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## **ENHANCING URBAN ENVIRONMENTAL QUALITY THROUGH THE RESTORATION OF THE NEGLECTED GREEN SPACES IN ALADINMA ESTATE IN OWERRI URBAN**

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### **Abstract**

*A well-balanced urban environment can enhance living conditions and the quality of life of urban residents. This is because the state of the urban environment affects the urban environmental quality. The pressures of urban life in some developing countries often make it difficult for the residents to take care of the environment. Also, urban schemes and developments in the urban areas have created a high concentration of urban residents and consequently the improper use and neglect of green spaces. Some of them have become refuse dump sites and places for other undesirable activities such as petty trading and activities of roadside tradesmen. These green spaces within neighbourhoods and layouts were created by Planning Authorities in order to enhance the urban environmental quality, but they have become neglected, misused and therefore, negate the urban environment. The study set out to investigate the conditions of the neglected green spaces in Aladinma housing estate, Owerri, Nigeria. The study was a survey research using questionnaires administered on residents of some selected layouts in Owerri including Aladinma estate. Obtained data was analysed using the Chi square statistical tools. Findings reveal that the poor condition of these spaces is due to undesirable human activities. These spaces could become well-functioning green spaces, if the activities that negate them are removed, thereby improving the quality of urban life in these layouts.*

**Keywords:** Green spaces, neglected spaces, quality of life, urban restoration, urban environment

### **INTRODUCTION**

Urban environmental quality deals with certain dimensions such as: the natural environment, pollution control and water management. Improvement in any of these areas leads to enhancement of the quality of the urban environment. The green spaces structured into the planning of Aladinma urban environment were created to make positive contributions to the lives of the urban dwellers. Undesirable physical conditions of green spaces due to human activities have degraded the urban environment, thus denying the Aladinma residents benefits that could accrue from spaces. These spaces have therefore become neglected (Plate 1).

Green spaces are part of open spaces and have come to be associated with urban development, especially in the process of growth of cities. They punctuate the urban fabric of cities serving diverse functions. They occur in different sizes and locations. An open space has been explained as either land not built upon, which may be either natural or manmade or land developed as garden and recreation grounds or undeveloped and which has value for recreational purposes, amenity, conservation and other natural resources; historic or scenic landscapes or areas of outstanding natural beauty such as water areas, river, valleys, hills,

mountains, lakes, oceans and bays (Mas'ud, 2004). Green spaces are therefore part of the urban environment and could be publicly or privately owned. They perform several functions in the urban environment and researchers have evolved several concepts that emphasize the importance of the natural environment to urban life, the interrelationships between organisms and their ecosystem as well as the sustainability of the urban environments by harnessing the potentials of the natural environment (Gray, 2011; New Urbanism, 2015). These concepts include: urban ecology, green urbanism, landscape urbanism, green infrastructure and urban forestry.

Benefits of green spaces include ecological benefits of supplying the cities with ecosystem services which range from maintenance of biodiversity to the regulation of urban climate (Haq, 2011). Other benefits are chemical, air and pollution control, increase in biodiversity and nature conservation as well as increase in energy savings in buildings and increase in property values. Social and psychological benefits include recreational and health benefits. Urban green spaces can be a comprehensive tool for long term protection of environmental sustainability through improving the quality of life.

Disposing waste into the existing green spaces in various layouts in Owerri has largely affected the use of these spaces. Physical observations show that green spaces in Aladinma estate have been degraded. These physical conditions of the green spaces in Aladinma include presence of refuse dumps, old abandoned vehicles, burning of tyres and refuse, mushroom market stalls, uncoordinated roadside street trading and very bushy, unkempt vegetation. These conditions deny the residents the environmental, social and ecological benefits of the green spaces. If these physical conditions are changed, and the neglected spaces are put to positive uses, the urban environmental quality of Aladinma estate would be improved. The objective of this research is to examine the state of the neglected green spaces in Aladinma estate. The hypotheses that will guide this research are as follows:

- (i) Ho1-The undesirable physical condition of the neglected green spaces has no significant relationship with the availability of roadside tradesmen/craftsmen in the neglected spaces.
- (ii) Ho2-The undesirable physical condition of the neglected green spaces has no significant relationship with the presence of waste dumps in the neglected spaces.
- (iii) Ho3-The undesirable physical condition of the neglected green spaces has no significant relationship with the presence of the neighbourhood markets in the neglected spaces.
- (iv) Ho4-The undesirable physical condition of the neglected green spaces has no significant relationship with the with air pollution from the neglected spaces.

## **LITERATURE REVIEW**

Green spaces have also been known to positively affect the lives of urban dwellers in many ways and have existed in urban areas from the prehistoric periods to the present day. These spaces include courtyards, squares, gardens, piazzas, agora, fora, parks and green belts

(Greenspace Scotland, 2011). These spaces are part of the natural environment of a city. Green areas at city levels are essential parts of public spaces in uniting the urban dwellers with the natural environment. Green spaces enhance the value of public spaces and also create openness of the physical environment and ensure higher environmental aesthetics and respiration in congested cities (Commission for Architecture and the Built Environment, 2004; Elman, 2014)).

Research has revealed that the natural environment is important in the total functioning of the human being and further states that the physical setting (nature or built) can affect human behaviour (Kreitzer, 2013). The natural environment unites the urban dwellers with nature. Research also reveals that the conditions of an urban environment have direct effects and influence on the lives and living conditions of urban residents (Youssef, 2014). Existing environmental factors that lead to a poor urban environment can affect the health and safety of urban residents (Kustysheva, 2017). These factors must therefore be considered by planners in the implementation of developments of layouts and neighbourhoods. Some of these factors are waste disposal, air and water pollution, poor visual impact from neglected green spaces, noise and other activities that degrade the urban environment.

Green areas at city levels are an essential part of public spaces and unite the urban dwellers with the natural environment. Proper planning and use of green spaces enhance the value of public spaces and also create openness of the physical environment and ensure higher environmental aesthetics and respiration in congested cities. Consequently, degradation of green spaces intended to enhance quality of urban life denies the residents of the environmental, social and ecological benefits. Other benefits are chemical, air and pollution control, increase in biodiversity and nature conservation as well as increase in energy savings in buildings and increase in property values. Social and psychological benefits include recreational and health benefits. Urban green spaces can be a comprehensive tool for long term protection of environmental sustainability through improving the quality of life. It becomes important to examine the state of the green spaces in Aladinma estate to in order to determine the activities responsible.

## **Theoretical framework**

The theories that underscore this research are urban prosperity, theory of place and the theory of human capital.

### *Theory of place*

This theory is one of the theories of urban prosperity presented by Joseph Cortright in his writing of “Urban Success: theories of urban prosperity” in 2015. It deals with the quality of places including green spaces and the built environment and how they affect and support economic activities. The attraction city concept which comes under this theory explains that cities can increase their investments and economy if iconic investments such as buildings and parks are developed. These types of investments create awareness of such cities thereby drawing economic activities and other human investments hence adding quality and value to the cities. Such investment create a unique sense of identity and open up diverse choice investments to the city dwellers and others who may wish to come to the city for several purposes (Cortright, 2015). Consequently, if the neglected green spaces in Aladinma Estate are developed, they will increase urban environmental quality and have a positive impact on the life of the urban residents.

### *Theory of human capital*

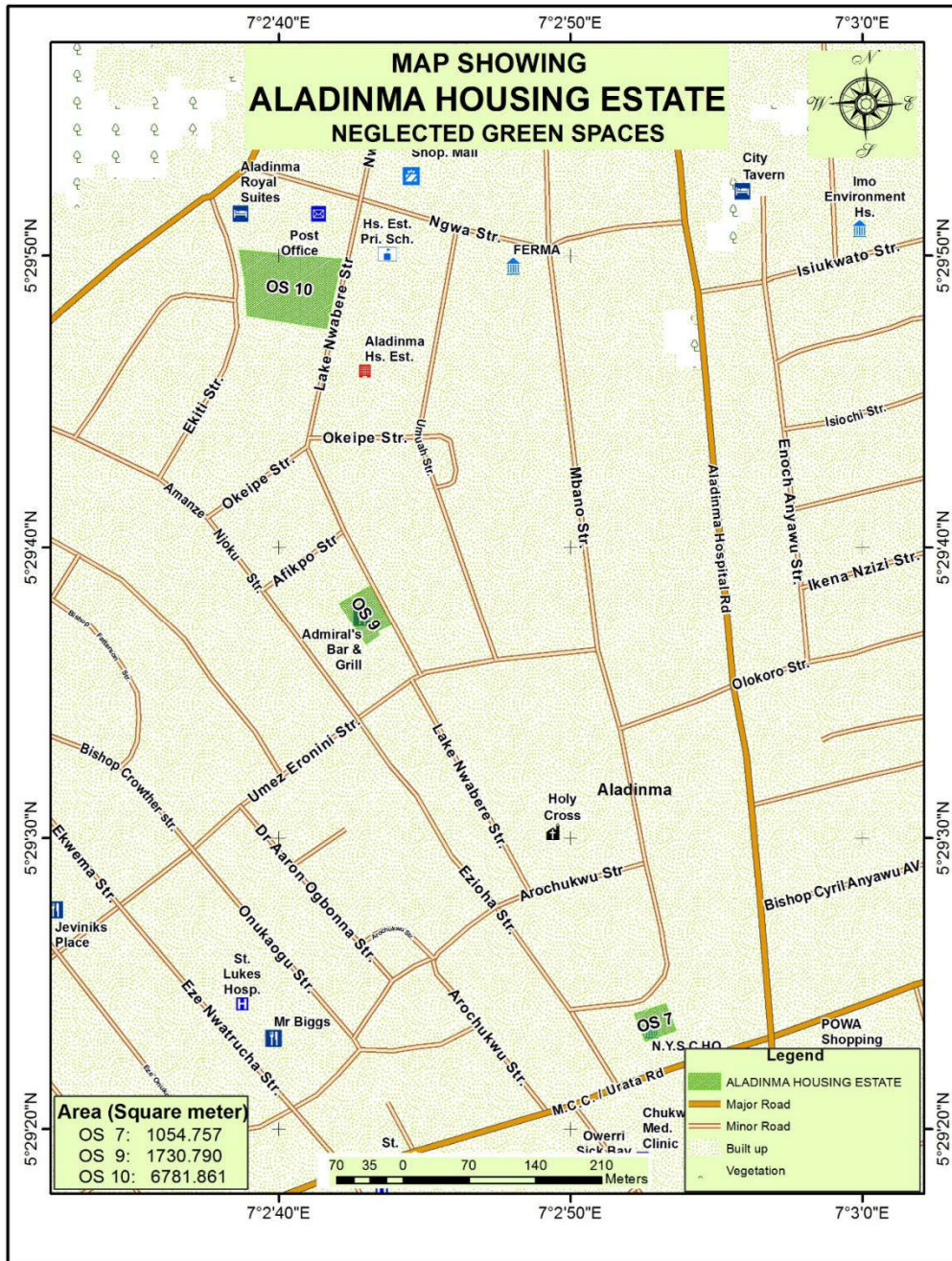
Closely related to the theory of place is that of human capital which is known to include social capital, economic capital, cultural capital and symbolic capital (Simpleeconomist.com, 2019) This theory is said to have been originated by Adam Smith in the 18<sup>th</sup> century and later popularised in modern theory by Gary Becker, an economist, Jacob Mincer and Theodore Schultz. It underscores this research in the way that enhanced attractive green areas in the city would improve quality of urban life. When an environment is attractive for human habitation, different types of investments are made which enhance the human capital contributions in a city hence contributing to the urban environmental value (Simpleeconomist.com, 2019).

### **Study Area**

Aladinma estate is one of the layouts in old Owerri urban. Owerri urban is the capital of Imo State in Nigeria. The residents in Aladinma estate were initially civil servants but due to many developmental changes a mixture of civil servants (32.0%), businessmen (22.0%) and others (46.0%) live there. The house types are predominately family houses. These are houses where family members live together. There is a lot of demand for goods and services within all the layouts in old Owerri urban from the respective families. 3 neglected green spaces are within Aladinma estate and are shown in Figure 1. An example of the space is shown in Plate 1.



**Plate 1: A neglected space in Aladinma Housing Estate,**  
*Source: Field work, 2018*



**Figure 1: Aladinma Housing Estate neglected green areas**  
 Source: Field work, 2018

### RESEARCH METHODOLOGY

This study is a subset of a wider research. The research design adopted was survey method. Primary data was obtained through questionnaire, while data was obtained from existing government records, books, published and unpublished related materials, maps, drays, archives. Records of planning authorities on these lost green spaces and documented records on the status of these lost green spaces were also used. There are 13 layouts in the old Owerri urban. Seven (7) were randomly selected and studied. They are as follows: (1) Orlu Road

Secretariat Layout, (2) Aladinma Housing Estate, (3) Otamiri South Layout, (4) Aladinma Northern Extension, (5) Ikenegbu Extension Layout, (6) Ikenegbu Layout, and (7) Emmanuel College Layout. In each settlement, all the existing neglected spaces were studied. Questionnaires were administered on the residents of the 7 randomly selected settlements in Owerri among which was Aladinma estate.

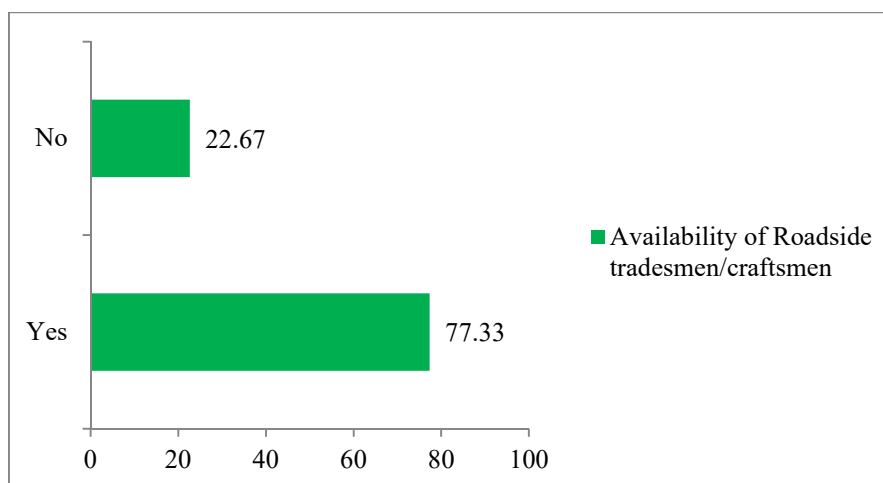
Determining sample size for a yet to be known population size was based on the following assumptions: 95% confidence level, 0.5 standard deviation. This figure ensured a sample size that is large enough. Questionnaires were administered on 385 respondents in the 7 settlements. Out of this number, questionnaires were administered on 98 respondents in Aladinma Housing Estate. The following variables were studied for Aladinma estate: (i) Availability of Roadside tradesmen/craftsmen; (ii) Presence of waste dumps; (iii) Presence of neighbourhood markets; (iv) Activities that generate air pollution from the neglected spaces ; (v) Undesirable physical condition of the neglected spaces

## FINDINGS AND DISCUSSIONS

The analyses of these variables are presented as follows:

### *i. Availability of Roadside tradesmen/craftsmen*

Analysis of data on this variable showed that activities of roadside tradesmen/craftsmen were quite high (77.3%) in and around the neglected spaces in Aladinma estate. This is shown in Figure 2. This agrees with the assertion that green spaces have the potential for environmental benefits, economic regeneration and social benefits (Commission for Architecture and the Built Environment, 2004). The green spaces have created a setting for economic activities by the residents.



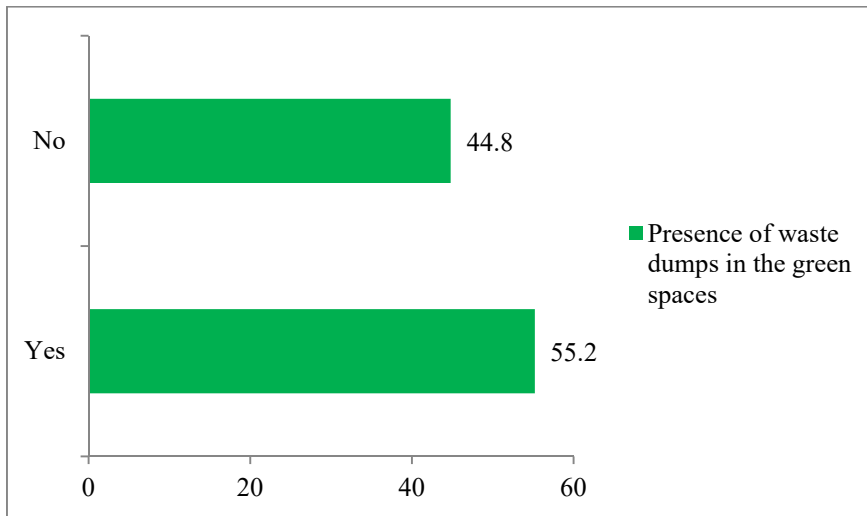
**Figure 2: Availability of Roadside tradesmen/craftsmen**

*Source: Fieldwork, 2018*

### *ii. Presence of waste dumps in the green spaces*

Analysis of data gathered (shown in Figure 3) indicated that there were wild shrubs, reptiles, refuse dumps (55%), and abandoned old vehicles in some of these spaces; some shanty developments exist within these spaces in some of the layouts; a fairly large number of other activities take place within some of these spaces and mechanics use some of these spaces in

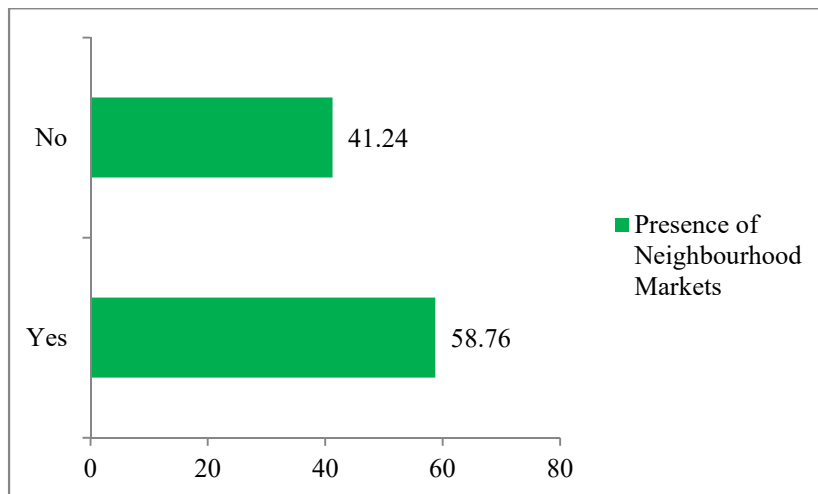
some layouts for refuse duping of old tyres.



**Figure 3: Presence of waste dumps in the green spaces**  
Source: Fieldwork, 2018

*iii. Presence of Neighbourhood Markets*

Analysis of data reveals that uncoordinated and unplanned neighbourhood markets exist around the neglected spaces (58.7%). This explains the high percentage of roadside activities and trading activities in and around the neglected green spaces.

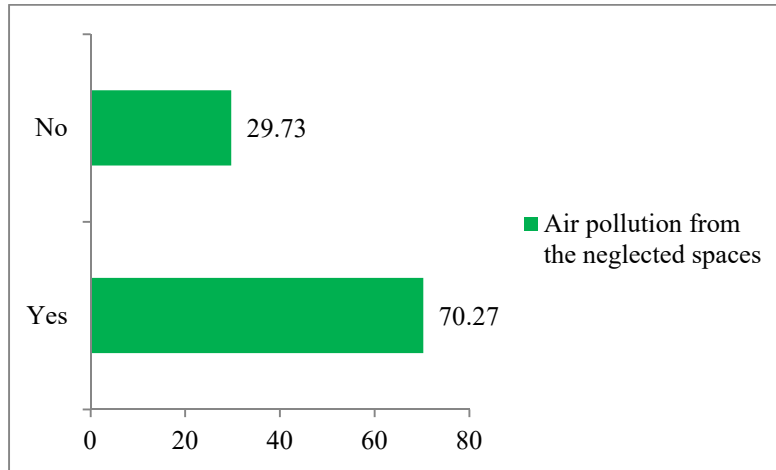


**Figure 4: Presence of Neighbourhood Markets**  
Source: Fieldwork, 2018

*iv. Air pollution from the neglected spaces*

As a result of the neglect of the neglected spaces, there are activities of impromptu mechanic workshops which increase the level of activities within these enclaves. Consequently, the

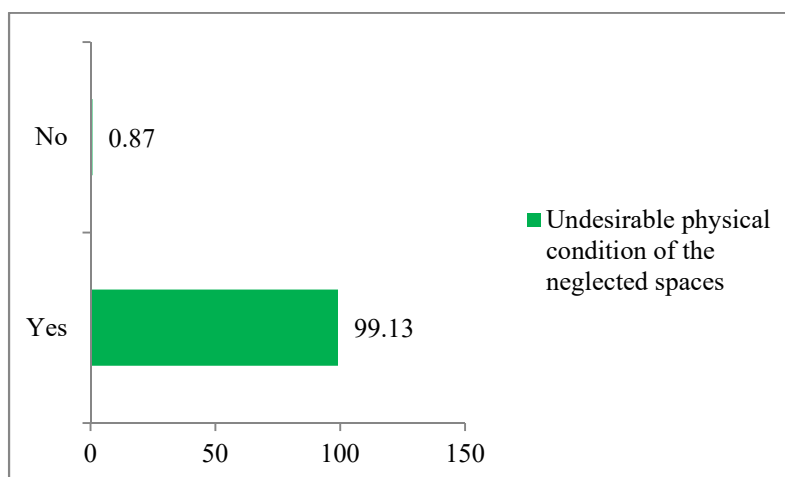
combined activities of these mechanic workshops, burning of refuse, cooking with firewood and other associated activities contribute to the high level of air pollution. The greater majority of respondents (70.27%) affirmed that this was the case (Figure 5).



**Figure 5: Air pollution from the neglected spaces**  
Source: Fieldwork, 2018

v. *Undesirable physical condition of the neglected spaces*

These physical conditions of the green spaces in Aladinma include presence of refuse dumps, old abandoned vehicles, burning of tyres and refuse, mushroom market stalls, uncoordinated roadside street trading and very bushy, unkempt vegetation. Consequently, several activities of these mechanic workshops led to environmental pollution in virtually all locations surveyed. This was corroborated through the interviews with the respondents (99.13%) and shown in Figure 6.



**Figure 6: Undesirable physical condition of the neglected spaces**  
Source: Fieldwork, 2018

## Test of Hypotheses

**Ho1:** In this hypothesis, the relationship between the following variables was examined: *Undesirable physical condition of the neglected spaces* and *Availability of roadside tradesmen/craftsmen*. The Chi-square analysis tool was used to test the two nominal variables in question. The result (Table1) showed that there is a significant relationship between *Undesirable physical condition of the neglected spaces* and *the availability of roadside tradesmen/craftsmen*. The statistic obtained for the test (0.000) is significant at 95percent confidence level. The null hypothesis is therefore rejected.

**Table 1: The results of Chi square test of independence**

Variable			Chi square	D.F	Significance	Remarks on hypothesis
Ho1	V6	V1	31.85	2.00	0.000	Rejected

Source: Fieldwork, 2018

**Ho2:** Here the relationship between the following variables was examined: *Undesirable physical condition of the neglected spaces* and *Presence of waste dumps*. The Chi-square analysis result (Table 2) shows that *there is a significant relationship between the Conditions of the neglected spaces and the presence of refuse dumps in the neglected spaces*. The statistic obtained for the test (0.007) is significant at 95 percent confidence level. The null hypothesis is therefore rejected.

**Table 2: The results of Chi square test of independence**

Variable			Chi square	D.F.	Significance	Remarks on hypothesis
Ho2	V6	V2	10.06	2.00	0.007	Rejected

Source: Fieldwork, 2018

**Ho3:** In this hypothesis, the relationship between the following variables was examined: *Undesirable physical condition of the neglected spaces* and *Presence of neighbourhood markets*. The Chi-square analysis result (Table 3) shows that there is a significant relationship between the conditions of the neglected spaces and the presence of neighbourhood markets in the neglected spaces. The statistic obtained for the test (0.002) is significant at 95 percent confidence level. The null hypothesis is therefore rejected.

**Table 3: The results of Chi square test of independence**

Variable			Chi square	D.F.	Significance	Remarks on hypothesis
Ho3	V6	V3	12.46	2.00	0.006	Rejected

Source: Fieldwork, 2018

**Ho4:** Here the relationship between the following variables was examined: Undesirable physical condition of the neglected spaces and Activities generating air pollution from the neglected spaces. The result of the Chi-square analysis (Table 1) shows that there is a significant relationship between the undesirable physical conditions of the neglected spaces and Air pollution from the neglected spaces. The statistics obtained for the test (0.000) is significant at 95 percent confidence level. The null hypothesis is therefore rejected.

**Table 4: The results of Chi square test of independence**

Variable			Chi square	D.F.	Significance	Remarks on hypothesis
Ho4	V6	V4	17.90	2.00	0.000	Rejected

Source: Fieldwork, 2018

## CONCLUSION

The results from the tests of hypotheses reveal that the undesirable physical conditions of the neglected green spaces in Aladinma estate are highly significantly correlated to the following: Availability of Roadside tradesmen/craftsmen; Presence of waste dumps; Presence of neighbourhood markets; Activities that generate air pollution from the neglected space. The occurrence of these activities indicates there has been the neglect of the green spaces in Aladinma estate. This constitutes a problem as the spaces negate the built environment in Aladinma estate in Owerri urban in various ways.

The spatial functions of this neglected spaces need to be redefined. These conditions have negatively affected the environmental quality in this estate and consequently the environmental value. It is clear from the theoretical concept that human residents in a given urban area could increase their investments in an urban area if the green spaces in these areas are attractive, well developed and make positive contributions to the urban environmental value. The character of these spaces is not likely to aid an increase in the level of investments possible in Aladinma 'place' as well the improvement of the level of human capital. Consequently, efforts need to be made to remove these negative activities from these spaces and develop these spaces into aesthetically pleasing, well-functioning, well-designed, green spaces that enhance the quality and environmental value of the urban environment of Aladinma estate.

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