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## Assessing School Facilities in Public Secondary Schools in Delta State, Nigeria

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### Abstract

*This study investigated school facilities in public secondary schools in Delta State, Nigeria. The purpose of the study was to find out the state of the facilities, the types of maintenance carried out on the facilities by school administrators, the factors encouraging school facilities depreciation and the roles of school administrators in the management and maintenance of school facilities. The study employed the ex-post-facto research design. The questionnaire was the instrument for data collection from 640 respondents selected through stratified sampling techniques from all the 358 public secondary schools in the state. Findings revealed that school facilities in the schools are generally in a state of disrepair. The findings further revealed that the maintenance carried out on school facilities were inadequate for majority of the facilities. The factors encouraging school facilities depreciation included excess pressure on available facilities and delayed maintenance among others. The roles of school administrators in the*

*management and maintenance of school facilities included periodic inspection of facilities and decentralization of maintenance. The study recommended that school administrators, teachers and students should develop and inculcate good maintenance culture, government should budget for facilities maintenance and allocate more funds to schools for effective management and maintenance of school facilities.*

### **Introduction**

The quality of education delivered by teachers and the academic achievement of pupils of any school is dependent on several factors of which school facilities is paramount. School facilities are materials resources that enhance teaching and learning thereby making the process meaningful and purposeful. School facilities can be referred to as school plant. School facilities can be defined as the entire school plant which school administrators, teachers and students harness, allocate and utilize for the smooth and efficient management of any educational institution, for the main objective of bringing about effective and purposeful teaching and learning experience.

According to Adeboyeje (2000) and Emetarom (2004), school facilities are the physical and spatial enablers of teaching and learning which will increase the production of results. School facilities serve as pillars of support for effective teaching and learning. Oyesola (2000) sees school facilities to include permanent and semi-permanent structures such as machinery, laboratory equipment, the blackboard, teacher's tools and other equipment as well as consumables.

Good quality and standard of school depend largely on the provision, adequacy, unitization and management of educational facilities. Akinsolu (2004) asserted that educational curriculum cannot be sound and well operated with poor and badly managed school facilities. From all indication, school facilities are physical resources that facilitate effective teaching and learning. They include blocks of classrooms, laboratories, workshops, libraries, equipment, consumables, electricity, water, visual and audio-visual aids, tables, desks, chairs, play ground, storage space and toilets.

In Nigeria, public school enrolment has continued to increase without a corresponding increase in facilities for effective teaching and learning. As a result of underfunding of education in Nigeria, the government has been encouraging proper maintenance of available school facilities. School facility maintenance entails ensuring that the facilities are kept near their original state as possible. This involves keeping the school sports and football field

clean, periodic renovation of the buildings, servicing the school bus and generator sets, repairs etc. for the purpose of restoring the facilities to optimum working condition.

Olagboje (1998) sees school plant maintenance as any work carried out on any component of the plant with a view to keeping it at good working condition. According to Hinum (1999) the quality and durability of a building largely depend on the type and level of servicing, repairs and the rate at which the needs and requirement change. School facilities management involves keeping records of the facilities, supervising the facilities, planning for the facilities, motivating students and teachers to participate in facilities maintenance and evaluating the available facilities.

Plethora research reports have revealed that a significant relationship existed between school environment and students' attitude to schooling (Akinlua and Adeogun, 2007; Oyira, 2007; Ikoya and Onoyase, 2008). Studies have also shown that the condition of school facilities have a strong effect on academic performance of pupils. Chan (1979) found that students who were taught in modernized buildings scored consistently higher across a range of standardized tests. Adeboyeje (2000) reported that schools with well coordinated plant planning and maintenance practices recorded better students performance. Burkett and Bowers (1987) reported that students in newer and adequate school facilities schools outperformed students in older and inadequate school facilities. Conducive school physical environment could enhance students' school attendance, involvement in academic activities and academic performance positively.

In addition, Adesina (1999) stressed that the quality and quantity of educational facilities available within an educational system positively correlates with the quality and standard of the educational system. Durosaro (1998) examined school plant planning in relation to administrative effectiveness of secondary schools in Oyo state of Nigeria. He found that schools that planned and maintained their facilities had higher students' retention and is more effective than the others.

Many scholars, researchers, administrators and educational planners have confirmed that school facilities in Nigerian schools are inadequate and few available ones are being over utilized due to the astronomical increase in school enrolment. Ikoya and Onoyase (2008) reported that only 26% of secondary schools across the country have school infrastructures in adequate quality and quantity. Ajayi (1999) reported that most of the Nigerian primary

schools are dilapidated due to inadequate funding while most tertiary institutions are living in their past glories. Such situation hinders effective teaching and learning, making the process rigorous and uninteresting to students and teachers. Similarly, Owuamanam (2005) noted that the inadequacy of infrastructural facilities and lack of maintenance for available facilities were major problems facing Nigerian educational system. The school facilities are grossly inadequate to match the student's population and the available facilities were poorly maintained. The availability and maintenance of school facilities will enhance teaching and learning and improve academic performance of students.

Researchers like Wilcockson (1994), Lawal (1996), Ajayi (1999) and Owoeye (2000) have long identified the importance of school facilities in teaching and learning while the inadequacy, deterioration and lack of maintenance of these facilities will spell doom for the teachers and students in the teaching and learning activities. Negligence in the maintenance of school facilities has many negative consequences. When school facilities are not well managed and maintained, they constitute health hazards to pupils and teachers who use the facilities. For instance Ogonor (2001) reported the killing of pupils and teachers of a primary school in Nigeria when the school walls and roofs collapsed. Even large amount of money invested on school facilities are wasted when school buildings and equipment are left to deteriorate without maintenance.

It has been observed that school facilities are not been maintained by school administrators and hence their depreciation. The administrators appears to spend much time on instructional planning, curriculum development, personnel development and community relations claiming that the management and maintenance of school facilities is the sole preserves of the government. This study examines school facilities in public secondary schools in Delta state, Nigeria with focus on the state of the facilities, the adequacy of the maintenance provided, factors encouraging school facilities depreciation and the roles of school administrators in the management and maintenance of school facilities.

### **Problem of the study**

The researcher has observed during her visit to some schools for supervision that most schools visited, the school compound was bushy, have dilapidated buildings with leaking roofs, broken chairs and desks, rough floors and windows without louvers. In some of the schools, the buildings were dirty, no

lightning while some have blown off roofs. The roads leading to the sports field in some schools were weedy. It appears adequate management and maintenance is not provided on the available school facilities.

School facilities are supposed to be kept in good condition in near their original state as much as possible by school administrators. But from causal observation and complaints, it appears that school administrators are neglecting on the role of school facilities management and maintenance. Could this observation be the same for all public secondary schools in Delta State?

This study therefore seeks to answer the following research questions.

1. What is the state of school facilities in public secondary schools in Delta State?
2. What are the factors encouraging school facilities depreciation in schools?
3. How adequate are maintenance activities provided for school facilities?
4. What are the roles of school administrators in the management of school facilities?

### **Methodology**

The study employed ex-post-facto design since it involved the collection of data from the entire population of school administrators on the existing situation of school facilities in all public secondary schools in Delta State, Nigeria.

The population of the study comprised all the 358 public secondary schools in the three senatorial districts of Delta State during the 2008/ 2009 academic year. The schools were each divided into school I and school II. Some thickly populated schools had three or four principals. Only principals who had at least five years experience participated in this study. Employing stratified sampling techniques, the researcher selected a sample of 640 principals. The stratification was based on senatorial district. The breakdown of the sample is Delta North =230, Delta Central = 240 and Delta South =170.

The questionnaire was the instrument for data collection. It consisted of two sections, A and B. Section A focused on demographic variables requiring participants to indicate their senatorial district, school and experience, while

section B contained 24 items questionnaire. The items were structured along the four point likert type rating scale of Strongly Agree, SA =4-points, Agree, A=3-points, Strongly Disagree, SD=2-points and Disagree, D=1-point. The instrument was validated by two experts in the Department of Educational Administration and Policy Studies, of Delta State University, Abraka, who carefully scrutinized the instrument before the final draft was prepared. The Cronbach alpha reliability techniques were employed for testing the reliability. Copies of the questionnaire were administered on 20 school administrators in Edo State, Nigeria. A reliability coefficient of 0.80 was obtained.

The researcher assisted by three persons, administered the 640 copies of questionnaire to the respondents during the management training programme organized by education service consult and state ministry of education for school administrators in three locations of Delta State, at Asaba, Warri, and Ughelli. Six hundred and fourty copies of questionnaire were administered but six hundred copies were retrieved and used for analysis of data while fourty copies were void. The analysis of data was done, using frequency counts, percentage and mean.

## **Results**

The result obtained from data analysis is presented in tables.

Table 1 indicates that facilities in Delta State public secondary schools are generally in a poor state of disrepair. For Delta North, the classrooms only 27.72% are in repairable state with 72.00% are in a state of disrepair. While Delta Central, the classrooms have 33.91% repairable state and 66.08% in state of disrepair. While Delta South recorded 17.03% repairable state and 82.60% in state of disrepair. The assembly hall for Delta North schools recorded 34.10%, Delta Central 36.08%, and Delta South is 10.45% for repairable state while state of disrepair recorded 65.90%, 63.90% and 84.66% respectively. Laboratory and workshops recorded 21.36%, 30.45% and 11.33% for repairable state in Delta North, Delta Central, and Delta South respectively while state of disrepair recorded 78.64%, 69.56% and 88.67% respectively. The library recorded 21.81%, 19.56% and 18.67% repairable state for Delta North, Delta central and Delta south respectively while state of disrepair recorded 78.18%, 80.43%, 81.33% respectively.

Furniture those in repairable state recorded 31.81%, 29.57% and 32.00% for Delta North, Delta central and Delta South respectively. While those in state of disrepair recorded 68.18%, 70.43% and 68.00% respectively. Toilets e.g

water closet and pit latrine recorded 18.18%, 19.56% and 19.30% for repairable state and 81.80%, 80.43%, and 80.67% state of disrepair.

Table 2 shows that the maintenance activities carried out on school facilities in Delta State public secondary schools is inadequate for items 1,2,3 and 5 above and adequate for items 4 and 6. Thus, cracks on buildings, ceiling, roofs and electric fixtures are not easily detected and repaired (79.00%). Broken chairs and tables are not quickly repaired (74.50%). Damaged louvers, doors and windows are not replaced immediately (75.50%) and buildings are not regularly renovated (69.20%). But school generator, bus and duplicating machine are regularly serviced (64.20%) and grasses are regularly cleared and litters picked daily (63.50%).

Table 3 shows that the mean scores for all the items in the three senatorial districts except item 6 for Delta North exceeded the critical mean value of 2.50. Hence the factors encouraging facilities depreciation in schools are excess pressure on the available facilities, lack of proper maintenance, poor maintenance culture, over centralization of maintenance, delayed maintenance and environmental pollution due to oil spillage for schools located in Delta Centre and Delta South.

Table 4 shows that the roles of school administrators in management and maintenance of school facilities are periodic inspection of facilities, delegation of maintenance of school facilities to school committee and prefects, carrying out preventive and emergency maintenance, keeping records of school facilities and seeking community participation in the management and maintenance of facilities.

### **Discussion of findings**

The results of this study revealed that school facilities in public secondary schools in Delta State are generally in a state of disrepair with those in south senatorial district being in a more terrible state than the others. The reason for this could be as result of the poor terrain of Delta South and oil spillage which adversely, affected the facilities, making them to corrode and depreciate faster. The finding is in conformity with Adeogun (2008) who reported that facilities in public primary schools in Ekiti State are in a state of disrepair.

Findings on the adequacy of maintenance activities carried out on school facilities indicated that the maintenance carried out on school buildings such as repairing cracks on broken walls, broken ceiling roofs, electric fixtures

were inadequate. While damaged louvers, doors and windows were not replaced immediately. The furniture's were also not repaired and buildings not regularly renovated. Supporting these findings, Ebenezer (2004) noted that to save public school facilities in Ghana, school heads should cultivate school facilities maintenance culture. School facilities need adequate and efficient management. Proper and efficient management of school facilities rests solely on proper maintenance by school administrators and educational stakeholders. In addition Fabunmi (1997) reported that only a great proportion of what is allocated to education is spent on other things which are not directly related to actual teaching and learning in schools. Facilities are not purchased and maintained as at when due. For effective management and maintenance of school facilities Olagboye (1998) and Arubayi (2002) identified breakdown maintenance, corrective maintenance and preventive maintenance as three types of maintenance which school administrators should adopt to ensure that school facilities are kept near their original state as possible.

Findings as regards the factors encouraging school facilities depreciation showed that excess pressure on the available facilities, lack of proper maintenance, delayed maintenance; over centralization of maintenance and environmental pollution in oil producing areas were the main factors. This finding corroborates the reports of Akinsolu (2008), who noted that enrolment explosion and nonchalant attitude of some school heads and pupils towards school facilities were factors affecting facilities depreciation. Furthermore, Abulu and Omovweh in Asiyai (2010), reported that soot deposits on school building roofs as a result of gas flaring and excessive global heat warming quickens the rusting and dilapidation of school infrastructural facilities in oil producing areas.

The inadequate fund allocated and disbursed to schools appears to have not allowed for proper maintenance of available facilities. In addition, over usage of the facilities tend to make the facilities highly susceptible to constant tear and wear and hence their depreciation. In support of this finding, Emetarom (2004) reported that the longer a school facility stays, the more the utility depreciates.

As regards the roles of school administrators in the management and maintenance of school facilities, findings of this study showed school administrators roles in the management and maintenance of school facilities were periodic inspection of the facilities, decentralization of maintenance,

preventive and emergency maintenance, keeping records of school facilities and seeking community involvement in facilities management and maintenance.

### **Conclusion and recommendations**

School 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 facilities in Delta State public secondary schools are in a poor state of disrepair. To successfully address the issue of school facilities, the study recommends as follows:

1. Nigerian government should ensure that enough facilities are provided for schools to match the number of pupils enrolled.
2. Most of the facilities are in a poor state of disrepair. Hence educational planners and school leaders should carry out extensive repairs, renovation, retrofitting and replacement of some major components.
3. School administrators, teachers and students should develop and inculcate good facilities maintenance culture.
4. School facility maintenance costs much. As a result, educational planners and policy makers should ensure that enough provision is made in the budget for facilities maintenance and management, including costs of technology.
5. More money should be disbursed to schools in oil producing areas of the state for the management and maintenance of school facilities.
6. An improperly maintained facility deteriorates faster within a short term. Consequently, preventive maintenance procedures should be established and implemented by school managers.

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**Table1: State of school facilities in public secondary schools in Delta State, Nigeria**

| Facilities                    | Delta North |           | Delta Central |           | Delta South |           | Delta South |           | Delta South |           | Delta South |           |
|-------------------------------|-------------|-----------|---------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|
|                               | Repairable  | Disrepair | Repairable    | Disrepair | Repairable  | Disrepair | Repairable  | Disrepair | Repairable  | Disrepair | Repairable  | Disrepair |
|                               | F           | %         | F             | %         | F           | %         | F           | %         | F           | %         | F           | %         |
| Classroom                     | 61          | 27.72     | 159           | 72.00     | 78          | 33.91     | 152         | 66.08     | 26          | 17.30     | 124         | 82.60     |
| Assembly hall                 | 75          | 34.10     | 145           | 65.90     | 83          | 36.08     | 147         | 63.90     | 23          | 10.45     | 127         | 84.66     |
| Laboratory/workshop           | 47          | 21.36     | 173           | 78.64     | 70          | 30.43     | 160         | 69.56     | 17          | 11.33     | 133         | 88.67     |
| Library                       | 48          | 21.81     | 172           | 78.18     | 45          | 19.56     | 185         | 80.43     | 28          | 18.67     | 122         | 81.33     |
| Furniture                     | 70          | 31.81     | 150           | 68.18     | 68          | 29.57     | 162         | 70.43     | 48          | 32.00     | 102         | 68.00     |
| Toilet (Pit and water system) | 40          | 18.18     | 180           | 81.80     | 45          | 19.56     | 185         | 80.43     | 29          | 19.30     | 121         | 80.67     |

Source: Computed from field work.

**Table 2: Adequacy of maintenance activities carried out on school facilities.**

| Maintenance Activities   | Delta North |       | Delta Central |       | Delta South |       | Remark     |
|--|-------------|-------|---------------|-------|-------------|-------|------------|
|  | F           | %     | F             | %     | F           | %     |            |
| 1. Cracks on buildings, ceiling & roofs, electric fixtures are easily detected and repaired. | 40          | 6.71  | 87            | 14.50 | 473         | 79.00 | Inadequate |
| 2. Broken chairs and tables are quickly repaired.  | 62          | 10.30 | 91            | 15.20 | 447         | 74.50 | Inadequate |
| 3. Damaged louvers, doors and windows are immediately replaced.                              | 78          | 13.00 | 69            | 11.50 | 453         | 75.50 | Inadequate |
| 4. School generator, bus and duplicating machine are regularly serviced.                     | 198         | 33.00 | 187           | 31.20 | 132         | 35.80 | Adequate   |
| 5. Buildings are regularly renovated.  | 142         | 23.70 | 100           | 16.70 | 45          | 69.20 | Inadequate |
| 6. Grasses are regularly cleared and liters picked daily.                                    | 61          | 10.20 | 320           | 53.30 | 138         | 23.00 | Adequate   |

**Source: Computed from field work**

**Tables 3: Factors encouraging facilities depreciation in Nigerian schools.**

| Factors   | Delta North |      | Delta Central |      | Delta South |      |
|---|-------------|------|---------------|------|-------------|------|
|   | Score       | mean | score         | Mean | Score       | Mean |
| 1. Excess pressure on available facilities.     | 731         | 3.23 | 844           | 3.66 | 566         | 3.77 |
| 2. Lack of proper maintenance                   | 846         | 3.84 | 868           | 3.77 | 578         | 3.85 |
| 3. Poor maintenance culture                     | 726         | 3.30 | 738           | 3.20 | 500         | 3.33 |
| 4. Over centralization of maintenance.          | 800         | 3.63 | 808           | 3.51 | 536         | 3.57 |
| 5. Delayed maintenance                          | 764         | 3.47 | 782           | 3.40 | 530         | 3.53 |
| 6. Environmental pollution due to oil spillage. | 320         | 1.45 | 742           | 3.21 | 586         | 3.90 |

Source: Computed from field work

**Table 4: Roles of School Administrators in the Maintenance of School Facilities**

| <b>Roles</b>   | <b>Score</b> | <b>%</b> |
|--|--------------|----------|
| 1. Periodic inspection of facilities.  | 580          | 96.60    |
| 2. Delegation of maintenance to committee and school prefects                | 489          | 81.50    |
| 3. Preventive maintenance.   | 585          | 92.50    |
| 4. Emergency maintenance.  | 500          | 83.30    |
| 5. Keeping records of school facilities.                                     | 555          | 92.50    |
| 6. Seeking community participation in facilities management and maintenance. | 506          | 84.30    |

Source: Computed from field work