

Residential Segregation and Implications in Jos North Local Government Area, Nigeria

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Abstract

Residential segregation is a long term challenge the world over with daunting consequences that leave the city unable to attain its full potentials. In Jos, residential segregation has assumed a worrisome and unfortunate trend that has affected where people live, work, do business and recreate. This paper assessed residential segregation and implications on physical planning and development in Jos North Local Government Area. The study selected six (6) wards out of the fourteen (14) in the LGA. Two (2) neighborhoods each dominated by Christians, Muslims or mixed were randomly selected and 304 respondents drawn from the 6 neighborhoods with bias for people that have lived in Jos since 2001 (when the first major ethno-religious violent conflict occurred) who could relate with conflict experiences resulting in residential segregation and the implications on physical planning and development. The study reveals that residential segregation existed since the colonial era but has recently been sustained by the sectarian crises which began in 2001. More than 81% of the respondents indicated that segregated neighborhoods are directly related to the ripple effects of the ethno-religious violence, resulting in residential neighborhoods that are now ethno-religious territories and enclaves, some of which have become beehives of terror and criminal hide outs and activities. Further implications include accelerated increase in demand and price of land, poor and inaccessible road network, minimal infrastructure and service provision, increase housing demand, illegal and uncontrolled housing development leading to the emergence of new slums and informal settlements along the fringes of the city some of which are inaccessible to public officials, city managers and service providers. The range of implications are common across all segregated neighborhoods and require urgent interventions to enhance effective and efficient physical planning and sustainable development in all facets. Urgent physical planning intervention and spatial framework to address development challenges would help to largely reduce uncontrolled residential segregation and its implications through partnership between residents, government and development oriented organizations.

Keywords: Implication, Jos city, Physical planning, Residential segregation

INTRODUCTION

Jos city is referred to as the Home of Peace and Tourism. However, in the past two decades it has witnessed spates of violent conflicts characterized by wanton destructions of lives and properties (Plateau Indigenous Development Association Network (PIDAN), 2010). This has led to residential mobility and segregation due to the unwillingness of citizens to reside in areas where they feel their safety, health and wellbeing are under threat (Danfulani, 2006). Insecurity has assumed dangerous proportions as it continues to reduce quality of life by threatening lives and property, well-being, peace and social order (Agbola, 2006; Ahmed, 2010; Lawanson, Soyinka & Omole, 2013).

These have led to the emergence of cities with patterns of residential neighborhoods that can best be described as “ethno-religious territories and enclaves” (Lohor, Dung-Gwom & Rikko, 2013). The consequence is that Christians and Muslims no longer move, live and do business freely in each other’s territories.

Recent attacks and killings of innocent residents in the outskirts of Jos city has generated tension within the city that have led to the imposition of curfews. For example, a curfew, from 14th to 30th of August, 2021, was imposed on Jos and its environs after more than ten people were killed by suspected herdsmen near Naraguta village, a of sprawling extension of the city. The violence has

graduated from localized disputes to scenarios of more horrendous global dimension. This has further aggravated and widened the already existing gap between the adherents of Christianity and Islam and their desire to coexist. It may be argued that residential segregation, the world over, is a manifestation of deep seated disagreements, bitterness, hatred or resentment arising from a long time of inequality based on race, social, economic and more recently, ethnic, cultural and religious proclivities.

The continuous conflicts in Jos metropolis since 2001 has entrenched permanent segregation in living, work and business areas. Aliyu, Kasim, Matin, Diah & Ali (2015) observed that conflicts within the metropolis and environs has culminated into residential relocations and mobility following religious and ethnic backgrounds. This has split the metropolis into two distinct towns within one city (having areas solely dominated by majority Christians and another dominated by Muslims). In other words, the city is segregated into Native and Hausa communities with each group dominated by a particular religion making the whole arrangement a complex one (Ostien 2009).

By its nature, residential segregation is a form of segregation that sorts population groups into various neighborhood contexts and shapes the living environment and social space at neighborhood level (Gambo & Omirin, 2012). It often classifies and segregates neighborhoods based on a variety of peculiarities such as race/ethnicity, religion and economic/social status of individuals and groups within the population (Aliyu et al., 2015). These reasons are sometimes unjustifiable and have continued to impede the agitation for inclusiveness in planning and city development.

In Nigeria, religion has continued to play a critical role in the society and has expressed itself as a potent force in the geopolitical development of the country. Consequently, Christian and Muslim identities have continued to exacerbate and escalate religious disparity and skirmishes (Lewis and Bratton, 2000) leading to high level of insecurity in the nation. Issues of insecurity are major threats to quality of life, human rights, social and economic stability and sustainable development in cities (UN-Habitat, 2005). Insecurity has affected where people live, work and do business to the extent that property investment decisions are based on locational safety and security (Africa Housing

News, 2021) because security is a pre-condition to urban development (DFID, 2006). Like the adage goes, no meaningful development can occur when cities are in rancor, crises, fear and lack of freedom. Africa Housing News (2021) has pointed out that areas prone to security attacks such as from Boko Haram, Fulani herders, bandits, cultism, regular ethno-religious crisis, and lack of safety of residential environment witness serious decrease in choice due to fear of being invaded and killed or properties burnt down. On the other hand, residential areas that have experienced insecurity suffer from mass mobility to areas considered as “safe” and “secured” (Tupkop, 2021).

According to Gyok (2021) even physical planning and development control as well as infrastructure or service provision are a great challenge in such neighborhoods. These in addition affect the growth of settlements which are already expanding in chaotic, irregular and uncontrolled manner without an effective functional planning and infrastructure (Rikko & Dung Gwom, 2019).

Some previous researches have presented the causes and characteristics of residential segregation (Dung Gwom & Jugu, 2017) and others have considered the challenges while some have discussed the advantages and disadvantages of residential segregation (Aliyu et al., 2015). However, no attempt has been made to x-ray the implications of residential segregation on the physical planning and development of the city which this paper sets out to achieve with a view to proffer planning solutions for a more inclusive and sustainable city approach to development.

LITERATURE REVIEW

Literature provides ample definitions, concepts and reasons for residential segregation both in developed and developing nations. Segregation is considered as an urban concept and according to James (1977) is a process of clustering where individuals and groups are shifted and sorted out in space based on their sharing certain traits or activities in common. Residential segregation portrays the extent to which groups defined by racial, ethnic, religious or national origin live in different neighborhoods. It is simply the spatial separation of two or more population sub-groups within a specified geographical area such as a municipality, a county, or a metropolitan area (Kemper, 1998) or the concentration level of social

groups in given areas of the city (Jargowsky, 1996) where close spatial proximity is advantageous.

According to Bruch and Mare (2008) residential segregation is "the non-random allocation of people who belong to different groups into social positions and the associated social and physical distances between groups". It is the extent of spatial proximity, or territorial agglomeration of households belonging to the same social groups, where a social group can be understood in terms of race, age, or income, religion, family structure, or socioeconomic status and geography such as a residential block, a state or province, or a country.

It is interesting to note that the same reasons that separate residential areas on one hand are equally the same reasons that cluster people together on the other hand. For instance, while residential segregation has succeeded over the years to sort population groups into various neighborhood contexts and shape the living environment, it has also widened the gaps between social groups, neighborhoods, communities and the opportunities for co-existence, inclusiveness and building of resilient cities. This is more so that there has been increased residential segregation in the last three decades across the world due to various reasons.

According to Dry and Taylor (2012) long-term rise in income-inequality, social prejudice (State activated) or the malfunction of economic system (market activities) have increased segregation against the blacks in the Americas and Europe. Elsewhere in Canada, religious intolerance has played significant roles in influencing segregation (Fong & Chan, 2008). They however discovered that people of similar faith experienced very low segregation rate amongst themselves but there was a high segregation rate between groups or people of different faith.

In Nigeria, segregation of residential neighborhoods and settlements was enshrined in the colonial laws before Nigeria's independence in 1904 by the colonial masters through legislation with the cantonment proclamation. The European administration led to the creation of new settlements in Northern Nigeria called "Sabon Gari" (New town in Hausa language). These were established to accommodate house servants, laborers of the Europeans and non-natives of the north (Dung Gwom & Rikko, 2009), which has foreclosed the

heterogeneous form of settlements (where people of various tribes and nationality lived together) based on residence and occupation (Edewor, 2011). The Sabon Gari settlements are now found not only in the north but also in the south with peculiarity derived from their unique demographic composition, social orientation, ethnic and religious characteristics. This division has increased the propensity of neighborhoods to be segregated as a result of the spates of ethno-religious violence and has entrenched a wide divide and patterns of the neighborhoods and settlements along such inclinations (Gambo & Omirin, 2012; Uchendu, 2010; Dung-Gwom & Rikko, 2009).

Further implications have been the marginalization and exclusion of segregated communities in the provision and from access to public services resulting in a systemic and uneven provision and spatial distribution of such services and amenities. Such communities according to Mariam, Kasim and David (2015) have poorer access and uneven distribution of education and health care facilities, absence of pipe borne water, poor quality drinking water and sanitation and erratic power supply. Rikko (2016) included narrow and inaccessible road networks, increased concentration of poverty, hide outs for criminals and criminal activities, social disorder and negative vices thereby increasing the tendencies for crime and insecurity. These are in addition to poor access to affordable housing and tenure security, issues of high population density, occupancy rates, poor housing, land fragmentation, urban poverty, pressure on existing facilities, sanitation and waste management resulting to the spread of diseases such as cholera, typhoid, diarrhea and malaria which are critical challenges amidst the dreaded global disease of COVID-19 (Tupkop, 2021).

Similarly, residential segregation has been adjudged as the major driver of the development of informal settlements, slums, uphill and peri-urban settlements in many parts of Africa and in Nigeria due largely to the absence of planning instrument (South Africa History Online (SAHO), 2014; Oduwaye & Fagbohun, 2013). A notorious characterization of these settlements is their spontaneous growth, haphazard and uncontrolled development due to an absence of development control and planning intervention.

MATERIALS AND METHODS

Study Area

Respondents for the study were selected with bias for people that have lived in Jos since 2001 (when the first crisis began) who can relate with conflicts experiences resulting in residential mobility and relocation and segregated neighborhoods and the implications on physical planning and development of Jos North Local Government Area. The local government has fourteen (14) wards that are dominated either by Christians, Muslims or are mixed. The LGA was stratified along these three inclinations. Two (2) neighborhoods that have

experienced residential segregation were purposely selected from each category to include; Gangare, Naraguta A, Tudun Wada/Kabong, Vandapuye, Jos Jarawa and Ai Kazaure to give a total of six (6) neighborhoods with a population of 24,933 households. A sample size of 350 was selected of household heads (respondents) with particular attention to respondents who have at least experienced one of the crises in Jos and have knowledge of the subject of the study. Of these, 304 questionnaires accounting for a response rate of about 87% were returned completed as presented on Table 1.

Table 1: List of Neighborhoods and selected samples for the study

S/N	Neighborhoods	Area	No. of household heads	Sample population	Questionnaire returned
1	Abba Na Shehu	Muslim dominated	9280		
*2	Gangare	Muslim dominated	3341	40	40
3	Garba Daho	Muslim dominated	3314		
4	Ibrahim Katsina	Muslim dominated	3165		
*5	Naraguta A	Muslim dominated	5218	66	60
6	Sarkin Arab	Muslim dominated	3790		
7	Jenta Adamu	Christian dominated	7972		
*8	Tudun Wada/Kabong	Christian dominated	12,773	153	120
9	Tafawa Belewa	Christian Dominated	3899		
*10	Vandepouye	Christian dominated	763	9	9
11	Jenta Apata	Mixed area	7390		
*12	Ali kazure	Mixed area	4262	43	43
15	Naraguta B	Mixed area	9966		
*14	Jos Jarawa	Mixed area	2838	34	32
Total selected Household heads			24,933	350	304

* Selected wards for study.

RESULTS AND DISCUSSION

Residential segregation in the last two (2) decades has affected and redefined the landscape of settlements in Jos North LGA and Jos city in particular raising serious concerns to the residents, government, politicians, policy makers and urban managers. The focus of the analysis of this study is to understand the implications of residential segregation on the physical planning and development of Jos North LGA.

Socio-economic Demographic Characteristics of Respondents and Pattern of Segregation

Several researches have shown that urban areas the world over are experiencing rapid shifts and transformation in populations, socio-economic and demographic profiles which are in turn affecting individual's opinion, behavior and actions (Rikko, Choji & Zi, 2019; Gumus & Dayiolu, 2015). Table 2 presents Socio-economic and demographic profiles of the respondents.

Table 2 Socio-economic and demographic data of the respondents.

Ward Sex	Gangare		Naraguta A		Jos Jarawa		Vandapuye		Ali Kazaure		T/wada/Kabong		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Male	36	90	44	73.3	29	90.6	8	88.9	41	95.3	97	80.8	255	83.9
Female	4	10	16	26.7	3	9.4	1	11.1	2	4.7	23	19.2	49	16.1
Total	40	100	60	100	32	100	9	100	43	100	120	100	304	100
Age														
20-30	7	17.5	14	23.4	5	15.6			8	18.6	20	16.7	54	17.7
31-40	17	42.5	21	35.0	12	37.5	3	33.3	14	32.6	30	25.0	97	32.0
41-50	8	20.0	12	20.0	10	31.2	2	22.2	11	25.6	32	26.6	75	24.7
51-60	5	12.5	8	13.3	3	9.4	4	44.4	6	13.9	20	16.7	46	15.1
61 and above	3	7.5	5	8.3	2	6.3			4	9.3	18	15.0	32	10.5
Total	40	100	60	100	32	100	9	99.9	43	100	120	100	304	100
Marital status														
Married	26	65	34	56.7	20	62.5	7	77.8	37	86.0	83	69.2	207	68.1
Single	7	17.5	8	13.3	5	15.6	1	11.1	4	9.3	21	17.5	46	15.1
Widowed	4	10.0	10	16.7	6	18.8	1	11.1	1	2.3	10	8.3	32	10.5
Divorced/separated	3	7.5	8	13.3	1	3.1			1	2.3	6	5.0	19	6.3
Total	40	100	60	100	32	100	9	100	43		120	100	304	100
Educational Background														
No formal Edu	8	20.0	11	18.3	2	6.3			7	16.3	17	14.2	45	14.8
Vocational	9	22.5	10	16.7	3	9.4			11	25.6	31	25.8	64	21.0
Primary	7	17.5	7	11.6	4	12.5			9	20.9	18	15.0	45	14.8
Secondary	7	17.5	15	25.1	11	34.3	5	55.6	7	16.3	31	25.8	76	25.0
Tertiary	5	12.5	11	18.3	9	28.1	4	44.4	4	9.3	19	15.8	52	17.1
Others	4	10.0	6	10.0	3	9.4			5	11.6	4	3.3	22	7.3
Total	40	100	60	100	32	100	9		43	100	120	100	304	100

Residential Segregation and Implications in Jos North Local Government Area, Nigeria

Ward Occupation	Gangare		Naraguta A		Jos Jarawa		Vandapuye		Ali Kazaure		T/wada/Kabong		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Civil/public servants	3	7.5	7	11.7	8	25			4	9.3	42	35	64	21.1
Farmers	6	15	9	15	7	21.9			3	7	15	12.5	40	13.2
Artisans	5	12.5	11	18.3	6	18.7			7	16.3	28	23.3	57	18.7
Business/ Trader	10	25	13	21.7	4	12.5	7	77.8	13	30.2	19	15.8	66	21.7
Unemployed/ underemployed	4	10	5	8.3	3	9.4			2	4.6	4	3.3	18	5.9
Self Employed	8	20	11	18.3	4	12.5	2	22.2	10	23.3	7	5.8	42	13.8
Others	4	10	4	6.7					4	9.3	5	4.2	17	5.6
Total	40	100	60	100	32	100	9	100	43	100	120	100	304	100
Income														
>N30,000	18	45.0	29	48.3	16	50.0	4	44.5	20	46.5	63	52.5	150	49.3
N30001-N50,000	8	20.0	15	25.0	8	25.0	2	22.2	11	25.6	24	20.0	68	22.4
N50,001-N75,000	4	10.0	6	10.0	4	12.5	2	22.2	6	13.9	9	7.5	31	10.2
N75,001-N100,000	2	5.0	3	5.0	4	12.5	1	11.1	4	9.3	7	5.8	21	6.9
N100,001 & N150,000	5	12.5	4	6.7					2	4.7	8	6.7	18	5.9
N150,001 & above	3	7.5	3	5.0							9	7.5	16	5.3
Total	40	100	60	100	32	100	9	100	43	100	120	100	304	100

From table 2, close to 84% of the respondents are males while 16% are females. This is a common demography in Nigeria where the male gender dominates the female gender especially in decision making such as concerning residential mobility. Socio-culturally, the males are considered as heads of the households, and are responsible for serious household decisions, though a recent study in Jos has shown an increase in the percentage of female as household heads (Dung Gwom & Samshiya, 2022). The data shows a general trend of male dominance in all the wards (95.3% of respondents in Ali Kazaure and least in Naraguta A, 73.3%).

The table also shows a preponderance of youthful population with more than 74% of the respondents between the age cohorts of 20 and 50 years. The result affirms other studies that have revealed the Nigerian population as youthful, economically active and productive with a high propensity of future population growth and large household sizes (Rikko, et al., 2019) especially, as more than 68% of this population is married and are at the age of fertility and reproduction. Such population is more mobile in terms of housing relocation than older population (25.6%).

The result shows a general level of low educational attainment with majority of the respondents of 25% with only secondary education. As high as 14.8% have no formal education and a similar percentage have only primary education. The result shows a higher proportion of respondents with secondary education in Vandapuye ward with 55.6% and Ali Kazaure ward has the least with 16.3%. This is reflected in the occupational and income level of the respondents where over 27% are traders and as high as 5.9% are either unemployed or underemployed. This could be attributed to the impacts of the incessant conflicts which have led to the decentralization of commercial activities from the city center to various neighborhoods with many small businesses springing up particularly in emerging neighborhoods.

Even with the increase in businesses and commercial activities, over 49% of the respondents earn less than N30,000 average monthly incomes. Another 22% earn between N30,001-N50,000, close to 17% earn between N50,001 and N100,000 while the remaining 12% earn N100,000 and above. This shows that over $\frac{2}{3}$ of the respondents accounting for 71.7% of the households earn lower than N50,000 and live below the new global poverty

line of \$2.15 per day (The World Bank, 2022). This population is part of the 95.1 million Nigerians that are already living in extreme poverty (Oyedeki, 2022) plagued with lower quality facilities and social services, low economic opportunities, crime, unplanned and substandard housing, and poor sanitation associated with segregated residential neighborhoods as observed in Jos North.

Ethnicity and Religion of the Respondents

Ethnicity and religion have played significant roles in shaping the landscape of the city over the past two decades as also observed by Lohor, et al. (2013). Table 3 presents the ethnic and religious affiliation of the respondents in Jos North LGA.

Ethnicity of the respondents

Residential segregation has been an important factor in the development of ethnic enclaves in Jos. From prehistoric age to the historic period through the precolonial times, PIDAN (2010) reported that indigenous ethnic groups in Jos had continued to maintain their identities and destinies including occupying particular areas in the city. By the time of the 2001 Jos crisis, the city was already segregated along ethnic inclination, with clusters of each ethnic group dominating particular neighborhoods. Dung Gwom (2008) noted that visitors coming into the city were directed to residential areas occupied by their kinsmen. These clusters have not only remained but have expanded due to increase in population, housing development and economic activities. For instance, 37.2% of the respondents made up of the indigenous ethnic groups of Jos North LGA such as Birom, Afizere, Jarawa and Anaguta are clustered towards the south-west and south east and expanding towards the fringes of the city along Kabong/Tudun Wada, Jenta and Vandapuye, Lamingo, Angwan Rukuba, Rukuba road and Tina/Dutse Uku areas (mostly Christian dominated). Those from the Hausa/Fulani/Kanuri origins accounting for 23.5% are concentrated in the core of the city in Naraguta A and Gangare wards and spreading towards the northern part of the city (mostly Muslim dominated) while the Igbos, Yoruba, Igbira, Igala and other minor tribes accounting for 30.6% have a higher concentration in Vandapuye and Jenta Apata, Nasarawa and Tina/Dutse Uku areas and expanding horizontally towards hilly and rocky areas as a result of the scarcity of plain lands.

Table 3 Ethnicity and Religion of the Respondents

Ward	Gangare		Naraguta A		Jos Jarawa		Vandapuye		Ali Kazaure		T/Wada/Kabong		Total	
Ethnicity	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Biom			8	13.3	4	12.5			5	11.6	23	19.2	40	13.2
Jarawa			4	6.7	9	28.1					12	10.0	25	8.2
Afizare			3	5.0	7	21.9					11	9.2	21	6.9
Anaguta			8	13.3	6	18.8					13	10.8	27	8.9
Igbos	8	20.0	4	6.7	3	9.4	7	77.8	13	30.2	11	9.2	46	15.1
Yoruba	6	15.0	8	13.3	2	6.3	1	11.1	1	2.3	9	7.5	27	8.9
Igbira	1	2.5	3	5.0	1	3.1			2	4.7	3	2.5	10	3.3
Igala	1	2.5	3	5.0					1	2.3	5	4.2	10	3.3
Hausa/ Fulani	22	55.0	18	30.0					21	48.8	10	8.3	71	23.5
Others	1	2.5	1	1.7			1	11.1			23	19.2	26	8.6
Total	40	100	60	100	32	100	9	100	43	100	120	100	304	100

Religion														
Christianity	6	15.0	8	13.3	25	93.8	8	88.9	19	44.2	110	91.7	176	57.9
Islam	34	85.0	52	86.6	7	6.2	1	11.1	24	55.8	10	8.3	128	42.1
Total	40	100	60	100	32	100	9	100	43	100	120	100	304	100

Religion of the Respondents

Religion has become a major consideration in the choice of residential, work or business locations in Jos (Krause, 2011; Audu, 2016). Since the 2001 sectarian crisis in Jos, residential areas have become more segmented along religious affiliations, with the city divided into enclaves of the two major religions: Christianity and Islam. For instance, formerly mixed residential areas such as Naraguta A and Gangare wards are now Muslim dominated with close to 87% and 85%, respectively, while Kabong and Vandepuye wards are now Christian dominated areas with almost 94% and 89%. In the mixed neighborhoods such as Ali Kazaure, 56% of the respondents are Moslems and 44% Christians while in Jos Jarawa, close to 94% of the respondents are Christians and 6% Moslems. Even in such neighborhoods, social interactions are minimal and suspicious. This has encouraged a wider divide and segregation of the city not just in terms of the living areas but including other land use activities such as recreation, commercial, education and civic.

Reasons for Relocation.

Residential segregation is characterized by relocations and mobility due to various reasons. From the study, more than half of the respondents,

accounting for 52% indicated that they relocated to the present residential areas while 48% have remained in situ. This may be attributed to fact that ethnic enclaves had existed long before the crisis of 2001, which merely exacerbated the situation and added religious colouration as also observed by PIDAN (2010). Over 78% of the respondents' that relocated indicated ethno-religious conflicts as the prime reason, over 11% indicated fear and uncertainty arising from insecurity, 6.9% for proximity to place of work and 3.3% was due to change of status (Figure 1). The highest percentage of respondents (72%) relocated to Kabong and the least (28%) to Gangare. Further analysis showed a bias of preference of relocation towards religious affiliation. For instance, 72% of the Muslims relocated from Christian dominated (Rukuba Road) to Muslim dominated areas (Gangare) while 75% of Christians relocated from Muslim to Christian dominated areas within the city. These have influenced the emergence of new residential neighborhoods such as Zinariya, Jos Dole and Azurfa (completely Moslem areas) and Kampala, Ulliliba and Gamjigo (completely Christian Areas) that are already segregated into "ethno-religious territories and enclaves" as noted by Lohor, Dung-Gwom and Rikko (2013).

The study established that relocation process began seriously between 2000 and 2005 with only 16.9% when the first crises began in 2001 but has continued unabated with the highest percentage of 36.5% between 2006 and 2010 when two other major violent conflicts occurred in 2008 and 2010. Close to 30% relocated between 2011 and 2015 and 17% between 2016 and 2021, respectively. This has introduced residential

discrimination, redefined residential neighborhoods/settlements and destroyed the heterogeneous form of settlements (where people of various nationalities and religions lived harmoniously together). This phenomenon is very worrisome and completely negates current efforts on inclusive planning, sustainable development and good urban governance.

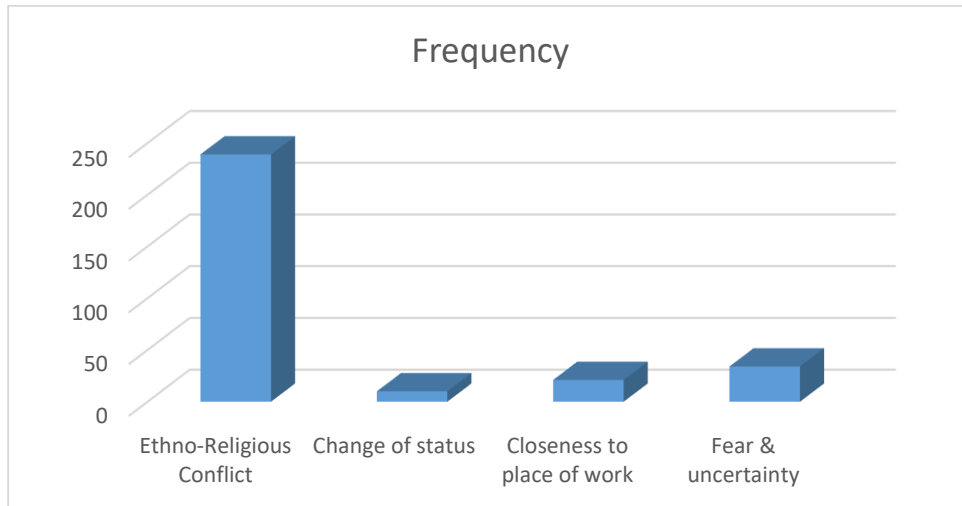


Figure 1 Reasons for Relocation of Residential Neighbourhoods

Characteristics of Residential Segregation

The most vivid characteristics of residential segregation in Jos is the preponderance of unplanned and uncontrolled development that has led to spontaneous and rapid growth of peri-urban settlements and economic activities as indicated by 22.6% of the respondents. This in fact is a continuance of settlements that are already expanding in chaotic, irregular and uncontrolled manner without an effective functional planning or control. Another feature according to 11.6% of the respondents is the land fragmentation resulting from high demand for land for housing accommodation, which is in scarce supply. Circumstantial evidence suggests that land fragmentation is a common phenomenon especially in the new settlements where standard plots measuring 30m x 15m (450sqm) are fragmented into smaller parcels of

15m x 15m (225sqm) or 15 x 7.5m (112.5sqm) or as small as 7.5m x 7.5m (56.25sqm) and sold to the lower income groups to build personal houses. This naturally facilitates building construction without adherence to development control and building regulations. Observance of plot coverage, setbacks, sanitary lanes, landscaping, accessibility etcetera, as set out by the state development board are non-existent, thereby leading to development of peripheral slums.

In the core areas, high rate of housing and population congestion, residential conversion to mainly commercial use are prevalent along with vertical and horizontal expansions through reconstructions of decayed buildings to meet the high demand for housing accommodation. These dynamics have changed the landscape of the city and created patterns that are difficult to define.



Plate 1 Fragmentation of plots, illegal and unplanned development, poor and unmotorable access roads, absence of water and sanitation, erratic electricity, building congestion in the older segregated residential settlements in Kabong and Naraguta A wards (Fieldwork, 2021)



Plate 2 Fragmentation of plots, illegal and unplanned development, poor and unmotorable access roads, absence of pipe borne water and sanitation, electricity and building congestion in emerging segregated residential settlements in Kabong and Naraguta A wards (Fieldwork, 2021)

Similarly, about 12% of the respondents confirmed that segregated areas are religious and ethnicity biased; 10.4% stated that development and provision of most facilities and services (such as roads, electricity, schools, healthcare, security, water and sanitation) are through individual and communal efforts. Another 10% indicated that there is severe pressure and depletion of existing facilities in addition to their inadequacy in number. Over 8%,

7.5% and 7% indicated poor road networks, housing congestion and increase in crime as other characteristics of segregated neighborhoods, respectively. In addition, 2.5% mentioned that residents (especially in mixed neighborhoods) live in suspicion and lack of trust amongst and between settlements and therefore heightens the sense of insecurity in the study area (Table 4).

Table 4 Characteristics of residential segregation in Jos

Variables	Frequency	Percentage
Unplanned & uncontrolled development	292	11.7
Spontaneous & rapid Growth of new settlements	272	10.9
Pressure on and inadequacy of existing Facilities	209	8.4
Poor Road network	250	10.0
Housing congestion	186	7.5
High occupancy	130	5.2
Religious and ethnic bias	260	10.4
Crime	178	7.1
Encroachment of land	216	8.7
Land fragmentation	290	11.6
Community efforts & development	145	5.8
Lack of trust and suspicion	63	2.5
Total	2491	100

Note: Respondents were allowed to indicate multiple options

Implications of Residential Segregation on Physical Planning and Development

Pertaining the implications of residential segregation on the physical planning of Jos city,

twenty-six (26) impacts were identified as presented on Table 4. Using the Likert scale, over 81% of the respondents indicated they agree or strongly agree on the suggested impacts of residential segregation,

about 10% either disagree or strongly disagree while 9% were indifferent. This suggests that majority of respondents consider residential segregation as having significant implications on the physical planning and development of the city.

The variables with the highest indications to back up this claim include; increased demand for land, segregated neighborhoods and settlements, increased cost of land, development of informal settlements and slums, poor and inadequate infrastructure, increased criminal activities and insecurity, poor waste management and sanitation, proliferation of informal activities, increased housing demand, increase housing development, Fear of attacks and uncertainty.

From the study, over 99.3% of the respondents indicated that there has been incredible increased demand and competition for land by various land uses resulting in higher land values and prices, especially at the fringes where housing development is occurring at a rapid pace. This has invigorated the activities of land fragmentation by land owners and potential home owners who incidentally are the perpetrators of unguided and illegal development that have facilitated the rapid growth of informal settlements and slums as indicated by over 92% of the respondents.

Another indicator of the implications is the rapid growth of segregated residential neighborhoods as indicated by 94.4% of the respondents. Respondents opined that segregation has been exacerbated by the deep mistrust, hatred and suspicion between adherents of Christianity and Islam, such that interactions between Christians and Muslims have been negatively affected and minimized. This has been further aggravated by the unprecedented influx of immigrants from the north and foreigners from neighboring countries who have contributed to population growth in communities that are unsafe and volatile due to their violent and criminal tendencies particularly during crisis period, thereby, increasing the security challenges in the city.

Furthermore, residential segregation has facilitated violence and insecurity in some neighborhoods making them inaccessible to planning authorities and service providers. In Neighborhoods such as Zinariya, Azurfa, Jos Dole and Filin Sukuwa, Jenta Adamu and Kabong, planning activities have been resisted and vehemently disallowed by hoodlums. This has

facilitated rapid illegal, chaotic and uncontrolled housing construction leading to the development of informal settlements and peripheral slums that are devoid of government presence and public infrastructure and social services. It is important to note that residential neighborhoods that are prone to violent attacks and lack of safety witness exclusion and decrease in investment due to fear of being invaded and killed or properties burnt down.

Implications that affect respondents directly border on issues of infrastructure and service deficit which are not peculiar to residentially segregated areas. The challenge is the magnitude of deficit expressed in the near absence of public infrastructure and urban services in these areas, particularly in the hilltop settlements where residential segregation is higher. For instance, only 26% of the population of the sampled neighborhoods has access to electricity, 18.1% to access roads, 16.4% to educational services, 13.8% to health and 13.2% pipe borne water, and 12.5% to drainage facilities. From the result, Vandapuye has the least number of services followed by Jos Jarawa and Gangare neighborhoods. In neighborhoods where they exist, more than 70% are overstretched, inadequate and in poor conditions, only about 19% and 11% are in fair and good conditions, respectively. Mariam., Kasim and David (2015) have affirmed that segregated residential communities have poorer access and uneven distribution of facilities such as education, health care, poor quality drinking water and sanitation and erratic power supply. The study found that they have narrow and inaccessible road network with no parking facilities such that most motorists park cars along the major arterial roads especially residents on Hilltop settlements where 90% of the houses are inaccessible through vehicular means. This results from the fact that residential relocations due to violence are unplanned, unexpected and therefore not accommodated by physical plans. As a result of the rapid influx of people into neighbourhoods within a short period of time increases the population size and density, and exert pressure on existing facilities causing shortages, inadequacy and rapid deterioration. Similarly, the absence of physical plans has contributed to uncontrolled acquisition and sale of land without any form of regulation, thereby increasing the cost of available land and making it inaccessible to the low income group. The rapidity of unplanned development has

further accelerated the growth of informal settlements and land use change such that a physical plan developed for the city becomes obsolete even before its implementation.

To ascertain the strength of the implications and the variable that has the most influence on physical planning, respondents were required to use a five (5) point Likert scale to indicate their level of agreement. Weights were assigned to the responses based on their strength from 1 to 5, that is, *strongly disagree=1, disagree=2, uncertain=3, agree=4, strongly agree=5* as presented on Table 4. Results show increased demand for land as a major implication of residential segregation on physical planning (weighted mean of 4.94), while the least impact is lack of access to service providers (weighted mean of 3.67). It can be seen that all indicators of the implications returned a weighted mean average of 4.16, suggesting that all respondents agree that residential segregation has impacted on the physical planning and development of Jos city. According to Adetunji and Oyeleye (2018) a mean above the average weighted mean value is considered as most impacting, conversely, while those below are considered least impacting.

From figure 2, increased demand indicates the variable with the most positive impact (4.94) while fear of attacks has the least positive impact (4.19). Similarly, absence of governance is the variable with the most negative impact (4.10) while lack of access for service providers is the variable with the weakest negative impact (3.67). The most impacting indicators of residential segregation include increased demand for land (4.94), segregated neighbourhoods and settlements (4.63), increased cost of land (4.59), poor and inaccessible road network (4.51), development of informal settlements and slums (4.44), increased criminal activities and insecurity (4.35), poor waste management and sanitation (4.28), proliferation of informal activities (4.27), poor and inadequate infrastructure/services (4.25), increased housing demand (4.24), increased housing development (4.20) and fear of attacks (4.19). Most of the indicators interplayed with each other to impact on the physical planning and development in the study area, even indicators considered to have least impact contributed either directly or indirectly to the pattern of settlements that have evolved.

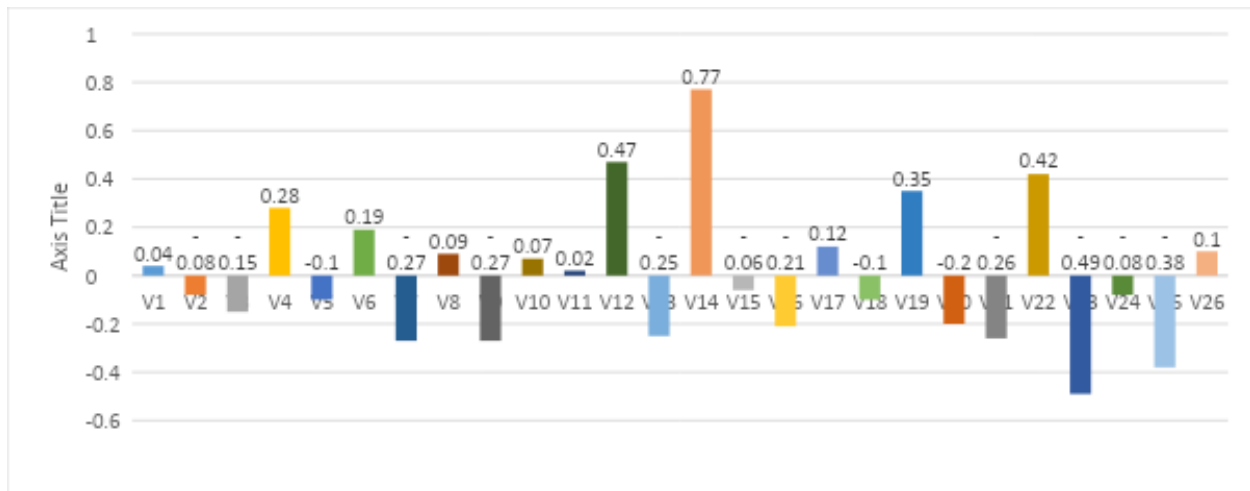


Figure 2 Implications of Residential segregation on Physical Planning and development based on the Likert scale

Table 5 Consequences of Residential Segregation

S/N	Variables	SA	A	UD	DA	SD	Freq	%		SWV	WM	WMA	Level of Agreement
		5	4	3	2	1		Agree	Disagree				
1	Increased Housing development	166	78	27	21	12	304	80.26	19.74	1277	4.2	0.04	Strong agreement
2	Illegal dev't of land uses	148	111	16	19	10	304	85.20	14.80	1242	4.086	-0.08	weak agreement
3	Ineffective planning and dev't control	92	151	41	12	8	304	79.93	20.07	1219	4.01	-0.15	weak agreement
4	Dev't of informal settlements & slums	178	103	9	11	3	304	92.43	7.57	1350	4.441	0.28	Strong agreement
5	Urban expansion	130	101	46	17	10	304	75.99	24.01	1236	4.066	-0.1	weak agreement
6	Increased criminal activities & insecurity	183	77	20	16	8	304	85.53	14.47	1323	4.352	0.19	Strong agreement
7	Pressure on existing facilities	102	125	42	13	22	304	74.67	25.33	1184	3.895	-0.27	weak agreement
8	Poor & Inadequate infrastructure/services	162	93	23	15	11	304	83.88	16.12	1292	4.25	0.09	Strong agreement
9	Poor access to social services	88	156	15	31	14	304	80.26	19.74	1185	3.898	-0.27	weak agreement
10	Increased Housing demand	153	107	15	21	8	304	85.53	14.47	1288	4.237	0.07	Strong agreement
11	Fear of attacks	149	119	13	8	3	304	88.16	11.84	1273	4.188	0.02	Strong agreement
12	Segregated neighborhoods/Settlements	202	85	11	6	2	304	94.41	5.59	1408	4.631	0.47	Strong agreement
13	Increased poverty	87	154	25	27	11	304	79.28	20.72	1191	3.918	-0.25	weak agreement
14	Increased demand for land	217	85	22	5	0	304	99.34	0.66	1501	4.937	0.77	Strong agreement
15	Absence of governance	118	132	31	13	10	304	82.24	17.76	1247	4.102	-0.06	weak agreement
16	Exclusion and marginalization	103	126	47	15	13	304	75.33	24.67	1203	3.957	-0.21	weak agreement
17	Poor waste management and sanitation	165	78	12	54	21	304	79.93	20.07	1302	4.283	0.12	Strong agreement
18	Poor housing & deteriorating environment	138	101	28	20	17	304	78.62	21.38	1235	4.062	-0.1	weak agreement
19	Poor & inaccessible road network	183	101	13	7	0	304	93.42	6.58	1372	4.513	0.35	Strong agreement
20	High rate of unemployment	121	63	78	23	19	304	60.53	39.47	1206	3.967	-0.2	weak agreement
21	Absence of security apparatus	94	144	29	16	21	304	78.29	21.71	1186	3.901	-0.26	weak agreement

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22	Increased cost of land	203	81	15	5	0	304	93.42	6.58	1394	4.585	0.42	Strong agreement
23	Lack of access for service providers	98	85	69	28	24	304	60.20	39.80	1117	3.674	-0.49	weak agreement
24	Suspicion and lack of Trust	162	68	31	23	20	304	75.66	24.34	1241	4.082	-0.08	weak agreement
25	Increased Rental values	121	75	48	41	19	304	64.47	35.53	1150	3.783	-0.38	weak agreement
26	Proliferation of informal activities	138	126	26	12	2	304	86.84	13.16	1298	4.269	0.1	Strong agreement
	Summation of weighted value (SWV)	3701	2725	752	479	288					108.29		
	Weighted Mean Average (WMA)										4.16		

SA=Strongly agree, A=Agree, UD=undecided, DA=disagree, SD=strongly disagree

Table 6 Figure 2 Likert Scale Graph Key

S/N	Strong Variables	Code	S/n	Weak Variables	Code
1	Increased Housing development	V ₁	13	Illegal development of land uses	V ₁₃
2	Development of informal settlements & slums	V ₂	14	Ineffective planning & development control	V ₁₄
3	Increased criminal act. & insecurity	V ₃	15	Urban expansion	V ₁₅
4	Poor & inadequate infrastructure	V ₄	16	Pressure on existing facilities	V ₁₆
5	Increased housing demand	V ₅	17	Poor access to social services	V ₁₇
6	Fear of attacks	V ₆	18	Increased poverty	V ₁₈
7	Segregated neighborhoods	V ₇	19	Absence of governance	V ₁₉
8	Increased demand for land	V ₈	20	Exclusion and marginalization	V ₂₀
9	Poor waste management & sanitation	V ₉	21	Poor housing & environment	V ₂₁
10	Poor and inaccessible road network	V ₁₀	22	High rate of unemployment	V ₂₂
11	Increased cost of land	V ₁₁	23	Absence of security apparatus	V ₂₃
12	Proliferation of informal activities	V ₁₂	24	Lack of access for service providers	V ₂₄
			25	Suspicion and lack of trust	V ₂₅
			26	Increased rental values	V ₂₆

CONCLUSION

With the rapid and unprecedented rate of urbanization and insecurity in Jos city at the moment, the tangible and intangible impacts of residential segregation on the physical planning and development is limitless. Gyuse (2013) asserted that when many poor people are grouped together in large urban clusters, the environment is set for revolution often with uncontrollable outcomes. This is true in the study area where residential segregation has facilitated the spatial restructuring, physical urban change and morphology in the growth pattern of Jos due largely of differences in faith and culture. These have brought several challenges that have made physical planning and development control weak and ineffective, created imbalance in resource distribution, increased criminal activities and making access into the neighborhoods almost impossible to people of different faith, urban managers/planners and service providers, brought about development of informal settlements and slums, poor and inadequate infrastructure. The range of implications are common across all neighborhoods of residential segregation and require interventions to enhance effective and efficient physical planning and sustainable development in several facets. Interventions should focus on addressing the issues of segregation and insecurity, developing framework (plan)/layouts to guide physical development, enforcement of Land use decree of 1978 and enforcement of development control measures, provision of infrastructure and services, arrests and prosecution of development offenders, troublemakers within neighborhoods and provide security cover for service providers while on duty.

To achieve these requires a strong government resolve at all levels and political will to implement urban development policies, a right mindset and attitude and concerted efforts of all residents, stakeholders and organizations such as Non-Governmental Organizations (NGOs) Faith Based Organizations (FBOs), Community Based Organizations (CBOs) and development investors and philanthropists.

In addition, massive sensitization, education and advocacy, capacity building along with the ongoing peace building process are required in order to achieve a planned and sustainable city that is inclusive. Citizens must

understand that they all need each other and that no meaningful development can occur, nor can any community attain its full potentials in an atmosphere of rancor, hatred, disagreement, killings and fear as is currently obtainable in Jos. The building of a better, sustainable and livable city of Jos must be a collective, united and inclusive process

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