

# SPATIAL PLANNING CHALLENGES AND IMPLICATIONS ON THE DEVELOPMENT OF NKAMBE AND NDU SECONDARY TOWNS IN THE NORTH WEST REGION OF CAMEROON

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**ABSTRACT:** *Today, faced Cameroon is with a significant rise in the number of secondary towns considered as urban development nodes which are undergoing different forms of physical and socio-economic transformations. Although, scientific emphasis has been placed on examining the dynamics of major urban centers, the dynamics around secondary towns has been neglected. This knowledge gap forestalls the edification of spatial planning theory, policy and practice in Cameroon, with Nkambe and Ndu being classical examples. This study sets out to examine the spatial planning challenges and implications on the development of Nkambe and Ndu in the North West Region of Cameroon. A mixed-method research approach was adopted involving the collection and analysis of data. A total of 300 respondents were sampled using systematic and snow ball sampling technique and a total of 258 questionnaires were returned. This was complemented with interviews. Data were equally generated through field observation, archival analysis and secondary data sources. Secondary information was sought from published and unpublished materials. Data were analyzed through the descriptive and the inferential statistical techniques. Results showed that the major urban problems observed include shortages in potable water, erratic electricity supply, poor and inadequate school infrastructure, housing, environmental degradation and rising urban crimes. The paper recommended that the text defining the settlement pattern (Master Plan) should be strictly respected when issuing building permits to applicants so as to reduce settlement encroachment on risk zones like watersheds. The local councils need technical and managerial skills, strong capacities to design, implement, monitor and evaluate local public policies and services. The presents of these on the ground will help the Nkambe and Ndu towns to grow properly following a planned and organized path that will lead to their eventual emergence.*

**Keywords:** *Urbanisation process, urban challenges, secondary towns, spatial planning, sustainability*

## INTRODUCTION

Urban areas are platforms for global and local change in the 21<sup>st</sup> Century representing opportunities and challenges of economies, cultures, political and ecological systems converge (African Policy circle, 2020). These opportunities need to be adequately planned and effectively guided for sustainability (Dube 2013; Fombe and Balgah 2010). Urbanization process introduces a number of problems such as urban service deficiencies (water, sanitation, erratic power supply, transport and communication), the spiraling of land prices and construction costs, the proliferation of slums, pollution, and the deterioration of urban environments (Healey, 2006). This justifies the need for spatial planning, regarded as a useful tool for achieving sustainable urban growth development (Wu et al., 2017 and Nformi et al., 2020).

Secondary towns are urban development nodes which are undergoing different forms of physical and socio-economic transformation with respect to infrastructural development, increased access and range of public and private services, and the concentration of schools, health facilities, judiciary and administrative institutions to mention but these. This transformation eventually gives rise to population increase and the overexploitation of natural resources (UN-HABITAT, 2020; Kimengsi and Ndam 2017; African Policy Circle 2020). According to the UN-Habitat (UN-HABITAT, 2020), these are towns or cities with a population range of 100,000 and 500,000 persons. To Song (2013), cited in UN-Habitat (2020), secondary towns do not have a universally agreed definition. Thus, secondary towns of Cameroon are dynamically defined and have a population of between 700,000 to 1,000,000 persons. Aside from the growth in the size of major cities, urban planning authorities have to grapple with the rise in the number of secondary towns. In Sub-Saharan Africa, much of urban growth has been taking place in secondary towns and cities.

Today, out of the 55% of the world's population currently living in urban centres, about 40% reside in secondary towns and by 2015, 46.94% of the urban population in Sub-Saharan Africa lived in towns and cities with less than 300,000 persons. This share was more than figures in other regions of the world. Southern Africa has the highest proportion of its population

living in urban areas, followed by West Africa and Central Africa respectively (UN-HABITAT, 2020). Meanwhile East Africa has the lowest proportion of the population residing in urban areas and cities. To UN-HABITAT, this growth will remain the same until 2050. Africa's current trend of service provision did not meet the Millennium Development Goals (MDGs) targets as access to basic household services is, more than 50 years away in most African countries when compared with those of the developed world (Kimengsi and Ndam 2017). This may likely be the same situation with Sustainable Development Goal 11, if serious attention is not given. The situation of service delivery in secondary towns has the tendency to be inefficient as seen by limited government concern and intervention in service provision, given their sizes and importance to the state compared to large towns.

Secondary towns present weak data systems for monitoring their growth and informing decision, inadequate critical infrastructure and optimal connectivity besides weak economies and inadequate human capital development. This is attributable to weak governance and institutional deficiency in secondary towns. At house level, secondary towns are deprived of income and employment, health care services, water and sanitation to mentioned but these. Although secondary towns are often deprived from multiple sources, they still have so many opportunities that can provide development avenues for addressing their multiple deprivations. A paradigm shift towards effective spatial management can be undertaken to achieve effective growth and development of Nkambe and Ndu. Spatial planning remains a useful approach to addressing the growth of secondary towns within the broad spectrum of sustainable urban development. This is aimed at steering planning away from its regulatory role towards a more visionary role for the development of Secondary towns (healey, 2020 & UN-HABITA, 2020). Town Planning in Cameroon and *Law No. 96/12 of 5<sup>th</sup> August 1996 and Urban Law of 2004* were expected to be an essential tool for solving urban challenges (Tene et al., 2017 & Ndi et al., 2017). These urban planning laws are yet to be enforced in Nkambe and Ndu. This study therefore investigates the spatial planning challenges and implications on the development of Nkambe and Ndu. The findings of this study will be relevant in guiding urban planners in way that can prevent urban disorder stemming from the inevitable haphazard growth and development of secondary towns.

## **PROBLEM STATEMENT**

Besides tackling problems linked to the growth of major cities in Cameroon, the governments is equally saddled with the burden to manage the growth of secondary towns. Population growth is accompanied by economic and social policies that circumvent problems such as shortages in social amenities (communication, water, security, and frequent power blackout). Between 1987 and 2020, the towns of Nkambe and Ndu witnessed population growth from 51,762 to 58,425 and 53,785 to 53,816 (Nkambe Council, 2020 and Ndu Council, 2020) respectively. Given the putting in place of policy instruments such as the Land Use Plan and Sectorial Plan, it would have been expected that this population growth will not exert any weight on the available social amenities as steps would have been taken to upgrade or multiply them. Seemingly, the experience however is that there is increased crime wave especially in Sirgwa and Njipluh (in Ndu), Kungi, Binshu and Binju (in Nkambe), erratic power supply, inadequate water supply and health facilities, poor housing and road networks. The population increase will hardly bring about the economic growth and improvement in living standards observed in other contexts with the same or similar demographic changes. This study therefore set out to assess the spatial planning challenges and implications on the development of Nkambe and Ndu in view of improving the quality of lives of the urban dwellers. This identified lacunae need to be addressed, if forward-looking plans could be introduced to coordinate multiple sectors and land uses, in the face of the increasing growth of secondary towns in Cameroon.

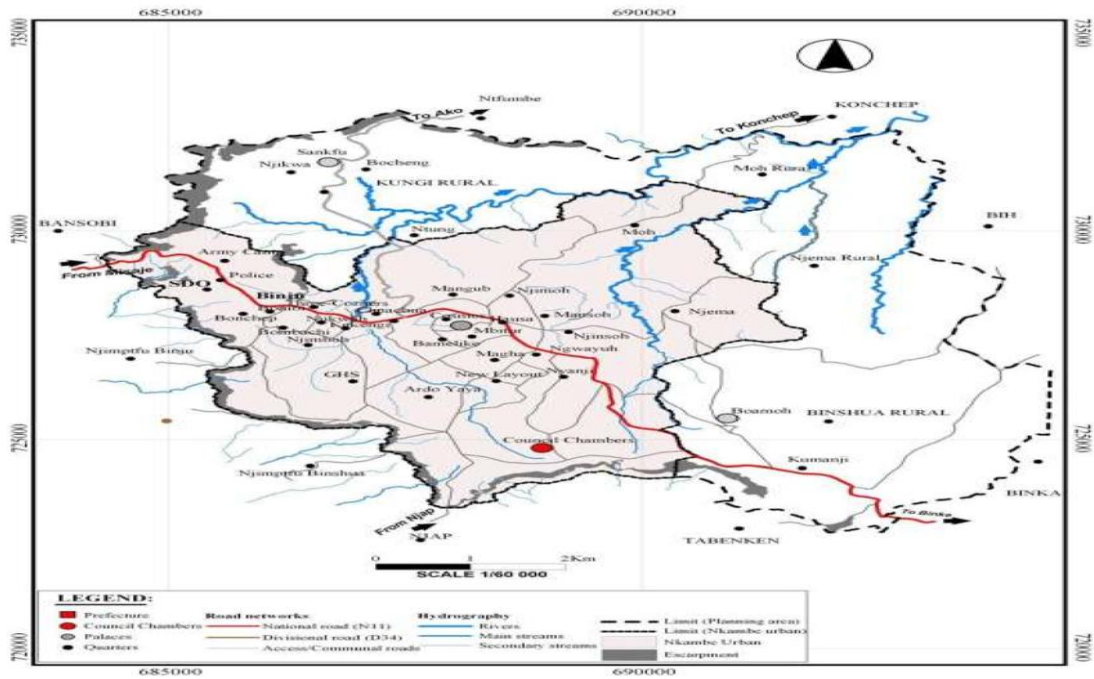
## **METHODOLOGY**

### **Study area**

The Nkambe Town lies between Latitudes  $5^{\circ} 35' 30''$  and  $6^{\circ} 40' 20''$  north of the Equator and Longitude  $10^{\circ} 42' 30''$  and  $10^{\circ} 02' 07''$  east of the Greenwich Meridian (Map 1) (Nkambe council, 2020). Nkambe is headquarters to the Donga-Mantung Division and the Nkambe Central Sub-Division. This growth pole is located some 35km from Ndu and 190km north from the Regional headquarters (Bamenda) (Map 1). Ndu on the other hand lies between Longitudes  $10^{\circ} 50' 48''$  east of the Greenwich Meridian and Latitudes  $6^{\circ} 20' 25''$  north of the Equator. Ndu Sub-Division has its headquarters in Ndu town (Map 2). Ndu Sub-Division was created by Presidential Decree *No. 93/322 of 25/11/1993*. Ndu which is the headquarters of the Ndu Sub-Division is located some 145km north of Bamenda and about 35km south of Nkambe (Nformi, 2011).

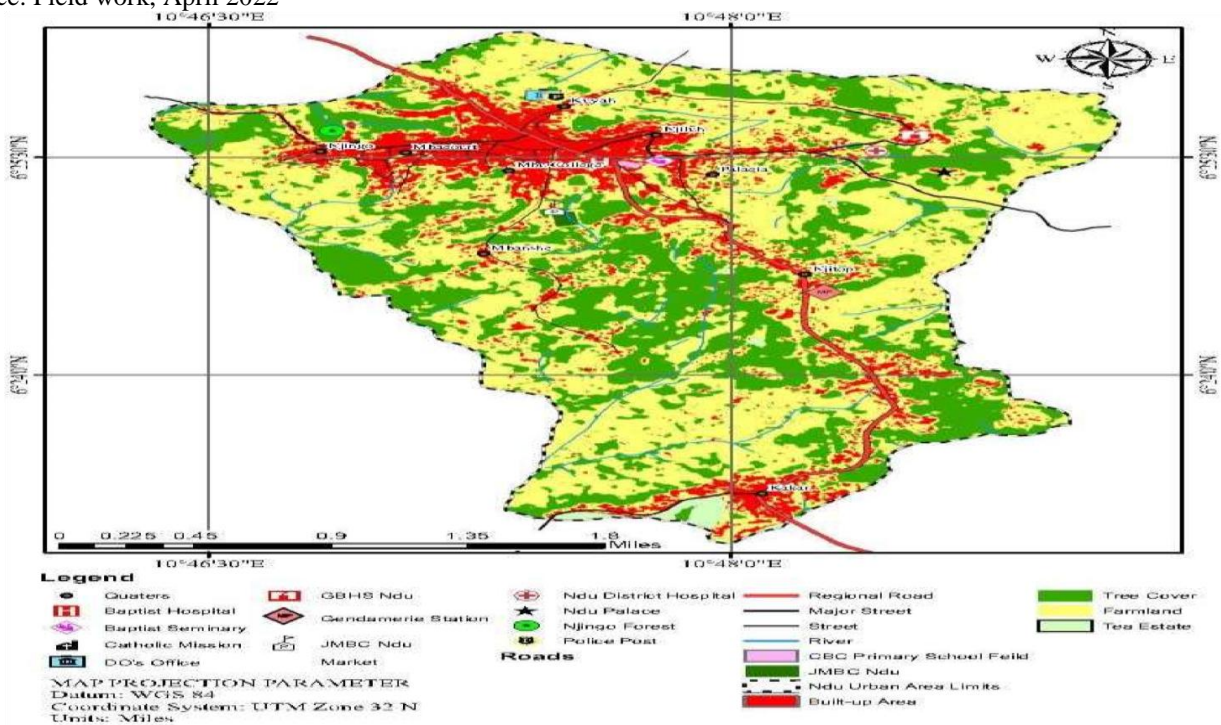
Nkambe and Ndu are located on a plateau intersect with anticline and syncline folds; surrounded by valleys of Orogenesis origin beside deep gullies that result from denudational processes. The relief constitutes both potentials and constraints to urban land development. The major potential is associated with stable structures in low plateaus and the major constraint is the slopes due to cut and fill along the slopes that are vulnerable to erosion, mass wasting and rock fall. These constitute high cost of infrastructural development in the towns. The major constraint is the slopes due to cut and fill along them that

are vulnerable to erosion, mass movement and rock fall. Cut and fill process before reinforced foundations are constructed in some parts of the towns like Sirngwa and Mutong in Ndu and Bingu in Nkambe. Thus, areas with rugged topography make construction very expensive especially in the first phase of building construction. The effective supply of water is very difficult in some parts of these towns on high slopes



**Map 1: Layout of Nkambe Town**

Source: Field work, April 2022



**Map 2:Layout of Ndu Town**

Source: Field work, April 2022

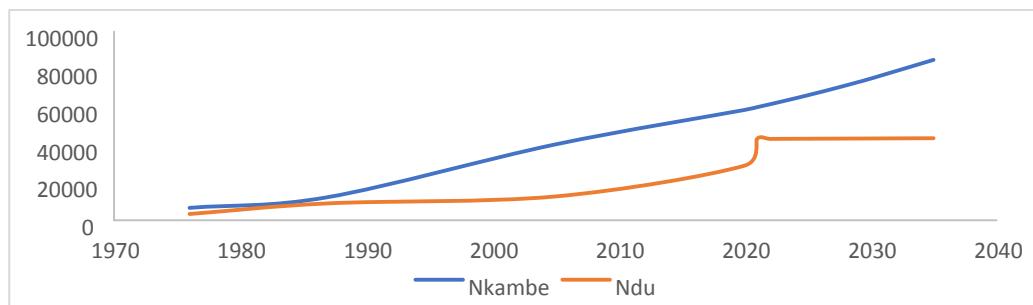
Explanatory research was used to specify the nature and direction of the relationships between the studied variables. It also uses probability sampling since the researchers generalize the results from the sample to the entire population. The pre-designed EpiData Version 3.1 (EpiData Association, Odense Denmark, 2008) database which has an in-built consistency and validation checks, helped in minimizing entry errors during data entry. Exploratory statistics continued with further consistency, data range and validation checks in SPSS VERSION 21.0 (IBM Inc., 2012) whereby outliers were sorted out using Box plots and invalid codes using frequency analysis. Boxplot is efficient in sorting out outliers because it demarcates them on a graph and at the same time indicates their exact position in the database such that they can easily be traced and verified. This approach to exploring data was particularly important for the variable dealing with household size which was a scale (continuous variable). The verification of questionable entries was equally facilitated by the fact that all copies of the data collection instrument were given codes and which codes were also entered into the data base and could help refer the instrument for eventual crosschecking. The sample flow chart consists of explaining the variation in the sample from the expected sample size to the sample validated for analysis after exploratory statistics.

The study used mixed methods of qualitative and quantitative approaches. The use of the mixed methods approach helped to offset the weaknesses of either the quantitative and qualitative research. The study also adopted the survey research strategy to collect data on spatial planning challenges and implicationson the development of Nkambe and Ndu. The principal research instruments used for this survey research were the questionnaires and an interview guide, in which each of the respondents answered the same set of questions. A case study research strategy was used to generate a comprehensive understanding of a complicated matter of interests in the natural context. Thesurvey research strategy was used to collect information on challenges and planning options. Through the simple random and snow ball sampling techniques, 300 questionnaireswere administered to the different household heads in Nkambe and Ndu. Structured interview guides were administered through the stratified techniques. Primary data sources for the study were equally obtained through observations. Secondary data for the study were obtained through the review of published and unpublished articles, offline and online libraries, magazines, database and reviewing of daily records of some private health centers.

Data collected during the field survey were analyzed through two statistical techniques. The qualitative data obtained was analyzed through the content analysis whereas themes and codes were given to the different opinions and perceptions of the informants and their frequencies and percentages were being determined from there. Qualitative information which could not be analyze were used as recommendation measures in the study. Inferential statistical technique was equally used during the analysis. Here, mean and variance were mostly used. The results of the analysis were visualized on graphs, tables, pie-charts, histograms and plates. The limitations to the study were that, since Nkambe and Ndu are some of the secondary towns prone with the ongoing political crisis, it was very difficult for the researchers to survey the entire towns. In this case, the various sub-chiefs and mayors were interviewed to obtain strategic information that was needed.

### **RESULTS**

Results revealed thatthe reasons for the growth and development of Nkambe and Ndu include rapid infrastructural development (20%), increased social amenities (22%), and increase in population (18%), the increasing standards of living (4 per cent) and administrative function (2%). Field finding revealed that, 70.9% of the respondents agreed that the growth in these towns is gradual, 59(22.9%) rapid, 5.4% very slow, 0.8% and others were neutral. Field studies revealed an increasing urban population in Nkambe and Ndu with a much faster rate of growth observed in Ndu (28.07%). Ndu constituted the highest population in Nkambe and Ndu in 1987 (27.19%) and 2005 (27.39%) and Nkambe which had 25.66% in 1987 and 23.35% in 2005. The main factors contributing to the growth of Nkambe and Ndu are: natural increase 39.5%, rural exodus 39.5% and government policy through the setting up of administrative units 21.1% (Nformi, 2011).



**Figure 1: Population Projection of Nkambe and Ndu and a projection to 2035**

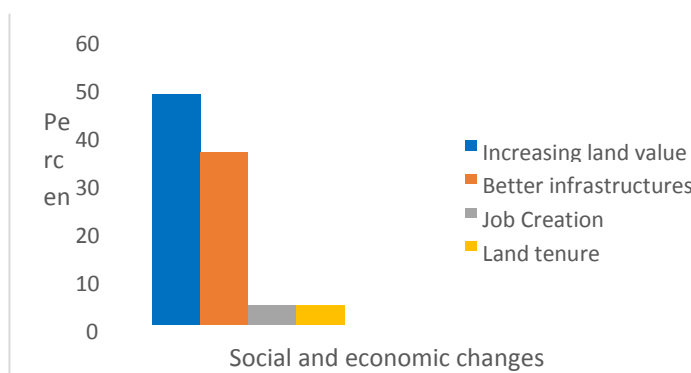
Source: 3<sup>rd</sup>GPHC BUCREP 2005 and the researchers' projections to 2035

The urban population of Nkambe and Ndu has witnessed an increase over the years (Figure 1). One of the earliest factors that stimulated population growth in Nkambe is colonial administration. Today, the only pull factor of urbanization in Nkambe is administrative services. The slide fluctuation in the line graph of Ndu population could be explain from the privatization of Ndu tea Estate from Cameroon Development Corporation (CDC) to Cameroon Tea Estate (CTE) beside the ongoing Anglophones Crisis that has made many people to leave Ndu and move to other. Ndu remain the hot spot zoon when it concerns the ongoing Anglophone crisis with so many crime waves discouraging foreigner for any meaningful development purpose except the indigenes of the area. The privatization of the Tea plantation in 2004 made jobs to be difficult as the number of employees and their pay were reduced by Cameroon Tea Estate (CTE) plantation. The trends of Nkambe population since 1976 has been on the increase as more socio-economic activities keep increasing attracting students, commercial persons and civil servants.Nkambe and Ndu have also grown as a result of political influences. These settlements which were once rural were later upgraded from districts to Sub-divisional headquarters through government efforts to take administration closer to the people (decentralisation).Nkambe and Ndu also act as educational centers with a seat of learning which draw students and teachers from the division and the whole country. Some of these institutions include the Government Teachers Training High School (GTTHS) Nkambe, Cameroon Baptist Theological Seminary (CBTS) Ndu, the extension of St Louis Medical School in Ndu and others. There are many secondary schools serving the towns and beyond. Personnel who leave these higher institutions are posted throughout the division to serve in various capacities.

There are a number of security services and institutions that have driven the growth of these towns. For instance, the Police Corps provides services for the protection and defense of citizens. They also establish identity cards, certify documents and keep peace in general and check crime wave. The Police Corps and Gendarmerie assure security in these towns and see into movements towards the villages at the borders towards Nigeria. They check security issues and oversee territorial security at the borders.

**Challenges Faced by urban dwellers and authorities in Nkambe and Ndu**

As observed on Figure 2, environmental pollution is the main effect of urbanization (62%), land use change (18%), deforestation (10%), soil erosion (8%) and flooding (2%). The uncontrolled spread of Nkambe and Nduhas a negative impact on planning (Figure2)



**Figure 2: The perception of the socio-economic benefits of Nkambe and Ndu**

Source: Generated from Questionnaires

Figure 2 showed that there has been an increase in land value in Nkambe and Ndu as a result of urbanization (48%), better infrastructures (36%), creation of jobs and land tenure (8%). From field findings, out of the 256 responses sampled, 19.5% said it was fair, 10.9% good, 14.5 per cent very good, 29.3% poor, and 66(25.8%) very poor. Field findingsequally revealed that poor draining of water catchment for settlements and other land uses is a normal occurrence in the towns given that 43.0% strongly agreed, 40.6 % agreed, 7.4% disagreed, 5.9%. The challenges lies in achieving development while maintaining biological balances and guaranteeing the possibility for future generations to meet their needs.

### **POOR WASTE DISPOSALS**

Solid waste generated in Nkambe and Nduis made up mainly of household and municipal wastes (plastics, food wastes, cardboards, wraps, paper, clothes, bottles, wood, metals, glass and others). These wastes are disposed of in drainage gutters and streams that flow through the quarters. Result from the households head sampled showed that only 2.00% disposed their solid waste collection are dispose in containers, while 77.10% behind their houses as manure and 14.90% in distance farms. In terms of the sorting of waste, only 24.0% household heads sampled disposed wastes without prior segregation. This poor dumping of waste contributes to water borne diseases, degradation of the aquatic ecosystem, and hampers the flow of the streams (Plate 1). Plastic papers of all types and sizes (Plate 1a-d) are cases of carelessly thrown waste onto the environment in Nkambe and Ndu. Field responses showed that 38.0% of the households sampled confirmed that plastic waste was a real problem in the towns.



**Plate 1:**a-Nkambe Council dump site, b-Proliferation of plastic materials c-Heap of waste (Holy War Hotel) in Ndu.d-behind new market, Nkambe town

Source: Field work, 2020

### **NATURE OF ROADS**

It was discovered that Nkambe and Ndu have bad roads as 37.5% respondent strongly agreed, 53.1% agreed, 6.3% disagreed, 2.00% strongly disagreed and 1.2% had no idea. Field responses equally revealed that 20.3% of the roads in the studied area were footpaths, 70.7% graded and 9.00% tarred. Tarred roads are only found in some parts of Nkambe and nothing for Ndu. Connectivity which is the relationship between the number of neighbourhoods (nodes) and number of linking roads (links) in a single network was calculated using Beta Index (B). It is formulated as:  $B=e/v$ ; Where B= Beta index, e= edges or links and v=vertices or nodes. For the entire road network of Nkambe, there are 127 links and 78 nodes which are neighbourhoods in the town under study. With this links and Nodes  $127/78=1.63$ , a beta index of 1.63 showed that Nkambe is poorly connected in terms of road transport. This high beta index is a bad indicator for the secondary town like Nkambe. There is no one public parking along the road and over the Grand Stand.

### **NATURE OF HOUSES**

Field observations equally revealed that most houses in Nkambe and Ndu are dilapidated because they have exceeded their lifespan of 30 years for local materials and 50 years for conventional materials although a majority 69.0% of the respondents were landlords. Meanwhile, 40% of respondents claimed to have constructed their houses before 1970 and 1990. Therefore, there is fear and uncertainty about future action probably demolition and urban renewal which can cause conflicts. There are two major housing sectors in Nkambe and Ndu; the public and private sectors. The public sector is administered on the basis of objective needs based on policies and goals of the government. Participants in this sector are government agencies representing the government. Government housing construction is very limited because of few public service provisions in

these towns. The public houses are more in Nkambe than Ndu because Nkambe is the Divisional headquarters and Ndu a Sub-Divisional headquarter. The private sector housing supply is done by individuals as well as corporate bodies beside organisations. They provide houses for sale, houses for rent and owner occupier houses. In these towns, more than 80 per cent of the population accommodate themselves in private buildings. The private housing sector is far below standard with respect to modern houses as they do not have good ventilation and inner toilets. This can be explained by the fact that, most of them were not formerly erected as they do not have building permits. A majority of houses in neighbourhoods of Boyar, Njiluh, Mbacourt and Mbucollege in Ndu are very poor in building materials and some rooms more congested having more than 4 persons. In Nkambe, Kungi and Binju also harbours very poorly constructed houses that need repairs if not, to be demolished in order to modernize the town. Sustainable houses are those with permanent structures, good condition, good quality ventilation, kitchen, toilet, water, electricity and good waste disposal facilities.

### **POTABLE WATER SUPPLY**

The towns of Nkambe and Ndu are watershed with high quality of spring water points that supply other places but suffer from acute water shortage. Paradoxically, this is the challenge of administration and the cry of the Municipal councils. There is poor conception on how to generate and manage the numerous spring points and water catchment that supply sustains water in the towns, rather an adhoc approach of sinking boreholes and stream connections have been used to generate water for some quarters in the towns. This has the potential to create acute shortages of water supply in the towns thus, limiting water consumption for households. When the researchers asked whether grazing was taking place on the watershed, the responses were as follows: 15.1% strongly agreed, 67.5% agreed, 9.5% disagreed, 5.2% disagreed and 2.8% indicated that they do not know. The grazing of cattle on watersheds is behind the reduction of water quantities in the towns. From field findings, majority of the respondents agreed that farming was taking place close to water catchment which is another cause of reducing water discharge in these towns. In all, 45.3% strongly agreed, 38.3% agreed, 7.4% disagreed, 7.4% strongly disagreed and 1.6% said they did not know. Problems of water supply in these towns include destruction of wetlands due to urban agriculture, housing close to watershed, planting of eucalyptus trees in water catchments and wetlands, inadequate public stand taps, frequent electricity interruption, high connection and monthly rates, poor services by CAMWATER, inadequate capacities of water supply, incoherent water supply networks and infrastructure, unprotected water catchments and poorly maintained water supply network and infrastructure. From field investigation and based on an interview with Mayor Abdu Karfon of Ndu Council (23<sup>th</sup> June, 2020), on Mondays, the quarters of Kuyah, Njiningo and Nsankfu (Zone One) have water flowing in their taps while those from Njilupluh, Palacia, Sirngwa (Zone Two) either wait for their turn or trek to Zone One before having water. The distance between Njiningo and Sirngwa is more than two kilometers.



**Plate 2:** a-The dominance of eucalyptus colonizing, Njiluplu b-incompatible farmland in Motung increasing siltation c & d: expose drinking public tap water

Source: Field work, 2020



Plate 3: Water scramble in Bamileke quarter a&b; Nkambe ( $6^{\circ}.39'13''N$  and  $10^{\circ}.40'03.4''E$ ) (B) ( $6^{\circ}.39'13''N$  and  $10^{\circ}.40'02.5''E$ ); Nkambe

Source: Field work, March 2020

Some of the urban dwellers in Nkambe and Ndu have water from privately owned wells, rivers, pipe borne water, bored holes so as to optimize their water needs. The water from most of these sources is not treated thus exposing the population to water borne diseases such as the cholera epidemic of 1998 and 2000. Water crisis in Nkambe and Ndu is not only manifested in terms of shortage but also in terms of long distant trekking, mostly suffered by the already vulnerable population (women and children).

### **HEALTH CARE CHALLENGES**

There are many challenges facing the health sector of Nkambe and Ndu. Nkambe Council has one district hospital, one medical health center, three integrated health centers, two health posts, five private health centers with a total of 122 beds, five public pro-pharmacies and a few private patent medicine stores. The situation of health in Nkambe and Ndu as per group of responses, manifest through poor access to the facilities with only 28.9% who acknowledge that it was very good, fair 29.3%, good 25.8% and 99.2 very poor. Field investigation equally revealed that, out of the 258 responses with regards to access on service delivery in the studied area, 20.16% of them said they used one hour to get to the nearest health care service. Majority of this was in Ndu with 12.09% and Nkambe 8.06%. 18.14% persons acknowledge that they usually take between 30-60 minutes to get to the nearest health facilities. More were observed in Nkambe with 9.67% and Ndu had 8.47%. 32% persons said they use between 15-30 minutes to access the nearest health units; Nkambe with 15 and Ndu with 16%. 29% persons acknowledged that they typically used less than 15 minutes to access the nearest health unit with more 21.37% in Nkambe and a small number 11.69% in Ndu. This falls in line with what the Divisional Delegate of Public Health for Donga Mantung Division indicated that health delivery in the division has not been carefully addressed and falls short of the demand of the population of divisions. A great number of respondents in Zone 3 (4 persons) and Zone 1 (20 persons) in Ndu and 8 persons in Kungi in Nkambe indicated that, most often they spent above 40 minutes to get to health care centers while some spent above or even an hour. This situation is linkable to poor road networks and limited health service deliveries in the towns.

### **SECURITY CHALLENGES**

From field investigations, out of the 2,282 crimes recorded in 2019, 282 were under property crime in Nkambe and Ndu. Within the property crime subcategory (Table 1), destruction is the most recurrent; theft (25.53%), followed by property destruction (18.79%), misappropriation (16.67%), Violation of injunction orders (13.47%). The least recurrent ones include sales of illicit drugs (3.19%) and corruption (1.77%). With regards to crime against person (s), a total of 254 crimes were recorded representing 11.13% of the total crimes recorded. The crimes stood as follows, assault (54.06 per cent), followed by life threats (25.73%) and rape (8.02%). The least observed crimes in this category include homicide and harassment with less than 3%. The rate of victimisation stands at 74.71% for these towns. Workers of the informal and private sectors are the most vulnerable because it is believed they carry along money. Insecurity is highest in unplanned quarters, poorly guarded play grounds and open spaces of Nkambe and Ndu.



**Table 1: Types of Property crime in Nkambe and Ndu urban space**

<b>Crime/Town</b>	<b>Nkambe</b>	<b>Ndu</b>	<b>Percentage</b>
Theft	26	46	25.53
Misappropriation	33	14	16.67
Destruction	37	16	18.79
False pretexts	28	19	6.07
Violation of injunction	23	15	13.47
Corruption	4	1	1.77
Sales of illicit drugs	2	7	3.19
Forgery	21	13	12.06
<b>Total</b>	<b>151</b>	<b>131</b>	<b>100.0</b>

Source: Legal Department in the Court of First Instant, Nkambe Court, 2020

**POOR PLANNING BY LOCAL AUTHORITIES**

There is a lot of deviation of service provision facilities on the towns from the ideal distances of people to walk and meet their social and economic amenities. The mean deviation for nursery school is 380.50m with a standard deviation of 744.32m primary schools mean was 750.66m with a standard deviation of 3461.46m, church locations mean was 728.01 and a standard deviation of 1658.36, mosques mean location is 585.73m and a standard deviation from the means 941.20m, shopping mean is 524.69m and a mean deviation of 1180.95m, playing field mean location 717.78m and standard deviation of 1622.65m, secondary school mean 734.38m and a standard deviation of 930.59m, post office mean 684.67m and a standard deviation of 1313.26m, community market mean 580.64 and with standard deviation of 580.64m, health Centre mean was 587.48m with standard deviation of 716.27m, police station mean 1780.58m with deviation of 4499.41m, Gendarmerie station mean was 557.42m with deviation of 674.86912m, Administrative office mean was 773.84m with a standard deviation of 1019.93m. The locations of these basic facilities are not in accordance to the United Nations standards and pose a lot of problems to the urban dwellers of Nkambe and Ndu. This also shows some lapses in the planning of these social and economic amenities in these emerging towns.

**Awareness of the existing laws and policies**

From field investigations, 90% of the respondents were not aware of the existing urban legislation and policies against 10% who were aware. The low rate of awareness in the existence and enforcement of the urban regulatory instrument were observed not only among the urban dwellers but also among the institutions charged with urban planning. This could be explained by the fact that many Divisional Delegations charged with urban development do not have experts. Most urban planning practitioners (managers) in Nkambe and Ndu had no former training in the field. For instance, field investigation revealed that 25.2% never attended any training on town planning. For those who did, 34% had their training more than 10 years before. Of those who had some training, 36.4% said it was less than seven years and 19% said it happened within the previous 5years. The implication of having very few trained urban planning practitioners with few in service training is that, there is limited information dissemination, ineffective monitoring and enforcement of regulations. Only one urban planner exists in Nkambe Council on hired based that can manipulate geographic information on soft wares such as Geographical Information Systems (GIS), Remote Sensing (RS) and Disaster Management (DM) for urban spatial planning and non for Ndu (Table 2).

**Table2: Existing stakeholder Capacities in Nkambe and Ndu**

<b>Institution</b>	<b>Knowledge on RS</b>	<b>Knowledge on GIS</b>	<b>Knowledge on DM</b>
Nkambe council	1	1	0
Ndu council	0	0	0
MINHDU	0	0	1
MINEPAT	0	0	0

Source: Field work April 23th, 2020

The fact that only one person (Table 2) in Nkambe town can use RS and GIS already indicates that there is slow enforcement and monitoring on town planning regulatory instruments besides weaksensitization of the urban population and very little data available on urban growth points. This finding indicates that spatial information which can help

government planners to take decision is almost absent. This implies that the existing spatial urban data like Maps, plans, aerial photographs, satellite images which form the data base of any meaningful development is poorly drawn and most often hardly updated and put into use in these towns.

As noted by the sub-chief of Sirngwa in Ndu;

*“the only law they are aware of concerning urban development is leaving away from the main road and the stream channels before housing construction”.*

He, insisted there is even confusion in this law as some people talk of 8m, others talk of 15m and yet others talk of 10m (Field work, March 23th 2020). This is not only a challenge to us the local population but also to the urban planning stakeholders like the municipal councils. The case of Nkambe and Ndu where 10% respondents were aware against 90% who were not aware of the existing instrument of urban regulations is a serious called for concern. Field work also showed that only 8% acknowledge the enforcement of urban regulatory instruments with over 92% refusing their implementation on the field. Variations still exist in Nkambe and Ndu with regards to the level of law enforcement with 10% and 3% acknowledgement respectively. The low enforcement of these laws (regulatory instruments) can be justified by the fact that the responsibilities of the ministries and the decentralized local authorities (councils) overlap and are not clearly defined. As noted by the Lord Mayor of Nkambe, *« even though the government seems to have handed over town planning to the local councils, we as councils have not been financially empowered to independently run our councils. The state still controls and regulates our activities through SDO's and DO's. This has limited our powers as councils to an extent »*. Council budgets and some projects are still overseen by the agent of the Ministry of Territorial Administration, and the Ministry of Public Contract awards through its Regional, Divisional and Sub-divisional supervisory administrators.

### **COMPLICATIONS IN OBTAINING BUILDING PERMITS**

The need to obtain building permit in Cameroon is consistent with *Law No. 2004/003 of April 21th 2004* regulating town planning in Cameroon. The conditions stated in the law are outlined as follows; in the absence of a valid permit, proprietors are liable to a penalty of 30 per cent of the building total cost. The Law outlines nine conditions needed in order to obtain a construction permit. According to the law, the proprietor should obtain recent proof of land ownership, a certificate of urban planning, an approval of the overall plan and the site plan by the department of surveys, a geotechnical assessment, and certificate of conformity and submit a completed application form alongside municipal council's documents. There are many difficulties involved in obtaining the documents stated above. It usually takes fifteen days after the date of submission of application for the Mayor to verify the application. The ensuing validation is a precondition for the review board to discuss the application before a final decision comes from the Mayor. After this, the applicant has to contact local authorities where the land is located, hire an authorized supervision agency to assist, get an inspection team composed of a council member to inspect the land. Deliberations by the team will determine if the permit will be issued or not. The process is even more convoluted by an additional list of over ten documents to be submitted alongside the conditions of municipality. The long procedure involved in getting a construction permit is a disincentive for many people who intend to apply for a building permit. This has force many urban dwellersto construct illegally irrespective of the regulatory instrumentsin Nkambe and Ndu.

#### **The cost involved in the issuance of building permit**

Coupled with these documents and actors involved, the fee to obtain the permit is very high. Proprietors have to pay 1 per cent of their estimated cost of the building to the council treasury which stands at 25,000 FCFA, 45,000 FCFA or 30,000 FCFA fee for a bungalow, one and two storey buildings respectively and to the joint commission. In addition to this, the official registration cost approximately 4000FCFA and a town planning certificate estimated at 25,000 FCFA for the case of Nkambe. In Ndu, the case is slightly different were the council treasury expect 20,000FCFA, 4000 FCFA or 25,000 for a bungalow, one or any storey building. After this, a joint commission sits and evaluates and if approved, the permit is issued by the Mayor. The payment of 30 per cent by the proprietors who have no building permits is completely absent in these towns because the councils do not follow them to do so. This may be the reasons why there is haphazard growth in Nkambe and Ndu.

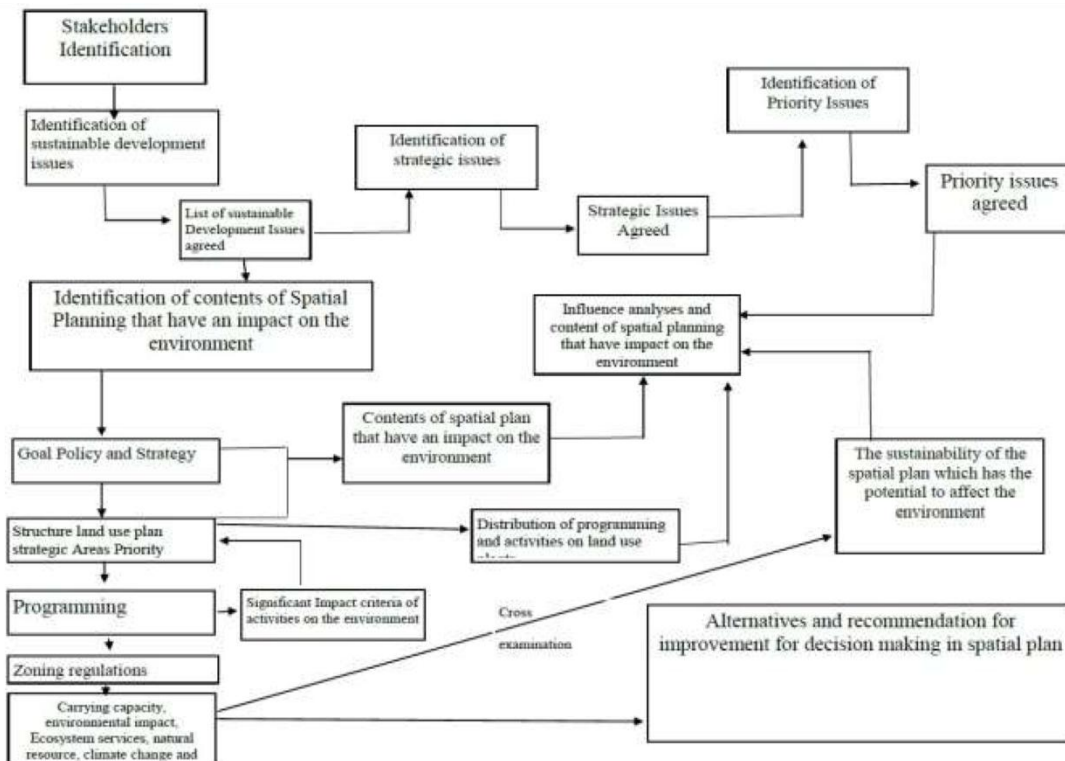
#### **Actors involved in the issuance of building permit**

The actors involved in issuance of building permits in these towns are the Mayors, the Divisional Delegate of the Ministry of Housing and Urban Development (MINDUH); all working in collaboration with the Divisional Delegate in the Ministry of Territorial Administration, Divisional Delegate of Ministry of Energy, Water and Mineral Resources beside the Divisional Delegate in the Ministry of Environment and Nature Protection, inspectors and security officers. There are so many parties involved in the issuance of the building permit and this further complicates the procedures, norms, conditions

and documents required to obtain the building permit since all the stages identified therein go with expenses. Even though a huge number of field respondents were of the view that urban regulatory bodies were absent in the study area, the urban dwellers of Nkambe acknowledged that building permit is used by the councils to regulate urban growth and development. Field finding revealed that the problems encountered by individual housing developer in the towns of Nkambe in an effort to gain access building permit stands as follows; 6.0% said the document is very costly, 55.3% indicated that the process is very long and 45.7% said the process is highly corrupt. The situation is slightly different for Nkambe. Slide variation exist in Ndu in an effort to gain access to building permit; 6.55% said the document is very costly, 52.46% indicated that the process is very long and 40.98% said the process is highly corrupt.

In order for these towns to sustainably grow and develop, a proposed spatial plan has been provided for urban managers and administrators which can be followed to achieve sustainable urban development in Nkambe and Ndu (Figure 3). The developers should begin with the identification of stakeholders' charge with urban planning and management in the towns. The stakeholders should set up sustainable development projects (issues); list all sustainable issues and agree on how to go about it. The stakeholders' afterward can bring out strategic sustainable issues while strategizing and agreeing on what to do in order to achieve it. In the same line, the stakeholders should prioritized some projects and agree on it because of limited financial capacity of the institutions charged with urban development and management. In last stage, the stakeholders should do content analysis and their impact on the environment so as to minimize environmental degradation in the towns. This should be followed by setting out their goals, policies and strategies to achieve the goals. The stakeholders can structure the towns into land use patterns while developing a Land Use Plan (LUP), and Master Plan (MP), Strategic Areas and at the same time prioritizing some areas of development.

The stakeholders should program the task and do some urban Zones and regulate the urban growth to follow the zoning provided by them. They should make sure that they have properly done impact assessment of activities on the Environment. This can be done by studying the carrying capacity of the projects, Environmental impact assessment, ecosystem services, natural resource, climate change and Biodiversity of the towns. The stakeholders should influence the content of spatial plan that have impact on the environment while putting pressure on urban developers to follow the sustainable spatial plan so as to avoid negative impact on the urban environment. They can also make alternative recommendation for improvement in decision making in the spatial plan proposed for the towns. If this is down, the secondary towns of Nkambe and Ndu will emerge as sustainable urban centers that will be enjoy by all urban users (Figure 3).



**Figure 3:** Proposed Spatial Planning guidelines for sustainable growth and development in Nkambe and Ndu.

Source: Developed and Sketched by the authors, (2022)

## DISCUSSIONS

Field findings showed that 80% of the urban dwellers are pupils and students who migrate into Nkambe and Ndu for educational purposes, security and the search for better living conditions. This finding corroborates with that of the African Policy Circle (2020) which observed that the growing urbanisation of Africa have links with development trends, accelerating economic and population growth, rural exodus beside a bulge in youths. This finding is also similar to what Balgah (2007) observed while studying population resource dynamics in Buea. Urban growth according to Fombe and Balgah, (2010) is attributed to natural increase, net migration and real reclassification administrative units. The UN-HABITAT (2020) reported that rural-urban migration is the most important contributor to urban growth in many developing countries, where the concentration of investment and employment opportunities are important pull factors which corroborate findings of this study.

Safe drinking water, basic toilets and good hygiene practices which are important for socio-economic development is becoming scarce in Nkambe and Ndu, and the urban dwellers of these towns are victims. This finding corroborates that of Africa Policy Circle (2020) in Malawi where the body observed that over 9.9 million people had no access to basic sanitation, and 5.6 million could not access safe drinking water. This was associated to flawed planning, poor governance and inefficient usage of the existing systems. The water rationing experienced in Nkambe and Ndu besides the long trekking in search of drinking water was concurred by Ngajo et al., (2016) and in Buea town as revealed by Kimengsi and Amawa (2015).

Crime has become an important issue in Nkambe and Ndu as a result of poor urban planning. This observation is similar to that of Kimengsi and Ndam, (2017) in the city of Bamenda and who noticed that more crime prevalence occurred in unplanned neighbourhoods. Tiafack et al., (2014) who studied Limbe and Kribi also observed increasing crimes in unplanned areas. Gaviria and Pages (Gaviria and Pages, 2002) noted that the occurrence of crime in Latin American cities is a reflection of the inability of many cities in the region to keep up with the increasing demands for public safety brought about by a hasty and disorderly urbanisation process. According to WHO (1999) in Kimengsi and Ndam (2017), in the United Kingdom, several design and planning initiatives set by local authorities, town managers and architectural liaison officers have sought to re-emphasize the need for planners and developers to take community safety seriously so as to reduce urban crimes.

Field findings also revealed that 90% of the respondents were not aware of urban existing laws and policies against 10%. Most urban planning practitioners had no formal training. Most urban disorder cases are caused by government officials, political leaders and business men that have illegally occupied state lands through corrupt practices. There are continuous problems regarding implementation and compliance with town planning laws in Cameroonian towns and cities (Priso & Ndi et al., 2017). The lack of the awareness on the existence of urban planning regulations has ushered in urban socio-economic, environmental and political problems in the secondary towns of Nkambe and Ndu. The Municipal Councils Nkambe and Ndu have not been encouraging urban dwellers to live in harmony with its environment. This finding is in line with that of Priso (2014), in Ndi et al., (2017) who observed that, despite the numerous legal instruments regulating the growth and development of towns in Cameroon set by the government, many officials charge of enforcing the laws on the field do not know about them like those in Nkambe and Ndu. This finding is against that of Yigilcanlar et al., (2019) who in their studies of Making cities smart in the urban spaces of Songdo, Masdar, Amsterdam, San Francisco and Brisbane. They discovered a well organised system regulating the growth and development of urban space. In an effort to ensure urban sustainability, the Cameroon government instituted some legal/regulatory instruments (*Law No. 2004/003 of April 2004* to regulate). Regrettably, Nkambe and Ndu are yet to develop and implement this law. Such a situation breeds chaos, inefficiency and unsustainable urban development in the secondary towns.

## CONCLUSION

There are spatio-temporal manifestations of urban growth and development in Nkambe and Ndu. These manifestation is observed through the ever growing population driven by natural increase, rural urban, creation of administrative units and educational establishments (Nform, 2011). There is poor access to pipe borne water, inadequate transport facilities, poor educational infrastructure, health services, public security, electricity and communication in Nkambe and Ndu. While there are other developmental challenges plaguing the growth and development of Nkambe and Ndu, the role of water supply imbalance cannot be under estimated. It therefore holds that surmounting developmental challenges in Nkambe and Ndu would require the correction of water supply imbalances as a contributing element. Nkambe and Ndu Councils should envisaged training of Council Staff on Integrated Water Resource Management and Environmental Management (Nfor et al., 2013). This would greatly improve water supply in the towns.

Nkambe and Ndu do not have Master Plans to clearly define their settlement trends and pattern. Hence, urbanisation has taken place without any planning and sanctions from the Delegations of State Property and Land Tenure (MINDAF) and

that of Urban Development and Housing (MINDUH). This has made it very cumbersome for the councils to control the illegal growth of settlements. Such uncontrolled settlements exist in direct contradiction with the existing land regulations such as the 1996 Environmental. Planning tools (Master Plan, sketch plan, and Land use plan) should be initiated in ways that aim would address environmental, social, and economic problems facing the towns of Nkambe and Ndu (Ngwani et al., 2020). Legislation on urban planning is a significant management tool for governments in dealing with the sustainable urbanization challenges facing 21<sup>st</sup> Century towns and cities. These towns need spatial plans to be able to control their growth for a sustainable future. The local government (Councils) need technical and managerial skills, strong capacities to design, implement, monitor and evaluate local public policies and services. This will help the towns to grow properly following a planned and organized path.

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