

# Spatial Characteristics of *Almajiri* Schools in Kano Metropolitan Area: Physical Planning Implications

Hussaini Aliyu<sup>1</sup> and Yahaya Ado Umar<sup>2</sup>

<sup>1</sup> and <sup>2</sup>. Department of Urban and Regional Planning, Faculty of Earth and Environmental Sciences, Kano University of Science and Technology, Wudil

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**Abstract:** This paper examines the spatial characteristics of *Almajiri* Schools with a view to assessing the physical planning implications. Geographic coordinates of *Almajiri* Schools was obtained with the aid of GPS (Garmin GPSMAP 78S). Features related to space considered include site and situation of *Almajiri* schools, living area per *Almajiri*, floor area, site coverage. Building and environmental physiognomies like building type, building use, building facilities, environmental sanitation, and waste disposal methods. Additional data was obtained through structured interview with *Almajirai* (pupils) and with heads of the schools. 252 schools were a sampled representing 5% of the population of the schools in the area. One *Almajiri* from each of the sampled schools was administered structured interview. Teachers (Malams) of the sampled schools provided useful information about the '*Almajiri*' system. Findings of the study revealed that *Almajiri* school system are spatially unorganized, siting is not based on planning standards and activity points within the school premises are haphazardly located without any informed decision. Space use, structures as well as environmental and sanitary characteristics are below the minimum requirement, consequent on which far reaching physical planning implications are evident. It is therefore, recommended that an effective integration of the system cannot be achieved without understanding the physical planning effects of the spatial dimensions of the system and the development of space standards to address its peculiarities. This could be achieved by developing a synergy between the operators of the system and policy makers.

**Keywords:** locational characteristics, spatial dimensions, environment, sanitation, education.

## 1.0 Introduction

Formal and informal educational systems are essential elements of the socio-cultural fabric that find expression as an institutional activity area in the spatial settings of urban centers in Northern Nigeria. *Almajiri School* is an informal educational system characterized and located in mixed use activities in the towns and cities in all parts of Northern Nigeria. *Almajiri* is a Hausa word meaning pupil or student. The word is derived from 'al-muhajir' an Arabic word for migrant, used to portray a person who journeys for a treasurable resolve (see earlier works of Adamu, 2003; Shehu, 2004; Yahaya, 2005).

The origin of *Almajiri* system dates back to the pre-colonial period (Bano, 2009; Iliyas and Olanipekun, 2017). During the early period, it was established as an organized and comprehensive system of education for learning Islamic principles, values, jurisprudence and theology (Gomment, 2017). Traditionally the *Almajiri* were located on the outskirts of cities close to farmlands, they also do not engage in any activity in the dry months of the year, during which learning is conducive, but, today, *Almajiri* schools are located in the interior of urban areas and are engaged in scavenging for food and begging (Odumosu, *et al*, 2013). Their location at the outskirts of the city with extensive vacant land enables cultivation and provision for adequate shelter. The system therefore prepares for its food

requirements for the year by cultivating the vacant farmland nearby or that on which the school is located. The federal government of Nigeria drafted and instituted a National Policy on Education in 2004 which integrated Qur'anic Schools in to western (modern) school system. A year earlier (2003) the then Kano state government inaugurated a plan for improving the legal and operational activities of the system. This was borne out of the fact that Kano metropolitan has for ages been an area for the proliferation of *Almajiri* schools owing to its Islamic disposition, historical attachment to the Arab city states and empires of the Northern Africa, Morocco, Libya, Egypt and Sudan from where the system was believed to have been borrowed. Presently, in Kano Metropolitan area there are about 5,000 (Kano State Ministry of Education, 2010) *Almajiri* schools. The large number of '*Almajiri*' schools and pupils made the government to initiate programme to intergrate the system with western type schools. However, the *Almajiri* integration policy is facing many challenges (Isiaka, 2015; Yusha'u, *et-al*, 2013) such as lack of spatial input, absence of synergy with existing frameworks, and locational issues of the schools (Aliyu, 2015). The physical planning implications of the spatial characteristics of the *Almajiri* schools are yet to be addressed. Similarly, empirical and practical evidence attest to the inability of the *Almajiri* schools system to respond positively to the intervention. Academic as well as policy concerns on *Almajiri* schools focused on socio-cultural implications of *Almajiri* schools (Okugbemi, 2012; Zakir, *et al*, 2014; Sebastine & Obeta, 2015; Ammani, 2016; Iliyas, Kurfi and Adio 2016; Gomment, 2017; Abbo, Zain, & Njidda, 2017). Other studies examine the integration of the schools with western type education and development of curricular (Momudu, 1982; El-Yaaqub 1998; Kabir 2004; Daman, 1993; Sulaiman, 1994; Sanusi, 2007 and Dahiru, 2008; Susan 2010; and Onitada, 2015). While a study investigated the techniques of teaching in the schools (Baba and Okam, 2015). Similarly, research has been done on the integration of the *Almajiri* into economic activities (Iliyas and oanipekun, 2017; Rigasa, *et al*, 2015; and Magashi, 2015) and the improvement of the *Almajiri* school system (Shehu, 2006, Shittu, 2015). Another studies focus on the assessment of intervention in to the *Almajiri* school systems (Sagagi and Udoji, 2018). In spite of the important insight drawn from these studies, the issues of the spatial dimensions of *Almajiri* schools have not been addressed by the studies thus the need for an examination of the spatial characteristics of the system. This will help in assessing planning implications so as to improve the system.

## 2.0 Materials and Methods

Data on *Almajiri* schools were collected from field observations and survey carried out in Kano metropolitan area, so as to determine the spatial and location characteristics, environmental and sanitary conditions. Data on building materials, facilities, building use and building types in which *Almajiri* schools conduct their activities were also collected with roof type, walls, floor and facia being some of the building indices collected. The amenities dimension considered in the study are bathroom, toilet, power and water supply, room illumination and sewer. Data were sourced from the *Almajiri* on their socio-economic profile like age, household size, and economic status of parents. The sample frame for the study was based on samples from the eight metropolitan Local Government areas (Municipal,

Nassarawa, Gwale, Dala, Fagge, Tarauni, Kumbotso and Ungogo) in varying proportions based on the number of *Almajiri* School in the area. 5% of the *Almajiri* schools was the sample size considered, which translate in to 252 samples (Table 1). Purposive sampling was adopted for the study. At each of the sampled school one pupil was randomly selected based on the age class he belongs (i.e. 4-13years, 14-17years, and 18-24years). If age group 4-13year, for instance, was selected in school X, the next age group, that is 14-17years would be selected in the next school and 18-24year age group in subsequent school until all the samples to be collected are exhausted. In instances where the age group that was supposed to be sampled could not be obtained the next age group was sampled, for example, in a sampled school in which the age group 18-24 are not available the next age group, i.e. 4-13years was sampled. The age groups considered were age 4-13years (*Titibiri*); age 14-17years (*Kolo*) and age 18-24years (*Gardi*). The sampled respondents were administered structured interview and their responses recorded. 10% of the sampled *Almajiri* schools were further sampled for floor area, space density measurements. Descriptive statistical techniques of frequency and percentages were used to present collected data in tables.

**Table 1: Number of *Almajiri* schools by Local Government in Kano Metropolitan Area**

<b>Local Governments</b>	<b>*No. of <i>Almajiri</i> schools</b>	<b>**5% of each local Government</b>	<b>**No. of questionnaire administered to schools</b>
Municipal	461	25.1	25
Gwale	608	30.4	30
Nasarawa	721	36.1	36
Dala	932	46.6	47
Kumbotso	853	42.7	43
Ungogo	625	31.3	31
Tarauni	313	15.7	16
Fagge	487	24.4	24
<b>TOTAL</b>	<b>5000</b>		<b>252</b>

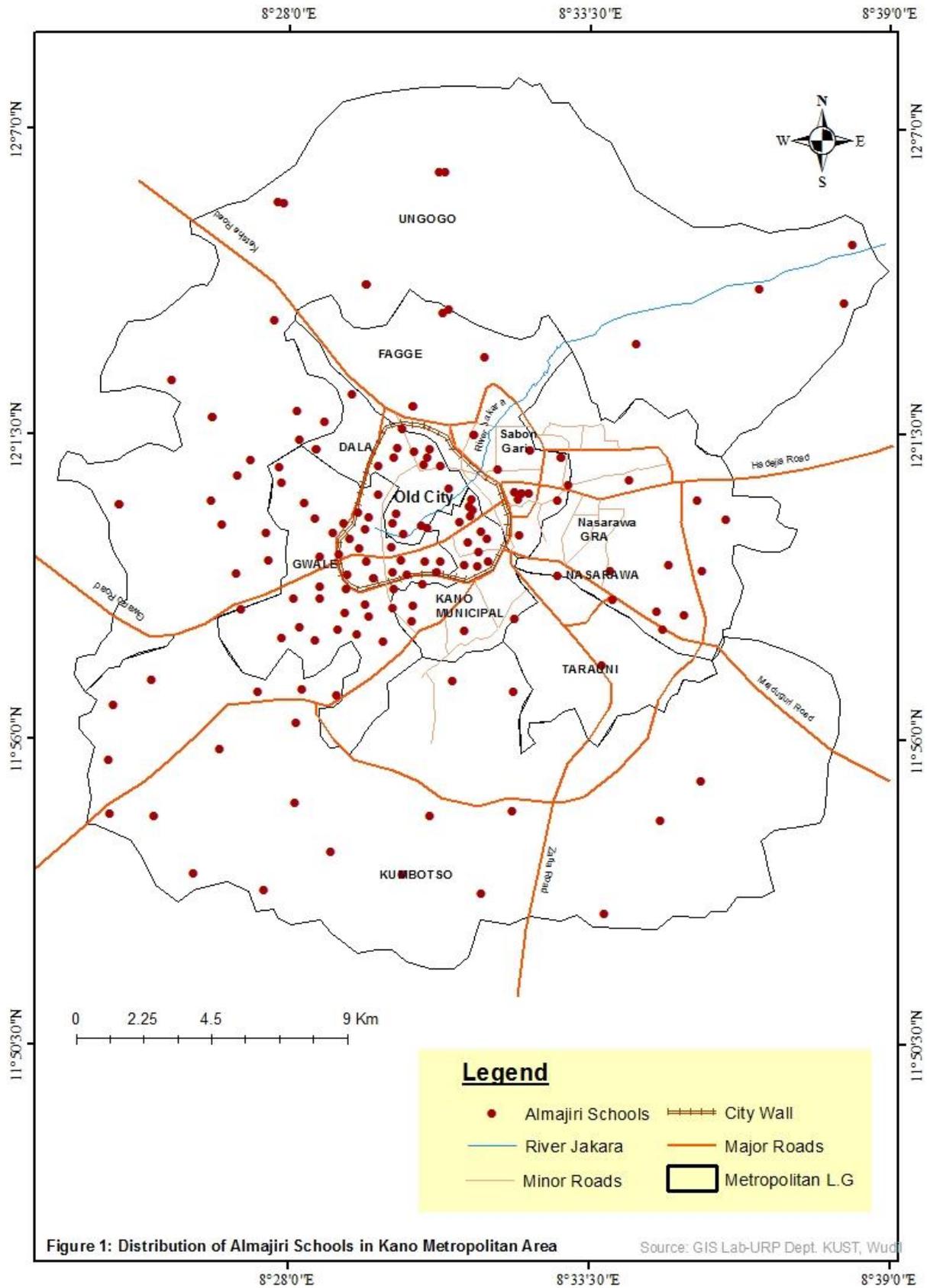
Source: \*\*Field survey, 2018

\*State Ministry of Education

### 3.0 Results and Discussion

#### 3.1 Spatial Characteristics of *Almajiri* School in Kano Metropolitan Area

Figure 1 shows the pattern of *Almajiri* schools in Kano Metropolitan. From the figure there are more schools within the high density build-up areas of the traditional city than there are at the outskirts of the metropolitan area. This may be due to the age old link of the Tsangaya school in the old city with Arabs of Northern Africa, like Makarantar Malam Sheik Manzo Arzai, Malam Sani Makwarari, Malam Sheik Halilu 'Yan' Tabarmi, Malam Sheik Maigari Kwanar Dala, Malam Sheik Dauda 'Yan'Doya, to mention a few, with the Arabs of North Africa. Another reason could be the spontaneous growth outwards and sprawl of the urban area engulfing the vast agricultural land of the fringes and the difficulty of getting cheap/free land at the fringes. It could as well be due to the gradual transformation of the *Almajiri* system from its traditional attributes and location at the outskirts of the urban area to the interior of cities where scavenging and begging for food and other necessities of life characterize the system. Essentially, majority of *Almajiri* schools are located in high and medium density areas of low and medium income class and few in the low density and high income residential areas. They are almost completely absent in the colonial new area of non-indigenes located outside the city, referred to as, Sabon Gari and the planned Government Reserve Area (GRA).



3.1.1 Site Characteristics: Table 2 shows the plot size of *Almajiri* schools in the study area.

Table 2: Plot Size of *Almajiri* School in Kano Metropolitan Area

Plot size of <i>Almajiri</i> Schools (in Meters)	Frequency	Percentage (%)
Not standard	172	68.3
15x20	54	21.4
15x30	17	6.7
20x30	9	3.6
<b>Total</b>	<b>252</b>	<b>100</b>

Source; Field Survey 2018.

From table 2, 6.7% of *Almajiri* schools are located on an approximate plot size 15 x 30 meters and 3.6% are on plot that are 20 x 30 meters in size. 68.3% of the sampled *Almajiri* schools are located on plots with size other than the conventional 15 x 30 meters and 20 x 30 meters. The reason for this may not be unconnected to the role of the informal land delivery system currently dominating land administration in towns and cities of Nigeria. The 15x20 meters plot is a creation of informal land delivery sector which accounted for about 21.4% generally found in the unplanned parts of the metropolitan area.

10% of the sampled *Almajiri* schools (e.g. 10% of 25.1 for Kano Municipal, i.e. four schools) in each local government area was used for floor area measurement. The total floor area of the sampled schools for each local government was divided with the average number of *Almajiri* for the sampled school to obtain the average living area per person per local government. The result is presented in Table 3.

The sites on which the *Almajiri* schools are found in Kano metropolitan area are the plain residential areas or they squat within the already high density residences where any available space exists or in uncompleted structures. Others are sited on designated spaces provided for by the goodwill of the community. The *Almajiri* schools within Kano old city are accessed through very narrow alleys with a Right of Way (ROW) of less than 2 meters characteristic of the old settlements in Nigeria that existed before modern planning and therefore were traditionally conceived and planned based on the level of technology of that period. The majority of *Almajiri* schools in Dala, Municipal, and Gwale, which form a large part of the old city, as well as some parts of Kumbotso and Ungogo are located off the main roads and are thus accessed through the unplanned narrow and winding alleys of the residential neighbourhood.

The buildings in which *Almajiri* Schools conduct their activities are traditional Hausa compound, consisting of the *Zaure* which provides entrance into the compound with a spacious courtyard and few bedrooms. Other spaces used as *Almajiri* School include, uncompleted buildings of traditional design, frontage of houses, makeshift structures on house frontages and service area of residential neighbourhoods. These spaces are also used as shelter or sleeping places for the *Almajiri*. From the survey conducted, it was discovered that most (68.3%) of the activities of *Almajiri* school are conducted in such unconventional spaces (Table 2).

Table 3 shows the floor area used in the '*Almajiri* School. From table 3, the highest living area per *Almajiri* is in Tarauni local government area (0.60m<sup>2</sup>) and the least is found in Municipal local government (0.29m<sup>2</sup>). The result obtained in table 3 fall short of the

standard floor of 0.8m<sup>2</sup> per pupil based on Universal Basic Education (UBE) standard, 2010. One peculiar characteristics of the *Almajiri* space use is the use of the space for sleeping as well as for learning especially in schools located in the high density areas where competition for the limited space is very high. However, *Almajiri* schools at the outside of the metropolitan area where low demand for space exists, the frontage of the house is used as space for learning activities and the interior of the building as compound for accommodation or as sleeping space, which is usually highly overcrowded.

Table 3. Floor Area Use in *Almajiri* Schools by Local Government

S/N	Local Government	Number of Schools sampled for floor area measurement	Average <i>Almajiri</i> Population	Average Floor Area (m <sup>2</sup> )	Average living area per person (m <sup>2</sup> )
1	Dala	5	108	40	0.33
2	Fagge	2	46	24	0.52
3	Gwale	3	80	36	0.45
4	Kumbotso	4	60	34	0.57
5	Municipal	3	98	28	0.29
6	Nassarawa	4	80	45	0.56
7	Tarauni	2	70	30	0.60
8	Ungogo	3	60	45	0.50

Source: Field survey, 2018

It was also observed that most of the *Almajiri* (pupils) do not get accommodation within the school premises but use the *zaure* or any nearby available structure, such as uncompleted building, frontage of residencies and other building and even markets to sleep at night mostly located within a minimum radius to the school.

Learning Space for most of *Almajiri* Schools sampled serve dual purpose, for reading/learning and a space for sleeping. The learning space in few *Almajiri* schools that have enough space to conduct learning activities and a separate space to serve as residence for bed rest is about 1.0m<sup>2</sup>. This falls short of the standard for western schools. With respect to bed Space or living area for *Almajiri*, depicted on Table 3, negative variations away from the UBE standards of 0.8m<sup>2</sup> per pupil range from -0.51m<sup>2</sup> per pupil in Municipal local government to -0.2m<sup>2</sup> per pupil in Tarauni local government.

### 3.2 Building and Environmental Characteristics of *Almajiri* Schools in Kano Metropolitan Area

#### 3.2.1 Building Characteristics.

Four variables were considered in examining the building characteristics of *Almajiri* schools. The variables are building materials, building types, building use, and building facilities. Building materials are; concrete blocks, mud blocks, and thatch or corrugated roofing sheets. Building types were categorized as Bungalow, Duplex, Corrugated iron sheets structures, and open shades at the frontage of houses. Building use, that is, whether the building is residential or institutional or for mixed use. Building facilities such as availability and number of bathrooms, types and number of toilets, water and electricity, and ventilation.

According to Onibokun (1973 p.470), the concept of ‘a habitable home’ or ‘an ideal home’ “is related in addition to the ‘physical, architectural, and engineering component of the home, to the social, behavioural, cultural, and personal characteristics of the inhabitants; the component of the environment of which the home is a part; and the nature of the institutional arrangement under which the house is managed”.

##### 3.2.1.1 Building Types in Kano Metropolitan Area

From Table 4, 0.8% *Almajiri* Schools are single storey buildings, 15.1% are bungalow or flat structured houses, while 22.2% of the houses are traditional compounds with *Zaure* as the entrance to a large courtyard and a couple of single isolated bedrooms. Most of the sampled building type for *Almajiri* schools are uncompleted residential buildings (25.4%) and 19.8% of the schools do not have a permanent structure but they conduct their activities in a makeshift structure made from used corrugated iron sheets or from thatch or grass straw or some other unconventional building materials lastly, 16.7% comprise schools that conduct their schooling activities in the open, as well as open shades in the frontage of the houses.

Table 4: *Almajiri* Schools Building Types

Building Type	Frequency	Percentage (%)
One Storey building or Duplex	2	0.8
Bungalow or flat house	38	15.1
Traditional Compound	51	22.2
Uncompleted Building	64	25.4
Corrugated Iron Structure	55	19.8
Open Shade in House Frontage	42	16.7
Total	252	100

Field survey, 2018

3.2.1.2: Building Use for *Almajiri* Schools in Kano Metropolitan Area

Table 5: Building Use for *Almajiri* Schools in Kano Metropolitan Area

Items	Dala	Fagge	Gwale	Kumbotso	Municipal	Nassarawa	Tarau ni	Ungogo	Total	Percentage (%)
<b>Building Use</b>										
Institutional	5	3	4	8	4	3	1	5	33	13.1
Residential	10	4	6	9	6	7	3	4	49	19.4
Uncompleted Building	13	7	8	10	6	9	5	6	64	25.4
Frontage of Building	17	9	10	12	8	15	6	11	88	35.0
Open Farm Land	2	1	2	4	1	2	1	5	18	7.1
<b>Total</b>	<b>47</b>	<b>24</b>	<b>30</b>	<b>43</b>	<b>25</b>	<b>36</b>	<b>16</b>	<b>31</b>	<b>252</b>	<b>100</b>

Table 5 shows the building use of *Almajiri* Schools, in which, 13.1% of the schools are conducting their schooling activities on lands originally allocated for that purpose. 19.4% are sharing the same plot of land used as mixed use (residential and institutional). 25.4% are located in uncompleted building mostly of residential traditional compound type. The majority (35%) of the schools conduct their learning activities in the frontage of buildings residential, and uncompleted buildings. However, there are differences between local governments as shown on Table 5.

3.2.1.3: Building Materials for *Almajiri* Schools in Kano Metropolitan Area

Table 6 shows the building materials used for the construction of *Almajiri* schools sampled. From table 6, 18.7% of the wall of *Almajiri* schools are made up of wood/straw/corn stalks/thatch/used corrugated iron sheets and 31.3% cement and mud walls unplastered. Unplaster mud wall are 20.2% and plastered cement block 29.8% of the sampled schools. The roofing materials are – grass/mat, concrete decking, corrugated iron sheet, and asbestos and aluminum sheets. Similarly, walls can be of wood/mats, mud, mud plastered with cement, unplastered cement block/brick, cement block plastered with cement and cement block with tile finishing. The quality of building facilities is influenced by perceived value of users which depends on user’s perception, the value of any building amenity falls progressively as the size of its user’s increases. For instance, a toilet exclusively used by one person is greater in value than the one used by many people. Further, Onokerhoraye (1982 p.19) posits that “the convenience for accessing building amenities is an important index in assessment of building liveability” which all building infrastructure seeks to achieve.

Differences abound between local governments in building materials used. In Kumbotso local government building materials used are cornstalk or grass straw or wood with 27.7%, Tarauni (6.4%); Ungogo, Municipal and Nassarawa 10.6% each; Gwale and Dala local

government each use 12.8% and Fagge (8.5%). There are variations amongst the local governments in the materials used in the construction of walls, for instance, cement block/plastered and unplastered wall in Tarauni (5.2%) is the least and the highest (18.7%) is Nassarawa local government.

The materials used for flooring of *Almajiri* schools range from cement (65.5%) to tiles (5.7%). There are no schools (0%) with terrazzo floor. 28.6% of the schools do not have floors thus they conduct their activities on bare ground. There are also variations amongst local governments. 18.8% of the *Almajiri* schools in Dala local government have cement floor whereas it is, 6.7%, in Tarauni local government. In Kumbotso local government, 25%, of the *Almajiri* schools conduct activities on bare ground whereas in Tarauni local government 5.6% of the schools conduct their activities on bare ground. This falls short of the minimum standard for basic education in Nigeria as shown in Table 7.

**Table 6: Materials for Construction of *Almajiri* Schools in each Local Government Area**

Items	Dala	Fagge	Gwale	Kumbotso	Municipal	Nassarawa	Tarau ni	Ungogo	Total	Percentage (%)
<b>Materials used for wall</b>										
Wood/Straws/Corn Stalks/Thatch/Used Corrugated Iron Sheets	6	4	6	13	5	5	3	5	47	18.7
Mud wall	10	2	4	10	8	4	5	8	51	20.2
Cement & Mud wall Unplaster	20	8	11	8	5	13	4	10	79	31.3
Cement Block plastered	11	10	9	12	7	14	4	8	75	29.8
<b>Total</b>	<b>47</b>	<b>24</b>	<b>30</b>	<b>43</b>	<b>25</b>	<b>36</b>	<b>16</b>	<b>31</b>	<b>252</b>	<b>100</b>
<b>Material used for floor</b>										
No Floor	15	5	8	18	5	9	4	8	72	28.6
Cement Floor	31	17	19	24	18	23	11	22	165	65.5
Tiles Floor	1	2	3	1	2	4	1	1	15	5.9
Terrazzo Floor	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>47</b>	<b>24</b>	<b>30</b>	<b>43</b>	<b>25</b>	<b>36</b>	<b>16</b>	<b>31</b>	<b>252</b>	<b>100</b>
<b>Materials used for Roofing</b>										
No Roofing	2	1	3	6	3	3	3	4	25	9.9
Wood/Straws/Corn Stalks	6	2	2	6	1	4	2	3	26	10.3
Corrugated Iron Sheets	36	15	24	27	19	27	11	24	183	72.6
Aluminum Sheets	1	2	-	1	-	-	-	-	4	1.6
Concrete Decking	2	4	1	3	2	2	-	-	14	5.6
Asbestos Sheets	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>47</b>	<b>24</b>	<b>30</b>	<b>43</b>	<b>25</b>	<b>36</b>	<b>16</b>	<b>31</b>	<b>252</b>	<b>100</b>

Source: Field Survey, 2018

With respect to the roofing of the *Almajiri* Schools, incomplete buildings without roofing and open spaces accounted for 9.9%, while corrugated iron sheets accounted for 72.6%. Other roofing materials are wood or straw or corn stalks, aluminum, cement decking, asbestos with, 10.3%; 6%; 5.6%; and 0%, respectively. There are differences between local governments. Kumbotso local government

has the highest percentage of schools without roofing (24%) while Fagge local government has 4% schools without roofing. Corrugated iron roofing sheets are used more in Dala Local government (19.7%) and in Tarauni local government the least (6%). Concrete decking and aluminum roofing for *Almajiri* Schools are more in Fagge local government (28.6%; and 50% respectively) and the lowest local government with 0% concrete decking are Tarauni and Ungogo. Similarly, none of the schools use aluminum or asbestos material for roofing in Gwale, Municipal, Tarauni, Nassarawa and Ungogo.

### 3.2.1.4. Building Facilities

Table 7 shows the distribution of building facilities in the *Almajiri* Schools sampled. The facilities covered by the study are, toilet, bathroom, light, ventilation, and drinking water. The study found that 67% of the schools have a single toilet which also serves as a bathroom.

Table 7: Facilities of Sampled *Almajiri* Schools of Kano Metropolitan Area

Items	Dala	Fagge	Gwale	Kumbotso	Municipal	Nassarawa	Tarauni	Ungogo	Total	Percentage (%)
<b>Source of water</b>										
Streams and ponds	0	0	0	2	0	0	0	1	3	1.2
Hand dug well	35	15	21	36	14	25	11	27	184	73
Borehole	6	4	4	2	5	4	2	1	28	11
Municipal water supply	6	5	5	3	6	7	3	2	37	14.8
<b>Total</b>	<b>47</b>	<b>24</b>	<b>30</b>	<b>43</b>	<b>25</b>	<b>36</b>	<b>16</b>	<b>31</b>	<b>252</b>	<b>100</b>
<b>Source of light</b>										
Local lamp or lantern	7	6	8	21	7	5	4	18	76	31
National electricity source	38	17	21	22	18	30	12	13	171	68
Generator	1	1	1	0	0	1	0	0	4	1.6
Solar source	1	0	0	0	0	0	0	0	1	0.4
<b>Total</b>	<b>47</b>	<b>24</b>	<b>30</b>	<b>43</b>	<b>25</b>	<b>36</b>	<b>16</b>	<b>31</b>	<b>252</b>	<b>100</b>
<b>Toilet</b>										
No toilet use the bush	6	5	7	18	7	6	3	11	63	25
1 Toilet/bathroom	37	17	21	33	15	27	11	18	169	67
2-4 Toilets/bathroom	4	2	2	2	3	3	2	2	20	8
More than 4 Toilet/bathroom	0	0	0	0	0	0	0	0	0	0

<b>Total</b>	<b>47</b>	<b>24</b>	<b>30</b>	<b>43</b>	<b>25</b>	<b>36</b>	<b>16</b>	<b>31</b>	<b>252</b>	<b>100</b>
<b>Toilet type</b>										
Defecation in the open	6	5	6	18	7	7	3	11	63	25
Pit latrine	40	18	23	25	17	28	13	20	184	73
W/C toilet	1	1	1	0	1	1	0	0	5	2
<b>Total</b>	<b>47</b>	<b>24</b>	<b>30</b>	<b>43</b>	<b>25</b>	<b>36</b>	<b>16</b>	<b>31</b>	<b>252</b>	<b>100</b>

Source: Field survey, 2018

Only 8% of the sampled schools have more than 1 toilet facility, that is, 2-3 toilet/bathroom. Most of the schools have no designated defecation area rather, pupils use the open fields or any available space (open defecation). This constitutes a high health risk and an unpleasant looking environment 73% of the sampled toilets are pit latrine and only 2% are water closet. In 25% of the schools pupils defecate in the open spaces. With respect to the source of lightening the *Almajiri* School, the result reveals heavy dependence on electricity from the national grid (68%) of *Almajiri* Schools. Other sources of lightening include lantern or local lamps (31%), generators (1.6%) and solar source (1%). The high dependence on light from the national may be due to the location of the schools, that is, in high density residential areas which have the national grid as their main source of supply. *Almajiri* Schools most important source of water supply is the hand dug well (73%) which is mostly sited within the school premises or at some walking distance from the schools. Municipal water supply (14.8%) as well as boreholes (11%) and streams and ponds (1.2%) constitute the other sources of water to the *Almajiri* schools. See Table 7. In terms of ventilation, most of the *Almajiri* Schools do not have good ventilation. The *Almajirai* bedrooms do not have adequate ventilation windows and are overcrowded.

Table 8 provides the minimum standards for basic education facilities.

Table 8: Minimum Standard for Basic Education in Nigeria

S/N	Item	Standards
1.	Number of classes and pupil population per class	12 streams of 40 pupils
2.	Distance between a pair of schools	2kms apart
3.	Pupil area in classroom	1.4m <sup>2</sup>
4.	Classroom dimension	7m x 8m = 56m <sup>2</sup>
5.	Pupil's floor area (dormitory)	0.8m <sup>2</sup>
6.	Toilet area per pupil	1.2m <sup>2</sup>
7.	Floor type and dimensions	-Hard-core of 300mm -25mm terrazzo -1.3screed -Compact area fixed to maximum level of foundation -150mm reinforced (BRC) mesh slab
8.	Roofing	0.55 long span Aluminum sheets
9.	Drinking water fountain	1:50 pupils

Source: adopted from minimum standards for Basic Education in Nigeria, 2010 pp. 9-40

A comparison of the findings of the study in Kano metropolitan area with the standard shown in Table 8 reveals gross inadequacy, for instance, 70.2% of the walls are below the minimum standard. None of the *Almajiri* School satisfy the minimum standard of terrazzo floor. And for roofing only 1.6% satisfies the minimum Aluminum sheets standard roofing as prescribed by the standard, posing serious physical planning concern.

### 3.2.2 Environmental Characteristics of *Almajiri* Schools in Kano Metropolitan Area

Table 9 shows the environmental and sanitation condition of the *Almajiri* schools in Kano metropolitan area. From the table 40.9% of the schools sampled are characteristically environmentally filthy and dirty and therefore poor in sanitation. The level of environmental health vary from one local government to another. Dala local government having the highest 23% and Tarauni and Municipal local governments the lowest (6.8%). 11.5% of the sampled *Almajiri* schools exhibit neat and good looking environmental thus above the minimum level of sanitation. The local government variation are; Dala, Fagge, Ungogo (26.1%) each, Nassarawa and Municipal the have the highest (52.2%) schools in this category, and Tarauni recorded the lowest (8.7%) in environmental cleanliness.

**Table 9: Cleanliness of *Almajiri* School Environment in Kano Metropolitan Area**

Condition of the Environment	Dala	Fagge	Gwale	Kumtso	Municipal	Nassarawa	Tarauni	Ungogo	Total	Percentage (%)
Dirty & Filthy	24	11	13	17	7	12	7	12	103	40.9
Not Spacious & Rumbles of Structures/unpleasing to the eye	12	6	6	15	4	9	3	9	64	25.4
Fairly Neat	8	4	6	9	8	9	5	7	56	22.2
Neat & Good looking	3	3	5	2	6	6	1	3	29	11.5
Very Neat & Aesthetically Pleasing	-	-	-	-	-	-	-	-	0	0
Total	47	24	30	43	25	36	16	31	252	100

Source: Field Survey, 2018

From table 9, none of the sampled schools visited have beautiful and well-kept ground probably arising from the high density of pupils which exerts pressure on the available facilities as well as environmental resources. Other reasons can be the apathy on the part of the schools and pupils on personal hygiene and environmental sanitation. This development poses a great challenge on physical planning.

Table 10 shows the sewer conditions in the study area. The sampled *Almajiri* schools sewer or storm/sewage water drains were examined and categorized as follows: a well-drained sewer, in which, there is free flow of the sewage generated to the main sewer line of the neighbourhood; a fairly drained sewer in which the free flow of waste water is inhibited by the clogging of refuse in the drains and there isn't linkage with the main sewer of the neighbourhood; and a poorly drained sewer in which the *Almajiri* school lacks a sewer to drain its liquid waste into the neighbourhood's main sewer. Thus waste water freely flows on the ground or into ditches dug in front of the schools to collect the waste water and empty it on to its surroundings at odd hours of the day. Table 10 shows the categorization of the sewers in the sampled schools.

Table 10: Sewer Facility and Condition of *Almajiri* Schools in Kano Metropolitan Area

Condition	Frequency	Percentage
Well drained	13	5.2
Fairly drained	176	69.8
Poorly drained	63	25.0
Total	252	100

Source: Field survey, 2018

From the table, 94.8% of the drains are dirty and congested with solid waste preventing free flow of waste water and consequently stagnation of solid and liquid waste which constitutes unpleasant site and breeding ground for mosquitoes and rodents.

3.2.2.2: Solid Waste dDisposal. Solid waste generated from '*Almajiri*' schools are disposed within the vicinity of the school at any available space littering the school environment and the adjoining area. No disposal pints such as bins was observed in any of the schools sampled.

### 3.3. Socio-economic Profile of *Almajiri* in Kano Metropolitan Area

#### 3.3.1 Age Distribution

Table 11 shows the age categories and frequency of occurrence in the sampled '*Almajiri*' schools

Table 11: Age distribution of *Almajiri* in Kano Metropolitan Area

Age group (In Years)	Frequency	Percentage (%)
4-13	150	59.5
14-17	70	27.8
18-24	32	12.7
<b>Total</b>	<b>252</b>	<b>100</b>

Source; Field Survey 2018.

Based on data obtained from the sampled population of *Almajiri*, the pupil's age range from 4 – 24 years. This age range is classified into three groups according to level of qur'anic knowledge as adopted from Adetoro (2012), Okugbeni, (2013); Onitada, (2015); and Iliyas and Olanipekun, (2017). The first category are *Kolo* age 4- 13 years; followed by *Titibiri* (14-17 years); and lastly *Gardi* (18-24

years). Drawing from interaction across age-based stages, Iliyas and Olanipekun, (2017) argued that experience and interaction between the *Almajiri* developed in him the *Almajiri* outlook, enthusiasms and ambitions at the *Kolo* phase. The *Gardi* phase symbolizes the characterization of life pattern anchored on the socialization process of earlier phase, i.e. based on ‘his context, contact and exposure’ (ibid, 2017), whereas the *Titibiri* phase is a transition stage. Not all of the *Almajiri* reach the third phase of the system because they drop out of the school. Table 11 shows the age categories and frequency of occurrence. From table 11, the age group 4-13 years, i. e. the *Kolo* are the highest number (59.5%) of *Almajiri* in all the schools sampled, while the least are the *Gardi* 18-24 years. This may be because most of the *Almajiri* may have dropped out of the system before attaining *Gardi* age category. The implication is that 87.3% of the *Almajiri* falls within the basic education category. In other words the nation is losing a significant number of its young population to an unorganized system which hatches teenagers that constitute an additional burden to the society.

### 3.3.2: Income Distribution of the Parents of *Almajiri*

Table 12 shows the income distribution of the parents or father of the *Almajiri*. Over 80% of the parents earn barely above 2 US Dollars per day. Over 50% earn about 1.7 US Dollars per day. Less than 1% earn above 50,000 naira per month, that is, about 4.6 US Dollars per day at the current exchange rate. The result portrays the level of poverty of the parental background of the *Almajiri* household (see the work of Gamment, 2017 on poverty and behavior traits of *Almajiri* which he ascribed to parental neglect and poor background).

Table 12: Income Distribution of Parents of *Almajiri* in Kano Metropolitan Area

Amount per Month (in Naira)	Frequency	Percentage (%)
Less than 18,000	135	53.6
18,001 – 25,000	70	27.8
25,001 – 30,000	32	12.7
30,001 – 40,000	9	3.6
40,001 – 50,000	4	1.6
Greater than 50,001	2	0.8
<b>Total</b>	<b>252</b>	<b>100</b>

Source; Field Survey 2018.

### 3.3.3: Size of ‘*Almajiri*’ Household

Table 13 shows the distribution of the household size of the *Almajiri*. Over 85% of the *Almajiri* household are more than 6 in number. Low income coupled with a large household to feed compel the parents to send out their children to *Almajiri* school system to seek for knowledge which reduces the burden of having to feed a large household. Verbal confession from some of the *Almajiri* interviewed revealed that they have their brother in some other *Almajiri* schools or that their siblings have passed through the same system or have attended the some *Almajiri* schools elsewhere.

Table 13: Household size of *Almajiri* in Kano Metropolitan

Number of persons in <i>Almajiri</i> Household	Frequency	Percentage (%)
1-3	10	3.9
4-6	23	9.2
7-9	37	14.7
10-12	69	27.4
13-15	82	32.5
Greater than 15	31	12.3
<b>Total</b>	<b>252</b>	<b>100</b>

Source; Field Survey 2018.

### 3.3.4: Educational Level of Sampled *Almajiri* Parents

Table 14 shows the level of education of the parents of the *Almajiri*. Over 79% of the sampled respondents have not had any western education. Only 15% have gone to a formal western type school at primary or elementary level, 5.6% at secondary level and 0.4% at tertiary level.

Table 14: Educational level of *Almajiri* parent (Father) in Kano Metropolitan

Educational level of <i>Almajiri</i> Parent (Father)	Frequency	Percentage (%)
Neither <i>Almajiri</i> nor formal education	77	30.5
<i>Almajiri</i> School only	121	48.0
<i>Almajiri</i> and Formal school (Primary level)	39	15.5
<i>Almajiri</i> and Formal school (Secondary level)	14	5.6
<i>Almajiri</i> and Formal school (Tertiary level)	1	0.4
Formal school only (Primary-Tertiary level)	0	0
<b>Total</b>	<b>252</b>	<b>100</b>

Source; Field Survey 2018.

## 4.0. Physical Planning Implications of *Almajiri* Schools in Kano Metropolitan Area

Physical planning entails rational space organization to achieve a functional, aesthetic and liveable environment. It ensures that land uses is zoned in accordance with the prescribed standards and zoning regulations clearly detailing the sizes, bulkiness, and placement of building are strictly adhered to. Physical planning ensures a functional relationship between work, leisure and residence. The study finds that *Almajiri* schools are haphazardly located. The spatial distribution of the schools is skewed towards high and medium residential areas, with high density residential areas on the higher positive side. Fundamentally, the locational characteristics of the schools did not exhibit the slightest physical planning input. The physical planning implications are; firstly, the *Almajiri* schools are not sited on institutional but residential land use converted without approval, the result is non-conforming use juxtaposed and with blatant disregard to zoning regulations. Secondly, majority of *Almajiri* schools conduct their activities on public space earmarked for provision of facilities and services for the neighbourhood, i.e., the front, side and rear of residential and institutional buildings, thus encroaching

on public space demarcated for public good. Thirdly, the creation of squatter settlement emanating from the use of unconventional building materials for the schools structures and complete disregard to planning standards and building by-laws and regulations. This fact is fueled further by the poor personal and environmental hygiene and standards characteristic of *Almajiri* schools which accentuate the already chaotic and filthy environment. The environmental sanitary condition of the '*Almajiri* space appears so disgusting which devalues the properties of adjoining *Almajiri* schools. Such adjoining properties have drastically lower value compared with those neighbourhoods devoid of *Almajiri* schools. Fourthly, the learning area/space and bed space are highly overcrowded. Overcrowded spaces are detrimental to personal hygiene and environmental sanitation. It is also unpleasant to the eyes and poses great health risk during an epidemic. Fifthly, is the manner in which the *Almajiri* conducts his activities, that is, he is left to the dictates of the environment without decent accommodation, food, health care, clothing. He is left on the streets begging at a tender age. This is not only a source of serious concern for physical planning but also for urban management. Lastly, the '*Almajiri* are characteristically from poor, extended, illiterate families of the rural undeveloped sections of the city-region that has suffered from planning neglect and government developmental programmes becoming push nodes, unattractive and unproductive centers of perpetual unemployment and underemployment.

## 5.0 Recommendations

(1) *Almajiri* schools is a major constituent of the institutional learning system with over 5,000 schools and 600,000 pupils in the metropolitan area. It is recommended that the zoning regulation or land use division should capture *Almajiri* schools system either as a separate land use zone, or form a component of institutional land use or a mix-use zone of, for instance, residential cum institutional.

(2) Space standards for *Almajiri* Schools should be developed for a healthy, aesthetic and functional system. This is because *Almajiri* schools differ from conventional western type school in the way learning activities are conducted and there is currently planning standards are not developed for *Almajiri* school system.

(3) Integration of the system failed using the current strategy. One of the criticism labelled is the inability of the system to respond to input injected to the system. It is recommended that flexibility be introduced into the system to enable accommodation of new inputs.

(4) It is recommended that the head teachers or *Malams* should as a matter of fact be fully involved in any programme that concerns them, and their views fully incorporated in the conception, design and implementation of the programme. That is, there should be synergy between the head teachers and policy makers on all issues concerning *Almajiri* schools. It is believed that the

current strategy of integrating *Almajiri* schools with modern western type education system failed due to lack of synergy between the operators of the systems and policy makers.

(5) There should be strict adherence to zoning regulation and building by-laws to prevent the emergence of the *Almajiri* in places not legally provided for them. Contravention to the regulations and by-laws attracts appropriate punishment.

(6) Policies and programmes should be put in place that will address the lopsidedness in development between urban centres and the rural areas. The rural areas being the source regional of majority of the *Almajiri* who move to the urban centres under the pretext of seeking for knowledge far from home.

## 6.0. Conclusion

The study has been able to examine the space features of *Almajiri* school system in Kano metropolitan area. The spatial characteristics of the location, building type, and plot type were examined. Site dimensions of the floor area and space use assessed. The results reveals that *Almajiri* Schools are highly localized to the high and medium density old city and indigenous neighbourhoods of the metropolitan area. Environmental and building features assessed reveals lower values that the standards for basic education in Nigeria, 2010. Similarly, there is no standard for *Almajiri* space use as well as land use contextualization resulting in haphazard location and chaotic space use, sanitation challenges of the spatial receptacles of the schools. The peculiarity of the *Almajiri* School system space use should be appreciated and space standards developed for a meaningful improvement of the system. It is argued that significant improvement can be achieved in the integration of '*Almajiri*' schools with western type educations when planning implications of the system have been well understood, adequately considered and catered for. Furthermore, for a proper understanding of the *Almajiri* system there is the need to develop synergy between the operators of the system and policy makers.

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