas, in view of the slopes and the circulation of water, are the seat of the floods; The northwest sector of the city (Mezam Valley) has a flood risk zone lined with human habitat. At the foot of the great escarpment (Sisia III and IV). The presence of swampy lowlands is also an exposure to flood risk for these densely populated neighborhoods.

The human aspects that gave rise to the created site are plural.

**Population:** consists mainly of North West and West Region nationals. Here, we notice a perfect collaboration between the different ethnic groups. The population of Sisia was 11,679 inhabitants (3rd RGPH, 2005), and its estimate for 2016, with a growth rate of 4.6% is 16,458 inhabitants. The rapid demographic increase is reflected in the land pressure of the area in recent years.

**Socio-economic aspect:** The income level of the heads of Sisia families is very low; according to the data obtained from the household surveys, 39.8% of those surveyed indicated a monthly income of less than 30,000 FCFA, followed by those who have a monthly income of 30,000 to 50,000 FCFA (22.8%). This low income level has a negative impact on the standard of living of families who have to resort to informal activities or jobs. Trade is practiced in all sub-quarters of Sisia. According to studies by ERA Cameroon 4.2% of the total area of Sisia is used for commercial purposes. This percentage includes the space occupied by Nkwen market and mixed areas where housing and commercial spaces cohabitate. The big Nkwen market is a market at the scale of the entire city. Here we have trade of all kinds and all kinds of products.

**Land aspect:** The nature of land properties in the study area does not differ much from that of the city of Bamenda. The transfer of land here follows private customary / procedures. The owners, having no titles, have used simple means of transfer sometimes without precise dimensions. The plots sold have sometimes been delimited by natural features such as streams, rivers, rocky areas or specific plants. The household survey showed that 23.6% of inhabitants are tenants, while 73.6% are landowners who acquired land with a traditional chief or even a native. Similarly, 80.7% of these landowners do not have land titles, but rather sales certificates issued by an individual under the assistance of the village chief or any traditional authority. The average price of the plot of land in Sisia is 2500 FCFA.

**Agriculture:** The physiognomy of the area suggests open spaces that are used for gardening and food crops. Also, on the mountainside, we have well-structured areas where organized agriculture is developing, providing food for the farmers of these parcels of land. Given the topography of the area, market gardening agriculture is not developed as in other areas of the city.

**Breeding:** As far as breeding is concerned, we mainly notice the domestic breeding of pigs. Here, it is still the traditional breeding, with household waste. Traffic in the area suggests animals from the farm yard . All are traditional farm animals and the majority are on the streets.

**Roads and various networks:** As we are in an area that does not have a road network provided and in good condition, the majority of the population moves on foot. The most used mechanical means of

transport is the motorcycle, through mototaxis. Some inhabitants of an intermediate level of life have cars for their journey. The taxi line only covers the primary road that borders the study area. The goods are transported by all-wheel-drive and more by motorcycle

There is no garbage collection service. Majority of the population get rid of their garbage in the bed of existing rivers. The latrines of houses located near rivers sometimes give directly into rivers and this pollution is very problematic, given the communication of this pollution to the areas below. The direct use of the water from polluted rivers, for the linen or the crockery, favors the increase of the risk factors.

With regard to sanitation, it is necessary to indicate that latrines are the main type of toilet facilities used in the neighborhood, and 70.3% of households use this system. In contrast, 18.5% of households have toilets with septic tanks and 7.9% use full modern toilets. Another problem that accentuates the insalubrity is the cohabitation of the housing with breeding spaces. In addition to air pollution because of the odors that emerge from these livestock units there is also the fact that the waste products are not evacuated. We then witness whole islands that are polluted and the quality of the waste as the air is deeply degraded.

**Access to basic urban services** in Sisia is really very difficult. The supply of drinking water is a daily challenge. The majority of households have problems with access to drinking water. Only 18.3% of households in the neighborhood currently have home water through the network managed by the Cameroon Water Resources (CDE), and this segment of the population is located in the lower part of Sisia I. Another part representing 34% of households get water from different sources that sometimes dry up. Community water supply is used by 23.9% of households. Another part of households (21.1%) buy it at the point of sale at a higher cost, while 9.9% of households still get water from wells with the risk of pollution because of the coexistence of latrines near these water points.

**Spatial occupation:** Considering the residential density of the study area, it appears that more than 50% of the population lives in medium density areas, while those who live in areas of high density of buildings represent 33%. This last zone of high density concentrates the smallest parcels of land (approximately 54% representing 300 m<sup>2</sup> or less).

Although Sisia is located in the heart of the city of Bamenda, the district is not easily accessible within. In reality, 51.3% of Sisia residents reach their households by trails or tracks, while only 34.8% of them reach their home by a road. Several factors explain the hegemony of pedestrian routes in Sisia.

**Facilities:** The Sisia area does not have a public primary school, no Technical High School or General Education High School. The only educational facility present is nursery schools and primary schools deprived of very weak capacities and often, very poor lay out. The same applies to sanitary, security, sports, cultural and leisure facilities. The only type of facilities observed in the area is the merchant with the Nkwen market.

It is evident from the analysis carried out in the study area that, this zone comprise all the characteristics of an unplanned urban sector. The zone of Sisia is managed by the Bamenda III council that is integrated in the city council of Bamenda. Considering the special aspect of this space, these actors of urban administration must necessarily find some means to eliminate the difficulties of the study area. It is an area classified as "risky Zone" where the development projects and infrastructures of urban integration are non-existent. It is only by a study as the one that we are carrying out, that one can succeed to have a clear vision of the future of this zone and give a viable and livable aspect to this space. This would contribute to an urban integration that is appropriate to the population.

We have an unplanned housing zone that appears in the geographical continuity of the unplanned zones of the city of Bamenda. These zones that are situated below the mountainous chain or that are old cores of the city, present a common landscape, which is one of disorganization.

### **III.3.8 SWOT Analysis, stakes and development challenges**

Following analysis of the different urban problems of Sisia quarter, a SWOT analysis table was being prepared in order to illustrate the development difficulties of the study area. Following this, we were able to bring out stakes and development challenges of Sisia Quarter.

### III.3.8.1 SWOT Table

Table 18: Strengths, weaknesses, Opportunities and Threats of Sisia anarchical Quarter

| <b>Strengths</b>  | <b>Weaknesses</b>  |
|---|--|
| <ul style="list-style-type: none"> <li>▪ Existence of texts framing up land, urban planning and interventions in precarious neighborhoods</li> <li>▪ Existence of Urban Planning Documents (Master Plan and LUP);</li> <li>▪ The creation of the Ministry of Decentralization</li> <li>▪ Abundant and young workforce,</li> <li>▪ A cosmopolitan population;</li> <li>▪ High self-employment rate</li> <li>▪ Private sector representativeness for both nursery and primary schools;</li> <li>▪ Existence of an uncategorised road network</li> <li>▪ Existence of portions of structured urban fabric;</li> <li>▪ Significant household access rates to the electricity network;</li> <li>▪ Connection to the site by medium voltage lines,</li> <li>▪ Existence of antennas of the 3 main operators of the mobile telephone network;</li> <li>▪ abundant hydrographic network;</li> <li>▪ Presence of a heterogeneous population</li> <li>▪ Dominant presence of women in economic activities</li> <li>▪ Existence of a market</li> </ul> | <ul style="list-style-type: none"> <li>▪ Non-compliance with urban planning, environment and nature protection laws;</li> <li>▪ Weak appropriation of texts by users, especially in terms of land development;</li> <li>▪ Low synergy of action between institutional actors;</li> <li>▪ Weak institutions, particularly decentralised territorial collectivities.</li> <li>▪ A low number of household assets</li> <li>▪ Low decent employment rate</li> <li>▪ Less-structured urban physiognomy (the absence of a hierarchical and organized road network)</li> <li>▪ Irregularity of shapes and sizes of plots and parcels in these less-structured areas;</li> <li>▪ High residential density (very high floor area ratio (FAR))</li> <li>▪ Promiscuity of houses;</li> <li>▪ Great land insecurity: construction in swamps and flood zones</li> <li>▪ Strong land pressure;</li> <li>▪ Zone with function of low functional diversity;</li> <li>▪ Dwellings of low standards;</li> <li>▪ Horizontal nature of buildings</li> <li>▪ Characteristics of establishments that do not comply with the regulations in force</li> <li>▪ Lack of maintenance of buildings and housing establishments;</li> <li>▪ Characteristics of existing health zones that are not very compliant with the regulations (storm drainage of the site, various developments);</li> <li>▪ Lack of space dedicated to the development of sports</li> </ul> |

|   |   |
|---|---|
|   | <p>areas;</p> <ul style="list-style-type: none"> <li>▪ Low level of alignment of the roads;</li> <li>▪ Bad condition of roads and works;</li> <li>▪ Sanitation problems;</li> <li>▪ Lack of maintenance of roads, structures and pipelines;</li> <li>▪ Aging equipment of the electrical network;</li> <li>▪ Frequent interruption of the electricity network;</li> <li>▪ Overload of the network;</li> <li>▪ Clandestine connections;</li> <li>▪ Low connection to CAMWATER water network;</li> <li>▪ Low network extension on the site</li> <li>▪ absence of gutters;</li> <li>▪ individual sanitation system poorly improved.</li> <li>▪ Inadequate and less-structured market site because 90% of it is on public road rights-of-way;</li> <li>▪ saturated Market site;</li> <li>▪ uncivic nature of the various actors;</li> <li>▪ backward mentality or developmental slowdown;</li> <li>▪ Prevalence of small activities and the informal sector;</li> </ul> |
| <p><b><i>Opportunities</i></b></p>  | <p><b><i>Threats</i></b></p>  |
| <ul style="list-style-type: none"> <li>▪ Reform of many texts in progress:</li> <li>▪ Presence of housing Code;</li> <li>▪ Revision of the law of town planning and its texts of application;</li> <li>▪ Texts on social housing and its implementing decrees,</li> <li>▪ RVN code.</li> <li>▪ Perspectives of development of the living environment (upgrading / renovation);</li> <li>▪ Prescription of urban densification by BCC planning documents</li> <li>▪ Functional mix recommended by UN Habitat.</li> </ul> | <ul style="list-style-type: none"> <li>▪ Laxity in the application of the texts in force;</li> <li>▪ Persistence of bribery and corruption</li> <li>▪ Deterioration of the frameworks and living conditions;</li> <li>▪ Increasing urban poverty</li> <li>▪ Political instability by escalating conflict</li> <li>▪ Under-schooling of the most disadvantaged sections due to lack of adequate means to face the private sector;</li> <li>▪ Risks of expropriation;</li> <li>▪ Deprivation of the inhabitants of sport activities leading to their exposure to the high risk of diseases;</li> <li>▪ Displacement of populations to available areas in</li> </ul>   |

|  |   |
|--|---|
|  | <p>neighboring quarters</p> <ul style="list-style-type: none"> <li>▪ Uncontrolled urbanization of watercourse beds and footpaths;</li> <li>▪ Strong urban spatial occupation</li> <li>▪ Uncontrolled expansion of the market to neighboring areas,</li> <li>▪ Uncontrolled and continual occupation of the roadway</li> </ul> |
|--|---|

Source: Polygone Sarl, 2017

### III.3.8.2 Stakes and development challenges

- **Components of Global Challenges**

#### **Challenges and urban issues: urban integration within the vision of the UPD (LUP / MP)**

In terms of urban planning, the challenges are numerous and get down to an urban renewal in the sense of the UPD, particularly the MP and the LUP. It is therefore a question of concretely to be able to upgrade the urbanizable part and to renovate the zones with fragile ecology inconstructible to the effect of affirming and reinforcing the residential vocation of these quarters. More specifically, it will consist of the following:

- a) Reorganize and build the anarchical road network for a coherent and harmonious integration in the big global framework;

Challenges: revalorize urban land, facilitate the implementation of the tax registry, reduce costs and travel time. Master the land, open and secure the rights of way and densify the site.

- b) Satisfy the need for safe, sustainable habitat adapted to the projected urban framework;

Challenges: promote a decent living environment for decent housing, reclaim urban architecture, and master the very expensive urban sprawl.

- c) Provide and upgrade urban facilities for quality service;

Challenges: to reduce the social cost of access to urban services, to give people a quality urban service...

- d) Facilitate urban mobility in these neighborhoods and connect them with surrounding areas;

Challenges: improve connectivity between neighborhood sectors and with other neighborhoods of the city, promote a smooth and rapid movement in the sites.

- e) Reclaiming landscaped green spaces

Challenges: to facilitate infiltration of water and reduce floods, to make people benefit from the amenities of green spaces.

### **Challenges and economic issues: local economy adapted to the purely residential area**

The economic challenge of the upgrading of the Sisia less-structured neighborhood, which is the object of the study, is to succeed in opening and developing the economic vocation of the latter so that they play their full part in the process of global development of Sisiay. Among other challenges, we can mention:

- f) Valuing the site's land and improving access to facilities and services in RVN;

Challenges: to insist and increase the investment capacity of current good faith occupiers by giving them the possibility of having a reliable and valuable guarantee (land title), increasing tax revenues (property tax) and the competitiveness of the area, relaunch the real estate market in the site...

- g) Reorganize the site around clusters of economic activities

Challenges: to reduce the costs of the necessities of the nearness to the commercial spaces; avoid dormitory quarters, identify and control economic potential to make the most of the parties;

- h) Create missing activities;

Challenges: diversify activities, increase neighborhood productivity,

- i) Provide support for existing activities in different forms

Challenges: increase productivity; increase the number of formal activities...

### **Challenges and environmental issues**

On the environmental front, the challenge is to promote sustainable development in the living environment of these populations through the upgrading / renovation operation. This is concretely:

- j) To protect areas of fragile ecology;

Issues: increase the capacity of ecological regulation including the reduction of natural risks,

- k) Promote a green city, unlike today's gray city;

Issues: temperature drops, improve the urban physiognomy, increase the rate of water infiltration and thus reduce flooding,

- l) Effectively sanitize solid and liquid wastes;

Issues: reduce odor nuisances and induced diseases, improve the urban physiognomy;



This disorganization has its roots in several problems that weigh the development of the zone. This analysis of the urban situation that brings out the problems to which the populations is faced with was the subject matter with the residents at the time of the previous phase done by ERA Cameroon, and it is condensed in ten points. These ten points have been classified by the population in order of priority from 1 to 10. It is developed in the diagnostic part where an approach of solution to these problems is given out.

### III.4 IDENTIFICATION AND CLASSIFICATION IN ORDER OF PRIORITY OF THE PROBLEMS OF SISIA QUARTER

#### III.4.1 Method Undertaken to determine the classification

The Identification and the classification in order of priority of the problems of Sisia was done thanks to workshop exchanges organized by ERA Cameroon in relation to the implementation of the PSUP in the blocks and inner quarters of Sisia during the first phase and finally a widened workshop gathering all the four inner - quarters. These exchanges gave way to the population of Sisia to choose the first ten important projects to be carried on during the upgrading operation. Experts of ERA Cameroon in collaboration with the traditional authorities and the quarter heads and chiefs of the quarters have outlined these workshops. At the time of these consultations, the 10 priority problems of each quarter were presented.

#### III.4.2 Enumeration of the ten priority problems

The problems plaguing Sisia quarter are outlined below according to priority:

- Priority 1: Absence of drainage network infrastructures;
- Priority 2: limited Access to drinking water (insufficient and unaffordable quantity);
- Priority 3: Frequent electricity seizure, absence of streetlights and high electricity bills;
- Priority 4: difficult access to health facilities;
- Priorities 5: absence of a public primary school;
- Priority 6: Absence of a waste management system;
- Priority 7: Poor road network infrastructures;
- Priority 8: Absence of town planning guide, non-delivery of building permits;
- Priority 9: absence of public secondary school;
- Priority 10: low land security (non-delivery of land certificates).

### III.4.3 Interpretation of the ten priority problems

According to the results of the classification of the problems in order of priority, the unavailability of drainage network infrastructures was the first problems identified. Sisia lacks structures of drainage completely. That is one of the reasons for which all the roads are eroded by the running of the surface waters.

The limited access to drinking water (insufficient and affordable quantity) comes in second position. Water is an essential need within all human structures. The difficult access to water makes life difficult.

The frequent Cuts of the electric current, the absence of lamps and an insufficient electric intensity came as third priority.

The fourth priority is the difficult access to the sanitary and health facilities. Inhabitants within Sisia need to move out of the quarter in order to benefit from health services.

The fifth and the ninth priority are that of the lack of a primary school and secondary school in the quarter. Small children are therefore deprived of nursery education, and the pupils must cover long distances before arriving to school.

The sixth priority is the absence of a good waste management system. A system of domestic waste collection yet exists in other quarters. The toilets and the trash are evacuated or dumped into the rivers.

The seventh priority is that of Poor road network infrastructures. The existing road network situation in Sisia is poor structured and very irregular.

The eighth priority is the Absence of town planning guide, non-delivery of building permits. It directly induces the restriction of the urban planning and the deliverance of building permits, which accentuates the unplanned occupation of the quarter.

The ninth priority problem is the lack of a secondary school in the study area. There is none in Sisia which therefore makes parents to send their children at distant places.

The last priority problem remains that of the impossibility to secure land by official documents. Land owners cannot have access to the establishment of land title for their plots.

## PART IV: URBAN DIAGNOSIS OF SISIA QUARTER

## IV.1 DEVELOPMENT OF THE TEN PRIORITY PROBLEMS. AXES OF SOLUTIONS

### IV.1.1 Priority 1 and 7: Construction of a road network and a drainage network infrastructures

The study area has a road network that is unclassified in the Master Plan (PDU) of the city. There exist primary roads that are covered and that link the two extremities of Sisia I by Nkwen and in Sisia IV by a bypass. These are the national roads N4S and N11S.

From these roads, there are urban motorways that cross the quarter. This urban motorway, especially the one that comes from Nkwen passing through the market, crosses the first three inner - quarters of Sisia. Another motorway covers the inner quarter of Sisia IV from the East up to the extreme of the survey area in the West. These roads that are considered as primary roads for the zone cover a secondary road network and these on their turn link up a network of pedestrians and motorcycles ways.

These roads are not regularly maintained and the problem of anarchical linkages of the rain waters, associated to the slopes on which the roads are built, end up damaging the road network. Otherwise, the topography of the zone, with steep reliefs cannot permit the construction of roads.

The formal and permanent road maintenance can only be done in an institutional context because it is the means of the public strength that can be deployed. Apart from the roadways, there are also road works that are practically not constructed in their majority. Most road works carried out are foot bridges made of wood on multiple rivers that connect to the quarter. Upon all actions taken, efforts of public authorities are visible through several realizations.

The MINH DU through its regional or divisional services and the council of Bamenda III constructed some drainage channels. It is raised in the analysis of the previous phase that, 6.25 km of roads, 1.1 km of bike tracks, 12 culvert, 4 pedestrians' bridges and 12574 km of drainage channels have been identified for construction or rehabilitation. The construction of all these structures will facilitate the exchanges between the different inner quarters and the global integration of the quarter in the city of Bamenda. Considering the huge amount that is necessary for these projects, some will be achieved thanks to the financing of the Public investment Budget (PIB) or by the support of partners of the urban program.

The intense and considerable investment in these road projects, drainage crossing and drainage networks is the only way to take the quarters out of its under - structured aspect. It is necessary to construct some roads, which is aimed at the development of the study area so as to bring it out of its present under – structured state. For this, the study of these roadways is necessary and it appears

within the context of the project of the upgrading zone. The analysis of these road projects, works of art and drainage networks will be elaborated in the 3<sup>rd</sup> mission of our work and detailed studies will be carried out, thus permitting its realization that will be registered in the 4<sup>th</sup> mission report of the upgrading project.

#### **IV.1.2 Priority 2: development of access points to drinking potable water ( in sufficient quantity and at affordable price.**

A popular saying goes thus «water is life ». This well-known sentence bears all its meaning when one comes to lack drinking water or when one cannot have it in sufficient quantity or in satisfactory quality. The national public company of water distribution, the CDE did an extension of water in the Southern part of Sisia in 1984. Because of studies made without taking into account the priority needs of the population, water cannot flow regularly in the quarter because the dimensions of the pipelines were not well calculated. The population, through development committees took the responsibility of this problem and tried to solve it through numerous sources of water that rinse in the flanks of the mountains. They build works of art collecting water as well as networks distribution. Currently, this network is vaster, compared to the network of the CDE. Four points of water collection are built by the population which now supplies water in the quarter.

Moreover, one always notices the use of water from rivers for laundry and washing of dishes and water supply in poorly maintained wells. This explains why there are water borne diseases in the quarter, illnesses recorded at the time of the investigations on the households in the previous phase by ERA Cameroon (52.79% for typhoid cases and 42.64% for the cases of cholera). The effort of the community in the supply of drinking water greatly gives substantial results compared to what the CDE does. The following activities have been identified for realization, in order to solve this problem on the site.

- The recalculation of the dimensions of the distribution network of the CDE which should take into consideration the concerned population as a whole, including a future projection considering the growth of the population that can impact the upgrading of SISIA;
- The extension of the CDE network which should take into account the whole zone of the project and forecast on the zones that will be supplied by semi - adduction of local networks starting at the collecting points of the sources;
- The construction and the maintenance of the collecting points at the level of the existing sources of water. Here, the population that initiated these projects must study and realize them with the municipal authorities and the administrative authorities so that all parameters that condition the setting up of this type of work should be considered in order to guarantee a

healthy and drinkable water supply to the populations. This type of project is dependent on the public health domain because the population cannot progress individually;

- the creation of a committee on network maintenance and the training of its members to the management and the rehabilitation of the sources as well as to other questions linked to water distribution ;
- the extension of the current water network distribution and the installation of the water taps in the quarter at strategic points permitting access to water for the majority of the population;
- The sensitization of the population on the hygiene and sanitation of these infrastructures in order to avoid the contamination of the sources of water and the damages on the collecting works of art.

#### **IV.1.3 Priority 3: improvement of the electricity network and installation of public lighting facilities**

The Sisia quarter is presently under supplied with electric energy. Several households are not directly connected to the existing network, those that are connected regularly undergo low voltage, and constant power cuts. Considering the population which is dense and the permanent increase in the number of buildings in this quarter, it is more than necessary to recalculate the dimension of the existing network while earmarking suitable relevant facilities. If the supply is achieved and the quality of the service is reliable, the population will complain less about the high cost of the electricity bills. The low quality of the services linked to the electricity energy supply, the recurrent power cuts; give the impression to the population of being cheated upon by the electric energy distribution company in Cameroon. They disagree paying for a service that is not done or that is poorly done. To this effect, the quality of service should be improved. The price per kilowatt/hour doesn't vary from one point to the other in the country. Therefore, on this aspect, one cannot favor the population that judges about the increased bills.

Moreover, the bulbs will be necessary for streetlight on all main and secondary road axes. Mindful of the 'innovation possibilities that this domain offers, the investment can be considered in autonomous solar energy lamp installations. It will have the particularity of reducing the expenses bound to the streetlights that the City Council of Bamenda offers to the public, by the electric energy distribution company, ENEO Cameroon.

As the investment in the solar energy requires considerable means, one will be able to make mixed networks that mean, the solar energy lamps on some axes and electric energy lamps on others. These will be solutions to the preoccupations of the populations, especially for this vital nature that is the

provision in electric energy. This energy constitutes nowadays, the basis of development of all human activity turned toward modernity.

#### **IV.1.4 Priority 4: Construction of health facilities**

Health is fundamental for every human being. The State also takes this problem with seriousness and works for the improvement of the health of the citizens. This ambition to invest in this key sector of the governmental action in Cameroon should reach the study area that does not have up to this day health facilities. Currently, the strategy of the health sector enforced by the government aims at:

- developing 80% of health centres ;
- allowing all sanitary infrastructures of strategic and intermediate level to play their role of supporting and advising;
- reducing by 1/3 the mortality rate of the poor populations and the most vulnerable;
- reducing by 2/3 the infantile mortality of children of less than 5 years;
- Reducing the maternal mortality of three quarters of the population.

Within the choice of important problems that should be solved in order to bring the four inner - quarters of Sisia towards a common development, it was suggested to construct a health center. Currently, health care services in this quarter are not done right there for the majority of the population. It is imperative to construct a sanitary infrastructure that will be at the level of the future development of the area. In addition, the strategic position of this work should serve all parts of the study area and should have some adequate accompanied facilities for its good functioning. We will achieve studies for the programming of these major facilities in the fourth mission that will define in detail what this structure will have as components.

#### **IV.1.5 Priorities 5 and 9: Construction of nursery, primary and secondary schools**

Situated in Central Africa, Cameroon is the most dynamic country in the domain for the training and the Cameroonian expertise makes some competence throughout the world. To this fact, the State puts a point of honor at the good training of its citizens. In the general setting of the human development, and in order to provide to the nation human resource having the necessary expertise to construct an emergent Cameroonian economy by 2035, the government has the intention to put a particular accent on the training of human capital by setting a lasting Strategy in the educational Sector. The considered reforms should succeed, after the setting of the GESPE, to an educational and training system having the features that will carry us to 2035.

A good basic education will be necessary, covering the primary level and the first cycle of the secondary education, accessible to the biggest number of children aged from 6 to 15 years, helping in raising the average level of education.

Sisia quarter does not have nursery and primary government schools. The nearest schools are situated at about 2,5km away from Sisia, while the technical teaching college is at 3 or 4km. Because of the absence of these schools in the quarter, the inhabitants are forced to send their children in extremely distant public schools in spite of the risks and dangers where a pupil may be knocked down by a vehicle in the course of crossing a road.

Within the framework of the studies for the upgrading project for which we are responsible, we are going to program in our next reports, these facilities, and position these different structures according to their functions and considering the necessity that it generates for its development in all of Sisia quarters.

#### **IV.1.6 Priority 6: putting in place of a waste management and hygiene and sanitation policy**

The city of Bamenda makes considerable efforts to maintain all quarters in a state of healthiness. It is a very disturbing problem and it affects the daily life of the populations. In the studies conducted by ERA Cameroon, it is revealed that a majority of garbage is thrown into rivers as reported by 45,9% of the households, or thrown in the farms as manure, as confirmed by 36,0% of households.

In Sisia, there is practically no public system of waste management. It is visible with the heaps of garbage seen in the different inner - quarters as well as behind the houses and in rivers. The city council has a hygiene and sanitation service, with a certain number of trucks. Their only point of collection of garbage in the Sisia quarter is in the Nkwen Market. The analysis made by ERA Cameroon in the previous phase showed that garbage is rarely selected before its elimination as reported by 50% of the people interviewed. It renders difficult the composting of the garbage in order to use it as manure. With the programming of the roads in this phase of the project and their efficient realization, the City Council of Bamenda will therefore be able to integrate this part of the city in its plan of action for cleansing and then, the zone will be treated like all other quarters of the city.

#### **IV.1.7 Priority 8: Absence of a town planning guide, non-delivery of building permits**

The Divisional Delegation of MINH DU for Mezam is the nearest decentralized service to Sisia. It works in close collaboration with its regional supervisor and the decentralized services in planning projects. Each of these structures works by supervising and organising projects that contributes to the development of the city as a whole and the quarter in particular, as well as the improvement of the housing. MINH DU is assigned to provide expertise to make projects of urban development in



Bamenda. This is made through contracts signed with private competent consulting firms in this domain. For example, the **Master Plan of Bamenda (2011-2027)** that was prepared validated and then approved in 2014. In addition, the **land Use plans (LUP) of Bamenda I, II, III**, have been designed and validated. The upgrading plans that should bring some changes in Sisia are the subject of the present study.

Concerning the deliverance of building permits, the Divisional Delegate of MINHDU Mezam is a member of a building permit commission (Bamenda City Council, Bamenda III council, and Divisional Delegate of MINHDU) that does the preliminary inspections of the site to get the necessary authorisation before any building permit is to be delivered. The ordering of the study area as " high risky Zone " does not permit to deliver any of these documents.

This prevention is the result of the existence of numerous dangerous zones for the installation of dwelling units. These are areas of landslide, areas of very steep slope, and especially the cliffs under Rocky Mountains where blocks often get lose and finish their race below in illegally occupied areas. Currently, the development of the occupied zone continues, always with the observed disorder and anarchy. This is because no major constraint stops the populations from settling in this area. But, they already have the alert of the beginning of this phase of the PSUP and the advices to stop all construction have been communicated.

Our upgrading project of this zone also consists of studying the possibilities to render the inhabitable quarter by proposing some measures to attenuate the risks incurred by the population. It is only through the study for upgrading that it will be possible to deliver these documents after validation of the study and its enforcement through the next phase of the PUSUP. With the present studies that are conducted with the help of the population, it will be more comfortable to start its application and be able to provide some solutions to the problems that are posed in Sisia quarter in terms of urban development today.

#### **IV.1.8 Priority 10: Amelioration of land security and consensus on the deliverance of land certificates.**

We realized above that Sisia quarter being classified, as risky zone could not have town planning acts, administrative documents. Since we are in the urban zone, the unavailability of these Acts also means that there is no available land title in the area because, without having roads to reach the parcels, they cannot have a town planning certificate and therefore, will never have a land title.

The previous studies carried out by ERA Cameroon showed that 80, 7% of the households don't have a land title, while 7,9% have the documents indicating the elements of land transactions. To this fact, the

real estate transactions are done. For most of the cases, those transactions are sanctioned by hand written documents that display the amount and the names of the actors.

Remedy to this situation will only be through the completion of this process that will aim at giving a new face-lift to the development of this quarter. After having defined the zones to be occupied by settled owners within the limits of prohibited areas, it will be then possible to deliver documents of registration when the planning will be made public and therefore opposable to a third party.

## **IV.2 AXES OF RESOLUTION OF OTHER URBAN PROBLEMS**

### **IV.2.1 The amelioration of household incomes**

The households expressed their preoccupations concerning the limitation of the survival means of income generation. This is poverty and it brings down the development potentials of the majority. In order to bring a draft solution to this problem, it is proper to look at the root cause. The sphere of action here is at the entire country. The solutions to solve urban poverty problems can only be treated by public policies in relation to the services offered and improvement of the standard of living of the inhabitants.

### **IV.2.2 The development of economic activities**

The city of Bamenda is the economic hub of the Northwest region. The trade and the exchanges undertaken from here to other regions and even on an international scale are based on the intense agricultural production activities in the region. Some exchanges that include the manufactured goods coming from the entries of Cameroon are gathered in the city before being redistributed into the hinterland.

### **IV.2.3 The upgrading of the training level of the inhabitants for a better access to employment**

The development of higher education that causes an influx of the young population in quest of knowledge comes to increase the margin of the vital needs of the city. This migration, which is the fruit of the search for a better knowledge, concentrates its expansion around the areas where these training establishments are found and the urban services must be equal to the demand in terms of needs expressed by this particularly dynamic population. The zone of SISIA is therefore solicited because, in search of a low cost housing, some students preferred keeping the family bond and will like to better find their housing still in the same zone and remain close to their family nucleus.

The quality of competences produced by the professional training is also a challenge for the development of the city. The analysis of the study area presents weak income of households, and especially, the unemployment of the youths. These must adapt to the present realities concerning job search in Bamenda or in the region. With the technological progress and the new means of communication, training is compulsory for every one that wants to have a place on the decent job market. As in other cities, non-educated youths opt for small professions. In addition, these youths are exploited in activities where they are underemployed. In the markets and in the economic activity sites, it is still these youths that excel in the informal sector and sometimes in illicit activities. If training is well implemented, the young and better-trained population will contribute efficiently to the raising of the standard of living of the locality.

#### **IV.2.4 The integration of the study area in its immediate environment and its projection as a modern urban area**

Slums are the result of the difference between the demand and the legal and formal supply on the real estate market. In the absence of intervention deliberated by the authorities, or the implementation of the policy of urban development where it exists, the proportion of the inhabitants of slums can increase in a nation because of a strong rate of urbanization. In the town of Bamenda, the studies carried out by ERA CAMEROON showed that 66, 0% of the owners of houses in the Sisia quarter became owners around the age of 35 years and this was between 1980 and 2014. The alarming report is that, the proportion increased with time during this period, in spite of the prohibition of installations in this zone classified as "risk Zone".

Since 1987, the UNO year of housing for the homeless people, there is a greater concern of the authorities for the inhabitants of slums and the homeless people. This one led to a change of policy. One left from mass displacement of the populations out of the slums where they were installed anarchically to the initiation of the programs for the improvement of the living conditions in these slums. This operation has materialized into the study of urban renovation/ rehabilitation.

To adapt to the improvement of the slums in the context of local development it requires the formulation and the examination of a certain number of urban challenges: elimination of the zone, the formal structuring and land safety. It is indeed necessary for the harmonious development of Sisia, identified like a zone of uncontrolled urbanization, to integrate strategic orientations into the level of the city of Bamenda because the development of the zone can be done only in close relation with that of the entire vision of the city.

#### **IV.2.5 The control of constructions and spatial development by private individuals**

With the town planning law of 2004, it became primordial for the sub divisional councils and the Ministry for the Housing and Urban Development, to conceive directives for urban development in general. With the aim of gradually improving the quality of life in its urban zones, the operations that will mark the change will pass through the raising of the built up area, management of citizens within the cities, land safety and the improvement of accessibility of the poor to basic urban services and infrastructures.

The term basic urban services such as it is used here returns to the public services which form the vital base for a city. With this is added the equipment's, which allows for a good mobility and communication between the citizens. For the population of Sisia, the concern in terms of urban services is classified by priority. These priorities have already been developed.

The nodes remain the control and the application of the town planning rules and regulations, as well as the town planning documents, the simplification of the procedures for the construction authorizations in the under structured sectors and the regularization of the landed property. Control aiming at the construction of decent residences constitutes a significant aspect of the action of the public authorities at the benefit of urban development.

### **IV.3 IDENTIFICATION OF ACTORS AND THEIR INTERVENTION CAPACITY IN DEVELOPMENT OPERATIONS**

#### **IV.3.1 Context of the new urban developments.**

Cameroun has launched an Emergency Triennial Plan for the acceleration of the growth and one of the major aspect is town planning. The government has become aware of the state of advanced disorganization of the Cameroonian cities, of social malaise that this state of affairs can produce and the loss of income because of this disorganization, which weakens the production of the riches by the cities. So several projects are launched and will contribute to increase the standard of living of the populations of these zones. Before this program, MINH DU started several projects to upgrade our cities. These cities were not built on a strategic base and since then developed without long-term planning.

So several projects and programs are launched and which contribute to the improvement of the framework of living standards of Cameroonians. In the integration of programs like the PSUP in progress and which is part of this study, has come to reinforce the measures taken by this Ministry to improve urban space and the living standards of the population.

Cameroon has launched a vast building site for the construction of housing, with ten thousand residences at the first phase. This program is in progress and the residential buildings are particularly located in the two large cities of Cameroon, Douala and Yaounde. This need for contributing in the

increase of decent housing remains a priority of the government. These construction schedules also integrate their aspects of urban development in the areas of implantation.

This vision influences the development projects nowadays where one must possess land parcels for the social housing or urban development. All the same, the purpose of the upgrading/renovation operations are also to bring a better way of life to the urban population and to contribute in improving considerably the quality of the housing and improvements of the land. With the advent of decentralization, several actors have divergent interests but certainly get busy complementarily and spread themselves in the field of urban management in Cameroon. With the rank of these actors, one notes the institutional actors and non-institutional actors.

#### **IV.3.2 The institutional actors**

The institutional actors are composed of the administration in charge of Regional and Local urban Authorities and public administration.

##### ***IV.3.2.1 MINHDU and its organisation under supervision***

The Ministry for the Housing and Urban Development (MINHDU) is the backbone of the urban policy in Cameroon. As regards decree N° 2005/190/ of 3th June 2005 relative to its organization, MINHDU is charged inter alia with:

- Elaboration of the implementation and the evaluation of the government policy as regards to urban development and housing;
- The planning and control of city development;
- Elaboration and of the follow-up of the implementation of development strategies and the reorganization of the cities;
- The definition of the standards as regards sanitation, drainage and control of the respect of these standards
- Embellishment of the urban centers
- The implementation of the policy of social housing

The main organism under - supervision of MINHDU is the Real Estate Society of Cameroun (SIC).

##### ***IV.3.2.2 MINDCAF and its organisation under supervision***

The Ministry for State Property, Survey and Land Tenure (MINDCAF) also intervenes in urban management in Cameroun. It has as mission the following:

- Carry out inventory and preservation of the state domanial land inheritance;
- To preserve the State's land patrimony on the national territory;
- Registration of lands, their assigned uses and delivery of the land titles;
- The principal organization under - supervision of MINDCAF is MAETUR.

MAETUR was created in 1977. Its objectives are as follows:

- To carry out development operations on lands
- In urban zone for housing needs
- n the rural and peri-urban zone for operations of agricultural production.

#### ***IV.3.2.3 Regional and Local Authorities***

The councils, the city councils and the regions are local authorities in Cameroun. At the context of the revision of the constitution of January 18, 1996 and law of 22 July 2004 on decentralization, these communities were seen having allocated the competence and responsibilities notably as regards urban management.

Thus the city councils in Cameroun have their competences in the following fields:

- Town planning and urban development
- Equipment and infrastructures of Community interest
- Maintenance of main road networks systems
- Street lighting and supply of drinking water
- Transport and circulation
- Public parkings and car parks.

During the twenty years, which followed its independence, Cameroon, practiced the management of cities just as for the other aspects of development, a systematic policy of administrative and financial centralization. Since the effectiveness of decentralization, local authorities, international development partners, the private actors and the civil society intervene more and more in urban management.

#### ***IV.3.2.4 Cameroon Real Estate Society of (SIC).***

Limited company (mixed investment company), SIC was created in 1952. Its capital is 1 000 000 000 Francs CFA held by: the State of Cameroun, the Regional and Local Authorities, the companies with public capital on one hand, moral persons or public private law on the other hand. It is one of the oldest companies of the State of Cameroun.

SIC is governed by laws and regulations in force in Cameroun on the limited companies and the companies of the public and para public sector, as well as by the provisions of the uniform act of OHADA relating to the company commercial law and of economic grouping of interest.

SIC has as an aim the implementation of the housing policy as defined by public authorities.

For this reason, it is in charge of the following:

- to proceed in priority to the study and the realization of all projects and all operations referring to the social housing;
- to build and eventually buy, in cash all buildings with housing objectives of hiring, all buildings of principal use of dwelling;
- to create garden cities by devoting its priority activity to social housing;
- to realize in dialogue with all the other organizations in charge of the application of government housing policy, either for its own account, or on behalf of the third party, construction throughout the country, of common services or utility services of any nature (social centers, dispensaries, shopping centres, school complexes, buildings for public services... etc.). With all sets, as well as the financing in total or partial of most of the operations;
- to build and carry out any convention, endorsement agreement with the State and the other territorial communities, decentralized and generally, any establishment or public company or deprived in order to facilitate or ensure development within the limit of competences evoked (subparagraph I above), the construction or the management of any building.
- And generally, to carry out all movable, real, commercial, and financial operations referring to the objects above and similar objects.

The Cameroun Real estate society (SIC) is placed under the supervision of the Ministry of Housing and Urban Development.

#### ***IV.3.2.5 MAETUR: Urban and Rural Land Development and Equipment Authority.***

##### **SOCIAL OBJECTIVE**

Urban and rural land development and equipment authority MAETUR is a Publicly owned establishment of Industrial and Commercial character, comprised of legal personality and financial autonomy, created by Decree No 77/193 of 23 JUNE 1977 modified and supplemented by Decree No 82/599 of November 25, 1982. Its head office is in Yaoundé. It is placed under the supervision of the Ministry in charge of the Lands.

The financial and countable management of the authority is subject to the rule of the accounting and industrial business.

MAETUR has as an aim of realizing, under its responsibility, of the operations of development and equipment of lands for real estate promotion and housing on the extent of the Republic of Cameroon.

Particularly it is in charge of the following:

- To promote with the request and on behalf of the State, the public and para public, private organizations or of the local public bodies, or at its own account the study and the realization of the developments operations or land equipments as well as operations of reorganization of existing quarters.
- To study and carry out infrastructures of sanitation system, drainage, roads system and various ground networks to be equipped or developed in connection with the qualified technical services.
- To parcel out and market these lands except if the owner decides differently.
- To take part in these zones in the control of the conformity of the projects with the provisions for each zone to be developed.
- To study and produce the public equipment inside the zones to be developed.
- To ensure the maintenance of certain networks and certain facilities when they are not entrusted to concessionary companies or communities.

##### **IT'S AREAS OF SPECIALISATION**

One can count four principal: land Operator; Consulting Firm; upgrading of quarters. These trades can be exerted for its own account or for the account of third party (State, Regional and Local Authorities, moral or physical persons of private order).



### **The Land Operator**

This aspect consists of: (i) land prospection;(ii) lands acquisitions;(iii) legal and physical securisation of the lands;(iv) actions on behalf of the customer (individual or collective) in the administrative steps for obtaining the land title.

### **The Consulting Firm**

Apart from the studies of real projects of MAETUR, this activity summarizes itself in two axes: the realization of the studies for third parties on the one hand, and controls of its work (control of the services) or controls of its work delegated, on the other hand.

### **Development**

It is carried out in three stages: (i) studies;(ii) development work; (iii) the marketing of the parcels.

### **The upgrading of quarters**

The upgrading - renovation of quarters is basically a public service mission, leading to land regularization of the occupants. The upgrading takes all its importance in the fight against the uncontrolled extension of cities.

#### ***IV.3.2.6 FEICOM (Special Council Support Funds for Mutual Assistance)***

The Special Council Support Funds for Mutual Assistance (FEICOM) was created by law No 74/23 of 05 December 1974 bearing the organization of councils in Cameroon and was made operational by the decree of No 77/85 of March 22, 1977 bearing its application.

Its principal mission is to accompany the Regional and Local Authorities in the process of development in bringing to them in particular a technical and financial aid. This organization thus seems the privileged instrument of the local development in Cameroon. Thus, the Cameroon government, which made decentralization one of the major axes of its political program, always knew how to adapt to the click of time this organization to the political evolution of its environment. It is accordingly that FEICOM was reorganized by the order of the Council of December 11th 2000 which sets up its Directorate-General. This decree was in its turn modified and supplemented by another decree dating from May 31<sup>st</sup>, 2006 of which one of the major innovations is related to financial intermediation assigned with this structure. This new function leads FEICOM to seek within the framework of the international financial Cooperation of the partnerships with the aim of helping Cameroonian municipalities to find other resources to face their development problem.

Being a privileged partner of the councils and secular arm of the state in the implementation of the decentralization process in Cameroon, FEICOM ensures moreover the technical advice to the Regional and Local Authorities and the training of the local councilors with an aim of reinforcing the local capacities of management of the municipal officials.

In 30 years completed, FEICOM boasts today of an internationally recognized experience and an expertise, major achievements in the field of the infrastructures, architecture, the basic social services...But the organization remains open to external contributions and experiences to optimize its output. It is in charge of the following:

1. Mutual aid between the councils by solidarity contributions of treasury advances
2. Financing of communal or inter-communal investment work.
3. Centralization and redistribution of the communal additional taxes (CAC)
4. Covering of the expenses relating to the communal staff training and the state civil servants.

Within the framework of its missions, FEICOM collects and centralizes resources resulting from taxation. These receipts either are redistributed directly with the CTD, or assigned to FEICOM. 2/3 of the resources are thus allocated with the communal investments within the framework of the mutualisation of the resources and 1/3 is intended for the operation of FEICOM. The revenues from taxes concerned are:

- Communal Additional taxes (CAC);
- Stamp duty taxes Automobile (DTA);
- Annual Forest Royalty (FRG);
- Local Development Tax, (TDL);
- Land Tax on the Real estate (TFPI);
- Taxes on Real Transfer (DMI);
- Parking taxes (TS);
- Licenses contribution (Stalemate);

The resources cited above are again divided between FEICOM and the CTD following the scales presented in the table hereafter

- The sale of receipts and gadgets of FEICOM

- Subsidies authorized by the state
- Loans
- All possible resources coming from the international co-operation whose management is entrusted to them taking into consideration its mission.

#### **IV.3.2.7 CFC (Land Property Loan of Cameroon)**

**CFC** is a publicly owned establishment with a commercial character Equipped with a legal personality and financial autonomy created by decree No 77/140 of May 13, 1977. It has the aim of bringing its financial assistance to the realization of any project intended to promote housing.

For this reason, it is intended to:

- To finance works on the equipment of land intended for the construction of the economic housing.¶
- To seek and set up the necessary financings to the real estate promotion companies. As with the realization of all programs of economic housings within the objectives of the plan and whose design features meet the definite standards.
- To collect and receive, in order to facilitate the access to real estate the deposits of the persons or entities. To this end, the building and loan association can agree of the loans in the medium and long term by engagement, downstream or discount.
- To achieve any financial transaction, commercial, movable and being really attached directly or indirectly to the object above.

### **IV.3.3 Non institutional actors of urban development in Cameroon**

#### **IV.3.3.1 The crescent role of NGO's**

The financial crisis of the African States and the wave of structural adjustment plan, which resulted from it, constrained to reduce in a drastic their ways of interventions in the urban sector. This cause has created the lapse of development between the African cities and the cities of the developed countries. The civil society organizations took over to denounce this state of affair and to start actions to mark a change.

Moreover, the opening to the media for mass communication (social networks) contributed to relay information and messages of awakening in its greatest number. Nowadays, several NGO are increasingly active in the field for the respect of the improvement of the living conditions of the people.

A good part of these organization works to provide facilities to the populations so that they can adhere to the real programs initiated in the cities and their peripheries. The most visible actions have been in the field of financing of real estate operations. Here, several actors spread themselves and sometimes with the support of the foreign private organizations.

The emergence of the civil society in urban policies is another outstanding fact of these last years. The wave of democratization which touches mainly the citizens society, results in a new interest for the projects of participative developments of the quarters, implicating the NGO. This tendency is reinforced by increasing consideration of the population's role in the implementation of the environmental management policies.

#### ***IV.3.3.2 Multi-lateral partners in urban development in Cameroon: UN-HABITAT, FDA, WB, UNDP, ADB***

The community of the funders expresses a growing interest for urban development; the UN-HABITAT which is the principal source of assistance in favour of urban development decided to increase the volume of its urban projects.

The support with the policies of decentralization and the management of the African municipalities became one of the significant priorities of the international community. The multilateral funding bodies (the World Bank, UN-HABITAT, UNDP, the EU, or the ADB), or bilateral and in particular FDA devoted to it each year an increasing share of their assistance. The details of implementation of this help can differ from one agency to another, but all have the same objectives. Today France acts in certain projects of the urban sector through C2D (*French Debt-relief programme*).

While being based on the programs like the PSUP in progress, the World Bank would like to make impact felt directly while reducing the role of the public administrations in the resolution of the major problems in the urban sector. Also, it aims at filling the other aspect with its schedule of conditions, which is the reduction of poverty in the world. Taking into account the fact that the majority of the world population now live in cities, this makes it possible to achieve the goal of this objective with efficiency.

Nowadays the African cities in general and those of Cameroon in particular, taking into consideration their expansion and especially of the advent of decentralization clarify complex stakes. Dysfunctions generated by several years of centralized urban management constitute obviously significant challenges for the regional communities deprived of experience and from now on charged to solve the urban equation. This is why Cameroon through several reforms of its government with review prerogatives of MINHDU to place housing and urban development like priorities to accelerate the growth and to attain emergence in 2035.

## CONCLUSION

The diagnosis Report which exposes the urban development problems of SISIA in Bamenda and an embrayon on the outlines of solution is a document fixing the broad outline for the continuation of the activities of the phase of PSUP program.

We analyzed and did a classification of the under structured quarters by setting up of priorities for the upgrading/renovation operations. This was carried out after we made a presentation of the town of Bamenda and the presentation of our work for this first mission. After the prioritisation of this quarter, we had to carry out an analysis of the study area that will match with the diagnosis of the urban problems. Then some outlines of solution were identified. This was possible thanks to investigation operations on the ground followed by an analysis of the land situation. We worked within the framework of intervention of all the actors with regard to the operation of urban development. After all activities we collected all our data that was introduced in a report and were made up of a written document and a graphic collection of the documents. In the collection, we had maps at the scale of the city and the scale of the study area. These data collected paved the way for the second mission that relates to the real estate market in SISIA and the entire city. This study, which is the very first for this phase of PSUP, is an illustration of the form and the contents of all the other missions, which will come to fulfill our contractual obligations for this urban study.

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- Décret n° 2008/0738/PM du 23 avril 2008 portant organisation des procédures et modalités de l'aménagement foncier.
- Arrêté 085/CABPM du 20 avril 2010 portant création d'un comité interministériel de supervision et de pilotage du programme gouvernemental de construction de logements sociaux et d'aménagement des parcelles de terrains
- Loi N°96/12 du 5 août 1996 portant loi-cadre relative à la gestion de l'environnement ;

## ANNEX





**ANNEX 1: List of Owners and Occupants in Sisia Quarter**

*(Source: POLYGONE SARL)*

**ANNEX 2: Map of study area in Bamenda**

*(Source: POLYGONE SARL)*



**ANNEX 3: Topographic map of Sisia**

*(Source: POLYGONE SARL)*



## ANNEX 4: Thematic Map of Sisia

(Source: *POLYGONE SARL*, Era-Cameroun)

