

Assessment of Factors Responsible for Encroachment on Public Land in Ajoda New Town in Oyo State, Nigeria

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Abstract

Public land is crucial for the execution of developmental projects in many nations. However, studies have indicated that most of the time, public land is often being encroached. The issue of concern in this paper is: why do people encroach on public land? A contextual investigation approach was embraced for this study and residents of Ajoda New Town (ANT) - a scheme of Oyo State Government, Nigeria were involved as respondents to a structured questionnaire prepared on a five-point Likert scale format. Respondents were randomly selected, and, a total of 322 completed copies of the questionnaire were found valid for data analysis. The study employed Weighted Mean Score and Principal Component Analysis in determining the factors that led to the land encroachment in the community. Results indicate that faulty administrative/implementation, the hostile attitude of original settlers, and excessive land acquisition by the government are the major factors responsible for land encroachment in the study area. It was recommended that during the acquisition process, the government should imbibe the culture of acquiring a reasonable portion of land which will not be far more than what is required to avoid encroachment and adequate compensation paid to the affected persons.

Keywords: Public land, encroachment, compensation, Ajoda New Town, principal component analysis

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1.0 INTRODUCTION

Land has been described as the foundation of all human activities. Its resources have been the basis of wealth in most societies since the beginning of civilization. It is from the land we obtain food, shelter, and space for every other activity (Atilola, 2010). Land is one of the greatest gifts of nature (FAO, 2002). According to Otubu (2007), land is life, and the man was born on land, live on it, and will return to it. All human activities do take place on land and everyone is in dire need of land. Nwanekezie et al. (2010) regarded land as the most important natural resource to man. Land, indeed the world over is a very sensitive matter and it becomes even more sensitive when the precedent compulsory acquisition is added to it.

The power to take land compulsorily for public purposes must be derived from the law (FAO, 2008). A number of land-related laws in Nigeria such as Public Lands Acquisition Act Cap 167 of 1917, the Oil Pipeline Act of 1956, the State Lands Decree No. 38 of 1968, the Land Use Act of 1978, among others, were promulgated not only to give guidelines for compulsory acquisition of land but also to ensure that acquiring authorities pay fair and adequate compensation to the adversely affected landowners (Nwanekezie et al., 2010). Since the increase in public activities and development necessitated public land acquisition, some landowners have to be disposed for the good of the society at large, because land is of paramount importance, the loss of its ownership occasions a high degree of insecurity and inconvenience to the individual (Nwanekezie et al., 2010). The presence of communal property structure in several parts of the world emulates the significance of social relations as composite scope of land tenure (Zhao, 2013). The impartial right of entry to land for communal gathering is crucial for communal arrangement, which can be fulfilled by the administration of public land. The management of public land is a basic element for guaranteeing a great governance within the land administration of a nation (Manandhar et al., 2016).

All lands acquired by compulsory acquisition for overriding public interest or land within the jurisdiction of each state is termed public land. The acquisition process has led to problems like the encroachment of public land in Ibadan (Akingbehin et al., 2016). Encroachment in this wise means the unauthorized occupation of public land. Sardana (2010) identified that encroachment activity is likely caused by the following: delay in payment of compensation, acquisition above the actual requirement, improper demarcation of acquisition areas, paltry, and irregularity in compensation amount, among many other reasons.

A handful of commentators (Haruna et al., 2013; Kuma et al., 2019) also identified several issues and challenges that affect the acquisition of public land, which often resulted in its encroachment by individuals and these include: delay in payment of compensation, acquired lands far more than needed, defects in valuation methods prescribed by law, non-payment of compensation for virgin land,

insecurity/corrupt tendencies, relocation problem, improper demarcation of public land, among others. The issue of management problem could be another serious factor causing encroachment in Ajoda New Town. For instance, the development of the new town was initially under the management of the Ajoda New Town Development Authority. However, in 1996, the entity was merged with Oyo State Housing Corporation under the name of Housing and New Town Development Corporation. It is now totally subsumed under the present State Housing Corporation.

A recent research by Tshering (2018), in exploring the nature of encroachment of state land in the Kingdom of Bhutan, using an exploratory and qualitative approach, revealed that the advancement of the land management method in Bhutan particularly in the study of land, and the complementary determination of the concerned community expert in building up a wide-ranging management structure and regulations in controlling encroachment issues. Manandhar et al. (2016) also believed that in Nepal, the muddled meaning of public land and state land, absence of appropriate land administration, the gap and overlaps in institutional plan and absence of data are causes of wasteful management of public land, which result not just to mismanagement and flawed apportionment of land, but greatly provoke severe encroachments.

The gap this present study intends to fill is to examine the causative factors responsible for the encroachment of public land acquired for the development of a new town which in this case are not land set aside as forest land or agricultural land as previous studies had considered. It is in this wise that the study assessed the factors responsible for the encroachment on public land in Ajoda New Town with a view to guide against future encroachment.

The geographical scope is concerned with Ajoda New Town in Egbeda in order to keep its size within the limit and in relation with issues that are characterized on encroachment. Ajoda New Town was picked as a contextual investigation because it is one of the pre-2000 new town proposed to decongest the number of inhabitants in its essential city (Ibadan) and is basically meant to oblige different land improvements (residential, commercial and industrial), along with the sight of the series of encroachment on the public acquired land by trespassers.

This paper assesses the factors responsible for encroachment on public land with a specific focus on Ajoda New Town in Oyo State, Nigeria. The remaining part of this paper is divided as follows. The next section gives the description of the study area. The third section reviews literature found relevant to this study. The fourth section sets out the method employed in conducting empirical research. Later, the section five presents the result and discussed the result as applicable to other studies. The last section is conclusion and recommendation.

■ 2.0 STUDY AREA

Ajoda New Town was conceived in 1976 by the Military Administrator. The Oyo State Housing Corporation and the Oyo State Ministry of Lands and Housing was instructed to prepare a master plan for a new settlement in Ibadan and submitted it within a month. The area designated for the construction of Ajoda New Town consists of approximately 5,000 hectares (12,500 acres). The site is located in the north-east of Ibadan and the geographical location is defined as a Latitude of $7^{\circ} 23' 8''$ N of the Equator and Longitude of $4^{\circ} 2' 8''$ E of Greenwich Meridian. The Omi River is to the West of Ajoda New Town and Iwo road to the North. The physical boundary on the eastern side is approximately 2 km beyond the east of the dual carriageway; and to the southern border is the new Ibadan-Ife Road. It is to be noted that these are approximate physical boundaries only and some services will be located outside all these boundaries. From Ibadan, Ajoda New Town can be reached on the Ibadan-Ife Road or the Ibadan-Iwo Road, which was enlarged to deal with increased traffic. On both roads, the travel distance to the designated area is approximately 15 kilometers from the edge of Ibadan formed by its bypass.

The master plan for Ajoda was prepared within the context of several neighbouring developments that have either been completed or are currently in progress. Among these are the Lagos-Ibadan Expressway, the Ibadan Eastern bypass, the new Ibadan Airport, and the establishment of a motor vehicle assembly plant on the periphery of the New Town by Leyland Nigeria Ltd. The location of the New Town on the Ife-Ibadan Road offers excellent communications to the bypass and routes leading north and south of Ibadan. However, the scheme is being confronted with a lot of challenges which has thereafter led to encroachment of the government land.

Presented in Figure 1 is three maps. Map 1 is a map of Nigeria showing Oyo State, Map 2 is the Oyo State map which depicts the Egbeda Local Government Area while Map 3 is the map of Egbeda LGs portraying Ajoda New Town.

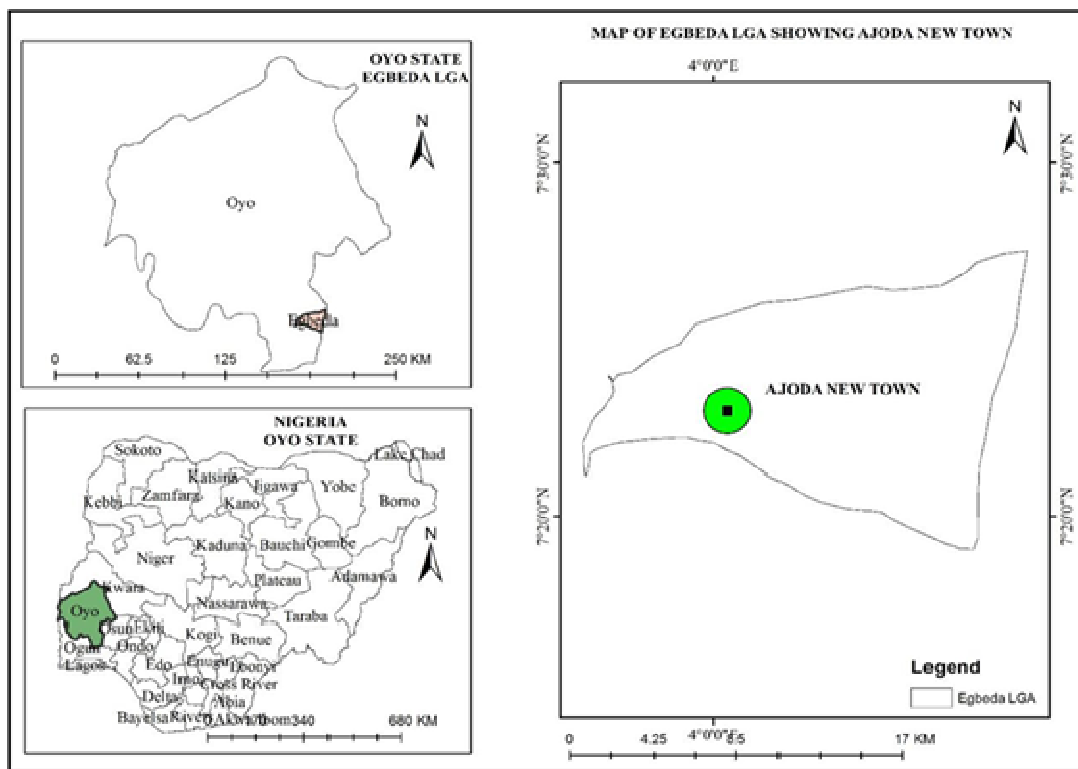


Figure 1 Study area map

(Source: Centre for Space Research and Applications, Federal University of Technology Akure)

3.0 LITERATURE REVIEW

In exploring the nature of encroachment of state land in Bhutan by using an exploratory and qualitative approach, Tshering (2018) revealed that the term encroachment starts roughly in the rule of His Royal Highness the first, when Bhutan embraced the authentication of an ownership framework for land administration. The system was viewed as a problem as a result of commercialization of natural resources, urbanization, agriculture, and relocation tradition observed in the nation for decades. Akrofi and Whittal (2013) believed that encroachments on public land became rampant as the general public (natively, culturally and traditionally attached to land) feel cheated, deprived, scattered, or never compensated during and after the acquisition processes, thereby refusing relocation and access to land by the government. Their findings suggest that aliens (people from other places) may not be mindful of the supposed acquisition and transact with the vendor and even if they are mindful of it, they may feel the vendor is trustworthy. Oladapo and Ige (2014) believed that tenure security is often undermined by the way and manner in which the governments in many developing countries like Nigeria exercise the rights of compulsory acquisition. The affected persons are often paid little or no compensation which afterwards results into encroachment.

Through Manandhar et al. (2016), their study believed that low priority agenda and mismanagement of public land does not only decrease land efficiency, but also increases encroachment opportunities. Using SWOT analysis, the study further revealed that the indistinct meaning of state, and public land tenure, absence of good land administration, institutional loopholes, and absence of data are the reasons for wasteful administration of state land, which result not only to misuse and bad allocation of the land, but also spur towards serious encroachments. The issue of unclear demarcation can be further highlighted as one of the major causes of encroachment. If public lands are fenced around and properly demarcated like gated communities, it will be very difficult for encroachment activities to take place. A gated community has a residential area which is fenced round for exclusivity, monitored by guards to prevent public access, movement control through road closure, which is made possible through legal agreement and the joint effort of the residents (Berkoz & Tepe, 2013; Ignacio & Fuego, 2017).

Haruna et al. (2013) explained the poor developmental state of public land which is caused by lack of compensation which results to encroachment. There are instances where communities prevent government from developing the acquired land due to lack of payment of compensation. For instance, Hore Ladde Yola layout (GSYP 21-24), old Mubi road Badirisa layout (GSYP 32) where communities clearly opposed the improvement of acquired land until adequate compensations were paid. This example explains why acquired land remains undeveloped for many years after the acquisition. Haruna et al. (2013) further described the importance of formal land acquisition, that it is for spatial development, but wherever the acquired lands are left undeveloped still bothers many people.

Acharya's (2008) policy paper revealed that Nepal has been experiencing a lot of encroachment activities despite the provision of legal maintenance records of public land and their protection techniques. The study categorized some major reasons for encroachments on public land in Nepal as follows: hardship, dispossession, lack of political will and policy stability, open border and immigration of foreign

poor, political instability and lawlessness, legal loopholes, conflict and displacement, ambiguity of responsibility and custodianship and lack of public awareness.

The migration of people from the village to the city in searching for a better life has been on the increase in many developing countries of the world. There is also a strong tendency of migration from rural to urban areas in the Nepalese context. The tendency is subsequently to move from incredibly provincial regions to nearby marketplace regions, to neighborhood towns, to district headquarters (town/city), and eventually to the capital city to search for work and better wages. The majority of the populace is occupied with resource cultivating. With the minimal expenditure they have, they cannot bear the cost of an appropriate size of the land for their business and hence start encroaching on government and public land. Likewise, the substantial progression of rural poor has expanded ghettos and encroachment on public land like the banks of the waterways, and so on (Acharya, 2008).

Sardana (2010) also emphasized some issues in land acquisition that lead to encroachment of public land by the people, these include: the governments have not carrying out their promises for reintegration and relocation of displaced persons, the compensation amount to landowners has been poor and irregular, governments in connections with industrialists and entrepreneurs have been broadening the extent of public purpose universally and enriching it increasingly at a high cost to peasants, the advantage of improvement on the acquired lands have not accrued to the peasants and other dependents on acquired land, often times, the reason for land procurement changes to suit the financial and business interests with the capability of higher returns negating altogether social and economic benefits conceived at the time of acquisition, acquired lands remained unoccupied for a number of years without any activity and became standing the image of unfulfilled promises even though the acquisitions were made under the emergency provisions of the Land Acquisition Act (LAA), the quantum of land requirement for a particular project was not assessed independently to check excess land being locked up in a situation of increasing the requirement of land for development projects.

According to Wehrmann (2017), typical shortcomings in land administration and management, leading to encroachment of public land, these include: statutory loopholes, inconsistent legislation, legal diversity, lack of identification of all valid land tenure rights, the customary land law without written records or clearly defined plot and village boundaries, Formal law which is not adequately publicized, limited/lack of access to law enforcement and jurisdiction of the poor/disadvantaged, Inadequate founding of rule of law principles (e.g. lack of self-governing courts), insufficient implementation of legislation, missing or inactive mechanisms for sanctions, confiscation for non-public purposes, absence of defined roles and functions of different organizations involved, subsequent to overlapping mandates as well as the absence of mandates, centralisation (e.g. centralised land use planning), insufficient control over state land, etc.

From the Nigerian context, Akinbogun (2006) found that Abuja was a city that experienced encroachment and the main cause of this encroachment was political issues. Oseni (2001) observed that the creation of the Ministry of Federal Capital Territory in 1980 and its imposition on the Federal Capital Development Authority (FCDA) constitute a major problem. Mabogunje (2001) asserted that the political administration initiated the idea of a new capital city and ended up with a new and different agenda which at the end resulted in the series of encroachment and distortion in the concept, direction, and implementation of the master plan.

Based on literature review, legislative loopholes, the unsatisfactory founding of rule of law principles (e.g. lack of self-governing courts), lack of responsibility/accountability, insufficient information to the public, ambiguousness, administrative dishonesty, missing or imprecise measurement, insufficient provision of construction land, badly designed resettlement projects were considered the most factors responsible for encroachment. These factors were selected based on the opinion of the findings of previous voluminous literature (Acharya, 2008; Sardana, 2010; Tshering, 2018; Wehrmann, 2017).

Table 1 Factors responsible for encroachment based on literature review

S/N	Factors responsible for encroachment	Acharya (2008)	Sardana (2010)	Wehrmann (2017)	Tshering (2018)
1.	Statutory loopholes	/		/	
2.	Inconsistent legislation			/	
3.	Legal diversity			/	
4.	Lack of identification of all valid land tenure rights			/	
5.	The customary land law without written records or clearly defined plot and village boundaries.			/	
6.	Formal law which is not adequately publicized			/	/
7.	Limited/lack of access to law enforcement and jurisdiction of the poor/disadvantaged			/	
8.	The inadequate founding of rule of law principles (e.g. lack of self-governing courts)	/		/	/
9.	Insufficient implementation of legislation			/	
10.	Absent or inactive procedures for sanctions			/	
11.	Confiscation for non-public purposes			/	
12.	Absent of defined roles and functions of different organizations involved, subsequent to overlapping mandates as well as the absence of mandates			/	
13.	Centralization (e.g. centralized land-use planning)			/	
14.	Inadequate control over public land			/	/
15.	The dearth of co-operation and communication among			/	

	government agencies as well as between the public and private sector (if existent at all)				
16.	Lack of duty or accountability	/		/	
17.	Restricted access to the land administration particularly for the poor and the rural population.			/	/
18.	Inadequate information to the public	/		/	/
19.	Limited/absence of public cooperation, especially in the land use planning and outline of concession land.			/	
20.	Limited personnel and technical/financial equipment at public agencies			/	
21.	Very low wages in the public sector			/	
22.	Low qualifications of public employees missing the code of conduct			/	
23.	Lack of transparency	/	/	/	
24.	Administrative corruption		/	/	
25.	Missing or inaccurate surveying		/	/	
26.	Missing or incomplete land register (e.g. destroyed) or one that does not meet modern requirements			/	
27.	Missing, outdated, or only sporadic land use planning or planning not adapted to local conditions			/	
28.	Insufficient provision of construction land		/	/	
29.	Changes in surveying technology			/	
30.	Insufficient public participation			/	
31.	Badly designed resettlement projects		/	/	
32.	Delimitation of protective areas (for nature, water, the landscape, wildlife, etc.)			/	
33.	Compensation amount to landowners has been paltry and irregular.		/		/
34.	Acquired lands remained vacant for several years without any activity and became standing symbols of unfulfilled promises		/		/

Source: Authors' own construct

Having observed the highlighted causes of encroachments, it will not be out of place for this study to assess the factors responsible for encroachment on public land in the study area.

■4.0 METHODOLOGY

The residents (property owners) of Ajoda New Town in the Egbeda are the target population for this study. This is because some of these residents are the encroachers. Based on the records obtained from the community, there are 2270 registered real property owners. A case study approach was adopted for this study. Based on the formula for determining the sample size of the finite population developed by Yamane (1967), a sample size of 340 was derived. A total of 322 copies of the questionnaire were found adequate for analysis, out of 340 copies of the questionnaire that were distributed, which constitute 94.7% of the sampled population. Of the 34 variables indicated by literature, 20 variables were considered appropriate for use, and the respondent's opinions were sought on these factors for land encroachment in Ajoda New Town. A five-point Likert scale format of "Strongly Agree" to "Strongly Disagree" was used. Weighted Mean Score (WMS) and Principal Component Analysis (PCA) were employed as a tool for data analysis. WMS was used to assess the weighted response of the respondents, while Principal Component Analysis was utilised for data reduction of the larger set of variables into smaller sets. KMO test and Bartlett's test of sphericity were conducted to check the adequacy and appropriateness of obtained data for the principal component. Cattell's scree test was also used to plot every eigenvalue of the components and examining the plot to discover a point where the state of the shape of the curve alters and becomes flat. Cattell (1966) suggested retaining all elements over the elbow, or break in the plot, as these variables contribute the most to the clarification of the change in the data set. Kazaz et al.'s (2008) evaluation scale was adopted in this study. This is applied to rate the mean score. Figure 2 exhibits the evaluation scale used in the study.

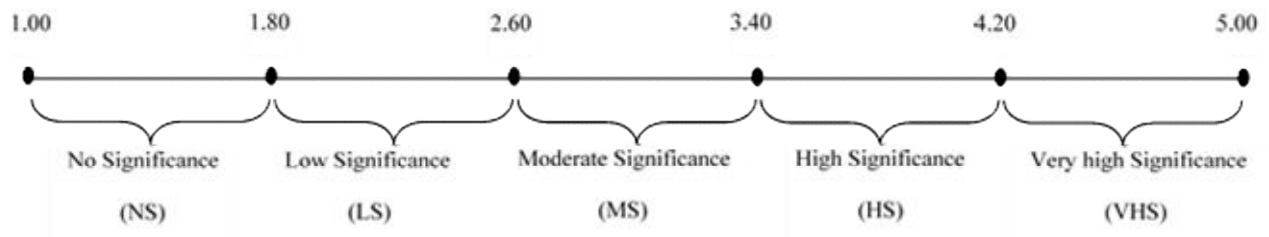


Figure 2 Evaluation scale
Source: Adapted from Kazaz et al. (2008)

5.0 RESULTS AND DISCUSSION

5.1 Evaluation Scale

The literature already revealed 34 factors responsible for encroachment, 20 out of these factors were selected as appropriate and they are presented in Table 2.

Table 2 Factors responsible for land encroachment

S/N	FACTORS	ST. D	Mean	Rank	
1	Insufficient information to the public	0.950	4.41	1st	} (VHS)
2	Discontinuation from previous government programmes	1.065	3.87	2nd	
3	Delay in payment of compensation	1.037	3.80	3rd	} (HS)
4	Inefficient control over state land	1.370	3.69	4th	
5	Conflict and displacement	1.468	3.55	5th	
6	Poor compensation payment	0.611	3.46	6th	} (MS)
7	Limited/absence of public cooperation, especially in the land use planning and outline of concession land	1.412	3.38	7th	
8	Administrative corruption	1.467	3.34	8th	
9	Delay by the government to build up the procured land	0.724	3.11	9th	
10	Government acquiring land far more than needed	0.730	3.05	10th	} (LS)
11	Tedious/difficulties in the process of compensation	0.555	3.01	11th	
12	Benefits of advancement on procured lands have not accrued to the peasants and other dependants on the obtained land.	0.477	2.92	12th	
13	The customary land law without written records or clearly defined plot and village boundaries	0.499	2.87	13th	
14	Restricted access to land administration, particularly for the poor and the rural population.	1.379	2.85	14th	
15	The ambiguity of responsibility, and custodianship.	0.917	2.64	15th	} (NS)
16	Non-payment of compensation	0.929	2.63	16th	
17	The government has not satisfied with the displaced persons on rehabilitation and resettlement plans.	1.073	2.40	17th	
18	The deity of land (i.e. believe of people to hold land for spiritual purposes).	0.850	2.02	18th	} (NS)
19	Lack of transparency	0.912	1.98	19th	
20	Lack of responsibility/accountability	0.808	1.25	20th	

Source: Adapted from the highlights of Sardana (2010) and Wehrmann (2017)

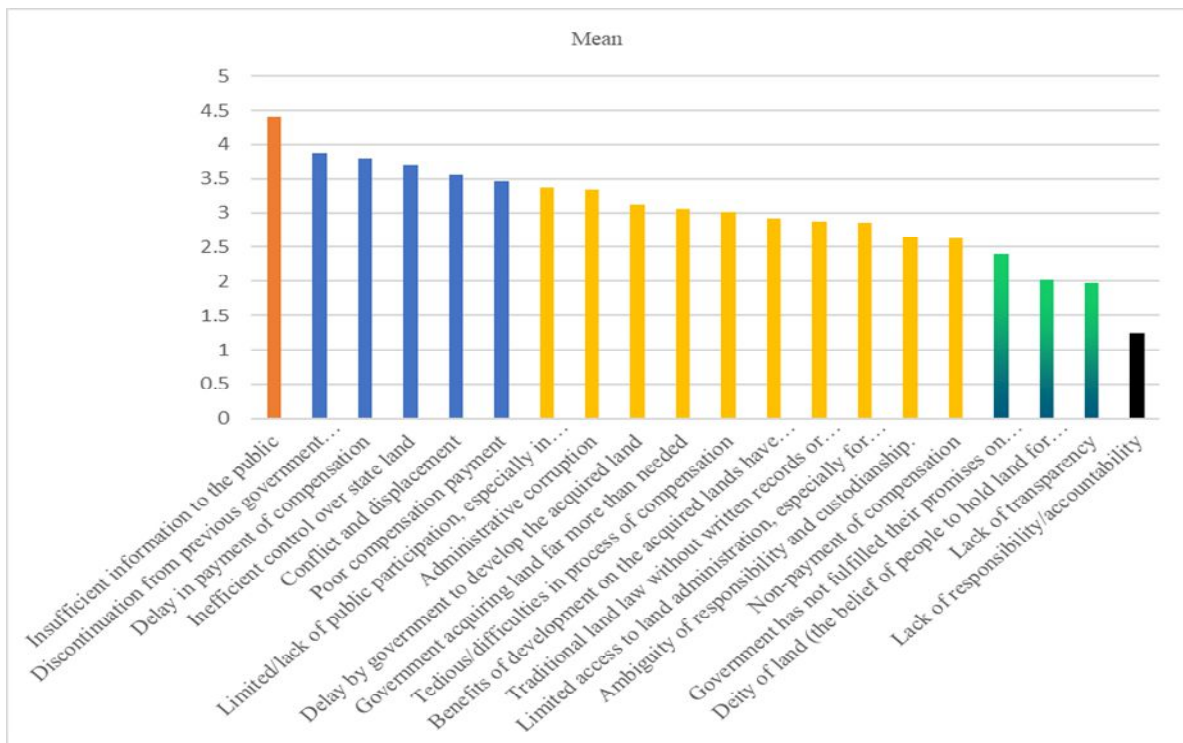


Figure 3 Graph of factors responsible for encroachment in Ajoda New Town

The graph depicts the level of significance of the factors responsible for encroachment in Ajoda New Town. (VHS) represents the very high significance with an average score between (4.20-5.00), (HS) represents high significance with an average score between (3.40-4.20), (MS) represents moderate significance with an average score between (2.60-3.40), (LS) represents low significance with an average score between (1.80-2.60), and (NS) represents no significance with a mean score of between (1.00-1.80). Also, the graph (see Figure 3) shows the various categories at which the factors fall and this is represented in colors. The chocolate color is represented by “Insufficient information to the public” as the factor that is of very high significance causing encroachment in the study area, the blue color shows those factors that are of high significance causing encroachment in Ajoda New Town and to the least, which is represented with black color as a factor of no significance causing encroachment in Ajoda New Town.

From the Table 2, the result manifests that insufficient information to the public is ranked 1st with a weighted mean response of 4.41 which indicated a very high significant factor leading to land encroachment in ANT. This study observes that 86.9% of the affected/displaced people see insufficient information as the major factor that is responsible for encroachment in ANT. It agrees with that of previous commentators (e.g. Acharya, 2008; Manandhar et al., 2016; Tshering, 2018; Wehrmann, 2017) who believed that lack of information is one of the causes of mismanagement of public land, which result not just to mismanagement and flawed apportionment of land, but greatly provokes severe encroachments.

Discontinuation of previous programmes by the government is another significant reason for the encroachment of land in Ajoda – this emanated from a change in government. It was revealed that the discontinuation of previous programmes by the government has been the major cause of encroachment in Ajoda New Town. New elected government does not want to continue with previous programmes, every new government will want to start its own major project afresh. This is the reason for the abandonment of the Ajoda New Town Project, which led to heavy encroachment in the study area. Table 1 shows that the second major factor responsible for encroachment in ANT is the discontinuation of previous programmes by the government having a mean of 3.87 which is ranked 2nd. It accords with the findings of Acharya (2008). The study thought that discontinuation of previous programmes by the government has been the major causes of encroachment. The issues of discontinuation of previous programmes by the government have a detrimental effect in the development of public land as it requires a long term of government monitoring, administration, financing and implementation. This finding agrees with that of Acharya (2008) and Manandhar et al. (2016). These studies were of the opinion that discontinuation of government from the previous programme has been the major causes of encroachment in Nepal because of successive political changes in the country. The new elected government would not want to continue with previous programmes, they want to start their own major project afresh, a reason for heavy encroachment of public land.

The results in Table 2 show that delay in payment of compensation is ranked 3rd with a mean response of 3.8 which indicates a highly significant factor leading to some people or families still holding onto their lands have not received compensation from the government. Inefficient control over state land is another major factor causing encroachment in the study area, this was ranked 4th and with a mean response of 3.69. This can be attributed to the relocation/merging of the corporation house with Oyo state housing corporation. The relocation of the management Corporation from inside Ajoda New Town to Oyo State Housing Corporation at Bodija, Ibadan, Oyo State is a major contributor to the issue of encroachment in Ajoda New Town.

Conflict and displacement is another factor that is considered, it is ranked 4th and has a mean response of 3.55. This factor has a high significant effect in the study area. This can be ascribed to the conflict between the original landowners (Omo-onile) and the government, or the original landowners and government allottee's resulting in a lot of grievances between the government and the original landowner which has led to the serious legal and physical battle.

Similarly, poor compensation payment, having observed in table 2 with a mean score of 3.46 which is ranked 6th is another major reason for land encroachment in ANT. While some claimed no compensation, this group reported being poorly compensated. It is therefore the belief of the respondents that if the affected people were adequately compensated the project would have seen the light of the day, but the reverse is the case as the government failed to adequately compensate the affected people in the study area.

Limited/absence of public cooperation in land use planning and demarcation is also another factor responsible for encroachment in the study area. It has a mean score of 3.38 and ranked 7th which is considered to have a moderate significant contribution to encroachment in the study area. Followed by this is Administrative corruption is also a factor responsible for encroachment in ANT with a mean of 3.34 and ranked 8th.

Delay by the government to build up the procured land is another significant factor leading to encroachment in the study area as pointed out by the respondent. This has a mean score of 3.11 and ranked 9th. This statement has been proved right because of the informal development characteristics of this area.

Another factor based on table 2 is the government acquiring land far more than needed as opined by the respondents. This showed that many of the respondent believe that the government has acquired land more than needed which has contributed to the delay in the development of the new town. Most of the respondent believe that if the government has acquired a reasonable portion of the land it would have been easier for them to implement due to economic instability and finance. Meanwhile, the government acquired land more than needed without commensurable financial resources, monitoring, and implementation. This is identified in table 2 with a mean of 3.05 and ranked 10th as a factor contributing to land encroachment in the study area.

Difficulty in the process of compensation is another factor perceived by the respondent causing encroachment in the study area. It has a mean score of 3.01 and is ranked 11th.

Ownership confers not only a responsibility but also benefits. Table 2 showed that the 12th significant factors that contribute to land encroachment in ANT are that people believe that the benefit of development on the acquired land would be of no advantage to them (that is displaced people) and thereby contributing to land encroachment in ANT as evident in table 2 with a mean response of 3.01.

The customary land law without written records or clearly defined plot and village boundaries, restricted access to land administration, particularly for the poor and the rural population, and ambiguity of responsibility and custodianship are factors that are grouped as having a moderate significant contribution to encroachment in the study area.

Non-payment of compensation is another factor contributing to the reasons for encroachment in ANT as revealed in table 2. The non-payment of compensation to the affected people has caused a lot of grievances between the government and the original landowner which has led to serious legal and physical battles. The results showed from the expressions of the respondents that non-payment of compensation has led to a wide protest, loss of life, property damages, and delay in development among other consequences.

Also, the government has not been able to fulfill their various promises to the affected displaced persons in terms of resettlement and rehabilitation and this contributes to a lack of trust of the government by the people and therefore has a greater influence on people jettisoning the good idea conceived by the government in the creation of the new town. This is expressed in table 2 with a mean response of 2.40 as unfulfilled promises by the government relatively ranked 17th.

Cultural belief of the people on land-based on its characteristics and the non-monetary importance that has for long been inherent in landholding in Nigeria and particularly in the area of study is one of the reasons for its encroachment. The deity of land has a consequential effect which is ranked 18th with a mean response of 2.02. Table 2 showed that people in their belief of land as a monumental holding to keep in existence family inheritance and worship of land contribute in no single measure to the encroachment of Ajoda New Town. This is a strong will that has affected and hinders government channelization and implementation of its idea of new town creation and leading to serious tussles between the people and landowner. Also, lack of transparency is another factor under this classification both of which are classified as having a low significant contribution to encroachment in Ajoda New Town.

The respondents viewed lack of responsibility and accountability on the part of the government as factor having no contribution to causes of encroachment in Ajoda New Town.

5.2 Factor Analysis

Factor analysis was further used to ascertain those related factors so as to be grouped. To verify the appropriateness of the statistic set used for Factor Analysis (FA), the Kaiser-Meyer-Olkin (KMO), the Measure of Sampling Adequacy, and Bartlett's Test of Sphericity was employed. The result is presented in Table 3.

Table 3 Appropriateness of KMO adequacy and Bartlett's test of sphericity

KMO Adequacy		.917
	Approximate chi-square	13898.574
Bartlett's Test of Sphericity	Degree of freedom	190
	Significant	.000

Kaiser-Meyer-Olkin measure of sampling adequacy suggests 0.5 value for KMO as scarcely acknowledged, values in the range of 0.7-0.8 as worthy, and values higher than 0.9 are wonderful. Table 3, showed a KMO result of 0.917, which is above 0.9 which falls into the range of being wonderful: This implies that FA is appropriate for these statistics. Also, Bartlett's test of sphericity and sampling adequacy are reported in table 3 and showed that the chi-square of 13898.574 is critical at 0.000 which means that the model is appropriate. The value of Bartlett's test of sphericity is significant ($p < 0.001$, $p = 0.000$).

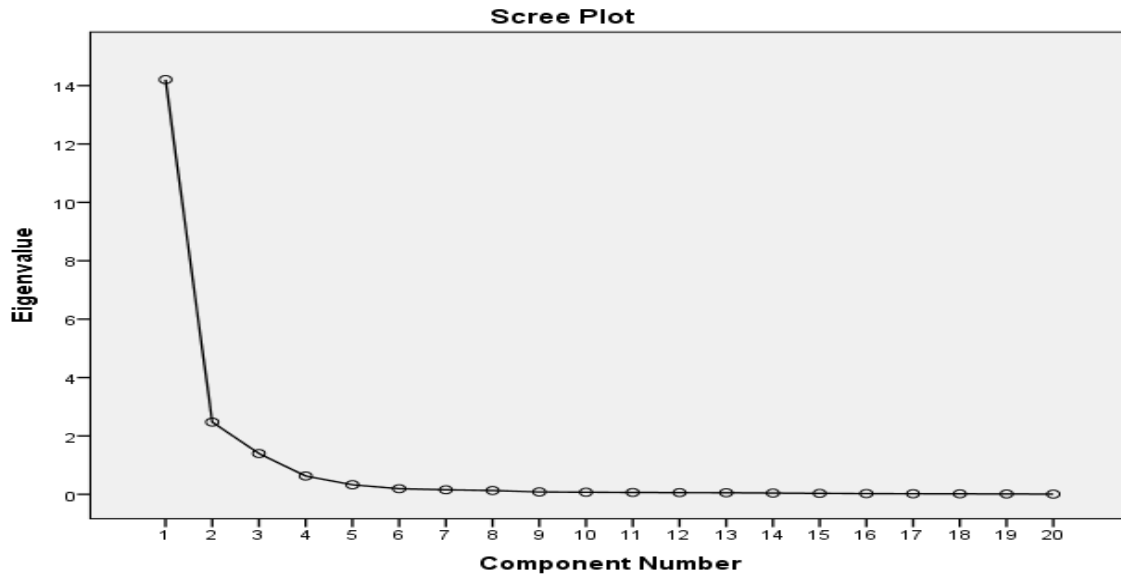


Figure 4 Trend of the contribution of the component factors

An examination of the scree plot in Figure 4 exhibits a change like a curve in the direction of the graph in the third component factor. Therefore, using Cattell's test, the three components were retained and further investigation was performed on them.

Table 4 Total variance explained of factors responsible for encroachment

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.205	71.026	71.026	14.205	71.026	71.026	10.303	51.513	51.513
2	2.474	12.370	83.396	2.474	12.370	83.396	4.287	21.433	72.946
3	1.398	6.988	90.385	1.398	6.988	90.385	3.488	17.439	90.385
4	.627	3.134	93.519						
5	.327	1.637	95.156						
6	.192	.962	96.117						
7	.155	.774	96.892						
8	.131	.657	97.549						
9	.081	.407	97.956						
10	.072	.362	98.318						
11	.064	.322	98.640						
12	.058	.291	98.931						
13	.055	.274	99.205						
14	.043	.215	99.420						
15	.033	.163	99.583						
16	.025	.127	99.709						
17	.021	.104	99.813						
18	.018	.088	99.901						
19	.013	.064	99.965						
20	.007	.035	100.000						

Extraction method: Principal Component Analysis

Table 4 depicts the rundown of eigenvalues related with each linear component (factor) before extraction, after extraction, and after rotation. *Before extraction*, SPSS has distinguished 20 linear components within the data set. The eigenvalues related with each factor address the variance clarified by that particular linear component and SPSS also shows the eigenvalue as far as the level of change clarified (so factor 1 explains 71.026% of total variance). It should be clear that the first few factors explain relatively large amounts of variance (especially factor 1) whereas subsequent factors explain only small amounts of variance. SPSS at that point removes all factors with eigenvalues greater than 1, which leaves us with three factors. The eigenvalues related with these factors are again shown (and the level of difference clarified) in the segments named *Extraction Sums of Squared Loadings*.

The values in this section of the table are equivalent to the values before extraction, but the values for the rejected factors are overlooked (hence, the table is empty after the third factor). In the concluding part of the table entitled (*Rotation Sum of Squared Loadings*), the eigenvalues of the factors after rotation are shown. The rotation has the impact of adjusting the factor structure and one significance for these data is that the comparative significance of the three factors is equalized. Before rotation, factor 1 accounted for considerably more variance than the remaining two (71.026% against 12.370%, and 6.988%), though, it comprises of only 51.513% of the variance after removal (compared to 21.433% and 17.439% respectively).

Table 4, therefore, revealed that the principal factor's causing encroachment in Ajoda New Town are majorly three components with a variance of 71.026%, 12.370%, and 6.988% respectively, and having a total cumulative of 90.385%. This implies that these three factors account for 90.385% reason for encroachment in the study area.

Table 5 Rotated component matrix of factors responsible for encroachment

	Component		
	1	2	3
The deity of land (i.e. the belief of people to hold land for spiritual purpose)	.952		
Administrative corruption	.928		
Conflict and displacement	.923		
Lack of transparency	.905		
Limited/absence of public cooperation in land use planning and demarcation.	.902		
Restricted access to land administration, particularly for the poor and the rural population.	.902		
Insufficient control over state land	.897		
Political instability and lawlessness	.852		
Delay in payment of compensation	.844		
The government has not satisfied the displaced persons on rehabilitation and resettlement plans.	.844		
The non-payment compensation	.746	.440	
Poor compensation payment	.739		.593
The ambiguity of responsibility and custodianship	.627	.521	
The customary land law without written records or clearly defined plot and village boundaries.		.923	
The benefits of advancement on the procured lands have not accrued to the peasants and other dependents on the obtained land.		.819	
Insufficient information to the public	.656	.715	
Tedious/difficulties in the process of compensation		.658	.651
Lack of responsibility/accountability			.942
Delay by the government to build up the procured land		.491	.753
Government acquiring land far more than needed		.602	.661

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

- *Rotation converged in 5 iterations.*

In table 5, three components with eigenvalues more than 1.0 were obtained using the factor loading of 0.40 as the take-off point to allow for a simple and quality result explanation. A total of three factors were obtained and the following three-factor categories were obtained.

Factor 1: Faulty administrative strategy/implementation

- a. The deity of land (i.e. the belief of people to hold land for spiritual purpose)
- b. Administrative corruption
- c. Conflict and displacement
- d. Lack of transparency
- e. Limited/absence of public cooperation in land use planning and demarcation.
- f. Restricted access to land administration, particularly for the poor and the rural population.
- g. Insufficient control over state land
- h. Political instability and lawlessness
- i. Delay in payment of compensation
- j. The government has not satisfied the displaced persons on rehabilitation and resettlement plans.
- k. Non-payment of compensation
- l. Poor compensation payment
- m. The ambiguity of responsibility and custodianship

Factor 2: Hostile attitude of original settlers

- a. The customary land law without written records or clearly defined plot and village boundaries.
- b. Benefits of advancement on the procured lands have not accrued to the peasants and other dependants on the obtained land.
- c. Insufficient information to the public
- d. Tedious/difficulties in the process of compensation

Factor 3: Excessive land acquisition

- a. Lack of responsibility and accountability
- b. Delay by the government to build up the procured land
- c. Government is acquiring land far more than needed

The outcome of the principal component analysis grouped the variables answerable for encroachment into three factors, namely: faulty administrative strategy/implementation, the hostile attitude of original settlers, and excessive land acquisition. These three factors contribute a cumulative loading of about 90.385% and these require close attention if there would be future protection of public land against encroachment. The results of this analysis agree with that of (Sardana, 2010; Haruna et al., 2013; Tshering, 2018). Sardana (2010) believed that governments in connection with industrialists and developers have been broadening the extent of public purpose universally causing excessive acquisition of land without proper compensation. Haruna et al. (2013) perceived that the government initiate massive acquisition of land for improvement, but most of the acquired land remained undeveloped, while the original settlers look for land for building houses and other businesses. Tshering (2018), on the other hand, disclosed that the advancement of the land bureaucracy in Bhutan particularly land survey, and the complementary efforts of the concerned public authorities in evolving a comprehensive planning regime and laws contributed to bringing encroachment in the spotlight.

6.0 CONCLUSION AND RECOMMENDATION

Encroachment is one of the challenges that affect the development of public land. This research has shown the factors causing encroachment on public land in Ajoda New Town. From the twenty factors revealed by literature as factors causing encroachment, this study has been able to reduce these factors into three as the major factors causing encroachment using the principal component analysis. It revealed that faulty administrative strategy or implementation, hostile attitude of original settlers, and excessive land acquisition are the major factors causing encroachment in the area of study. The contribution of this study to the body of knowledge is that it will enable policymakers in decision making, and it will also be beneficial to the Oyo State Government in the modulation and formulation of policies on public land against future encroachment. The involvement of this study towards the body of literature is that it will serve as veritable tools for researchers to identify the causative factor responsible for land encroachment of public land identified for development of New Town. The study recommends that during acquisition, the government should imbibe the culture of acquiring a reasonable portion of land that will not be more than what is required because, where the acquired lands are left undeveloped is of grave concern to a lot of people. The affected persons should be adequately compensated or a proper resettlement plan made to reduce the hostile attitude of the original settlers. Also, Government should imbibe the culture of following up with previous government programmes which will encourage effective implementation of government projects like the Ajoda New Town Project and the Ibadan Circular Road Project. Further research could be done in other major states like Abuja, Lagos and Port Harcourt.

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