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Maintenance and Management of Electrical Installation Public Facilities: Secondary Schools in Akure, Ondo State, Nigeria as Case Study

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ABSTRACT

Adequate provision of facilities is imperative for quality and effective teaching and learning. The cost implication and at time scarcity of some facilities make their maintainability and maintenance so important. This study investigates facility maintenance in public schools in Nigeria with a view to identify and establish the qualities of the available facilities and their efficiencies to the users. Public secondary schools are selected in Ondo state, Nigeria are selected at random and the users (students and staffs) positions were gathered through well-structured questionnaires and analysis. The findings indicates that facilities in public schools have significant advantages to the student's success and staff's performances though the level of maintenance is not adequate enough to support students and staff safety, wellbeing and academic performances.

Keywords: Facilities, Maintenance, management, Success, Performance

INTRODUCTION

Maintenance of facilities covers repair, replacement and redecoration of components with a view of increasing its lifespan, enhancing the value, promoting beauty and functionality and preventing damage and injury to users Oyebanji (2009). Effective maintenance requires knowledge of the method of design as maintainability of equipment is determined at this stage likewise the types and functionality of the materials used. It also requires the correct remedial measure, sound technical knowledge and implementation of integrated plans and policies as well as the formulation of the value of the building (ESO 2001).

According to the British Standard 3811 (1984), maintenance as the combination of all technical and associated administrative actions intended to retain item in, or restore it to a state in which it can perform its requirement function. Maintenance of facilities therefore can be referred to as the works carried out in order to keep, restore or improve such facility or any part thereof in good and acceptable standard. It is a step taken to ensure effective functional performance and to prolong the useful life of facilities.

STATEMENT OF RESEARCH PROBLEM.

A critical looks at the nation's urban centres and conditions of the secondary schools shows that the problem of educational institutions in Nigeria are not mainly with provision of facilities but their maintenance. Bearing in mind that provision of these facilities is cost intensive involving a lot of feasibility studies and tasks all achievable in a short period of time. To have optimum value of the resources expended on such facility, there is need to pay serious attention to safeguarding them through regular maintenance. Regrettably this is not so in this country for no sooner than these properties are commissioned then they are abandoned to dilapidate (Emeasoba and Ogbuefi, 2013).

Some facilities are plagued by a number of problems among which are faulty design, long carriage capacity which result to failure, poor funding for maintenance where required and bad maintenance culture, which significantly reduced the utility of the properties. These problems have made it difficult, expensive and more arduous to accommodate students for learning, which often lead to loss of man-hours and sentiments. This also results to the fact that parents started moving their children from public schools to private schools (Property Vision, 2000).

In 2015, Akure is estimated to be inhabited by about 1.8 million people as a result of impact from industrial growth, because the State has recently been classified as Oil producing state and a millennium city (Ajibefun, 2012). This put pressure on public facilities within the schools a development which is not mostly considered.

Facilities maintenance is a viable tool for sustained development and a catalyst for education development. This will also inform them of the consequences of neglecting facilities maintenance by presenting good and practical solutions for proper maintenance of our public infrastructure. These therefore bring the need to investigate how public facilities are sustained by identifying different facility type that requires management in selected public schools, accessing the effects of poor maintenance on public facilities and identify the challenges facing public schools in maintaining and management of their properties.

HISTORY OF PUBLIC FACILITIES.

Public Facilities forms the basis of any community, helping neighborhoods to function as a unit, and benefiting the city's economy, housing, and market and transportation system. Public facilities include those lands, infrastructure, facilities and services that are provided on a public or semi-public basis in the interest or benefit to the residents of the community. The importance of these facilities should not be under-estimated in that they are offered as a major contributor to the quality of life and safety within the urban environment. This strives to coordinate capital improvement planning with the city's anticipated future growth and development.

The Public Facilities and Service identifies the existing and proposed location and type of water and sewer utilities, cultural facilities, library, police stations and other related facilities to the surrounding area. The city of Akure provides a range of high quality public facilities and services, and the Comprehensive plan seeks to sustain and enhance these services. Quality services are an important element of a mature residential community. The term "public facilities" include buildings, lands, interests in land (e.g. easements), and equipment of government services on behalf of the public. They may include facilities that are operated by public agencies as well as those that are owned and operated by private (for profit or non-profit) enterprises for the benefit of the community.

In order to enhance the quality of life within the city, it is fundamental that adequate public facilities are provided for its residents. The city has a history of planning for public improvements, a community Facilities/Public Improvement Plan was prepare also.

The planning commission's Comprehensive Plan Vision Statement, developed as part of the Comprehensive Plan and approved by the Akure Regional Planning Commission in 2002, states that part of the broad-based continuous planning effort, the city should "Develop a high –quality community that meets the ever-changing needs of all its citizens", "Provide high-quality public services with fiscal and technological efficiency", and "create a quality of life that is unsurpassed in the region". (Johnson, 2006). The 2003 Citizen Survey conducted by the planning Commission indicated that City services were under adequate or better with no city service receiving a substandard rating. The survey showed that the public library, provision of fire/emergency protection and garbage collection ranked as the top services in citizen satisfaction. In addition, a high level of satisfaction was given to police protection, utilities, public education and senior citizen services. The public facilities in this City are of average quality and there is need for significant improvement to maintain the average level consistent with future growth. Development of all future public facilities in the sub region should utilize sustainable policies. Facilities should be located so that they are convenient to both existing residents as well as projected population growth areas.

CLASSIFICATION OF FACILITIES.

Facilities have been classified in various ways in the literature. These include:

Academic Facilities: This refers to the teaching facilities put in place to enhance teaching and learning in the public secondary schools they include, classrooms, white marker boards, E-teaching, projectors, science equipment, laboratories, ICT, staff quarters, library, Fine Art room, Musical instrument room, hostel, geographical garden, hall etc.

Office Facilities: These are offices where the administrators and other staff sit during the school hours to attend to their student and work, this include, principal office, vice principal office, staff office, secretary office, computer, photocopier and post office.

Recreational Facilities: These refers to where the students play games such as volleyball court, basketball court, football pitch, Athletic tracts etc.

CHARACTERISTICS OF PUBLIC FACILITIES.

i.) These facilities are large, immobile and space specific. They are long lasting, often with life span measures in decades and century and construction often running into years. As large amount of money are typically invested for long period, the underlying risk typically arising from factors such as demand uncertainty, environmental surprises , technological obsolescence, policy summersault and political uncertainties, are also quite high (Ghaji, 2013).

ii.) It affects the competitiveness, liability and sustains abilities of cities and are provided to ensure efficient functioning of the urban system.

iii.) It is traditionally provided by local, state and federal governments and their agencies.

iv.) It is usually financed through internally generated revenue of the governments and the federal government. Often funds from international organizations/donor agencies and domestic financial institutions such as Urban Development Bank, world Bank are used (Brookman, 2005).

EDUCATION-SCHOOL AS A PUBLIC FACILITY.

Education is a priority sector in every well-meaning society. Thus, Butch (2006) referred to it as a major force in economy, intellectual, social and cultural empowerment. Its value in bringing about character and attitudinal change ranks as important as its ability to reshape human potential for desired development. The education given by the colonial masters was tailored towards white collar job and this did not contribute meaningfully to Nigerian educational Business Venture according to the critics of the system. Successive government in Nigeria have tried to develop the country through basic education to her citizenry. At the advent of democratic governance and inauguration of the Olusegun Obasanjo administration in May, 1999, the government made education one of its priorities by introducing Universal Basic Education.

CLASSIFICATION OF SCHOOLS IN NIGERIA.

George (1989) classified the Nigerian schools into 1. General classification – The schools in the state shall be classified as follows;

(i) Schools for General Education;
(ii) Schools for Special Education and
(iii) Schools for the Education of Particular categories of Students.

1. Schools for General Education-

i.) Schools for General Education shall be of two grades
ii.) Primary and
iii.) Secondary

2. Schools for Special Education- Schools for special Education comprise the following:-

i.) Training Schools providing instruction and training for Teacher's Certificate Examination.
ii.) Fishery Schools
iii.) Physical training Schools
iv.) Music Schools, including Music Academies
v.) Fine Arts Schools

3. Schools for the Education of Particular Categories of Students – Schools for the Education of Particular categories of students comprise the following:-

i.) Schools for defective Children such as the deaf, the dumb, the blind and the mentally handicapped.

ii.) Leper Schools where admission is restricted to children affected with leprosy.

iii.) Schools for handicapped where admission is restricted to children affected with Polio or other similar diseases.

TYPE OF SCHOOLS

Bashorun (2007) states types of Schools into two, namely:

Public Schools: This belongs to the Government. Staff salaries, infrastructural and instructional facilities are by and large borne and maintain by it. Its schools are operated under the same regulations and management formula. They have the same Calendar, same staff quota, educational requirements and condition of service. Because the staff are government employees, they are transferable. Students too are exposed to the same external examination.

Private Schools: On the other hand, are broadly of two types: Those owned by individuals or a group of individuals and those owned by institutions like a church or community. But while as a rule all such schools must have government approval for existence, their goals and orientations are different. For instance, by the large, most private schools owned by individuals are profit-oriented and are sources of livelihood. Infrastructural and institutional facilities can invariably, inadequate and poorly managed. Staffing is poor and admission policy irregular.

CONCEPT AND NATURE OF MAINTENANCE.

By definition, maintenance is a combination of any action carried out to retain an item in, or restore it to an acceptable condition. ‘Actions’ in this context refers to those associated with initiation, organization or implementation, while ‘Acceptable conditions’ means that condition agreed for each usage. This condition shall not be less than that demanded by statutory requirement [BS 3811, (1974) cited by Azzaro, 1980]. The British committee on Building Maintenance as cited by Azzaro (1980) defines building maintenance as ‘work undertaken in order to keep, restore or improve every facilities i.e every part of the building, its services and surroundings to a currently acceptable standard, and to sustain the utility and value of the facilities.

It therefore connotes that subject to a minimum set by a statutory powers, there is no single standard of conditions which will be equally acceptable to all the identify therefore the nature of the maintenance work, there is a need to collect data about the description, cause, consequences and possible ways of preventing a defect within the infrastructure, or in case of a building element or building contents. The extent of maintenance is spread to floors, windows, doors, external works, foundation, walls, ceiling and roof among others. Seley (1987) explains four components which forms the tasks involved in the maintenance. They are; servicing, rectification, replacement and renovation.

Servicing – This is a regular process of clearing and general servicing of facilities and the environment. Examples are regular servicing of lifts, generator, media machines and equipments, pumping machines, cleaning of surrounding and cutting of grass. All these are done at regular intervals.

Rectification – In cases of noticeable shortcomings on design, damage of goods in transit or installation and incorrect assemblage, or faults or unsuitability of components, rectification is carried out. This process reduces cost of maintenance since it can be corrected.

Replacement –Service condition causes materials to decay at various rates. Replacement is adopted when there is physical breakdown of services. The acceptable lifespan of facility involves a subjective judgment of aesthetics of change.

Renovation – This is done when there is a need to restore to the original design of the structural services of a property.

THE STUDY AREA

Akure, which became the state capital of Ondo State in 1976 is located within Latitude 07^0 15 north if the Equator and Longtude 05^0 15 East of the Greenwich Meridian. It is bounded by Ondo to the South, Owo to the East and Iju / Itaogbolu to the North. In 2006, the population of Akure was put at 353,211 (NPC, 2006). The increased relative political influence of Akure as a state capital since 1976, when Ondo State was created has been partly responsible for its rapid development. This is because, the decentralization exercise, which accompanied the policy that led to the creation of the State led to the creation of jobs, which attracted many people.

Types of facilities available in the school.

The facilities available in Oyemekun Grammar School, Akure include;

53 classroom building

2 Hall building

3 Laboratory building

3 Sport facilities

2 Studios (arts and music) building

6 Students' hostel building

6 Principal and Vice-Principal's office building

6 No of staff rooms building

1 Computer room building

16 Flats of staff quarters and 1 Deluxe

3 E-Teaching rooms

2 Libraries building

1 Technical workshop building

1 Sick bay building

ST. LOUIS GRAMMAR SCHOOL, AKURE

Location

The school is located along Ondo road via bye-pass Akure and perhaps is one of the best public secondary schools is Akure, it is girls only school. The school is well recognized in Akure and Nigeria at large.

Types of facilities available

The facilities available in St. Louis Grammar School, Akure include;

52 classrooms building

1 Hall building

4 Laboratories building

3 Sport facilities

2 Studios (art and music) building

15 Students' hostel building

1 computer block

6 Principal and Vice-Principal's office building

6 Staff rooms building

11 flats of staff quarters building

1 Library building

1 Technical workshop building

1 Geographical garden

1 Sick bay building

DATA PRESENTATION

Table 3.1 Assessment of facilities provided within the school premises.

FACILITY AVAILABLE	VERY GOOD	GOOD	FAIR	POOR	VERY POOR	NOT AVAILABLE	TOTAL RESPONSE
Classrooms	4	14	25	3	0	0	46
Computer Rooms	8	30	8	0	0	0	46
Library	9	29	0	8	0	0	46
Laboratory	32	10	4	0	0	0	46

Table 3.2 Assessment of Classrooms

RESPONSE	FREQUENCY	PERCENTAGE (%)
Very Good	4	8.69
Good	14	30.40
Fair	25	54.30
Poor	3	6.50
Very Poor	Nil	0.00
Not Available	Nil	0.00
Total	46	100.00

SOURCE: Field Survey, 2014

Table 3.3 Assessment of Computer rooms

RESPONSE	FREQUENCY	PERCENTAGE (%)
Very Good	8	17.39
Good	30	65.22
Fair	8	17.39
Poor	Nil	0.00
Very Poor	Nil	0.00
Not Available	Nil	0.00
Total	46	100.00

SOURCE: Field Survey, 2014

Table 3.4 Assessment of Library

RESPONSE	FREQUENCY	PERCENTAGE (%)
Very Good	9	19.56
Good	29	63.04
Fair	Nil	0.00
Poor	8	17.4
Very Poor	Nil	0.00
Not Available	Nil	0.00
Total	46	100.00

SOURCE: Field Survey, 2014

Table 3.5 Assessment of Laboratory

RESPONSE	FREQUENCY	PERCENTAGE (%)
Very Good	32	69.56
Good	10	21.74
Fair	4	8.7
Poor	Nil	0.00
Very Poor	Nil	0.00
Not Available	Nil	0.00
Total	46	100.00

SOURCE: Field Survey, 2014

FINDINGS

From the analysis above, it was noted that electricity and water which are considered as highly essential in daily life, are not sufficiently provided within the school.

Few students and teachers utilizes the internet facilities and studio rooms. This is reflected in the responses gotten from them with a total of 43 and 35 respondents respectively making comments on the facilities, as opposed to the classroom with 46 respondents.

In the same vein, few students resides in the students' hostel.

It is observed that 190 respondents indicated that the state of some facilities were fair, 189 stated that the facilities were in good state, while 59 and 51 revealed that the facilities were very poor and very good respectively. This shows that a good number agreed that the state of the facilities were in-between good and fair conditions.

However, it could be deduced that laboratory facility has the highest percentage of facilities in a good state followed by the computer rooms and library i.e. 69.56%, 65.22% and 63.04% respectively.

Thus, while few respondents denied the assertions, majority voted to the assertions that lack of the facilities affects the academic performance of students. When they asserted that; the worst of our woes is the maintenance of public school facilities. Millions of naira can waste away if the public facilities are not properly maintained. The health of pupils can be in constant peril when the toilets are not hygienic and life itself is in danger when the walls are likely to fall. Ministers and local governments that fail to maintain their school buildings may unwittingly be sowing the seeds of sorrow among the pupils at large.

It could be deduced that the largest part of the respondents, affirm that most of the facilities are not adequately maintained while only a minute affirm otherwise.

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

Public facilities are very important for sound education of the child towards the realization of educational goals and objectives. Yet, the results of this study have shown that majority of the public facilities in public secondary schools are in poor state of disrepair. The study found out that the major causes of public facilities dilapidation in our secondary schools is poor maintenance culture and low quality of facilities provided in the schools.

This study has succeeded in showing how public facilities maintenance – a viable tool for school sustenance, can safeguard school investment in the long run; accelerate school development by strengthening social bonds; improve access to education, health, water, electricity, ICT, laboratory, library, employment and create a competitive environment for students to strive. However, this cannot but come with challenges which the study has attempted to address so as to ensure that government and all stakeholders see the need for maintenance management of public facilities.

RECOMMENDATIONS

For public facilities to continue to support the desired public schools, the following recommendations are preferred:

1. A management policy should be adopted and enforced in all Nigeria schools. The principles of maintenance should therefore be applied in the management of all public schools in the country.
2. Adequate funding should be provided by government and others for government schools and much more in the maintenance of the buildings and facilities. Government grants should be made available for equitable funding of the schools in order to ensure equitable development of the citizenry.
3. Regular routine management inspection, maintenance, overhauling and general servicing should be adopted.
4. Nigerian government should ensure that enough facilities are provided for schools to match the number of pupils enrolled.

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