

## **Administrative Strategies and Challenges of School Plant Management in Rural and Urban Public Secondary Schools in Rivers State-Nigeria**

---

**Kalagbor, Levi Doe**

*Ignatius Ajuru University of Education, Rumuolumeni Port Harcourt*

---

### **Abstract**

The study of the challenges of school plant management in rural and urban public senior secondary schools in Rivers State-Nigeria, addressed the issue that principals ineffectiveness in the use of school plant management strategies is as a result of attendant administrative challenges. Two research questions and two hypotheses addressed the study. An instrument titled "School Plant Management Strategies and Challenges Questionnaire" (SPMaS/CQ) was utilized to gather data for analysis. A sample of 120 principals (60 principals each from rural and urban public senior secondary schools) was simple randomly selected from a target population of 245 principals in 12 out of the 23 Local Government Areas public secondary schools in Rivers State. Tables were constructed and means and standard deviation computed to provide answers to the two research questions, while t-test statistic tool was used to test the two hypotheses at 0.05 level of significance. The results revealed among others that both principals in the rural and urban public senior secondary schools uses appropriate strategies in the management of school plant and there is no significant difference between principals' administrative challenges in the management of school plant in rural and urban senior secondary schools in Rivers State. The study concluded that principals' effective use of appropriate school plant management strategies is a factor of conducive environment, particularly, availability of funds. The study therefore, amongst others, recommend that principals should develop alternative internal sources of revenue and the government to establish a special unit to oversee the management of school plant in rural and urban public senior secondary schools in Rivers State-Nigeria.

**Keywords:** *Administrative challenges, Management strategies, Rural, Urban, School plant, Principal*

*Corresponding Author:* Kalagbor, Levi Doe

### **Background to the Study**

“Rural” and “Urban” are inexact concepts that can mean different things to different people, organizations and government. To define what “rural” and “urban” are in a heterogeneous political unit like Rivers State-Nigeria is an uphill assignment. Nevertheless, within the context of this study, the two terms means opposite of each other.

The researcher adopts that, a public secondary school cited in “rural area” in Rivers State imply that such school is located in a hamlet, village, an undeveloped density of human structures with high rate of illiteracy cum homogenous traditional character. While, a public secondary school cited in “urban area” in Rivers State imply that such school is located in a city, town or suburb having a developed density of human structures and high rate of literacy cum heterogeneous modernize character. The study therefore, has to do with strategies and challenges associated with school plant management in public secondary schools located in these two localities.

School plant refers to those material resources provided in the school to facilitate teaching and learning operation (Onwurah, 2004). In the school system therefore, these material resources implies those school facilitates identified, mobilized and utilized to achieve educational objectives. This means that teaching and learning effectiveness is to a large extent dependent on adequate provision and maintenance of school plant.

School plant could be seen however within the context of school building – classrooms, science and language laboratories, local craft, home economic and electrical/electronics workshops, staff rooms, libraries and students' hostels. Also are the school equipment which include – school desks and chairs, chalkboard, bookshelves and teaching aids, while sports/games equipment include – football, sports trophies, javelins, table tennis and other sports/games equipment.

Odor (1995) and Onwurah (2004) recognizes the relevance of the above listed school plant in educational institutions. They separately identified school plant as physical facilities that have direct influence on students' academic achievement, and that school plant aid students to achieve the cognitive, affective and psychomotor domains of educational objectives. This further connote that the use of school plant do enable a school child to learn through several senses such as; hearing (audio aids), seeing (visual aid), learning and seeing (audio-visual aids) and doing. And it could facilitate effective teaching, particularly, to assist a skilled teacher to achieve a level of instructional effectiveness that far exceeds what is possible when they are not provided (Castaldi, 1977).

Also, Chan and Van (1996) identified that 2nd grade students in standard school building score higher as measured by the comprehensive test of basic skills than their counterparts attending class in sub-standard facilities. The subsequent researches of Mark (2002), Ajayi (2007) and Peter (2012) also supports the above mentioned literatures. The educational implication of these research outcomes is that it is difficult to separate teaching and learning effectiveness from school environment (Keller, 2003).

Succinctly, various school plant cannot be used to achieve the above desired results without proper management. In other words, a school plant is required to be cared for or managed effectively to engineer academic excellence. Management of school plant therefore involved

the actual utilization and necessary maintenance of security services of school material resources. This emphasizes that school facilities should be appropriately repaired and replaced in order to keep them constantly in a state of performing the expected functions. To achieve this fact, the management of these school facilities according to Agoha (2008) has to incorporate sound and effective management strategies.

School plant management strategies include those series of ways, procedures and actions that the school principal must not ignore, but has to employ as preventive measures in order to derive optimum benefits in their utilization (Inyang, 2002). Although, the management of school plant is the responsibility of any stakeholder in education industry, the principal is expected to consider it as an integral part of the internal school administration. Thus, the school principal is expected to develop and implement good management programmes based on a broad knowledge of maintenance techniques (Jamaican School Maintenance Manual 2007, in Agoha, 2008). This means that it is the statutory duty of the school principal to adopt desirable management outline to sustain existing school plant for significant academic achievement in the school system.

Specifically, the researcher's observations and experience in the course of performing his duties as Director, Teaching Practice Unit, Ignatius Ajuru University of Education, Port Harcourt, shows that most school plant in the public secondary schools in Rivers State-Nigeria are not well kept. The implication here is that teachers and students do not adequately utilize them in the teaching and learning operations. The reason for this might be due to the inability of school principals to explore and use the appropriate school plant management strategies, which may however be informed by some administrative challenges.

### **Statements of Problem**

Studies have shown that a close relationship exists between the physical environment and school members – principal, teacher and students academic achievements. Nwangwu (1978) and Ogunsanju (1980) had opined that the quality of education that children receive bears direct relevance to the availability or lack thereof of physical facilities and overall atmosphere in which teaching and learning takes place. This connote that many researchers have conducted studies on the positive impact of school facilities on academic activities which have necessitated the need to provide and manage school plant to sustain their academic relevance.

But researches and the direct observations of the researcher has also shown that most school plant in public secondary schools in Rivers State are not in good working conditions. The available school plant are in dilapidated, depreciated and deplorable state to an extent that these material resources have become ineffective and inefficient to sustain teaching and learning in the public secondary schools in Rivers State.

The above researched scenarios may imply that most school principals in Rivers State have not taken reasonable efforts to maintain the existing school plant or may not have explored relevant school plant management strategies. Nevertheless, the fact remain that adoption of appropriate school plant management strategies by school principals in Rivers State is often dependent on some administrative variables which most researchers have not cared to investigate. This is the gap this study intends to fill. The study therefore intends to investigate principals' administrative strategies and challenges in school plant management in rural and urban public senior secondary schools in Rivers State.

### **Purpose of the Study**

This study is specifically aimed at finding out the school plant management strategies used by public senior secondary school principals and the related administrative challenges. The study seeks therefore to:

1. Identify the school plant management strategies used by principals in rural and urban public senior secondary schools in Rivers State.
2. Find out the principals' administrative challenges in the use of school plant management strategies in rural and urban public senior secondary schools in Rivers State.

### **Research Questions**

The following research questions guided the study:

1. What type of school plant management strategies are used by principals in rural and urban public senior secondary schools in Rivers State?
2. What are the principals' administrative challenges in the use of school plant management strategies in the rural and urban public senior secondary schools in Rivers State?

### **Hypotheses**

The following two null hypotheses were formulated for the study:

1. There is no significant difference between the types of school plant management strategies used by principals in rural and urban public senior secondary schools in Rivers State.
2. There is no significant difference between principals' administrative challenges in the use of school plant management strategies in rural and urban public senior secondary schools in Rivers State.

### **Methodology**

The research adopted the descriptive survey design. The population of study comprised all public senior secondary schools' 245 principals in the 245 public senior secondary schools in Rivers State. The simple random sampling technique with element of stratification was used to select 50 percent of the entire population of the study. The selection gave a sample of 122 principals/schools in 12 out of 23 Local Government Areas of Rivers State (61 principals/schools in 6 Local Government Areas, each in the rural and urban public senior secondary schools).

In this study, one instrument in the form of questionnaires with 12 items was developed. The instrument was titled "Administrative Strategies and Challenges of School Plant Management Questionnaire" (ASaCOSPMQ). It solicited information on principals' school plant management strategies and challenges in rural and urban public senior secondary schools in Rivers State. Items 1 to 6 emphasizes on principals' schools plant management strategies, while items 7 – 12 were on the principals' challenges in school plant management in Rivers State. These instruments were however structured in line with the modified 4 – point Likert rating scale of Strongly Agreed (SD) = 4 points; Agreed (A) = 3 points; Disagreed (D) = 2 points and Strongly Disagreed (SD) = 1 point.

Further, the instruments were also subjected to close examination by experts in educational management and planning on the subject matter of validity of instrument. The reliability of the instrument was established by the use of test – retest method. Correlation Co-efficient of the

two scores collated from the test – retest method were calculated using the Pearson Product Moment Correlation Co-efficient ®. Calculated 'r' for “ASaCOSPMQ” was 0.88 which was accepted as high for utilization.

Out of the 122 copies of questionnaires administered, 102 copies representing 84 percent were returned and used for the study (44 copies from rural public senior secondary schools principals and 58 copies from urban public senior secondary schools principals). The data collected were hand scored for analysis. Descriptive statistic such as the mean ( $\bar{x}$ ) and Standard Deviation (SD) were used with a criterion mean of 2.50 to determine the answers to the two research questions. The t-test inferential statistic tool was used to test the two hypotheses formulated in this study with the acceptance or rejection criteria based on 0.05 significant level.

## Data Analysis/Results

### Research Question 1

What type of school plant management strategies are used by principals in rural and urban public senior secondary schools in Rivers State?

**Table 1:** Mean ( $\bar{x}$ ) and Standard Deviation (SD) of principals responses on the types of school plant management strategies use in rural and urban public senior secondary schools in Rivers State (Mean ( $\bar{x}$ ) criterion 2.50).

S/N	Items	Principals in Rural Schools				Principals in Urban Schools			
		Total weight	$\bar{x}$	SD	Rank order	Total weight	$\bar{x}$	SD	Rank order
1.	Periodic identification of school plant that required maintenance or repair is always carried out	123	2.79	0.75	3rd	176	3.03	1.01	2nd
2.	School members use of the respective school plant are monitored	120	2.72	0.69	4th	180	3.10	1.05	1st
3.	Plant maintenance workshop exist and it is being put into use	96	2.18	0.14	6th	134	2.31	0.27	6th
4.	Principal's technical knowledge as resource person in school plant management is always applied	115	2.61	0.59	5th	158	2.72	0.68	5th
5.	School plant inventory record book is provided	128	2.90	0.87	2nd	172	2.96	0.92	3 <sup>rd</sup>
6.	Damaged school plant are priotized for the purpose of giving to each the desired attention	136	3.09	1.04	1st	168	2.89	0.86	4th
<b>Aggregate mean and SD</b>			<b>2171</b>	<b>0.68</b>			<b>2.83</b>	<b>0.79</b>	

Table 1, items 1, 2, 4 and 5 above shows that both principals in rural and urban public senior secondary schools in Rivers State with 2.79/3.03; 2.72/3.10; 2.61/2.72; 2.90/2.96 and 3.09/2.89 means, agreed that they use the following school plant management strategies; periodic identification of damaged school plant, monitoring school plant users, application of technical knowledge, provision of school plant inventory documents and priotizing damaged school plant respectively.



However, table 1, items 6 ( $\bar{x} = 3.09$ ) and 5 ( $\bar{x} = 2.90$ ) shows that principals in rural public senior secondary schools use prioritization of damaged school plant and school plant inventory management strategies than other strategies listed above. While items 2 ( $\bar{x} = 3.10$ ) and 1 ( $\bar{x} = 3.03$ ) indicate that in urban public senior secondary schools, principals uses monitoring of school plant users and periodic identification of damaged school plant strategies than other strategies.

In all, both principals in rural and urban public senior secondary schools in Rivers State with aggregated mean of 2.71 and 2.83 agreed that they use similar and appropriate school plant management strategies.

### Research Question 2

What are the principals' administrative challenges in the use of school plant management strategies in rural and urban public senior secondary schools in Rivers State?

**Table 2:** Mean ( $\bar{x}$ ) and Standard Deviation (SD) of principals' administrative challenges in the use of school plant management strategies in rural and urban public senior secondary schools in Rivers State.

S/N	Items	Principals in Rural Schools				Principals in Urban Schools			
		Total weight	$\bar{x}$	SD	Rank order	Total weight	$\bar{x}$	SD	Rank order
7.	Poor attitude of teachers and students in the use of school plant	135	3.06	1.03	3rd	158	2.72	0.69	3rd
8.	Poor funding of school plant management	140	3.18	1.09	1st	176	3.03	1.01	1st
9.	Lack of qualified/experience resource staff in the management of school plant	95	2.15	0.13	6th	120	2.06	0.14	6th
10.	Ineffective supervision of other school members in their use of school plant	100	2.27	0.24	5th	123	2.12	0.15	5th
11	Inadequate provision of various school plant for use by school members	137	3.11	1.05	2nd	166	2.86	0.82	2nd
12	Host community's poor relationship in the internal security and protection of school plant	106	2.40	0.37	4th	155	2.67	0.64	4th
	<b>Aggregated mean and SD</b>		<b>2.69</b>	<b>0.65</b>			<b>2.57</b>	<b>0.58</b>	

Table 2, items 7, 8 and 11 shows that principals in rural public senior secondary schools in Rivers State with 3.06; 3.18, and 3.11 means, agreed that poor attitude of school members in the use of school plant, poor funding and inadequate provision of various school plant are the administrative challenges that do not enable them use effectively those appropriate school plant management strategies identified in this study.

Also, table 2, item 12, shows that principals in urban public senior secondary schools in Rivers State with 2.67 mean, agreed that poor relationship with host communities is an administrative challenge that do not enable them use effectively those appropriate school plant management strategies identified in this study. This is in addition to the challenges mentioned above in table 2, items 7, 8 and 11.

However, poor funding in the management of school plant ranked first among the administrative challenges with 3.18/3.03 means for rural/urban public senior secondary schools in Rivers State. While inadequate provision of various school plant ranked second with 3.11/2.86 means in rural and urban public senior secondary schools.

In all, both principals in rural and urban public senior secondary schools in Rivers with aggregated mean and standard deviation of 2.69/0.65 and 2.57/0.58 agreed that their inability to effectively use the appropriate school plant management strategies was as a result of some noticeable administrative challenges.

### Hypothesis 1

There is no significant difference between the types of school plant management strategies used by principals in rural and urban public senior secondary schools in Rivers State.

**Table 3:** T-test Analysis of Responses of Principals in Rural and Urban Public Senior Secondary Schools on the types of School Plant Management Strategies used

School Plant Management Strategies	Principals in Rural Secondary Schools		Principals in Urban Secondary Schools		Cal t-Value	Critical t-value	Decision
	$\bar{x}_1$	SD <sub>1</sub>	$\bar{x}_2$	SD <sub>2</sub>			
Items 1 to 6	2.71	0.68	2.83	0.79	1.114	1.960	Not significant

Table 3 above shows that the calculated t-value is 1.114 while the critical t-value is 1.960 at 0.05 level of significance. Since the calculated t-value (1.114) is less than the critical t-value (1.960) the null hypothesis of no significant difference is accepted. The result shows that a principal in rural and urban public senior secondary schools adopts similar and appropriate strategies in school plant management in Rivers State.

### Hypothesis 2

There is no significant difference between principals' administrative challenges in the use of school plant management strategies in rural and urban public senior secondary schools in Rivers State.

**Table 4:** T-test Analysis of Principals in Rural and Urban Public Senior Secondary Schools on their Administrative Challenges in School Plant Management

Administrative Challenges	Principals in Rural Secondary Schools		Principals in Urban Secondary Schools		Cal. t-value	Critical t-value	Decision
	$\bar{x}_1$	SD <sub>1</sub>	$\bar{x}_2$	SD <sub>2</sub>			
Items 7 to 12	2.69	0.65	2.57	0.58	1.074	1.960	Not significant

Table 4 above shows, that the calculated t-value is 1.074 while the critical t-value is 1.960 at 0.05 level of significance. Since the calculated t-value (1.074) is less than the critical t-value (1.960) the null hypothesis of no significant different is accepted. The result shows that principals in rural and urban public senior secondary schools are faced with similar administrative challenges in school plant management in Rivers State.

### **Discussion of Findings**

The first finding of this study shows clearly that principals in rural and urban public senior secondary schools in Rivers State uses similar and appropriate administrative strategies in the management of school plant. This finding establish that principals in Rivers State do understand the appropriate school plant management strategies to use in the maintenance, preservation and protection of school plant. It further demonstrate the concern of secondary school principals of the significant relationship that exist between school plant and teacher/students' academic behaviour as opined by Edem (1987), Ogunsanju (1990), and Odor (1995) respectively. Specifically, the use of school plant repair inventory strategy identified in this study agrees with Ngoka (2002) study outcome that it is a good strategy for school plant management.

The above discourse imply that with the knowledge principals have about the appropriate school plant management strategies to use and their concern to apply same that they have importantly the desire to effect positive changes on affected school plant. Hence by his good leadership style of both principals in rural and urban public senior secondary school, it is erroneous to still factor that principals in Rivers State do demonstrate non-challant attitude towards the management of school plant.

The second and third findings shows that principals in rural and urban public senior secondary schools in Rivers state are confronted with similar administrative challenges in their use of appropriate school plant management strategies. However, lack of funds is the most identified administrative challenge that account for principals poor use of those school plant management strategies noted in this study.

In Rivers State, there exist 245 public senior secondary schools, and the Rivers State Government takes care of their funding and other upkeeps. The finding of this study has shown that these 245 public senior secondary schools in Rivers State are not well funded, particularly, in the perspective of budgeting and releasing funds for school plant management.

Succinctly, to apply those school plant management strategies noted in this study required reasonable funds. The outcome of this study therefore imply that poor management of school plant in rural and urban public senior secondary schools in Rivers State is not the making of school principals, rather it was due to some administrative challenges especially, government poor funding mechanism. For instance, Amachukwu and Ololube (2015) had opined that, even though school heads dictate these faults in goodtime the school does not generate enough funds for such repairs. In support of the above study outcome, the study of Ejikeme (2000), revealed that most school plant in schools are provided and cost of maintenance also provided by the Parent-Teachers Associations (PTAs), not the government. Ezeocha (1985) had previously observed that most schools are poorly equipped and maintained because of lack of funds. The present research outcome therefore indicate that appropriate school plant management strategies can only be effectively used if there are no structural and environmental challenges or if these administrative challenges were promptly taken care of.

### **Conclusion**

The study on “administrative strategies and challenges of school plant management in rural and urban public senior secondary schools in Rivers State” has shown that, although school facilities has direct relationship with both teachers' and students' significant academic operations, these material resources must be seen to be effectively managed by principals for the realization of functional education in Rivers State.



Principals in rural and urban public senior secondary schools in Rivers State do understand that school plant management is a fundamental element of school management. This was revealed also by their knowledge and concern to use the appropriate school plant management strategies, although they are faced with multifaceted administrative challenges, particularly lack of funds to explore these strategies. This study therefore concludes that Principals' effective use of appropriate school plant management strategies is a factor of conducive environment, particularly, availability of funds.

### **Recommendations**

Based on the findings and conclusion of this study, the following recommendations are stated:

1. Rivers State Government should develop a political will to factor in funds for the procurement and management of existing school plant into the annual budget. This will forestall the “fire brigade” approach often used by government and school authorities on issues concerning school plant management.
2. In consideration of the fundamental relevance of school plant management in the achievement of education objectives and the need to replace and maintain prompt repairs to dysfunctioning facility in the school system, the government should establish “School Plant Procurement and Management Agency”.
3. Principals of rural and urban public senior secondary schools in Rivers State should develop alternative source of revenue and technical assistance in the management of school plant. This could be done by school member being surcharged for the repair of any school plant he/she damaged, aggressive payment of development levy through the Parents'/Teachers' Associations (PTAs), establish some commercial/business ventures, establish partnership with companies, and lobby for donations from philanthropic organizations cum individuals. These alternative revenue sources should however be especially directed to school plant management.
4. Principals should continue to explore the use of their own technical knowledge and their qualified/experienced resource staff in direct management of school plant. In other words, principals should always look inward to improvise personnel for effective school plant management.
5. There should be a properly established policy guideline in the use of existing school plant. A schedule and school plant attendant could be drawn for school plant users, since researches have shown that the available school facilities are inadequate. This will apparently give room for the non-consumable and durable physical facilities to be judiciously and reasonably guarded.
6. Teachers and students should be given the proper education in the use of school plant, particularly, their poor attitude in the use of school plant and the objectives of school facilities to academic operations in the school system, to enable them become actively involved in school plant management.

## References

- Agoha, R.C. (2008). *Administrative Strategies for school plant maintenance in secondary schools in Okigwe education zone*. Unpublished M.Ed Thesis, University of Nigeria, Nsukka.
- Ajayi, J. A. (2007). *Issues in school management*. Lagos: Bolabay Publishers.
- Amachukwu, R.N. & Ololube, N.P (2015). Managing school plant for effective service delivery in public secondary schools in Rivers State of Nigeria. *Human Resources Management Research*, 5(4):95-102.
- Castaldi, B. (1977). *Educational facilities: planning, remodelling and management*. Boston: Mars, Allyn and Becom.
- Chan, T & Van, B (1996). *Environment impact on student learning*. Retrieved on 31/12/2016 from [www.Eric.com/research](http://www.Eric.com/research).
- Edem, D. A. (1987). *Introduction to educational administration in Nigeria*. Ibadan: Spectrum Books.
- Ejikeme, C.N. (2000). *Management of physical facilities and equipment in secondary schools in Onitsha education zone*. Unpublished M.Ed Thesis, University of Nigeria, Nsukka.
- Ezeocha, P.A. (1985). *School management and supervision*. Owerri: New Africa Publishing Co. Ltd.
- Inyang, B.J. (2002). *Management theory: principles and practice*. Calabar: Merb Business Centre.
- Keller, B. (2003). *Question of teacher turnover speeches research interest*. *Education Weekly*, 27 (33). Retrieved on 31/12/2016 from [www.sciedu.online.com](http://www.sciedu.online.com).
- Mark, S. (2002). *School boarding and students' academic learning outcomes*. New York: Strong Book.
- Ngoka, G.N. (2002). *Concepts and issues in advance educational administration*. Onitsha: Cape Publishers.
- Nwangwu, N. A. (1978). *Primary school administration*. Lagos: Macmillan.
- Odor, G.O. (1995). *Administration of school in Nigeria: theory and practice*. Benin-City: Monose Amalgamates.
- Peter, U.N. (2012). *Importance of school plant to the teaching-learning process*. Retrieved on 31/12/2016 from [https:// names.wordpress.com/2012/08/01/importance-of-school-plant-to-teaching-learning-process/](https://names.wordpress.com/2012/08/01/importance-of-school-plant-to-teaching-learning-process/)
- Ugwuajah, H.O. (2003). *Management of school plant in post primary institutions in Enugu education zone*. Unpublished M.Ed Thesis, University of Nigeria, Nsukka.