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STUDENTS' PERCEPTION OF ENVIRONMENTAL QUALITY IN PUBLIC SECONDARY SCHOOLS OF IBADAN METROPOLIS, NIGERIA

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Abstract. The study examined students' perception of environmental quality in public secondary schools of Ibadan Metropolis, Nigeria. Multistage sampling procedure was employed for the study. The three categories of public secondary schools (all-boys and all-girls and co-educational) were identified with one school in each category randomly selected. Through this method, 128, 108 and 105 students in the all-boys and all-girls and co-educational schools respectively were selected for questionnaire administration making a total of 341 respondents. Findings revealed that variation exists in the socio-demographic characteristics of the students whereas the variation was more pronounced in all-boys school when compared with other schools. Across the study area, there were inadequate environmental amenities, although the condition of the available ones was bad especially in all-boys and co-educational schools. The study recommended the need for government to provide adequate environmental amenities through public-private partnership thereby enhance good quality of public secondary schools.

Keywords: environmental quality, Ibadan Metropolis, perception, public Secondary schools, students.

1. Introduction

High school or secondary school is an important land use. However, the environmental challenges in school environment especially in developing countries are alarming. Notably among is inadequate toilet facilities, lack of potable water supply and drain system (Acheampong, 2010; Bhunia et al., 2012; Amuchie et al., 2013). These environmental challenges have created inequality and imbalance in optimal development of school activities and in particular diminishes the quality of school environment (UN-Habitat, 2013; WHO, 2017). It is unarguable that the conditions of secondary school environment in cities of developing countries are contrary to averred definition and goal of environmental quality (Mobolaji et al., 2022; Daramola et al., 2023 a).

Environmental quality refers to varied characteristics that relate to the natural and the built environment, and the potential effects which such characteristics may have on human health (Keles, 2011; Babalola et al., 2016; Adewole et al., 2023). In other words, environmental quality is a component of quality of life which focuses on the environmental condition in a particular locality and relative to human need or purpose. Also, environmental quality is the assessment of the condition of the biophysical, organic and inorganic elements, in urban environment with the goal of ensuring liveable and decent environment (Kasali, 2021).

The importance of decent environment cannot be overemphasised because human mostly depend on delivery of environmental amenities in order to achieve convenient, conducive and comfortable environment. Good environment plays vital role in ensuring intellectual, social, emotional, and physical development in urban environment (Babalola et al., 2016). It promotes convenient working and conducive learning in schools, fast recovery in health sector, and

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comfort in recreational centres (Abdullah et al., 2016). Contextually, environmental quality is the aggregation of environmental characteristics premised on adequate provision of environmental amenities for the purpose of achieving healthy environment for effective teaching and conducive learning in secondary schools.

Secondary school is designed specifically for adolescent age group and it is gradually recognised as important land use in the world (National Middle School Association, 2003; North American Association for Environmental Education, 2008). Secondary school is a place or environment with the presence of environmental characteristics that gear up academic excellence. These environmental characteristics include buildings (classroom, laboratory, library, sick bay and recreational facilities) and ancillary facilities (drain, waste collection, road, water supply and toilet) that promote learning as well as enhancing academic performance of students. Any secondary school without environmental characteristics that is in good condition reflects poor environmental quality.

A good secondary school environment must have environmental characteristics that make them functional, supportive and conducive for learning (Kamaruddin et al., 2009; Ezeonu, Anyansi, 2010). A functional environment denotes one with provision and management of facilities that promote academics, innovations and entrepreneur. A supportive environment denotes provision of amenities such as water supply and toilets, waste collection, electricity and facilities for health care and recreation. An environment that is conducive for learning denotes access to classroom, library and laboratory. It is this type of environment that supports the achievement of Sustainable Development Goals (SDGs), particularly SDG 4 (inclusive and equitable quality education).

Studies in relation to environmental quality have focussed on amenities that make urban land uses functional, supportive and conducive (Daniel, 2013; Awang et al., 2015). These environmental amenities have been discussed in terms of their types and provision. For instance, studies have been carried out on water supply and sanitation (Daramola et al., 2023b), open space (Onwuanyi & Ndinwa, 2017) and visual appearance and acoustic quality of secondary schools (Awang et al., 2015). As relevant as these studies were, there exist little emphasis on the level of availabilities and conditions of environmental characteristics that make up good environmental quality especially in public secondary schools.

Environmental quality of public secondary schools could be measured based on objective and subjective approach. Specifically, subjective approach focuses on the perception of students on the environmental characteristics that made good environmental quality. This study is, however, an attempt to understand how students perceived their schools which consequently produces a healthy environment for academic activities. Public secondary schools in Ibadan Metropolis are characterised by poor environmental quality (Alalade, 2019). Unarguably, the main problems facing these schools were unsanitary waste disposals, deteriorated buildings, and infrastructure deficit (Adeolu et al., 2014; Egbinola, Amanambu, 2015). These offer an opening for this kind of study and also form bases for the research contribution to knowledge. Hence, this study examined the environmental quality of public secondary schools in Ibadan Metropolis based on students' perception with a view to evolving policy response for planning and development of conducive learning environment in the study area.

2. Material and Methods

The study area, Ibadan is the capital city of Oyo State in the south-western region of Nigeria. It is located approximately between longitudes 7°22' and 7°40' and latitudes 3°35' and 4°10' North. The city had a rapid growth after it was founded in 1829 when it became the Western Province headquarters in 1939 making it become one of the largest indigenous cities in Nigeria (Amanambu, Ojo-Kolawole, 2013; Olowoporoku et al., 2019). With population of 1,338,659 (2006 census) and growth rate of 4.14 %, the current population of Ibadan is projected to be 3,569,507 (Population City, 2018). Of this population, an enormous 62.15 % are under the age of 25. This shows that the youth especially those in school constitute a considerable amount of the population.

Ibadan has grown tremendously through the establishment and availabilities of infrastructures, facilities and services, such as industries, hospitals, and institutions. The presence of higher institutions facilitated the establishment of secondary schools within and beyond the city. According to Oyo State Bureau of Statistics (2018) there are 167 public secondary schools in Ibadan Metropolis. Some of these schools are for all-boys, while some are for all-girls and others are co-educational (mixed) school types.

Ibadan being a metropolitan city with series of commercial and industrial activities generates large amounts of solid wastes coupled with inadequate

infrastructure provisions endangering health and well-being of people (Egbinola, Amanambu, 2015; Alalade, 2019). It is important to note that this situation can exert excessive pressure on infrastructure development, impinge on learning among secondary students, curtails productivity and impinge on environmental quality. This ugly situation however has persisted for decades because of the uncivil culture of indiscriminate waste littering and inadequate environmental characteristics (Adeolu et al., 2014).

Data for the study were obtained by field survey using questionnaire. The questionnaire was administered on sampled students in the study area using multistage sampling methods. Firstly, the three categories of public secondary schools in Ibadan Metropolis comprising of 12 all-boys, 21 all-girls and 134 co-educational secondary schools were identified. Following this, due to the homogenous nature of the public secondary schools, one school in each identified category of secondary schools was selected randomly without replacement. Through this method, students in junior secondary school (II and III) and senior secondary school (II and III) were selected for questionnaire administration. This is because; students in these classes were expected to have stayed at least a minimum of a year in the school. As a result, 128, 108 and 105 were sampled in all-boys and all-girls and co-educational schools respectively. Thus, a total of 341 respondents formed the sample size. Due to the age of respondents who were minor, ethical clearance were sort from appropriate quarters.

In the study, findings were made on the socio-demographic characteristics of the students and the conditions of the available environmental characteristics in their schools. Socio-demographic characteristics of the respondents examined in this study comprises of their gender, parents' average monthly income and occupation, type of house being lived and the years spent in the house. Also, the assessment of condition of the available environmental characteristics was examined based on the perception of the respondents in the schools. The respondents' assessment on the condition of the environmental characteristics were based on mean index computation known as Relative Condition Index (RCI). The Relative condition index were interpreted based on the following scores; 1 – 2.4 (bad), 2.5 – 3.5 (fair) and 3.6 – 5.0 (good). It should be noted that any positive deviation above the mean index indicated good condition while the average one signified fair condition. On the other hand, any negative deviation below the mean indicated bad condition.

The analysis was carried out with the results being discussed based on the categories of schools delineated for the purpose of the study. Unless otherwise stated, tables in this section are outcomes of the author's 2024 field survey.

3. Results and Discussion

3.1. Socio-demographic Characteristics of the Respondents

Socio-demographic characteristics of people influences their understanding of environmental quality in an urban environment (Baba et al., 2015; Abdulla et al., 2016; Mobolaji et al., 2022; Daramola et al., 2022a; Daramola et al., 2022). In particular, Alalade (2019) established that socio-demographic characteristic of parents and students influences perception of secondary schools' environmental quality. Consequently, this study examined socio-demographic characteristics of the students and parents in order to examine environmental quality of public secondary schools. This was achieved based on the empirical data from the three categories of public secondary schools as presented in Table 1.

The results showed that 55.1 % of the respondents were male while 44.9 % were female. Accordingly, there is adequate representation of the two genders and the proportion varied in the study area. This was confirmed by Chi-Square result ($\chi = 2.621$, $\rho = 0.625$, $a = 0.05$) that there was significant difference between gender and schools. Additionally, findings revealed that significant variation were not perceived in the occupation distribution of the parents of the students across the schools. In the same vein, findings on the income level of the parents revealed that one third which form majority (31.3 %) earned less than ₦30,000. This was further established by ANOVA result ($F = 12.817$; $\rho < 0.05$) that significant difference exists in income distribution of respondents across the schools. Consequently, 68.7 % of the respondents earned above the minimum wage as stipulated by Federal Government of Nigeria (2019) whereas income is a predictor of environmental quality.

Table 1

Socio-demographic characteristics of the respondents

Parameters	Categories of Schools			Total
	All Boys	All Girls	Co-educational	
Gender				
Male	128 (100.0)	–	60 (57.1)	188 (55.1)
Female	–	108 (100.0)	45 (42.9)	153 (44.9)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Parents' Occupation				
Public Sector	42 (32.8)	34 (31.4)	25 (23.8)	101 (29.6)
Private Sector	25 (19.5)	25 (23.1)	21 (20.1)	71 (20.8)
Trading	20 (15.6)	17 (15.7)	17 (16.1)	54 (15.8)
Artisanship	22 (17.1)	19 (17.5)	26 (24.7)	67 (19.6)
Farming	19 (15.1)	13 (12.3)	16 (15.3)	48 (14.2)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Parents' Average Monthly Income				
≤ #30,000	45 (35.1)	36 (33.3)	26 (24.7)	107 (31.3)
#31,000–60,000	10 (7.8)	19 (17.5)	22 (20.9)	51 (14.9)
#61,000–90,000	25 (19.5)	20 (18.5)	15 (14.2)	70 (20.5)
#91,000–20,000	18 (14.4)	23 (21.2)	21 (20.1)	62 (18.1)
Above #120,000	30 (23.4)	10 (9.2)	11 (10.4)	51 (15.2)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Type of House Occupied				
Face to Face	39 (30.4)	24 (22.2)	34 (32.3)	97 (28.4)
Blocks of Flats	55 (42.9)	74 (68.5)	41 (39.1)	170 (49.8)
Duplex	34 (26.7)	10 (9.3)	30 (28.6)	74 (21.8)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Types of Toilets				
Water Closet	31 (24.2)	34 (31.4)	45 (42.8)	110 (32.2)
VIP Latrine	42 (32.8)	36 (33.3)	27 (25.7)	105 (30.7)
Pit Latrine	25 (19.5)	23 (21.2)	21 (20.0)	69 (20.2)
Others	30 (23.4)	15 (14.1)	12 (11.5)	57 (16.9)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Sources of Water Supply				
Pipe Borne	40 (31.2)	29 (26.8)	24 (22.8)	93 (27.2)
Well	24 (18.7)	23 (21.2)	25 (23.8)	72 (21.1)
Borehole	23 (17.9)	18 (16.6)	23 (21.9)	64 (18.7)
Public Standpipe	16 (12.5)	14 (12.9)	17 (16.1)	47(13.7)
Others	25 (19.5)	24 (22.2)	16 (15.2)	65 (19.3)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Sources of Energy for Lighting				
Electricity	68 (53.1)	40 (37.1)	56 (53.3)	164 (48.1)
Solar Panel	25 (19.5)	26 (24.1)	19 (18.1)	70 (20.5)
Inverter	14 (10.9)	23 (21.2)	23 (21.9)	60 (17.5)
Others	21 (16.4)	19 (17.6)	7 (6.7)	47 (13.9)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**

The available sources of water supply identified were pipe borne, well, borehole, public standpipe and others (river). Findings indicated that one third (27.2 %) utilized pipe borne whereas other sources of water supply such as from rivers constituted 19.3 % across the study area. Thus, pipe borne water supply which was considered ideal were quantitatively low. The findings constitute infrastructure deficiency which is impoverishment of the household members. Similarly, the sources of lighting identified in the study were electricity, solar panel, inverter and others (as torchlight, chargeable lamp, chargeable bulb and lantern). Findings revealed that majority (48.1 %) utilized electricity supply as the commonest sources of energy for lighting in their homes even though similarity exist in boys only and co-educational schools. Modern energy sources which could enhance students' perception of environmental quality were available in their homes. Based on the foregoing, variation exists in the socio-demographic characteristics of the respondents.

Types of residential buildings were grouped into three; face to face, block of flat and duplex. Findings indicated that half (49.8 %) live in block of flats with one third (21.8 %) in duplex apartment. The result is similar in all-boys and co-educational schools unlike in girls only school where one third (30.4 %) live in face-to-face building. The findings further indicated that respondents lived in good apartment with an assumption of good environmental quality. Besides, one third (32.2 %) of the toilets available in the homes of respondents were water closet. Although, 30.7 and 20.2 % accounted for ventilated improve and pit latrine respectively. It was also revealed that 16.9 % of the total respondents utilized rivers and neighbour's toilet as it is obvious in boys and girls only schools. However, these later categories are not in consonance with the requirement of African Water Development Report (2006) that there must be at least one water flushed toilet in every house. Therefore, one-third (32.2 %) of respondents with water closet does not indicate adequate sanitation supply which could be a negative predictor of environmental quality perception of the respondents in secondary schools.

3.2. Environmental Characteristics of Public Secondary Schools

The environmental characteristics that were used to measure environmental quality include water, toilets, energy, solid waste disposal system, recreational facilities, drainage system, road, sick bay, classroom, library and laboratory. The environmental characteristics were indicator used to measure environmental quality of urban land uses (Daniel, 2013; Awang et al., 2015; Mobolaji et al., 2022). Kamaruddin et al. (2009), Ezeonu and Ayansi (2010) established that school environment must have adequate environmental characteristics that make them functional, supportive and conducive for learning. Available environmental characteristics in the three categories of public secondary schools in Ibadan Metropolis are presented in Table 2.

One third (36.3 %) of the respondents had water supply while 63.7 % do not had water supply. Water supplies that can make for good quality in secondary schools are grossly in-available with severe impact on health and well-being of students especially in co-educational schools. Inadequate water supply in urban environment promotes unhealthy condition thereby affecting social, physical and economic system of people (Mobolaji et al., 2022; Daramola et al., 2023c). Furthermore, findings on the toilets supply revealed that 59.3 % of the respondents declared that toilet supply were available while fewer 40.7 % declared unavailability of toilet supply. Further findings indicated that two-third (64.9 %) of the respondents in all-boys school do not have toilet supply unlike in all-girls school where half (47.2 %) of the respondents had toilet supply. Therefore, toilet supply was generally poor and constituted poor environmental quality across the schools.

Findings on the energy supply indicated that 35.7 % of the respondent declared availability of energy supply while 64.3 % declared that there was non-availability of energy supply. Mostly, in all-boys and all-girls schools, two third (62.5 and 61.2 % respectively) of the respondents declared not availability of energy while fewer 37.5 and 38.8 % had energy supply respectively. Generally, energy supply is low in co-educational and all-boys schools. Lack of energy supply hinder academic prowess (Daramola et al., 2023 a).

Furthermore, findings across the schools revealed that 36.6 % of the respondents declared that there was availability of waste collection while 63.4 % declared that there is no waste collection. In fact, similarity exist in all-boys and all-girls schools whereas majority (84.84 %) had waste collection in co-educational school. Findings therefore indicated low level of waste collection in all-boys and all-girls only schools. Based on the findings, all-boys and all-girls schools have higher chances of breeding pathogen making students to be vulnerable to diseases. This is in tandem with Mobolaji et al. (2022) that inadequate waste management leads to outbreak of diseases.

Table 2

Environmental Characteristics

Environmental Characteristics	Categories of Schools			Total
	Boys Only	Girls Only	Co-educational	
Water Supply				
Yes	54 (42.1)	50 (46.2)	20 (19.1)	124 (36.3)
No	74 (57.9)	58 (53.8)	85 (80.9)	217 (63.7)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Sanitation Supply				
Yes	45 (35.1)	51 (47.2)	43 (40.9)	139 (40.7)
No	83 (64.9)	57 (52.8)	62 (59.1)	202 (59.3)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Energy Supply				
Yes	48 (37.5)	42 (38.8)	32 (30.4)	122 (35.7)
No	80 (62.5)	66 (61.2)	73 (69.6)	219 (64.3)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Waste Collection				
Yes	61 (47.6)	48 (44.4)	16 (15.2)	125 (36.6)
No	67 (52.4)	60 (55.6)	89 (84.8)	216 (63.4)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Recreational Space				
Yes	104 (81.2)	79 (73.1)	84 (80.1)	267 (78.2)
No	24 (18.8)	29 (26.9)	21 (19.9)	74 (21.8)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Sick Bay				
Yes	40 (31.2)	21 (19.4)	27 (25.7)	88 (25.8)
No	88 (68.8)	87 (80.6)	78 (74.3)	253 (74.2)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Classroom				
Yes	90 (70.3)	87 (80.5)	68 (64.7)	245 (71.8)
No	38 (29.7)	21 (19.5)	37 (35.3)	96 (28.2)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Library				
Yes	100 (78.1)	99 (91.6)	89 (84.7)	288 (84.4)
No	28 (21.9)	9 (8.4)	16 (15.3)	53 (15.6)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**
Laboratory				
Yes	60 (46.8)	83 (76.8)	39 (37.1)	182 (53.3)
No	68 (53.2)	25 (23.2)	66 (62.9)	159 (46.7)
Total	**128 (100)**	**108 (100)**	**105 (100)**	**341 (100)**

Further findings revealed that majority (78.2 %) of the respondents declared availability of recreational facilities while just fewer 21.8 % declared non-availability of recreational spaces. The findings further revealed availability of recreational facilities with majority 81.2 and 80.1 % of the respondents in all-boys and all-girls schools respectively. Based on the findings, there exist adequate recreational spaces that could enhance the quality of school environment. In the same vein, findings revealed that 74.2 % of the respondents declared not availability of sick bay whereas 25.8 % declared availability of sick bays. The findings have implication on the health and well-being of students as well as management of accidents and emergencies.

This study also revealed that 71.8 % of the respondent declared availability of classrooms while

just fewer 28.2 % declared non-availability of classrooms. In all-boys school, 70.3 % of the respondents declared availability of classroom while 29.7 % declared not availability of classroom. The findings further indicated that there is availability of classrooms even when variation exist across the schools. Furthermore, majority 84.4 % of the respondents declared availability of library while just fewer 15.6 % declared non-availability of library across the schools. Similarly, findings revealed that half (53.3 %) of the respondent declared availability of laboratory while 46.7 % of the respondents declared non-availability of laboratory even when the proportion varied across the study area. Therefore, laboratory is not evenly distributed across the three categories of public secondary schools. Based on the foregoing, similarities exist in the level of available environmental characteristics especially in all-boys and co-educational schools in the study area.

3.3. Condition of the Available Environmental Characteristics

Findings were made on the condition of the available environmental characteristics in all-boys and all-girls and co-educational schools in Ibadan Metropolis. The RCI for all-boys and all-girls and co-educational secondary schools were 3.97, 2.75 and 1.88 respectively. The RCI indicated that the condition of the available environmental characteristics in all-boys school compared with all-girls school as compared with co-educational school varied in the study area. Based on the RCI for all-boys school, the three environmental characteristics that were in good condition were recreational space (0.26), classroom (0.25) and library (0.24). Also, sickbay (0.34), recreation space (0.27) and waste collection (0.26) on the RCI in all-girls school. In co-educational school, water supply (0.25), recreation (0.22) and sickbay (0.19) based on RCI. Across the three categories of secondary schools, the environmental characteristics that are in good condition and are closely ranked were classroom and library. This may likely enhance the quality of the school environment.

Based on the relative condition indexes for the three categories of secondary schools, recreational space and sickbay were in good condition in all the three categories of schools. This could be based on the fact that secondary schools mostly prioritized the provision of sickbay because of health implication on the students. More so, secondary schools' students were mostly teenagers with keen interest in sport activities thereby prioritized the utilization of recreational space. In the same vein, classroom was adjudged to be in good condition. This could be a reflection of the dire need of classroom as a pivotal environmental characteristic that enhances knowledge impartation on students. Also, library which aid reading and learning was in good condition.

Furthermore, based on the RCI in all-boys school, the four environmental characteristics with fair condition were laboratory (0.13), energy supply (0.09), toilet supply (0.04) and water supply (0.01). Likewise, classroom (0.24), laboratory (0.21), Library (0.23) and road (-0.04) on the RCI in all-girls school. In co-educational school, classroom (0.14), library (0.13), road (0.09) and laboratory (0.03) based on RCI. Across the three categories of public secondary schools, the environmental characteristics that were fair in condition and closely ranked were laboratory.

Based on the respondents' condition indexes for the three categories of secondary schools, the condition of water supply and road were fair. This could be based on the fact that water supply improves health and well-being. However, inadequate water supply promotes unhealthy condition thereby affecting every system of school activities. In addition, the condition of road was also pronounced to be fair. This is a reflection of poor road network which could reduce connectivity in the school environment. The fair condition of library could also be an ongoing-effort of the school management to promote reading culture among students. In addition, energy and toilet supply which are important environmental amenities that could enhance the quality of school environment were declared to be in fair condition.

Furthermore, based on the RCI for all-boys school, the four environmental characteristics with bad condition were waste collection (-0.09), drain (-0.21), road (-0.30) and sickbay (0.40). For all-girls school, RCI were on drain (-0.07), toilet supply (-0.34), water supply (-0.43) and energy supply (-0.64). In co-educational school, energy supply (0.01), toilet (-0.14), waste collection (-0.25) and drain (-0.62) based on RCI. In the three categories of public secondary schools, the environmental characteristics that are bad and closely ranked is waste collection. As thus, the findings have implication on the health and well-being of students in the study area.

The predominant environmental characteristics that are in bad condition based on the RCI was drain. This could be a resultant effect of inadequate drain system putting immense pressure on the available ones across the schools. Poor drain contributes to breeding grounds for pathogen thereby encouraging the spread of communicable disease among students. Similarly,

waste management which was also considered to be in bad condition promote disorderliness in the school environment. Poor waste management brought about littering of school environment and promote unregulated waste collection point. Finally, findings indicated that similarity exist in the assessment of the condition of environmental characteristics in the three categories of public secondary schools.

Table 3

Environmental Characteristics

Environmental Characteristics	Categories of Schools								
	All Boys			All Girls			Co-educational		
	Mean	Mean Deviation	Rank	Mean	Mean Deviation	Rank	Mean	Mean Deviation	Rank
Water Supply	3.98	0.01	7	2.32	-0.43	10	2.13	0.25	1
Sanitation Supply	4.01	0.04	6	2.41	-0.34	9	1.74	-0.14	9
Energy Supply	4.06	0.09	5	2.11	-0.64	11	1.89	0.01	8
Waste collection	3.88	-0.09	8	3.01	0.26	3	1.63	-0.25	10
Recreation space	4.23	0.26	1	3.02	0.27	2	2.10	0.22	2
Drain	3.76	-0.21	9	2.68	-0.07	8	1.26	-0.62	11
Road	3.67	-0.30	10	2.71	-0.04	7	1.97	0.09	6
Sickbay	3.57	0.40	11	3.09	0.34	1	2.07	0.19	3
Classroom	4.22	0.25	2	2.99	0.24	4	2.02	0.14	4
Library	4.21	0.24	3	2.98	0.23	6	2.01	0.13	5
Laboratory	4.10	0.13	4	2.96	0.21	5	1.91	0.03	7
RCI	3.97			2.75			1.88		

4. Conclusions

The study established that socio-demographic characteristics of the respondents varied across the three categories of secondary schools and the variation was more pronounced in all-boys school when compared with other schools. Across the study area, there existed inadequate environmental characteristics such as water supply and toilet, energy supply and waste collection, but the inadequacy is more noticeable in all-boys and co-educational schools. In the same vein, the condition of the available environmental characteristics that could enhance good environmental quality was bad across the three categories of secondary schools. The study recommended the need for government to provide adequate environmental amenities through public private partnership in public secondary schools.

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