

## **Poor Facility Management in the Public Schools of Ghana; Recent Empirical Discoveries**

**Ibrahim Y. Wuni\***

<sup>1</sup>Department of Land Economy, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

**S. Agyeman-Yeboah**

<sup>1</sup>Department of Land Economy, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

**Henry K. Boafo**

<sup>2</sup>Centre for Settlement Studies, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

\*Corresponding Author: [iywuni.nsp@knust.edu.gh](mailto:iywuni.nsp@knust.edu.gh)

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### **ABSTRACT**

Facilities in the public institutions of Ghana are poorly managed and sidelined in the financial planning and capital budgeting of most public institutions in Ghana. There exist dilapidated buildings and facilities in nearly all the public institutions of Ghana and the reasons behind such negligent attitude have not received empirical examination. This paper sought to fill that knowledge gap by empirically mapping out the causes and effects of poor facility management in two public schools in Ghana. The study employed the case study research design within a qualitative research methodological paradigm and gathered data using interview guides from facility management/ maintenance teams from two public second cycle schools in the Upper East Region of Ghana. The data was analyzed using thematic content analysis and taken through peer debriefing and re-screening of final codes by facility management staff to ensure reliability. The findings from the study run contrary to popular beliefs. It was identified that the empirical causes of poor facility management include lack of professional managers, attitude of deferred maintenance, budgetary limit on maintenance expenditure, sidelined in the financial planning and capital budgeting of institutions, and non-privy of facility management staff to the building design and construction stage. It was also established that poor facility management is characterized by a plethora of consequences including recipe for disaster, financial erosion of institution, malfunctioning and abandonment of buildings. The study recommended that there should be the establishment professional district facility management teams whose works should be supported by institutional facility management teams to oversee facility management in the public institutions.

**KEYWORDS:** Poor facility Management, Public institutions, maintenance teams, Ghana.

## 1. Introduction

It is only natural that facilities comprising of buildings and associated services represent about 80% of non-current asset worth of firmly established institutions (Kamarazaly et al., 2013). Facility management is an integral component of the management of every organization and can be a tool for maximizing gains from an investment and can improve the long-term success of the organization (Kurdi et al., 2011). It is a critical aspect of the overall management functions of an organization that creates a safe and habitable atmosphere for the success of the institution (Jusoff et al., 2008). The practice of proactive facility management has the potential of saving institutions enormous sums of money that might be needed to undertake a major overhaul in the form of unanticipated renovations. Effective facility management can increase the economic lives of the buildings concerned and provide security for the lives of the inhabitants of such buildings (Kamarazaly, 2014). Facility management generates the opportunity for improving and adapting buildings and facilities to the standard of serviceability for habitation which creates an enabling atmosphere for achieving the main objectives of institution and organizations (Kamarazaly et al., 2013).

An exploratory surveyor's observation of the buildings in the public institutions of Ghana reveals a rather bad state of facility management. The facilities in these public institutions in Ghana are either poorly maintained or managed. A visit to Bawku Senior High School and Bawku Technical Institute explains a rather poor state of maintenance of the buildings in the schools. The poor state of maintenance of the buildings might not only be seen as a manifestation of the inability of management to perform its janitorial services (Mavalankar et al, 2005) but also puts the lives of the people habiting such structures on the line and as well showcasing a poorer facility management outlook of the schools. Nearly all the buildings in the two schools are either due for extensive

renovation or for a general overhaul to restore them to a serviceable state to meet the standard for habitation.

The state of the buildings reveals the need to undertake major repairs and renovations to rehabilitate the buildings and facilities. There are no reliable available estimated of the financially erosive impact of the poor facility management but it is safe to conclude that the effects are undesirable (Yusof et al, 2007). Some of the buildings in the public institutions appear to be 'death traps' and can be described as 'recipes for disaster'. The effects of poor facility management only leaves nothing to be desired as it has engineered the collapse of buildings and often require that colossal sums of money are expended to right the wrongs (Jusoff et al, 2008). It is anticipated that management of the schools are aware of the state of the buildings and yet they are negligent. However, previous research works only concentrated on either maintenance; which is only a section of facility management or on facility management challenges but a knowledge void remains regarding the real causes and effects of the poor facility management in the public institutions of Ghana. This paper therefore seeks to fill that knowledge gap by undertaking an empirical investigation in two public schools in the upper east region of Ghana to identify; i) the causes of poor facility management; ii) the effects of poor facility management; and iii) to suggest mechanisms for improving facility management in Ghana. It is expected that the output of the paper would fill the knowledge gap and provides solid evidence to guide informed policy discourse towards improving the status quo of facility management in Ghana for policy makers and practitioners and thus establishing a link between academia and the industry.

## **2. Empirical Review of Literature and Conceptual Framework**

In order to situate this research paper in the context of wider existing knowledge, this section establishes the conceptual definition of facility management for the entire study and also surveys empirical studies relating to the causes, effects and contribution of

facilities management so as to set the framework for the investigation. The review covered scholarly research papers, journal articles, conference proceedings, policy documents and thesis relating to facility management.

### ***2.1 Definition of Facility management***

The concept of facility management is much of a controversial term. This is because the concept is country/institution specific and also largely depends on what constitutes a 'facility' or depending on the services provided or applied for the buildings. Every country, therefore, has a definition for the concept. For instance, the International Facility Management Association (IFMA, 2009) defined facility management as "a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology". The definition considers human resources of an organization as part of facilities. Jusoff et al (2008) also defined facility management in the Malaysian perspective to mean an integrated approach to operating, maintaining, improving and adapting the buildings and infrastructure of an organization in order to create an environment that strongly supports the primary objectives of that organization'. It should be noted that their definitions exclude the elements of human resource and considers only buildings and infrastructure. Yusof et al (2007) also argue that facility management is synonymous with property management. However, in this paper facility management shall refer to the continuous process of ensuring that buildings, infrastructure and peripheral facilities such as building fabric, air conditioners, lift and escalator, plant, fire safety system, plumbing and drainage, minor project management, cleaning, recycling, security, handyman services, grounds maintenance, waste disposal among others are kept to a standard and in a safe state for human habitation.

### ***2.2 Causes of Poor Facility Management***

The existence of poor facility management cannot be said to be a natural problem and certainly has been driven by a number of factors. These factors can be noticed in several aspects of an organization setup which might be stemmed from a number of negligent attitudes on the part of management. A study conducted by Jusoff et al (2008) in Malaysia brought to the fore that poor facility management can be traced to low priority placed by an organization on facility management. The researchers established that facility management is not considered as a major component of overall management due to the inability of management to appreciate and recognize the importance of undertaking an all-inclusive facility management as part of an organization's core functions. The researchers also opined that poor facility management in Malaysia is pervasive because of lack of local professionals with the technical knowledge and specialized training in conducting facility management. They believed that until 2007, nearly all organizations in Malaysia had no facility managers for the organizations and that was seen as a driving force for the poor facility management. Similarly, Yusof et al (2007) identified that the failure of organizations to make facility management one of the top priorities coupled with the lack of professionals with technical expertise in the area is the greatest recipe for the poor facility management in Africa. Keith (2007) also established that lack of facility management professionals is a cause of poor facility management and indicated that facility management is a new discipline in most part of the developing world with fewer institutions training professionals in that regard. Pretty much the same is evidenced in Ghana since facility management is yet to be introduced in the traditional and technical universities. The absence of ready local expertise to timely responses to the poor state of repairs is considered a major reason for poor facility management.

Jusoff et al (2008) also identified that poor facility management is prevalent because most institutions do not have comprehensive management guides to regulate the conduct of facility management services and described facility management in Malaysia as 'not

having standardized practice and implementation mechanisms'. The researchers also identified that every well-developed discipline appears to be regulated by a national or international association in practice and found out that none existed for facility management in Malaysia. It is therefore not strange that there are so many ageing buildings with a high level of deterioration. They identified that poor facility management in Malaysia can be traced to the non-existence of regulative facility management association which monitors the practice of facility management by property management consultants in Malaysia. This claim by the researchers might survive in Malaysia but in Ghana, there are disciplines with well-established associations regulating their practices and yet their services and products are still performing below expectation. For instance, there are associations such as Architecture and Engineering Services Limited (AESL), Ghana Institution of Architects (GIA), Association of Building and Civil Engineering Contractors of Ghana (ABCECG) and the Chartered Institute of Building (CIOB) in Ghana and yet there are a number of buildings and infrastructure construction in Ghana which leave much to be desired. Therefore the pervasiveness of poor facility management cannot be said to be as a result of the absence of facility management association since one cannot be optimistic that the presence of these association will lead to effective service delivery in practice in Ghana as indicated in the cases of the associations above.

Also, Yusof et al (2007) identified that a major cause of poor facility management can be attributed to insufficient funds and human resources (technical expertise) in the form of lack of facility managers for some organizations. This asseveration is, however, context specific because organizations including institutions that train property experts have been known to have poor building outlook which are conspicuous signs of poor facility management. Similarly, it has been corroborated and validated by Kamarazaly et al. (2013) that inadequate funding and technical expertise is the greatest recipe for poor

facility management among public institutions. They posited that even if a public institution has a designated in-house facility manager and there are insufficient funds to undertake timely response to facility management demands, poor maintenance and poor facility outlook is to be expected. Budget restrictions on the amount to be expended on maintenance, lack of property maintenance knowledge by facility managers and the attitude of deferred maintenance by facility owners and managers have also been identified as some of the causes of poor facility management among institutions (Keith, 2007). This is rather most applicable in the Ghanaian situation because the institutions that train property professionals are few comprising two universities and a polytechnic. These professionals are employed in other institutions and consequently, fewer professionals would be available for employment as quasi-facility managers in the rather many public institutions.

It has been opined by Waziri (2016) that poor building design and constructions expose building to excessive demands for unplanned maintenance which contributes greatly to poor facility management in most public institutions. This mixed design study conducted in Nigeria using questionnaires revealed that even at the advent of the current technological advancement, maintenance of buildings are not factored into the building design and construction stage rendering them susceptible to frequent faults and damages; and the inability of management of such buildings to routinely respond to these maintenance concerns translates into the poor facility management in Nigeria. Similarly, earlier studies by Adejimi (2005) and Chohan et al (2011) also established that poor facility management in public institution could be attributed to the inability of construction professionals to incorporate maintenance and facility management at the design and construction stage of a building life cycle. These defects at the design stage are also mostly preceded by poor constructions and the result is a frequent breakdown of facilities during post-occupancy surveys (Adejimi, 2005).

Wordsworth (2000) rather identified that maintenance as part of facility management is given a lower priority in capital budgeting and to a great extent some institutions have no funds earmarked for maintenance, repairs and major renovations. Similarly, Hinks (2004) re-echoed that most public institutions do not earmark funds for maintenance and facility management because maintenance activities are viewed as 'responsive', discretionary and hence deferrable. The results of this low priority on maintenance have manifested in poor facility management. Blair (2004) also observed that poor facility management could be traced to inadequate facility management planning and funding. Most institutions defer maintenance until further deterioration and the nature of weather elements in tropical Africa rather speed up the decay and deterioration of the facilities. When this derelict state of repairs is accompanied by long-deferred maintenance, poor facility management outlook is expected (Weidner, 1999). It was also established that some organizations rather place emphasis on the future capital needs of their movable assets and without a similar planning for facilities (non-current asset) leading to poor facility management in public institutions. This particular with those who see facility management to be more skewed to the management of physical workplace with a greater emphasis on the human resource than the buildings and infrastructure (Woodward, 2002; Blair 2004).

It has also been reported by Kaiser (2004) that poor facility management in public institutions could be blamed on the absence of facility managers with specialized knowledge in handling buildings and special facilities. The people who are mostly appointed to manage these facilities do not have any knowledge of facility management and at worst do not know the erosive financial dimension of accumulated maintenance (Worthing, 1994). Recent studies rather suggest that the lack of facility managers in most part of Africa is because the discipline is a new concept to most countries with virtually no local institutions providing specialized training in facility management (Jusoff et al.,

2008). Interestingly, Ghana has no deep-rooted institutions providing training in facility management until recently when some of the universities offered specialized diploma and degrees in facility management. Therefore, facilities in the public institutions are managed by people without basic knowledge of the short and long term negative impact maintenance on the performance of the concerned institutions and as a result do not allocate substantial funds to cater for such needs (Worthing, 1994).

Waziri (2016) also reported that poor supervisions during and after the construction of the public facilities account for the poor state of facility management. In Ghana, personnel are appointed at the regional level to oversee the management and supervision of the facilities in public institutions. These appointed individuals hardly visit all the schools in the whole year (Yusof et al, 2007). Besides, these individuals also have no specialized knowledge in building design, construction or facility management and virtually do not undertake any effective effort to improve facility management among the public institutions (Jusoff et al., 2008). It should be noted that considering the number of public institutions in Ghana, if adequate personnel not are appointed to oversee the management and supervision of facility management, not much success story is to be expected. Some of the public institutions especially the basic schools in the hinterlands are located in areas of the countryside rendering them inaccessible by the personnel for supervision let alone for facility management.

### ***2.3 Effects of Poor Property Management***

It should be pointed out that in as much as facility management is indispensable for the effective operations of institutions and organizations, the absence of which or the poor performance of the facet in an institution is accompanied by an army of negative effectives. This plethora of negative consequences could at best be corrected at heavy financial cost and at worst irreparable which could generate a financial loss to the

concerned institutions. Empirical studies have established a number of these negative effects to point to the actual necessity of facility management.

It was opined that when facilities are poorly managed and the associated facilities fall into a state of disrepair, huge sums of funds will be needed to restore the facilities to the state of serviceability and standard for habitation (Jusoff et al., 2008). It should be noted that most public institutions are not-for-profit making institutions and when renovation or major repairs expenditure will have to compete with others for the infinitesimal funds available to such institutions, chances are that it will erode the financial strength of the institutions or cause them to suffocate (Kamarazaly, 2014). Poor facility management, therefore, has a negative effect on the finances of public institutions (Kamarazaly et al., 2013). Similarly, Yusof et al (2007) also identified poor facility management generates pressure on future financial budgets on institutions because of the need to allocate exorbitant future costs in trying to right the facility management wrongs. It is worth noting that when funds needed for these renovations or major repairs are huge threatening the future financial sustainability of the institutions, the concerned buildings or facilities are abandoned. It is common to find abandoned structures in most public institutions in Ghana and observers believe it is as a result of the inability of the institutions to renovate and to restore the concerned buildings. These researchers all identified that colossal sums of money are often expended to right facility management wrongs in the future and the import of this has been that finances of institutions are eroded or maintenance and renovations budgets become so astronomical that buildings are abandoned for good (Yusof et al., 2007; Jusoff et al., 2008; Kamarazaly et al., 2013; Kamarazaly, 2014).

Also, Yusof et al (2007) opined that poor facility management also generates poor service to the facility users, inefficient service delivery and also increases increased safety hazards of the workers of such institutions. The consequences could come in a form of

collapse of buildings or utter dissatisfaction in the use of the facilities (Kaiser and Jerry, 1996). It is therefore, not surprising that some organizations have recorded collapse of buildings claiming several lives in Ghana. Quintessential cases include the collapse of the Melcom building on 7th November, 2012 (also known as the Melcom Disaster) and the collapse of a dormitory in Yaa Asantewaa Girls Senior High School inter alia in Ghana which led to the loss of several precious lives. Similarly, Poidevin and Perry (2004) reported that poor facility management creates health and safety threats for the users. Moreover, Waziri (2016) also indicated that poor facility which is often characterized by deferred maintenance often leads to corrosion of some equipment increasing the chances of tetanus and collapse of buildings. Waziri established that the cost of poor facility management has manifested in several health and safety threats and in worst cases, loss of lives. It has also been argued that effective facility increases the economic lives of facilities and or buildings and conversely, the poor facility management generates building deficiencies and short economic lives of the building (Yusof et al., 2007). The researchers re-echoed that buildings are subject to wear and tear or structural depreciation in response to their maintenance neglect which is often manifested in poor facility management and consequently, depreciation becomes aggressive and severe in poorly maintained facilities which translate into shorter economic lives of buildings and at worst rendering such buildings into dilapidation or state of derelict and disrepairs.

#### ***2.4 Appraisal of the Literature Review***

This section explored a conceptual definition for facility management and also reviewed the empirical literature relating to the causes and effects of poor facility management as well as the contributions of facility management. The literature identified that poor facility management is driven by an army of forces in different countries and also accompanied by a plethora of effects of which some are irreparable pointing to the necessity of well-planned facility management. A brief exploration was conducted to

unfold the importance of facility management which is far great to be ignored. The literature spanned between 1994 and 2016 with the indication that no empirical research exist exploring the actual causes and effects of poor facility management in the public institutions in Ghana. This is the niche within the literature that this study seeks to fill.

### **3. Research Methodology and Materials**

#### ***3.1 Research Methodology***

This section of the research paper presents the methodology employed in conducting entire research process. It pays a critical attention to the replicability of the research. The section describes the research design adopted, sampling techniques, sources of data, the method of the data collection and method of the data analysis and reporting. Issues of validity and reliability are also addressed. Since facility management is an empirical issue, it was instructive to examine critical questions from real life setting. The study therefore adopted a case study research design because the research design is appropriate where a researcher wants to scrutinize a contemporary phenomenon within real life context and the researchers have no control over the evidences as they unfold (Yin, 2003;Creswell, 2009). The case study was employed within a qualitative research design because the researchers used interview guide as the sole data collection instrument. The interview guides was also used because the researchers wanted hold an open discussion with the concerned staff based on the framework of questions in the guide to obtain in-depth information on the subject matter of investigation. The interview guides were therefore used to gather rich qualitative data for the study. The study employed both primary data and secondary information in the study. The primary data was gathered directly from the institutions selected for the study and the secondary information was derived from the empirical review of the literature. The secondary information was included so as to establish the necessity for the study and to situate the study of the broader literature in the discipline. The researchers conveniently sampled Bawku Senior High School and

Bawku Technical Institute in the Upper East Region of Ghana as the two public institutions for the study. These institutions were chosen because they have largest portfolios of facilities in the Bawku Municipality and a number of them were either abandoned or were due for major renovation or repairs. Also, the two schools were very close to the researchers during the data collection stage and rendered them very appropriate for the study.

Before the data collection, an exploratory survey was carried out by the researchers. By this, the researchers visited the schools to observe the state of the buildings and facilities in the two schools that are all located in the Bawku Municipality. It was first feared that the two schools were very small a sample size for the study but upon enquiries, it was realized that facility management in the public schools are all regulated by the central government and hence evidence from even one school could be enough to report on the dynamics of facility management for public schools. Introductory letters were therefore sent to the two schools indicating the intentions to hold a discussion with the people concerned with facility management for the schools. Interestingly, when the letters were received, the schools contacted the researchers to confirm the receipt of the letters. The respective schools were briefed on the purpose and date of the data collection. On the said day, the researchers personally visited the schools to meet the concerned staff of the schools. The data was collected using interview guides and personal observations. Interviews were used instead of questionnaires because the researchers wanted to get the opportunity to probe into critical issues that might arise from the interview process (Kamarazaly et al., 2013). During the interview sessions, the background of the schools and facilities data was collected by interviewing the maintenance teams of the two schools. The maintenance teams comprising 7 members of staffs with the Assistant Headmasters (Domestic) and Senior Housemasters each from the two schools in equal

numbers were purposefully selected out of the complete maintenance teams because they were leaders of the teams and could disclose any information that was needed.

The data was analyzed using thematic content analysis. By the thematic content analysis, the researchers first identified common themes from the various responses, coded the common themes through open coding, and finally generated categories from the various codes into manageable sizes. In order to ensure the validity and reliability of the qualitative data, the interview data was taken through respondent validation through screening of the final codes by maintenance teams and peer debriefing (Inter-rater reliability). The final themes were categorized into facility composition and management practices in the two schools, challenges of facility management and causes of poor facilities management as well as the effects and consequences of the poor facilities management. Care was taken to report exactly what was received from the maintenance teams.

### **3.2. A Brief Profile of the Study Areas**

#### *3.2.1 Bawku Senior High School*

The school was constructed in 1963 and located at Kwalwega at the Bawku Municipality in the Upper East Region of Ghana. It was previously Azoka Senior High School and was later renamed Bawku Senior High School. It has a current staff population of 106 comprising of 86 teaching staff and 20 non-teaching staff. Sixty-five (65) of the teaching staffs have been accommodated in the bungalows whereas all the non-teaching staff are not accommodated in the school. The school has a student population of 3000 all been accommodated in the school because it is a public boarding school. The school has 10 classrooms blocks for students, 24 bungalows, 1 standard library, 1 computer block, 1 administration block, an entertainment hall, 2 dining halls, and 2 workshops, 4 dormitories (two-storey buildings each, 6 Kumasi Ventilated Improved Pits, 10 seater Water Closet for staff. The school is practicing an in-house facility management type

where the facilities are managed by a maintenance team comprising only staffs of which they all have no relevant knowledge in building management

### *3.2.2 Bawku Technical Institute*

The school was constructed in 1987 and located at Bawku Highways at the Bawku Municipality in the Upper East Region of Ghana. It has a current staff population of 82 comprising of 67 teaching staff and 15 non-teaching staff. Sixty (60) of the teaching staff are been accommodated in the bungalows whereas all the non-teaching staff are not accommodated in the school. The school has a student population of 2400 all been accommodated in the school the school because it is a public boarding school. The school has 14 classrooms blocks for students, 24 bungalows for staff, 1 standard library, 1 computer block, 1 administration block, an entertainment hall, 2 dining halls, and 2 workshops, 4 dormitories (two-storey buildings each, 6 Kumasi Ventilated Improved Pits, 5 seater Water Closet for staff. The school is also practicing an in-house facility management approach where the facilities are managed by a maintenance team comprising some of the staffs of the school of which just one or two of them had little relevant knowledge in facility management.

## **4. Findings and Discussion**

### *4.1 Facility Composition and Management Practices in the Study Areas*

The data established that Bawku Senior High School was far older (53years) than Bawku Technical Institute (29years). It was found out that Bawku High School had more buildings (61 facilities) and 3 buildings under construction to accommodate staff than Bawku Technical Institute (60 facilities). These buildings have all being managed by the maintenance teams of the two schools with all members of the teams having no basic knowledge in facilities management. It was identified from the survey that the two schools were both practicing the in-house facilities management approach where the maintenance teams; who are responsible for the management of the facilities were being

part of the general management of the schools. The Teams comprised teaching staff and non-teaching staff selected from among the staff to take care of the facilities but maintenance teams' heads refused to disclose the criteria employed in the selection of the team members. However, observers believed that these members were 'just' selected from among the pool of staff without considering their relevant knowledge on facility management. It should be pointed out that even if management were to consider those with knowledge in facility management before constituting the maintenance team, the teams will not be constituted because none of the staff in both schools had any formal or informal training in facility management. It was also discovered that the maintenance teams of both schools met twice in an academic term of 3months. They met at the beginning of the academic term and discuss pertinent issues and implemented them during the course of the term and met at the end of an academic term to evaluate their works. The study also identified that both schools had the Assistant Headmasters (Domestic) being the chairmen of their respective maintenance teams and the Senior Housemasters (Administration) being the deputy chairmen of their respective maintenance teams.

#### ***4.2 Challenges of Facility Management and Causes of the Poor Facility Management***

The nucleus of the study was to identify the factors causing poor facility management in the public institution. During the survey stage, the interview guides were designed to unfold the challenges the maintenance teams face in the facility management process and to identify the real drivers of the poor facility management outlook. The general trends that emanated from the interviews have been presented below:

##### ***4.2.1 Poor Maintenance Culture and the Attitude of Deferred Maintenance***

It was identified from the study that the poor facility management outlook of the schools could be traced to poor maintenance culture and the attitude of deferred maintenance. Maintenance constitutes the largest component of facility management (Mavalankar et

al., 2005) and when a careful attention is not given to it, chances are that facility breakdown, depreciation and deterioration will be rampant leading to a derelict state of facilities in general (Jusoff et al., 2008). The delay in responding to repairs and renovations of the facilities in the two schools was individually dangerous and collectively capable of shortening the economic life of the facilities. It should be noted that deferred maintenance attitude which is subset of poor maintenance culture has an aggressive and a devastating effect on the functionality of facilities (Yusof et al., 2007). Considering that the maintenance teams only met twice in every three months to discuss maintenance issues constitute a poor maintenance culture. It should be noted that maintenance goes beyond just repairing faulty equipment and facilities to include anticipating future faults and attending to them before they arise. Surprisingly, it was unfolded that maintenance teams only responded to maintenance demands and steps were not taken to carry out routine maintenance checks on the facilities and the results has been that some of the maintenance problems get reported at times when they are beyond repairs. This supports the findings of Waziri (2016) that deferred maintenance is one of the major causes of poor facility management. The capital intensive nature of major repairs resulting from the delay in responding to maintenance calls at the early stages of repairs appearance accounts for the poor facility management outlook.

#### *4.2.2 Low Priority on Maintenance in Financial Planning and Capital Budgeting*

It was disclosed by the maintenance teams during the interview session that the maintenance is not often considered as a major component of the capital budgeting and financial planning of the institutions. They indicated they were not responsible for facility management and that maintenance is the responsibility of the central government. The result is any maintenance or facility management exercise which involves huge sums of money is not being factored into the budget. Buildings repairs in these categories are ignored and deferred for the central government who do not respond promptly to such

calls. And since maintenance requires substantial sums of money to conduct (Waziri, 2016), most repair works are not attended to contributing to the poor facility management. Similarly, it has been reported by Yusof et al (2007), Jusoff et al (2008), Kamarazaly et al (2013) and Waziri (2016) that low priority on maintenance in capital budgeting is the one big driver of poor facility management.

#### *4.2.3 Poor Designs of Buildings as against the Physical Conditions of the Area*

The maintenance teams surprisingly indicated that poor designs of buildings as against the physical conditions of the area, climatic conditions, culture of the inhabitants, and activities of the people rendered the management of the facilities difficult. One of the cardinal considerations in designs particularly in the tropics is the orientation of the buildings such that minimum heat is incident on the wall fabric. However, it was identified that both institutions had building orientated to the main streets rather than the solar axis creating a difference of approximately 45°. With a high diurnal temperature range of 23°C during the harmattan (that is 14°C at night and 37°C in the afternoon), the unprotected facades go through a continuous heating and cooling process during this period and is most likely to shorten the life-span of the materials used in the construction. The teams attributed the poor designs of the buildings to the poor supervision by the personnel of the central government throughout the building construction life cycle. Certainly, poorly designed buildings are very difficult to maintained (Waziri, 2016). The situation is aggravated when special facilities are installed in the buildings without maintenance guides. It therefore becomes very difficult to manage such facilities which will obviously translate into a poor facility management outlook. More often poor building designs are accompanied by poor construction and the use of inappropriate materials for the construction of these buildings (Jusoff et al., 2008).

#### *4.2.4 Total Indiscipline among the Users of the Facilities*

The teams pointed out that the users of the facilities (students) constitute a major challenge in the management of the facilities. This was confirmed by the observation of the researchers when the students were identified to have defaced most of the walls through writings. The teams indicated all the facilities which were used by the students were expected to have poor outlook because they had apathy towards the facilities. They also indicated that management imposed 'damaged fee' on all students to control the menace but it seems to worsen the situation since observers recounted that some of the students who were well-behaved opinionated that if they were to pay for things they did not commit, they will rather commit them and pay. It is unfathomable to state that all the schools complained bitterly about this menace. The product of this juvenile attitude among students led to the frequent breakdown of most of the facilities they were occupying.

#### *4.2.5 Lack of Qualified and Professional Facility Managers for the Institutions*

The maintenance teams disclosed that they had no prior knowledge of facility management which threatened their efforts in managing the facilities. The teams indicated that all public second cycle schools have no professional facility managers overseeing the management of facilities because facilities are constructed by the central government who as well selects people to manage the buildings. These people who have no specialized training in facility management do not even undertake routine checks on their assigned schools (the Assistant Headmaster of Domestic in Bawku Senior High School recounted). Adejimi (2005) and Chohan et al (2011) report similar findings in their studies. The maintenance teams who are technically handicapped in facility management become the only source of hope for the concerned schools. Considering the number of buildings in each of the schools and the number of schools in Ghana, it is practically impossible for effective management responsibilities to be discharged by these appointed managers (Kaiser, 2004). Also, considering the number buildings in each school and the

level of facility management knowledge within the fold of the maintenance teams, not much success is to be expected (Jusoff et al., 2008). It was also been corroborated and confirmed by Kamarazaly (2014) and Jusoff et al (2008) that lack of well-trained facility managers accounts for the poor facility management in organizations. It should be noted that due to the absence of facility management knowledge within the fold of the maintenance teams, effective and proactive facility management practices such as carrying out maintenance inspection periodically, the preparation of maintenance report and schedule to regulate and regularize the facilities maintenance are completely absent.

#### *4.2.6 Budgetary Restriction on Maintenance Expenditure*

It was strange to find out that because facility management in the schools were being regulated by the central government, there is budgetary restrictions on the amount to be expended for facilities management and this has limited the efforts by the maintenance teams managing the facilities. The budgetary restriction on maintenance expenditure in itself is not bad but depending on the quantum of the amount allocated for the purpose can be a cause for concern. Whiles the maintenance teams refused to disclose the amount, they indicated it was inadequate to cope with the facility management responsibilities. The heads of the maintenance teams sadly indicated even in cases when dangerous maintenance and repair works are evident beyond the budgetary restriction, the schools do nothing because they are following orders even if it has a potential threat to the lives of the inhabitants. This might sound a bit unreasonable but working in a public institutions can be seemingly autocratic (the Assistant Headmaster of Domestic in Bawku Technical Institute noted). It was unraveled that the maintenance team had no maintenance or facility management fund earmarked for that purpose and so expenditure for some aspect of managements are often expended to correct severe damages to improve the comfort of the users especially the teaching staff. Therefore, the central governments through the Ghana Education Service regulate the expenses on

maintenance and have placed a limit beyond which only central government should take care of. Besides, the heads of the maintenance teams indicate that the teams went through bureaucracy in securing funds from the central government to finance major repairs and renovations also a cause of delay in response to facilities management issues. The teams of both schools and other schools would have to pass through a chain of officers and numbers of trying to secure funds from the central government. The difficulties in getting approval from government to undertake certain maintenance works was also identified as one of the causes of delay in maintenance responses. The teams indicated that major repairs are subject to bidding which introduces another element of delays and bureaucracy in the facility management process.

#### *4.2.7 Non-involvement of Maintenance Teams at the Design and Construction Stage*

The maintenance teams indicated that the central government directs the construction of buildings and facilities upon the request of the school and the entire construction process is often handled by representatives of the central government to the total exclusion of management of the schools; who could be described appropriately as 'observers and keepers of the projects'. Therefore the maintenance teams are not involved during the design and construction stage and the product is that they are made to manage facilities they barely understand the technical components of the facilities. The heads of the maintenance teams regrettably recounted that even in cases where special facilities or equipment are installed, no maintenance guides are given to them. It is worth noting that considering the technicality of the built environment, it is practically impossible to successfully manage facilities that one barely understands.

#### *4.3 Effects and Consequences of the Poor Facilities Management*

It is only expected that the poor facility management is accompanied by an army of consequences of which colossal sums of funds will have to be expended to right such wrongs or at worst projects and buildings are abandoned to decay (Jusoff et al., 2008).

The researchers sought to identify the practical effects of the poor facility management practices in the schools. The maintenance teams were asked whether or not the poor state of the buildings had any negative consequences on the schools and below is the common themes which arose from the responses.

#### *4.3.1 Recipes for Disaster*

The maintenance teams of both schools were quick to point that the poor state of facility management constituted a recipe for disasters. It could be seen in the schools during the exploratory survey that some of the buildings were tilted and could collapse at any time if they are not demolished or renovated on time. The maintenance teams of both schools confirmed that they have never had cases where buildings collapsed but had a number of fire outbreaks due to indiscipline among the users of the facilities and poor wiring system which could not be detected by the maintenance teams due to their lack of knowledge in that regard. It should however be stated that considering the nature and state of disrepairs of some of the buildings in the school, it should not be surprising to record collapse and excessive deterioration of some of the facilities. Similarly, Yusof et al (2007) reported poor facility management accounts for majority of building disasters in institution. It should be stated categorically that quite apart from being recipes for disasters, poor facility management creates dissatisfaction and discomfort for the users of the facilities (Kaiser and Jerry, 1996). This has also been supported by (Waziri, 2016) who also found poor facility management to be an engineer of building disasters.

#### *4.3.2 Threats to Health and Safety*

Closely related to the recipe for disasters is threat to health and safety of the users of the facilities. The maintenance teams were of the view that threats to the health and safety of users of the facilities should be differentiated from recipe for disasters. They indicated that threats to health and safety was associated with facilities and buildings which were subjected to frequent and prolonged occupation by both students and staff comprising

the dormitories, bungalows, administration block, classroom blocks, among others whereas recipes for disaster was associated with buildings which were not subject to frequent and prolonged occupation by the students and staff comprising sanitary facilities, workshops, warehouses, assembly halls, among others. It is interesting to note that Yusof et al (2007) and Blair (2004) identified that threat to health and safety is a separate effect of poor facility management from recipe for disasters. However, the researchers believe that the two effects are inter-linked and separation could result in repetition or duplication. This assertion by the researchers is line with Worthing (1994) and Kaiser (2004) who opined that the two effects are the same and emphasized that poor facilities management generates threats to the health and safety of the users of the dilapidated buildings and described the state of the buildings as 'death traps'. Certainly, those residing in such buildings put their lives at risk in cases of collapse (Jusoff et al, 2008). It should be stressed here that whether the two effects are separated or merged, they still remain serious consequences of poor facility management.

#### *4.3.3 Financial Erosion of the Concerned Institution*

The study identified that when poor facility management persist, some buildings fall into a state dilapidation and disrepair and at best are renovated or at worst abandoned. What should be noted that buildings are very expensive to be renovated and the expenditure becomes unholy if the buildings fall into a derelict state (Yusof et al, 2007). The teams indicated that even though the responsibility of repairing the dilapidated buildings becomes the responsibility of the central government, it constitutes disruptions in the capital budgeting of the concerned party. The teams also indicated that there are times when management will have to use part of the funds meant for other aspects of running the institutions to undertake maintenance which are products of the poor facility management. The effect becomes worst when buildings which took millions of cedis to construct are abandoned after a decade or less after construction and commissioning.

Kamarazaly (2014) also found that facility maintenance in most cases involves heavy sums of money and the expenditure becomes multiplied when they fall into state disrepair which constitutes erosion in the finances of the concerned institutions.

#### *4.3.4 Malfunctioning and Abandonment of Facilities*

The researchers identified that due to the poor maintenance culture and the attitude of deferred maintenance which is the characteristics of the poor facility management in the public institutions, some of the facilities become so faulty that they become non-functional. And at worst circumstances, some of the facilities are completely abandoned. Jusoff et al (2008) similarly opined that the attitude of the poor facilities maintenance leads to the abandonment, malfunctioning and non-use of the extremely derelict buildings. Therefore, poor facility management always has the tendency of creating malfunctioning of facilities or abandonment of buildings (Yusof et al, 2007). The maintenance teams confirmed that all the abandoned buildings were as a result of poor facility management which rendered them inhabitable. Kaiser (2004) and Blair (2004) all reported that poor facility management is the only one giant recipe for malfunctioning and abandonment of facilities in any organization aside change of use.

#### *4.3.5 Poor Visual Outlook of the Institutions*

The maintenance teams also disclosed that the poor management of the facilities has created a poor visual image for the school. They all indicated that comparing the scenery of the schools when the schools were constructed and the status quo indicates degradation in the aesthetic view of the school which could be associated with the poor facility management. Woodward (2002) and Blair (2004) reported that poor facility management is capable of transforming an awesome built environment into a gloomy looking view. This is very apparent in the two schools because when one visits the schools, it is very conspicuous that facility management in the schools are not success stories because there is the presence of defaced walls and unappealing views of the buildings.

## **5. Conclusions and Recommendations**

### ***5.1 Conclusion***

The study attempted to map out the actual and real causes and effects of poor facility management in public institutions with the hope of proposing remedial options to address the problem. From the survey, it can be safely concluded that poor facility management in public institutions especially public schools is driven by an array of challenges and factors including poor maintenance culture and the attitude of deferred maintenance; indiscipline among users of the public facilities; poor building designs without maintenance considerations; non-involvement of facility management teams at the design stage; lack of qualified facility managers; and budgetary restrictions relating to the expenditure on maintenance. These factors consequently generate and engender a plethora of effects including recipe for disasters; financial erosional agent; malfunctioning and abandonment of buildings/facilities; poor visual outlook of institutions and threatening the safety and health of users of public institutions. While nearly all the causes can be controlled and regulated; it appears some of the effects cannot be repaired. This consequently instructs that pragmatic measures be taken to quell the menace once and for all.

### ***5.2 Recommendations for Practice and Further Research***

Guided by the evidence from the findings, the researchers propose the following remedial options considered necessary to mitigate the impact of the poor facility management. The researchers call on all stakeholders to be actively involved in the whole facility management process since the consequences spare no one.

- It is recommended that a district facility management team be set up by the central government solely with the responsibility of ensuring that good facility management practices are ensured in public institutions with each district. The

cost associated with establishing individual facility management teams in the institution could be expensive.

- There should be the presence of an institutional facility management team which augments the works of the district facility management team by ensuring that they are on schedule and have satisfied all the requirements stated in the agreement for the institution. A report should be submitted by the institutional facility management team to the district office on the works executed by the district facility management team per each visit.
- The institutional facility management team should receive regular training sessions to be abreast of good practices in facility management so as to empower them to effectively discharge their duties.
- The practice where facilities are provided for an institution without due public presentations should be stopped. It is therefore important that through public presentations, the designs and their maintenance schedules are made known. Also, the institutional facility management team should be made privy to the building design and construction stage since they are going to be responsible for the day-to-day management of the facilities.
- In situations where public facilities have already been provided without a public presentation, a carefully outlined maintenance guide should be put in place publicly. This process would create the needed awareness and build a maintenance culture in the citizenry.
- Facility management should be given due consideration in the financial planning and capital budgeting of public institutions at both the institutions and the central government level. This budget would serve as an expenditure guide to the district facility management team. In addition, realistic amounts should be earmarked by the institutions from their coffers to cater for minor facility management needs.

- It is also recommended that management of public institutions should establish effective and operational punitive measures in cases of indiscipline among the users of the facilities. In the case of students, high damage fees should be charged on those found guilty of disciplinary conducts associated with the use of buildings and when they are unable to pay, such culprits should be suspended to deter others from the act. In the case of tenants, rent escalator clauses should be included in the lease agreement indicating that operating expenses beyond certain sums would be borne by tenant. This will help regulate the conduct of the occupants of the buildings.
- It also recommended that further research should be conducted with a wider sample size to re-examine the dynamics of poor facility management in those institutions. Also, further research should be conducted to identify the most critical causes and effects of the poor facility management and to test the feasibility and practicality of the remedial options suggested in this study.

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