# Effects and Resolution Guidelines of Land-Use Conflict in Construction Management in Lagos State, Nigeria

Sholanke A. B., Opoko A. P., Yakubu P. O., Ukwedeh J. O.

Abstract: Construction management involves organisation of human and material resources to achieve prompt and cost-effective construction project delivery. The structure of construction management is complex in nature. It involves several individuals, including professionals who handle different aspects of projects. Like every other field that involves the management of human and material resources, construction management is prone to several challenges, one of which is land-use conflict. Due to the unprecedented urbanization process fuelled by rural-urban migration in Lagos State, Nigeria, there has been a rapid growth of informal settlements whose existence usually result in land-use conflicts between the government and the communities. As informal settlements, the communities are often neglected in the provision of basic services and opinions of residents are usually not considered in respect to land-use pattern developments. This study examined the effects of land-use conflict in construction management in Lagos State, Nigeria, with a view to developing managerial guidelines for its effective resolution. The study used quantitative survey instrument in retrieving data from professionals in the State Ministries. The questionnaires were analysed using statistical package for social sciences (SPSS) software and results presented using descriptive method with the aid of tables. The result shows that land-use conflict affects the progress, sequence and completion phase of construction with the planning, problem solving and communication skills of the manager found to be the most important soft skills in resolving land-use conflicts. The study also found that change in socio-economic benefits in informal settlement is the most likely reason for land-use conflict. Among the recommendation of the study is that education curriculum of construction managers should integrate courses on soft skills to complement the professional's technical skill acquired for construction management.

Keywords: Land-use Conflict, Construction Management, Managerial Skills, Lagos State and Nigeria.

#### I. INTRODUCTION

Generally, construction management involves project management and specialised techniques in the design, planning and construction of structures. It has a complex structure that involves multiple individuals and professionals that handle different phases of projects. Based on this,

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construction management of projects is prone to conflicts [1] [2]. These conflicts are classified into internal conflicts (between internal stakeholders such as the client and contractor) and external conflicts (between external stakeholders such as people and users affected by the project). The study of [1] on the causes of conflicts in construction projects, ranked poor public relationship between the project people and the public as the second most significant cause of conflicts in construction management.

Examining the external causes of conflict, land-use which is the basis behind construction involves decisions that affect the society in a heterogeneous cultural, political and socio-economic nature at all regional and local levels. The societal interest in land-use pattern are many and very important. It reflects the entire development of the community by determining places for economic activity, built and unbuilt environment, where people would live or work and generally affects the quality of the environment [3]. Due to the fact that some difficulties exist in recognising the diversity of societal demands, participatory approach is always encouraged to understand users and rural preferences. The opposite where land-use patterns are used for construction that the public is against leads to land-use conflict. Land-use conflict is a social discord that portrays diverse interests and ineffective appropriation of public resources. It can lead to demonstrations, petition, meetings or even riots and vandalism if not handled properly [4].

Land-use conflict is a complex ideal and directly leads to poor public relationship between people handling a project and the public [1]. Some other studies have also recognised this as a major cause of conflict, but little or no empirical study has investigated its effect on construction in Nigeria. As part of the unprecedented urbanization process fuelled by rural-urban migration, there has been a rise in urban housing crisis which lead to rapid growth of informal settlements in Lagos State in Nigeria [5]. This is caused by an increase in land prices, rental services and inadequate formal land supply. It is observed that these informal settlements are situated on both government and privately-owned land. In addition, they are denied of basic services and their opinions are not considered in respect to land-use pattern developments. This usually leads to marginality, exclusion, vulnerability and land-use conflict with the government or private bodies [6].



# Effects and Resolution Guidelines of Land-Use Conflict in Construction Management in Lagos State, Nigeria

Based on the above background information, the aim of the study was to examine the effects of land-use conflict in construction management in Lagos State, Nigeria, with a view to developing managerial guidelines for its effective resolution. To achieve the aim, the research identified reasons for land-use conflict between government and communities in informal settlements, the effect of land-use conflict on different stages of construction management and examined the solutions employed by professionals to curb land-use conflicts in the study area. The scope of the study was limited to land-use conflict between informal settlements and the government in Lagos State, Nigeria as little or no study was found in this regard in existing literature.

The key contribution to knowledge of the study is that it empirically established that land-use conflict affects the progress, sequence and completion phase of construction with the planning, problem solving communication skills of the manager found to be the most important soft skills in resolving land-use conflicts. The study also empirically established that change in the socio-economic use of land is the most likely reason for land-use conflict in informal settlements in the study area. The outcome of the study will be beneficial to policy makers, construction managers and government agencies involved in land-use pattern developments. The content of the research will also be a useful material for other researchers to work with and build on. The following part of the paper is divided into five sections as follows: literature review; methodology; analysis and discussion; conclusion; results, acknowledgements.

# II. LITERATURE REVIEW

#### **Land-use Conflict**

In every urban environment, there are different stakeholders with the aspiration of the land-use plan to meet their current and future societal needs. This leads to incompatible interests and creation of a situation where land-use conflict arises [7]. Land-use development has become an important policy concern, because people have diverse societal demands that are highly integrated with each other in a way that their activities have consequences on one another. More often than not, a person's land-use decision affects the well-being of other people. According to [3], land-use planning has to contribute to the protection of rights of every citizen both presently and of future generation in the society. This is done by granting every member of the society the access and right to information, create a process for public participation in land-use decision making and create the avenue with access to justice on environmental matters for the people. All these steps should work properly, but are usually affected by administrative, methodological and political difficulties. Interest groups are not able to express their preferences and are negatively affected by land-use decisions. This results in conflicts across many levels including: local, national, regional and international level resulting in massive social costs.

Land-use decisions are affected by different factors which

include: physical/land cover attributes, socio-economic factors, ownership and land tenure characteristics, regulatory environment and the tools local or state government use in influencing land-use decisions. According to [4], these factors can in turn lead to land-use conflict. The authors advance that conflict of land-use is a subject of how complex the process is, as it involves many stakeholders' interests. Most times it is a competing interest between public and private parties of the society. Prior to formal development, land administration was guided mostly by customary laws with a system which recognises the interests of families, individuals and communities. The government in a formal development system created the right of occupancy system. This system has led to controversies in the acquisition, administration and use of land which leads to land-use conflict and is mostly felt in areas with a high rate of urbanisation that results to increase in land-use demand [6].

Land-use conflicts are termed as social conflicts which involves disputes over norms, hierarchies and interests. It also refers to social processes and relationships in which two or more individuals or groups can be distinguished by different interests in problem solving activities. [3], noted that as a social conflict, land-use problems are indicators for detecting diverse interest, non-effective resource allocation and use systems. Therefore, to curb this problem, decision makers and land-use planners which are most times the government, need to incorporate the diversity of people's ideals on land-use issues and manage collective decisions. Intense participatory planning is a development strategy that helps avoid conflict through the early stages of clarification. It involves: collective learning, exchanging of ideas and ideal corporation between the planning authorities and the affected community. According to [3], there can be flaws in the planning process and not all members of the society are actively involved. In this case, only politically powerful representatives are present and in turn influence the planning decisions. This leads to a negative political effect where other members of the communities that are unable to express their dissatisfaction in a formal way result to protest, court appeals and other forms of land-use conflict. The land-use conflict is therefore a signal and a bargaining process to influence administrative decisions in order to change the distribution of land-use property rights. Other potential conflict effects include: vandalism and monotonous path design.

#### **Land-use Conflict in Informal Settlements**

[3], study on the approaches for understanding land-use conflict to improve rural planning and management from the perspective of rural residential living, found that three characteristics indicated the growing demand for residential living in rural areas. The first is a continuous peri-urbanisation which is a linkage between rural and urban areas and characterised with an increased housing density and infrastructure.



The second is a growing migration into the urban periphery and the third is a growing intensity in the existence of urban sprawls. The research was carried out using case study research approach. The result showed that residential land-use conflicts occur in urbanising areas with an increased level in the local areas and urban sprawls. This conflict arises when the residential citizens do not want to be affected by the decisions made by the public official. This in turn creates an informal pressure on the decision maker to consider the citizen's property rights. It is also found in literature that householders are highly attached to the houses they live in and tend to have difficulties in abandoning their household because of cultural and family ties amongst others, even when their living environment is negatively affected by planning decisions. However, because the idea of relocation is costly, the people result to strategies such as demonstrations, open meetings and lawsuits [6], [5]. In order to heighten public awareness, this could lead to vandalism or destruction of any form of governmental development in the area [6]. In summary, the studies emphasized that residents in these land-use conflict situations prefer to voice their preferences concerning the land-use of their environment in order to influence local public decision makers, rather than seeking monetary compensation and abandonment. With specific reference to Lagos State in Nigeria, the [8], noted that the ability for formal land-use system not being able to meet the need of the increasing urbanisation is compensated by increasing informal land-use systems. Lagos being the commercial and industrial hub of Nigeria has just about 0.4% of the total land area of the country with 3,345 square kilometres. Despite it being the physically smallest state in Nigeria, it has the highest population with over 10 million people. The [1] also highlighted that two thirds of the population of Lagos State live in informal settlements and slum around the city. The master plan of the State indicates that there are 42 informal settlements between 1980 and 2000, but presently they have grown to over hundred communities. The government provides little or no services for living conditions in informal settlements and continuously the residents are living under the fear of extinction [9]. The major land-use challenges in informal settlements in Lagos State include first and foremost the conflicting land-use between the settlements and the government. Others include: illegal squatting, unplanned growth, overcrowding, lack of infrastructure and services, continuous increase in informal settlements, marginality, exclusions and vulnerability [6]. As in most developing countries, government response to informal land-use development ranges from passing stringent regulations to excluding them from infrastructure extension to barring their integration into urban services to outright demolition. All these are common with informal settlements in Lagos State [6]. This land-use challenges causes land-use conflict and in turn leads to protests, demonstrations and have negative effects on growing development in the surrounding area. Informal settlement is rooted in the inability of the government and formal sector to provide a land-use system that is affordable for the low-income group. The non-attention in land-use decisions not given to informal communities is what largely leads to land-use conflict in these areas.

## **Land-use Conflict and Construction Management**

Construction management refers to the entire cyclic process of planning, coordination and control of a project variables from inception to completion [10]. The construction phase of a project requires excellent and competent managerial skills to manage the resources within the limits of the budget, inspect work progress, prepare schedule for works to be carried out and unpredicted outcomes, while handling issues relating to the stakeholders and people involved in the process [11]. Hence, effective construction management practice requires the manager(s) to possess certain skills aside their professional knowledge and technical skill [12]. A study carried out by [13] revealed that asides the technical and environmental issues, there are management challenges which are very dominant when managing construction projects in Nigeria. The study therefore, recommended that construction managers should acquire the right skills needed for effective management, such as communication, organisational effectiveness, decision making, team building and leadership. However, the research did not evaluate land-use conflict challenges facing construction practice in Nigeria. [12] in their appraisal of construction management practice in Nigeria, considered civil strife of riot that may result from land-use conflict as one of the most important factors that influence management of construction projects. This may be as a result of the non-presence of construction workers due to the strife. However, the study was silent on the effect it will have on construction management. Conflicts in construction management are broadly divided into internal and external conflicts. Internal conflicts as conflicts that occur within parties to the contract, such as clients, contractors and consultants, and external conflict refers to conflict between project participants and external stakeholders [14]. External conflict can manifest either in physical rioting or symbolic barriers or both. All aimed at protesting against the works carried out by the contractor in view of an unresolved conflict between the community and project participants. [1] reported that poor public relationship between the project people and the public as a cause of conflict in the construction process was ranked first by the contractor and tenth by the consultants, with an overall ranking of 2 and a mean value of 4.26. This suggests that the effect of conflict is felt more by the contractor whose activities are hindered by the physical (riot) and symbolic (bureaucratic) barriers from the community. In view of the aforesaid, this study evaluated the effects of conflicts caused majorly by land-use decisions, as little or no study was found in this regard. The study was therefore conducted in order to examine the effects of land-use conflict between government and communities in informal settlements to fill the gap identified in literature as earlier stated.

#### III. METHODOLOGY

In other to achieve the aim of the study a quantitative research approach which involved the use of structured questionnaires as survey instrument was adopted. The study instrument was designed based on information extracted from literature to obtain research variables on land-use conflict and construction management in informal settlements. The twenty-eight (28) ministries in the study area (Lagos State) constitute the study population. These ministries are government agencies in charge of executing government plans. Out of the twenty-eight ministries, three were selected as the sample frame. The Ministry of Housing, Ministry of Works and Infrastructure and Ministry of Physical Planning and Urban Development are the three Ministries that constitute the sample frame. The ministries were chosen for the study, because they are the ministries directly involved with construction activities that involves land-use pattern development in the study area. Officers of the ministries used as respondents are head of departments or their competent representatives. A total of seventeen officers constitute the sample size. Six officers each were used in the Ministry of Housing and the Ministry of Works and Infrastructure, while five were used in the Ministry of Physical Planning and Urban Development. Data for the study was collected and analysed between March and April 2019. The data gathered was analysed using Statistical Package for Social Sciences (SPSS) version 21 and the results presented descriptively by the aid of tables for clarity.

## IV. RESULTS ANALYSIS AND DISCUSSION

This section presents the result on the analysis and discussed the findings from the research in relation to other studies.

#### **Response Rate**

Seventeen questionnaires were distributed to respondents across 3 ministries as mentioned in the previous section, out of which 15 questionnaires were retrieved. This represents 88% response rate. [1] study on the causes of conflict in construction projects in Nigeria recorded a response rate of 69%. Hence, a response rate of 88% is considered reasonable for the study.

#### **Demographic Data of Respondents**

The result shows that the respondents have high level of literacy with 25% having attained tertiary education certification and 75% having post-graduate education certification. The result on the profession of respondents across the sampled ministries showed that majority of the respondents (41.7%) are town planners, engineers, architects and quantity surveyors are 16.7% each, while builders are 8.2%. This infers that the result expressed more of the views of town planners. This is because most of the HODs in the sampled ministries are town planners which implies that issues relating to land-use matters are largely influenced by the opinion of town planners in Lagos State. Hence, based on the organisational structure of the ministries in the State, government policy to address land-use conflict matters, will

to a large extent be influenced by the views of town planners.

#### **Reasons for Land-use Conflict in Informal Settlement**

Table I shows a summary of the result obtained on reasons for land-use conflict in informal settlements.

Table I: Reasons for land-use Conflict in Informal Settlements

Settlements			~ .	
Variables	no.	mean	Stand.	rank
			deviation	
Change in	12	4.0000	1.34840	1 <sup>st</sup>
socio-economic				
benefits of the land				
Change in political	12	3.8333	1.11464	$2^{\text{nd}}$
benefits of the land				
change in	11	3.8182	.87386	$3^{\rm rd}$
functional usage of the				
land				
Literacy level of	12	3.6667	1.07309	$4^{th}$
the communities				
Change in cultural	12	3.4167	1.08362	5 <sup>th</sup>
benefits of the land				
Built area that	12	3.4167	1.08362	$6^{th}$
existed before the				
urban plan was created				
Poor	12	3.3333	1.43548	$7^{\text{th}}$
communication				
between government				
and communities				
Extension of	12	3.2500	1.05529	8 <sup>th</sup>
Building development				
over planned urban				
perimeter				
Disagreement in	12	3.2500	1.42223	9 <sup>th</sup>
urban renewal				
strategies employed				
	11	3.0909	1.13618	$10^{th}$
Change in				
ecological benefits of				
the land				

The results presented in Table I shows that change in socio-economic benefits of land with a mean value of 4.00 is the most rated reason for land-use conflict. Change in political benefits of the land, change in functional usage of the land and the literacy level of the context community are next with 3.83, 3.81 and 3.67 mean values respectively. Change in ecological benefits of land is ranked the least likely factor by the respondents to cause land-use conflict with a mean value of 3.09. Socio-economic benefits being ranked as the most likely reason for land-use conflict, reflects the living standard of the informal communities that tend to value the revenue generation potent of land over any other form of land-use. Hence, this implies that the communities are likely to resist any form of government intervention that does not create better socio-economic value than they already possess. Likewise, ecological considerations are most likely to be the least reasons for the communities to resist government intervention. This result is in line with the findings of [6] and [5] that found that demonstrations, open meetings and lawsuits are likely reactions by communities to land-use conflicts. [6] added that in order to increase public awareness, the reactions of communities could become destructive as government developments in the area are sometimes attacked

destroyed by the affected communities.

# Reaction of Community in Informal Settlement to Land-use Conflict

Table II shows a summary of the result obtained on the reaction of communities in informal settlements to land-use conflict.

Table II: Reaction of Communities in Informal Settlements to Land-use Conflict

Variables	No	Mean	Stand.	Rank
			Deviation	
Bureaucratic	11	3.8182	.87386	1 <sup>st</sup>
dialogue between				
government and				
communities				
Legal indictment	12	3.7500	.75378	$2^{\text{nd}}$
Peaceful	12	3.6667	1.15470	$3^{\rm rd}$
demonstration				
Protest	12	3.4167	.79296	$4^{th}$
Stealing of	12	3.1667	1.02986	5 <sup>th</sup>
materials				
Local trade	11	3.0909	1.04447	$6^{ ext{th}}$
union opposition				
Image damage	12	3.0833	1.16450	$7^{\mathrm{th}}$
from media				
Vandalism	12	2.7500	1.28806	8 <sup>th</sup>
Challenges in	12	2.5833	1.08362	9 <sup>th</sup>
procurement of				
materials from				
community				

The data in Table II shows that bureaucratic dialogue between the government and the communities with a mean value of 3.8, is the most likely reaction by communities of informal settlements towards land-use conflict with the government. Legal indictment, peaceful demonstration and protest with mean values of 3.75, 3.66 and 3.41 respectively are the likely reactions by the communities with high tendencies. Challenges in procurement of materials from the community is ranked least by the respondents with a mean value of 2.58. The result of bureaucratic dialogue being ranked the highest conforms with the study of [3]. that found that in other to solve land-use conflict, there is a need for participatory engagement between continuous government and communities. Other reactions such as protest and peaceful demonstration which follows show that when bureaucratic dialogue and legal indictment do not work, the informal communities are likely to force the government to make alternative decisions. However, challenges in the procurement of construction materials from the community is least considered as a reaction to land-use conflict. This is most likely because the communities perceive this as a means for livelihood or daily survival.

# The Effect of Land-use Conflict Reaction on Different Stages of Construction Management

Table III shows a summary of the result obtained on the correlation between the different stages of construction management and the highly ranked  $(1^{st}-4^{th})$  land-use conflict reactions.

Table III: Correlation Between Different Stages of Construction Management and the Highly Ranked  $(1^{st} - 4^{th})$  Land-use Conflict Reactions.

			Correlation	s				
		Bureaucratic dialogue between government and communities	Peaceful demonstration	Sequence of construction activities	Progress of construction activities	Completion of construction	Legal indictment	Protes
Bureaucratic dialogue	Pearson Correlation	1	.212	297	632°	811**	079	484
between government and communities	Sig. (2-tailed)		.531	.375	.037	.002	.817	.131
	N	11	11	11	11	11	11	11
Peaceful demonstration	Pearson Correlation	.212	1	608*	431	550	418	331
	Sig. (2-tailed)	.531	-	.036	.162	.064	.177	.293
	N	11	12	12	12	12	12	12
Sequence of construction activities	Pearson Correlation	297	608*	1	.744**	.727**	135	.014
	Sig. (2-tailed)	.375	.036	-	.006	.007	.675	.965
	N	11	12	12	12	12	12	12
Progress of construction activities	Pearson Correlation	632°	431	.744**	1	.698"	.094	.000
	Sig. (2-tailed)	.037	.162	.006	-	.012	.771	1.000
	N	11	12	12	12	12	12	12
Completion of	Pearson Correlation	811**	550	.727**	.698"	1	.039	.438
construction	Sig. (2-tailed)	.002	.064	.007	.012		.903	.155
	N	11	12	12	12	12	12	12
Legal indictment	Pearson Correlation	079	418	135	.094	.039	1	.038
	Sig. (2-tailed)	.817	.177	.675	.771	.903	-	.907
	N	11	12	12	12	12	12	12
Protest	Pearson Correlation	484	331	.014	.000	.438	.038	1
	Sig. (2-tailed)	.131	.293	.965	1.000	.155	.907	
	N	11	12	12	12	12	12	12

The data presented in Table III reveals significant correlations between the different stages of construction management and the highly ranked land-use conflicts at 0.05 and 0.01 levels. The result shows that the correlation between sequence phase of construction and peaceful demonstration is -.608. The correlation between the progress of construction activities and bureaucratic dialogue between government and community is -.632. A correlation value of -.811 was obtained between completion of construction and the bureaucratic dialogue. The association relationship between these variable, indicated a negative directional relationship. This shows that the higher the degree of bureaucratic dialogue between government and community and peaceful demonstration in the construction process, the slower the progress of the construction, therefore making construction management more difficult.

# Managerial Skills in Resolving Land-use Conflict

Table IV shows a summary of the result obtained on managerial skills in resolving land-use conflict.

Table IV: Managerial Skills in Resolving Land-use Conflict

Commet				
Variables	No.	Mean	Stand. Deviation	Rank
Planning	12	4.8333	.38925	1 <sup>st</sup>
Problem solving	12	4.6667	.49237	$2^{nd}$
Communication	12	4.5000	.52223	$3^{rd}$
Organisational effectiveness	12	4.3333	.65134	4 <sup>th</sup>
Leadership	12	4.2500	1.21543	5 <sup>th</sup>
Decision making	12	4.2500	.86603	$6^{th}$
Team building	12	4.0833	.51493	$7^{\text{th}}$
Delegation	12	4.0000	.42640	$8^{th}$

The result in Table IV shows that planning with a mean value of 4.83 is the most likely skill to be used in resolving land-use conflict. Problem solving, communication and organisational effectiveness with mean values of 4.66, 4.50 and 4.33 respectively, are also skills that are highly rated for the resolution of land-use conflict.



The result also shows that all skills listed have high impact in land-use conflict resolution as the least important managerial skills include: team building and delegation with mean values of 4.08 and 4.00 respectively. The result indicates that effective planning is highly needed with communication (continuous dialogue), problem solving and organisational effectiveness, for resolving land-use conflict. This result corroborates the findings of [12] that found that professionals must possess other soft skills aside their technical skills in the resolution of conflicts. Nevertheless, the nature of land-use conflict between government and communities is dynamic, thus all skills are needed from the most important, which is planning, down to the least rated skill, which is delegation.

#### V. CONCLUSION

Generally, land-use conflict has been established to have a direct or indirect effect on the management of the construction process. This study identified that a change in the socio-economic use of a land is the most-likely reason for land-use conflict in informal settlement. However, the changes in ecological usage of the land was expressed as the least likely reason for land-use conflict. Land-use conflict reactions were also found to affect the progress of work, the sequence and the completion of the construction process. In providing solution to the issues of land-use conflict, the construction manager's skills were evaluated and the planning, problem solving and communication skills of the managers were found to be the most needed in land-use conflict resolution. Consequently, the study recommends that the training of construction managers should include education on these soft skills in their curriculum to provide them the necessary tools in dealing with issues on land-use conflict in their course of managing construction work. The study also recommends that further studies should be carried out to investigate the perception of other stakeholders, such as contractors and consultants including project managers in the building industry, as well as the residents of informal settlements, on the effects and possible effective ways of resolving land-use conflict in the study area, in other to annex wider view on the subject. Also, similar studies can be conducted in other states of the federation to provide a broader perspective on issues bordering on land-use conflict effects and resolution in Nigeria.

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