An Evaluation of Maintenance Activities and their Impact on University Functions: A Case Study of University of Jos.

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Abstract

The study appraised the scope of maintenance activities at the University of Jos and their impact on academic and non-academic functions of the university as perceived by students, academic and non-academic staff. The perception of the respondents was solicited via questionnaires and subsequent oral interview to authenticate the completed questionnaires. Ranking of the perception revealed that the maintenance activities that attracted the most popular approval were not those that necessarily enhanced learning, teaching and research. The correlation tests conducted also confirmed the absence of relationship between maintenance activities and certain crucial functions of the University. It was established that the maintenance activities were mostly geared towards arresting students' unrest and safeguarding lives and contents of the buildings in the University. For instance, water supply with a relative index of 0.78 ranked highest in the satisfaction list of the students, closely followed by maintenance of electric fittings with a relative index of 0.73. Repair to sport arena was ranked lowest with a relative index of 0.43. Within the non-academic staff population sampled, repair of door attracted an index of 0.74 which ranked 1st, followed by internal redecoration with an index ranking of 0.63. The conclusion was that the unit responsible for maintenance would need to focus more on the core functions of the University as well as resting and relaxation among others. This could best be achieved when the unit seeks actively, the views of the stakeholders and accord priorities to their preferences.

Introduction

Until 2007, the University of Jos which was selected as a sample for this study, undertakes maintenance and management of its physical assets through the Department of Works and Maintenance. Under a Director, the department was reporting to the Vice Cchancellor of the University. During this period also, the Physical Planning and Development Division of the Office of the Vice Chancellor was responsible for the physical planning and capital development of buildings and major infrastructure. The division was also under the headship of a Director. The two units that were responsible for physical planning, development and maintenance management were distinct and to a large extent autonomous. As a result of this, there was overlap of some functions. There were gaps in design and construction, and maintenance activities. A glaring example of this gap is the multi-purpose hall at the Bauchi Road Campus of the university. Following the merger of the two units, the Directorate of Physical Facilities was created. Ostensibly, the new arrangement is to assist the university in its developmental drive by taking advantage of the emerging trends in the field of facilities management.

Until recently, universities in Nigeria were entirely government owned. These days, private individuals, religious organizations and government (Federal and State) own universities. This notwithstanding, universities all over the world (Nigeria not an exemption) are places of beauty and appealing aesthetics. This is not surprising as they are the main places where ideas that propel mankind have continuously been generated and nourished. Lecturers, researchers and students require stimulating, conducive and functional environment to carry out their core activities teaching, reading, research, administration, accommodation and sports among others.

Maintenance according to International Facility Management Association (IFMA, 2005) is generally defined as "the work necessary to maintain the original anticipated useful life for the originally intended usage of a fixed asset." It is defined as the upkeep of property and equipment and can include the following activities; periodic inspection, adjustment, lubrication, cleaning (non janitorial), painting, replacement of parts, minor repairs and all other actions to prolong service and prevent unscheduled breakdown. Every year, huge sums of money are budgeted for capital development of buildings and other infrastructure; this notwithstanding, the casual observer will notice the poor state of facilities in all aspects of life in Nigeria. Educational institutions, public institutions, hospitals, private organizations, roads are all reflecting the poor state of

maintenance. This is as a result of emphasis on investment to the total neglect of maintenance. This contradicts the American Society of Heating, Refrigerating and Air Conditioning Engineers' (ASHRAE) claim that constructing buildings represent only 11 percent of total building cost while operations, on the other hand, make up 50 percent. Ignoring maintenance means ignoring the largest single component of building cost. Figures are hard to obtain in Nigeria, nonetheless, according to a study in South Africa "there is evidence that management of tertiary institutions spend extremely small proportions of their total budget on maintenance." Spedding (1994) asserted that "the continued neglect of the assets of tertiary institutions is not only storing up potentially enormous bills for the future but also seriously affecting the quality and achievement of learners, providing grim environment for them and their lecturers." Grimshaw (1986) in Othman (2007) suggested that an effective planned maintenance management system for educational institutions will ensure that they will always be aware of the consequences of not spending enough on maintenance. It was in realization of this, that the Federal Ministry of Finance (2001 Budget Proposal Call Circular) advised that all government agencies must make provisions in their budget proposals for the purpose of maintaining existing facilities. This was to enforce maintenance culture (Esenwa, 2000).

A policy is a plan of action, statement of aims and ideals, especially one made by a government, political party and business company. Buildings are put in place to enhance the overall social, political and economic development of a community. Therefore, the community has a role in putting in place a plan of action that will make the buildings serve the intended purpose. The policy of an organization, government, political party or an institution of higher learning can also be its mission statement and vision (Othman, 1998). Seeley (1967) stated that it is difficult to formulate a precise order of policy of maintenance activities as they are so diverse and any assessment is likely to be a subjective evaluation. In spite of this, maintenance policy, which is the strategy within which decisions on maintenance are taken, may be explicitly stated to guide wise and sensible conduct of maintenance. "This should be expressed in the structural framework of a maintenance department, maintenance tasks, maintenance practice in-use, and appropriate conditions of usage of maintenance budget" (Ikupolati, Apochi, & Ene, 2004).

The various types of policy which include strategic policy (which determine the position of maintenance functions in the

organization, ownership and operation of maintenance of facilities, maintenance resources deployment to tactical policy (Opara 2001) should be in place as well as the operational policy. A policy does not have to be in writing. However, smooth operation of the maintenance of buildings depends on the ability to determine an organic process as a driving vehicle for delivery. According to Opara (2001), it is therefore imperative that a form of agreement as to how to operate and maintain each facility, no matter how simple or complex be determined early in the life of facility. This document which must have the backing, approval and support of top management is called 'management policy'. He further stated that "building maintenance should be regarded by management as part of the total operating strategy, far from being a make-do-and-mend service. It should be viewed as a property conserving activity contributing significantly to the success and well being of the operation and occupants within it. Consequently, the building maintenance policy is influenced by four criteria which in some instances can be conflicting. These are; social, financial, technical and continuous employment

According to Odiete (1998) facilities are often thought of as those special infrastructures such as water, electricity, telecommunication, roads, sewers that are important to the use and employment of a property. The term encompasses buildings, grounds, utilities and equipment, which typically represent a majority of organization capital assets. Within the context of facilities management, facility, means the entire building, a whole, its structure, its fabric, its components, its services, its space dimension, its stores, its special attachments from substructure (right from the pile caps if on pile foundation) to the apex of the super structure irrespective of its height. Management is all about the application of scarce resources for needs to be met and requires the cooperation of managers and the employees. Facilities Management (FM) offers a way of measuring the reaction of people as beneficiaries of maintenance activities to maintenance management. It is concerned with people and their interaction with building. For this reason, it may be tempting to assume that facilities management and management of facilities are two sides of the same coin. The management of facilities is situated in the realm of management of property or real estate and infrastructure, plants and machinery. This is best situated in maintenance management. On the other hand, facilities management is referred to as the integrated corporate function in a cultural diverse and technological complex public corporation (Jensen, 2008). It entails bringing together, the key resources of an organization,

finance, people, processes, a technology, in order to create a definitive plan that optimizes the resource investment. Carder (1997) gave an insight to facilities management functions as "manager of the interface between an environment's core business and its physical environment. The environment can be represented in the generic form of location, building and plant, information technology and transport. These four generic environment as support service can be used to evaluate the effect of support services on a core/primary activities of an organization.

The major objectives of this paper are therefore:

(a) To identify and rank by level of occurrence, maintenance activities undertaken by the maintenance unit of the university with the view of identifying areas of performance.
(b) To investigate the relationship between maintenance activities and core university functions as perceived by academic staff, non-academic staff and students.
(c) To make recommendations on appropriate maintenance of university buildings to promote academic core values.

Methodology

There are 427 buildings in all the campuses, hostels and housing estate of the University of Jos. Staff and students' population in 2007/ 2008 is 21,918, these represented the sample frame for the study. In determining the sample size of a population to be used in a research, Osuola (1993) opined that, the question of how large a sample must be to be considered adequate depends on whether the population is homogenous or heterogeneous. If the phenomena are homogeneous, a small sample size is sufficient while large sample shall be required for a study involving heterogeneous population. In an attempt to determine the size of a sample for attitudinal study, (Meekya (1992) as cited in Dawan (2011), suggested that, a sample of 1000 shall be adequate for a national survey while 700 for regional study.

In line with the above postulations, a sample size of 300 respondents within the target group for the study was used. This is because, the population has homogeneous characteristics and the study covers only a subset of the university community. . The sample selection was through convenience non-probability sampling technique, that is, only those that the researcher could reach conveniently and consented to participate in the study were used. A total of 300 hundred questionnaires were administered to students (100),

academic (100) and non-academic (100) staff in order to obtain information on the Maintenance Activities and Functionalities. Out of this, 249 (83%) were validly completed and returned and were used for the study. The distribution of valid returns was made up of the following: Students 74, Academic staff 92 and Non-academic staff 83. Staff and students were also selected using simple random sampling and interviewed in order to confirm information obtained through the questionnaire. Also carried out was physical observation of the buildings in order to ascertain the state of maintenance therein.

Ranking Method and Correlation Coefficient (R) were the methods used to analyze the data obtained. Ranking was on maintenance of the physical condition of the staff quarters, students' hostel, classrooms/lecture theatres/laboratories and administrative offices. In the ranking exercise, respondents were requested to rate on a five-rate likert type scale, their assessment of the frequency of maintenance activities. While correlating maintenance activities and the core function of the university with the aim of determining the impact (if any) of the maintenance on university function was achieved via correlation analyses.

Result, Analysis And Discussion

Evaluation of Maintenance Activities

Maintenance activities by the Directorate of Physical Facilities on various built spaces (physical facilities) of the University as perceived by members of the university community sampled in this study and ranked in order of importance are shown in Table 1.

Table 1: Ranking of Frequency of Maintenance Activities on Students Hostels

S/No.	Maintenance activities	Scores					Rank Sum (S)	R. I	Rank Order	Percentage
		5	4	3	2	1				
a.	Wall finishes	5	8	23	28	18	200	0.49	6th	49
b.	Redecoration (external)	3	5	26	30	18	191	0.47	8th	47
	(Internal	4	4	32	26	16	200	0.49	6th	49
c.	Floor (Cement screeding)	0	0	33	42	7	190	0.46	9th	46
	Tiles	0	1	34	29	18	180	0.44	11th	44
d.	Door	6	18	23	29	6	221	0.57	5th	57
e.	Windows	7	6	18	26	25	184	0.46	9th	46
f.	Roof/ceiling	18	18	39	3	4	287	0.70	3rd	70
g.	Plumbing/sanitary	11	19	36	8	8	263	0.64	4th	64
h.	Water supply	23	41	8	6	4	319	0.78	1st	78
i.	Electrical fittings	22	34	11	7	8	301	0.73	2nd	73
j.	Sports arena	2	7	18	28	27	175	0.43	12th	43

Source: Field Survey, 2012

Table 1 indicates that the unit responsible for maintenance activities, i.e. the Directorate of Physical Facilities DPF undertook maintenance of water supply to the students' hostels with relative index of 0.78 which ranked 1st. Maintenance of electrical fittings with a relative index of 0.73 ranked 2nd, roof mending was a close third with a relative ranking of 0.70 while maintenance of plumbing and sanitary fittings ranked 4th with a relative index of 0.64. From the above, it can be concluded that much attention was focused on activities that could be classified as necessities. These are areas that if neglected may lead to restiveness on the part of the students.

Table 2: Ranking of Frequency of Maintenance Anctivities on Administrative/Other Complimentary Offices

S/No.	Maintenance activities	Scores 5	4	3	2	1	Rank Sum (S)	R.I.	Rank Order	Percentage
a.	Wall finishes repairs	4	6	11	33	29	172	0.41	12th	41
b.	Redecoration (external)	9	6	17	26	25	197	0.47	9th	47
	Internal	18	13	28	13	11	263	0.63	2nd	63
c.	Floor S (Cement screeding)	4	11	26	24	18	208	0.50	7th	50
	Carpeting	2	9	11	21	31	161	0.44	10th	44
	Tiles	5	8	23	28	15	197	0.49	8th	49
d.	Door	26	29	13	9	6	309	0.74	1st	74
e.	Windows	13	14	21	19	16	238	0.57	5th	57
f.	Roof/ceiling	13	14	21	19	16	238	0.57	5th	57
g.	Plumbing/sanitary	2	6	14	29	26	160	0.42	11th	42
h.	Water supply	1	3	17	38	24	168	0.40	13th	40
i.	Electrical fittings	16	14	24	17	12	254	0.61	3rd	61
j.	Ceiling Fans/Air Condition	15	14	21	16	15	241	0.60	4th	60

Source: Field Survey, 2012

From Table 2, the ranking of the frequency of maintenance activities in administrative and other complimentary offices reflects repair of doors as most frequent with 0.74 relative index, internal decoration ranked 2nd with a relative index of 0.63 and maintenance of electrical fittings ranked 3rd with an index of 0.61. It can be asserted that the DPF paid more attention to security of the contents of administrative and other complementary offices. Internal redecoration which was next on the ranking could be linked to deliberate efforts on the part of the unit to improve the immediate working environment. Activities in the area of repair of lighting points and replacement of cables and sockets were also well ranked in support of this position.

Table 3: Ranking of Frequency of Maintenance Activities on Classrooms/Lecture Theatres/ Laboratories

S/No.	Maintenance activities	Scores					Rank Sum (S)	R.I.	Rank Order	Percentage
		5	4	3	2	1				
a.	Wall finishes repairs	0	6	49	26	13	236	0.50	10th	50
b.	Redecoration (external)	3	16	28	33	11	240	0.52	9th	52
	Internal	4	11	22	42	15	229	0.49	11th	49
c.	Floor (Cement screeding)	3	9	29	33	21	225	0.47	13th	47
	Tiles	3	11	22	42	15	229	0.49	11th	49
d.	Door	18	22	19	22	13	292	0.62	1st	62
e.	Windows	4	18	23	29	4	221	0.57	5th	57
f.	Roof/ceiling	3	13	36	28	10	241	0.54	7th	54
g.	Plumbing/sanitary	2	11	14	39	26	200	0.43	15th	43
h.	Water supply	6	6	23	26	31	206	0.45	14th	45
i.	Podium	5	37	23	11	18	282	0.60	3rd	60
j.	Writing boards	6	22	44	13	9	285	0.61	2nd	61
k.	Work tables	4	18	23	29	4	221	0.57	5th	57
l.	Lecture seats	5	37	23	11	18	282	0.60	3rd	60
m.	Electrical fittings	0	18	46	10	18	248	0.53	8th	53

Source: Field Survey, 2012

Table 3 which is a reflection of the ranking of maintenance activities with respect to classrooms/lecture theatres/laboratories. It shows that maintenance of doors was 1st with a relative index of 0.62; maintenance of writing board closely ranked 2nd with 0.61 while repair of podium and lecture seats were 3rd, each with a relative index of 0.60. In the light of the above findings, the best performance of the DPF is still in the area of securing contents of these spaces. The woeful scores in the area of sanitary fittings/plumbing and water supply are illustrated in the unsanitary condition within the Faculties of Arts and Social Sciences at the Naraguta Campus and the immediate vicinity of conveniences within Bauchi Road Campus.

Table 4: Ranking of Frequency of Maintenance Activities on Staff Quarters

S/No.	Maintenance activities	Scores					Rank Sum (S)	R.I.	Rank Order	Percentage
		5	4	3	2	1				
a.	Wall finishes repairs	0	5	11	61	59	234	0.34	7th	34
b.	Redecoration (external)	0	0	0	69	67	205	0.30	8th	30
	Internal	0	0	8	54	74	206	0.30	8th	30
c.	Floor (Cement screeding)	0	0	0	52	84	188	0.28	10th	28
	Tiles	0	0	2	41	93	181	0.27	11th	27
d.	Door	18	22	31	38	27	375	0.55	4th	55
e.	Windows	13	14	46	42	21	364	0.54	5th	54
f.	Roof/ceiling	23	25	38	31	19	414	0.60	2nd	60
g.	Plumbing/sanitary	4	11	28	53	40	294	0.43	6th	43
h.	Water supply	16	21	39	44	16	385	0.57	3rd	57
i.	Electrical fittings	26	23	42	21	24	414	0.61	1st	61

Source: Field Survey, 2012

Table 4 shows that DPF executed repair and replacement of electrical fittings with a relative index of 0.61 and was ranked 1st. Roof repair was 2nd with an index of 0.60, with water supply coming 3rd with a relative index of 0.57. Repairs of doors was ranked 4th with a relative index of 0.55. Repair of windows and maintenance of plumbing and sanitary fittings came 5th and 6th each with an index of 0.54 and 0.43 respectively. In the ranking, the DPF performed best in electrical and carpentry activities. The poor ranking in masonry and redecoration; internal and external, supports Othman (1998) that the University community has been experiencing dissatisfaction with the services rendered by the then Works and Maintenance Department.

Relationships between Maintenance Activities and Core Functions of the University

The hypothesis being tested to resolve the second objective of the study can be stated thus:

Null hypothesis (H_o): There is no significant relationship between maintenance activities and core functions of the University as viewed by members of the university community (academic, non-academic staff and students).

Alternative hypothesis (H_A): There is significant relationship between maintenance activities and different functions of the University as observed by academic and non-academic staff and students.

In this experiment, core functions of the university were identified by different groups in the university. Academic staff identified teaching, research and reading as their core activities. None academic staff identified administrative duties, relaxation, sports, housing and office accommodation as key influences on the performance of their responsibilities. Students on the other hand identified resting/relaxation, sports, in addition to reading, teaching and research, as being vital ingredients in the fulfillment of their mission in the university. These core values were correlated to the various maintenance activities of the university and results shown in Tables 5, 6 & 7 for academic staff, non-academic staff and students respectively. In the correlation analyses, when p-value is less than 0.05 at 5% level of significance, null hypothesis (H_o) rejected and alternative hypothesis (H_A) accepted. When p-value is greater than 5% level of significance, H_o is accepted and H_A rejected.

Table 5 shows that there is no significant relationship between maintenance activities and academic functions of the University with low determinant R-value, and the p-values of all the functions are all greater than 0.05 at level of significance. Therefore, alternative hypothesis (H_A) is rejected and the null hypothesis (H_o) accepted. This means that there is no relationship in the perception of academic staff, between the maintenance activities and the functions of the university (except for repairs of writing boards) where the relationship is highly significant with R-value 0.743 and p-value is 0.022 which is less than 0.05 at 5% level of significance. H_o is rejected and H_A accepted. Meaning there is a significant relationship between repair/replacement of writing boards and teaching function. The same test was carried out between repair/replacement of writing board and research and also repair/replacement of writing boards and reading. The relationship is highly significant with R-value 0.809 almost perfect and p-value is 0.008 while that of reading with R-value 0.743 and p-value of 0.022. H_o hypothesis is rejected and H_A accepted. This shows that there is highly significant relationship between repair/replacement of writing board and research and also with reading respectively. It means that writing boards have a significant impact on reading, teaching and research. They are mutually related.

Table 6 shows that there is significant difference at 5% level of significance between maintenance activities and various functions of the university with high, low and negative R-values, while p-values are all greater than 0.05 at 5% significant level (except for teaching against floor finishes repairs, roof

mending, repair/replacement of writing boards, repair/replacement of windows, repair/replacement of cables, sockets and ceiling fans). Therefore, the null hypothesis was accepted and alternative hypothesis rejected; these indicate that in the perception of non-academic workers, there is no significant relationship between the maintenance activities and various functions of the university as affects their mandate. Where there is a relationship, it shows a negative tendency.

Table 7 shows similar trend of relationship with the students, indicating poor correlation between many of the maintenance activities and their core values (p-value being greater than 0.005).

Table 5: Relationship between maintenance activities and functions of university as observed by academic staff

		Teaching	Research	Reading
Wall finishers repair	Pearson correlation	.244	.040	-.156
	Sig. (2-tailed)	.526	.918	.688
	N.	9	9	9
Floor finishers repair	Pearson correlation	.141	.240	-.094
	Sig. (2-tailed)	.718	.516	.809
	N.	9	9	9
Redecoration (External)	Pearson correlation	.507*	.504*	.187
	Sig. (2-tailed)	.163	.166	.631
	N.	9	9	9
Repainting	Pearson correlation	.549*	.612*	.366
(internal including ceiling)	Sig. (2-tailed)	.126	.080	.332
	N.	9	9	9
Roof mending	Pearson correlation	.178	.189	-.116
	Sig. (2-tailed)	.646	.626	.766
	N.	9	9	9
Replacement of ceiling boards	Pearson correlation	.159	.189	-.107
	Sig. (2-tailed)	.682	.626	.784
	N.	9	9	9
Repair of writing boards	Pearson correlation	.743*	.809(**)	.743*
	Sig. (2-tailed)	.022	.008	022
	N.	0	9	9
Repair of podium	Pearson correlation	.073	.301	-.054
	Sig. (2-tailed)	.851	431	.890
	N.	9	9	9
Repair of doors	Pearson correlation	.464	.366	.168
	Sig. (2-tailed)	.208	.333	.666
	N.	9	9	9
Replacement of locks	Pearson correlation	.085	-.063	-.289
	Sig. (2-tailed)	.827	.873	.450
	N.	9	9	9
Repair of windows	Pearson correlation	.000	.144	-.245
	Sig. (2-tailed)	1.000	.711	.524
	N.	9	9	9

Cont'd on page 12

Table 5: Relationship between maintenance activities and functions of university as observed by academic staff, cont'd

		Teaching	Research	Reading
Replacement of broken panes	Pearson correlation	.016	.198	-.194
	Sig. (2-tailed)	.968	.610	.617
	N.	9	9	9
Repair of seats	Pearson correlation	.208	.313	.030
	Sig. (2-tailed)	.591	.413	.940
	N.	9	9	9
Repair/fitting of lighting points	Pearson correlation	.152	.242	-.098
	Sig. (2-tailed)	.696	.530	.802
	N.	9	9	9
Repair/replacement of cables	Pearson correlation	.139	.258	-.091
	Sig. (2-tailed)	.721	.503	.817
	N.	9	9	9
Replacement of wall sockets	Pearson correlation	.141	.250	.094
	Sig. (2-tailed)	.718	.516	.809
	N.	9	9	9
Repairs of ceiling fans	Pearson correlation	.126	.180	-.161
	Sig. (2-tailed)	.746	.644	.679
	N.	9	9	9
Repair of intercom	Pearson correlation	.212	.361	-.050
	Sig. (2-tailed)	.583	.340	.899
	N.	9	9	9
Repair/replacement of sanitary fittings	Pearson correlation	.268	.315	-.092
	Sig. (2-tailed)	.485	.408	.874
	N.	9	9	9
Water supply	Pearson correlation	.188	.160	-.121
	Sig. (2-tailed)	.629	.681	.757
	N.	9	9	9
Cleaning	Pearson correlation	.141	.250	-.094
	Sig. (2-tailed)	.718	.516	.809
	N.	9	9	9

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

Table 6: Relationship between Maintenance Activities and Functions of the University as Viewed by Non-Academic Staff

		Resting/ Relaxation	Sports	Adm.	Lodging	Accommodation
Wall finishers repair	Pearson correlation	-.515	-.054	.083	-.949**	-.192
	Sig. (2-tailed)	.156	.890	.833	0	.621
	N.	9	9	9	9	9
Floor finishers repair	Pearson correlation	-.619	-.177	.021	-.927**	-.250
	Sig. (2-tailed)	.076	.649	.958	.0	.516
	N.	9	9	9	9	9
Redecoration (External)	Pearson correlation	-.565	-.151	-.759	-.905**	-.320
	Sig. (2-tailed)	.113	.699	.683	.0	.402
	N.	9	9	9	9	9
Repainting (internal including ceiling)	Pearson correlation	-.644	-.211	-.063	-.972**	-.237
	Sig. (2-tailed)	.061	.587	.873	0	.539
	N.	9	9	9	9	9
Roof mending	Pearson correlation	-.579	-.197	-.236	-.862**	-.383
	Sig. (2-tailed)	.102	.611	.540	.0	.309
	N.	9	9	9	9	9
Replacement of ceiling boards	Pearson correlation	-.637	-.217	-.146	-.949**	-.307
	Sig. (2-tailed)	.065	.575	.708	.0	.422
	N.	9	9	9	9	9
Repair of doors	Pearson correlation	-.490	-.052	-.138	-.902**	-.511
	Sig. (2-tailed)	.181	.895	.722	.001	.160
	N.	9	9	9	9	9
Repair of locks	Pearson correlation	-.530	-.099	-.179	-.911**	-.453
	Sig. (2-tailed)	.143	.801	.645	.001	.221
	N.	9	9	9	9	9
Repair of windows	Pearson correlation	-.530	-.099	-.179	-.911**	-.453
	Sig. (2-tailed)	.143	.801	.645	.001	.222
	N.	9	9	9	9	9
Replacement of broken panes	Pearson correlation	-.483	-.055	.162	-.883**	-.078
	Sig. (2-tailed)	.188	.888	.678	.002	.842
	N.	9	9	9	9	9
Repair of seats	Pearson correlation	-.535	-.134	-.297	-.869**	-.567
	Sig. (2-tailed)	.138	.732	.437	.002	.111
	N.	9	9	9	9	9

** Correlation is significant at the 0.05 level (2-tailed)*
*** Correlation is significant at the 0.01 level (2-tailed)*

Table 7: Relationship between maintenance activities and various functions of the university as viewed by students

		Teaching	Research	Reading	Resting/ Relax.	Sports
Wall finishes repair	Pearson correlation	.402	.380	.261	.419	.250
	Sig. (2-tailed)	.284	.312	.497	.262	.516
	N.	9	9	9	9	9
Floor finishes repair	Pearson correlation	.677*	-.025	.475	.473	.386
	Sig. (2-tailed)	.045	.948	.197	.198	.307
	N.	9	9	9	9	9
Redecoration (External)	Pearson correlation	.269	-.329	.304	.510*	.463
	Sig. (2-tailed)	.485	.388	.427	.161	.210
	N.	9	9	9	9	9
Repainting (internal including ceiling)	Pearson correlation	.606*	.017	.518*	.555*	.498
	Sig. (2-tailed)	.084	.966	.153	.121	.172
	N.	9	9	9	9	9
Roof mending	Pearson correlation	.777*	.067	.344	.445	.455
	Sig. (2-tailed)	.014	.864	.365	.230	.219
	N.	9	9	9	9	9
Replacement of ceiling boards	Pearson correlation	.651*	.056	.146	.209	.456
	Sig. (2-tailed)	.058	.887	.707	.589	.218
	N.	9	9	9	9	9
Repairs of writing boards	Pearson correlation	.722*	.024	.240	.354	.287
	Sig. (2-tailed)	.028	.951	.533	.349	.455
	N.	9	9	9	9	9
Repairs of podium	Pearson correlation	.643*	-.178	.430	.449	.294
	Sig. (2-tailed)	.057	.648	.248	.226	.443
	N.	9	9	9	9	9
Repair of doors	Pearson correlation	.298	-.143	-.057	.005	.438
	Sig. (2-tailed)	.435	.714	.884	.989	.238
	N.	9	9	9	9	9
Repair of locks	Pearson correlation	.319	-.204	-.139	.066	.552
	Sig. (2-tailed)	.412	.599	.735	.865	.123
	N.	9	9	9	9	9
Repair of windows	Pearson correlation	.697*	-.069	.418	.509*	.443
	Sig. (2-tailed)	.062	.860	.264	.161	.232
	N.	9	9	9	9	9
Replacement of broken panes	Pearson correlation	.661*	.006	.194	.280	.517
	Sig. (2-tailed)	053	.987	.617	.466	.154
	N.	9	9	9	9	9
Repair of seats	Pearson correlation	.665*	-.026	.117	.281	.487
	Sig. (2-tailed)	.051	.947	.764	.464	.184
	N.	9	9	9	9	9
Repair/fitting of lighting points	Pearson correlation	.584*	-.060	-.032	.138	.536
	Sig. (2-tailed)	.099	.878	.934	.723	.137
	N.	9	9	9	9	9
Repair/replacement of cables	Pearson correlation	.685*	.102	.191	.192	.341
	Sig. (2-tailed)	.042	.793	.623	.620	.370
	N.	9	9	9	9	9
Replacement of wall sockets	Pearson correlation	.750*	.245	.193	.246	.289
	Sig. (2-tailed)	.020	.526	.619	.524	.450
	N.	9	9	9	9	9

** Correlation is significant at the 0.05 level (2-tailed)*
*** Correlation is significant at the 0.01 level (2-tailed)*

Conclusion and Recommendations

The research findings can be summarized in the following sentences;

- Different segments of the University community react variously to the maintenance activities of the unit (Directorate of Physical Facilities) that is responsible for the upkeep of its physical facilities.
- The unit appeared to have set as its priority, maintenance activities that promote safety of buildings and the security of their contents
- Prevention of students' unrest was also a prime factor in the priority of maintenance activities
- Activities that will enhance productivity such as improved aesthetics of the working environment and good sanitation have not received commensurate attention
- Inadequate attention was noticed to have been paid to activities that promote relationships among the function of the university such as teaching and research; and reading and relaxation.

As a result of the major findings of the study, it is recommended that;

- There should be a synergy between the unit responsible for maintenance activities and the different sections of the community towards achieving the set objectives, mission and vision of the university
- Periodic collation of the views of students, staff (academic and non academic) and other stakeholders such as the operators of commercial activities on the state of the built environment should be actively encouraged.
- Feedbacks on the impact of the maintenance activities on the stated functions of the university should indicate the necessary changes in focus of the unit responsible for maintenance.
- The state of redecoration (painting) of the external walls of the academic and administrative working environment, the students' hostels and the staff quarters having been poorly rated by the entire members of the community deserves prompt and regular attention.
- More researches on the specific level [measurable] of impacts of inadequate attention of certain maintenance activities on productivity as defined by functions of the university should be encouraged.

The maintenance activities (efforts) are yet to focus on functions of the university that are crucial to improving teaching, learning and research. A lot can still be done to improve the physical appearances of buildings (aesthetics) on the campus. Inadequate attention to relaxation spots for staff and students do not help the cause of increase in productivity among members of the university community. The major challenge is that of convincing the management of the university that the practice of facilities management is not just about money gulping. That it is a practice that will enhance productivity and objectives of the institution.

References

Carder, P. (1997). The Interface manager's toolkit. Facilities, 15(3/4); 84-89.

Dawam, P. D. (2011). Access to Land in Federal Capital City. Unpublished Ph.D thesis in the Department of Geography and Planning, University of Jos, Nigeria.

Esenwa, F. O. (2000). "The cost implication of maintenance vis-à-vis Replacement: A Nigerian Experience" being a paper delivered at the National workshop on Maintenance.

IFMA (2005). The Business of Facilities Management. 18(7/8); 312-322.

Ikupolati, A. O., Apochi, J. O., Ene, U. J. (2004). Maintenance Organization and selected public organizations in Kaduna State in "The Nigerian Journal of Construction Technology and Management.

Jensen, P. A. (2008). The origin and constitution of facilities management as an integrated corporate function. Emerald Journal of Facilities 26 (13/14) 490-500.

Odiete, D. E. (1998). Application of facility management in the Nigerian Private sector, 28th Annual Conference of the Nigerian Institute of Estate Surveyors and Valuers, 9 - 2.

Opara, F. E. (2001). The role of the materials manufacture in Quality Assurance. Being a paper presented at the Nigerian Institute of Building at its 31st Annual Conference.

Osuola, E. C., (1993). Introduction to Research Methodology. African-Fep Publisher Ltd. Onitsha, Nigeria.

Othman, H. (1998). Strategic Planning for Works and Maintenance Department, University of Jos, being paper presented at the University of Jos Management seminar on strategic planning held in May 1999.

Othman, H. (2007). Developing Strategic Maintenance Culture of University Facilities and Equipment. Being a paper presented at a Retreat for Deans, Directors, Heads of departments and Heads of Units of University of Jos; July, 2007.

Seeley, I.I. (1987). Building Maintenance. London: Macmillan Press.

Spedding, A. (1994). CIOB Handbook on facilities management. Longman Group Ltd.