

**ENVIRONMENTAL MANAGEMENT:  
A CASE STUDY OF THE FEDERAL UNIVERSITY OF TECHNOLOGY,  
BOSSO CAMPUS, MINNA, NIGER STATE, NIGERIA.**

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**Abstract**

This paper examined environmental management: a case study of the Federal University of Technology, Bosso, Campus, Minna. The research design used is survey. The Environmental Abuse Questionnaires (EAQ) was randomly distributed to 600 respondents. 400 (75%) respondents returned the questionnaires. The data collected were presented and analyzed using simple statistical tools like tables, charts and percentages. It was discovered among other things that environmental degradation was a direct aftermath of inadequate student accommodation and lack or inadequacy of cleaners in various departments. Plausible recommendations geared towards ensuring a filth-free campus were made which include construction of more toilets for students, employing more cleaners and construction of more halls of residence among others.

**Introduction**

Urbanization with its attendant thick population is bedeviled by the problem of waste generation and how to properly manage the waste with the hope of preserving the beauty of the society. The problem of waste disposal and waste management with a view of maintaining a clean and healthy society is a thing of grave concern in all cities in Nigeria and in the entire globe.

At present, in almost all states of the federation in Nigeria are waste management boards that are saddled with the responsibility of proper disposal of waste and maintaining a clean and healthy society. Many of these boards have vehicles with which they collect and pack refuse from different refuse locations in many of the cities in Nigeria. In some states, a particular day like one Saturday in a month has been set aside for state sanitation. The clarion call is simply to maintain healthy and clean environments.

Hazardous wastes that are at times wittingly or in advertently dropped in our cities are potential health risks to man's existence. Inhalation of polluted and contaminated air too constitutes great threat to man's survival. Many of our urban centres are witnesses of the fact that many have died of preventable diseases like cholera, typhoid etc which are contracted from contaminated water and unhealthy environment. Suffice is to say that hazardous toxic waste was recently dropped in Ibadan which spontaneously attacked the populace like a plague. Few died of cholera at Makurdi due to poor sanitation and contaminated water and Cancer-causing chemical were found in Niger Delta waters.

Hence, the task of maintaining a healthy, clean and sane society is the duty of all citizens in the country. The leader and the led, in all communities must work as an indivisible team to ensure that befitting environments are not only maintained but also bequeathed to the coming generation.

The campus community in Nigeria which is a micro-community within the larger Nigeria community is not absolved from the normal environment problems of the Nigeria community. The reason is that it is the same group of people who live in other communities in Nigeria that are brought together to form the nucleus of the university community environment.

A university campus has been described as the citadel of learning and the image-maker of the city or town where it is located. The Federal University of Technology, Minna was established on 1<sup>st</sup> February, 1983. The objective for its establishment is to give effect to the nation's drive for the much needed self-reliance in science, engineering and especially technology. At inception, the university acquired on permanent basis the facilities of the former Government Teachers' College, Bosso which now serves as the Bosso Campus of the University. While it is true that the campus has undergone a tremendous face lift, since inception, not withstanding, it has to content with some serious environmental debacle.

The following research questions are asked in view of this study. One, is environmental degradation due to inadequate accommodation? Two, is environmental pollution due to lack of good and functioning toilets?

Three, is environmental abuse due to lack of cleaners in the various departments (sections) of the university? Four, is environmental abuse due to shabby environmental practices on the part of the student. This study assumes that the Federal University of Technology Bosso Campus, Minna is a full fledged university and that all the architectural designs that befit a modern university are present in the campus.

### Literature Review

The researcher reviewed some literature that have direct bearing with the topic of the research which include the following among others.

Owolabi, (1996) while contesting the need for environmental ethics in Africa opines that *respect for land, earthworm, forest should be given from scientific point of view since we need them for our survival and health.*

UNICEF, (1989) Corroborated Owolabi's view that It is among the young people that the ethic should be fostered to regard natural resources as a precious heritage which must be protected and where possible, enhanced to sustain development.

Isu, (1999) argued that Nigeria's increasing environmental problems coupled with her decreasing natural resources call for conservation practices among her citizens. He added that there are relatively few people in the countries, who have access to sufficient environmental Information to ensure support for initiatives to protect, manage and restore depleted resources. He postulated for the establishment of school environmental clubs which should be saddled with the responsibility of sending conservative message to the people with a view of increasing there knowledge so as to positively change their shabby environmental practices.

Onyekakeyah, L. (2005) emphasized the need to inculcate proper waste disposal habit and hygiene on the citizenry as guarantee for sound and healthy living.

While remarking on the need for concerted effort towards the provision of safe drinking water and a healthy environment in the developing nations, Bartram, J. (2005) as quoted by Strohecker, K. asserted that There should be an outcry, from the health community above all, for immediate, concerted efforts to confront the reality that sanitation coverage rates in the developing world barely keep pace with population growth. He observed that four out of 10 people around the globe do not have access to a simple pit latrine and one-fifth have a source of safe drinking water

From the foregoing reviewed literatures, the need for an efficient environmental management and hygienic lifestyle cannot be over emphasized. They are indispensable ingredients for a healthy and a happy living.

### Statement of the Problem

In spite of the huge material and financial commitment geared towards the face-lifting of our university environment, the Bosso campus is yet to take its rightful pride of place that is second to none among other campuses as citadel of learning with beautiful features. All the past Vice-Chancellors (chief executives) have tried their best to ensure that this university ranks second to none in terms of learning and beautiful environment. The current Vice-Chancellor (chief executive) Prof. Tukur Sa'ad has taken a giant stride in de-congesting of the Bosso campus, with the movement of the schools of environment and engineering to the permanent site but it appears as if nobody has moved to the permanent site. The Bosso campus is as busy and thickly populated as ever. The question is what effort has not been made or what else has not been done by our visionary and indefatigable chief executives to ensure that Bosso campus retain a pride of place among other campuses in the country? Is there any stone that has not been turned? Is there any effort that has not been made?

### Methodology

#### Research Design and Sample Population

The research design used is survey. The researcher went round the departments and other sections of the university community to collect first class information that form the bulk of data presented in this study. The researcher designed a self constructed questionnaire tagged Environmental Abuse Questionnaire (EAQ) which were randomly distributed to 600 students which account for 1/20(0.05) of the total student population of around 12,000. To enhance the reliability and the validity of the instrument, the researcher add to subject the instrument to thorough scrutiny by experts to ensure that the instrument measures what it purports to measure with consistency and reliability. Then the researcher was sure that the instrument was valid enough to elicit the designated anticipated responses from the respondents. The information (data) collected from the survey and the distributed questionnaire are presented and analyzed in this paper.

#### Data Presentation and Analysis

The data are presented and analyzed below with simple statistical tools like tables and charts. Of the 600 questionnaires distributed only 400 were retrieved which accounted for 75 per-cent of the total distributed questionnaires. The data are presented and analyzed below with simple statistical tools like tables and charts

**Table 1- Cleaners in the Departments/Units**

s/n	Depts/Units	Number of Cleaners
1	Mechanical Engineering	01
2	Civil Engineering	02
3	Electrical engineering	01
4	Chemical Engineering	Nil
5	Bio-Chemistry	Nil
6	Geology	01
7	Geography	01
8	Mathematics/ Computer	Nil

9	Chemistry	02
10	Industrial and Technology Education	Nil
11	Library and Information Technology	Nil
12	Microbiology	Nil
13	Clinic	05

Table 1 indicates that departments of mechanical engineering, electrical, geology, and geography have just one cleaner each. Departments of civil engineering and chemistry that have two cleaners each. At the clinic, there are five cleaners while maths/computer and LIT have no cleaners at all. The presence of a cleaner in each of mechanical engineering, electrical and geography departments is grossly inadequate.

Table 2 Students Toilets in Various Departments/Units

s/n	Depts/Units	No of toilets for students
1	Mechanical Engineering	Nil
2	Civil Engineering	Nil
3	Electrical engineering	Nil
4	Chemical Engineering	Nil
5	Bio-Chemistry	Nil
6	Geology	Nil
7	Geography	Nil
8	Mathematics/ Computer	Nil
9	Chemistry	Nil
10	Industrial and Technology Education	Nil
11	Library and Information Technology	Nil
12	Microbiology	Nil
13	Clinic	Nil

It is obvious from the above table that there is no single toilets for students in any of the departments

Table 3- Students Population in Hostels

s/n	Name of Block	Total Number of Students Accommodated
1	Block O (female )	124
2	Block L(female)	196
3	Block M (female )	152
4	Block N (female)	164
5	Block P (male )	464
6	Block Q(male)	456
	<b>Total</b>	<b>1,556</b>

Table 3 revealed the total population of the students that are officially accommodated in Bosso

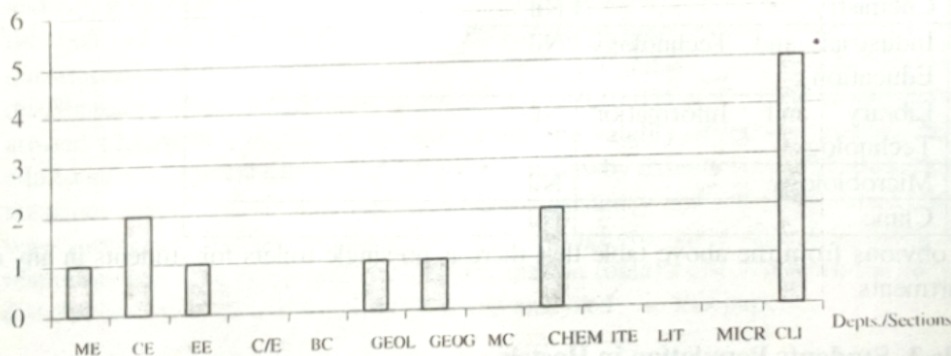
Campus as 1,556 Vis-à-vis the total students population of 12,000. This means about 7.7% of the total students population are officially accommodated in the hostel. The squatters are not included in the above figure.:

Table 4 Highlight of shabby environmental practices

s/n	Practices	No of Respondents	
		Yes and Percentage	No and Percentage
1	Regular crossing of lawns	300/ 75 %	100/ 25%
2	Dumping of refuse like nylon bags and waste indiscriminately	400/100%	Nil/0 %
3	Urinating and defecating at corners	300/75%	100/25%
4	Parking of Vehicle on the road.Total respondents= 120.	100/ 83.3%	20/16.7%
5	Sleeping in lecture halls and bathing outside	50/12.5%	350/87.5%
6	Making hell of noise at lecture halls(noise pollution)	300/75%	100/25%
Total		1,450	670

From the above table, 300 (75%) of the respondents engage in shabby environmental practices such as regular crossing of lawns, urinating and defecating at corners and making hell of noise at lecture halls. All the 400 (100%) respondents dump refuse like nylon bags and waste indiscriminately in the campus.83.3% of the total 120 respondents park their vehicles on the road.

Fig1:- Bar Chart showing number of cleaners in the depts/sections  
No of cleaners



Where, ME =Mechanical engineering, CE=Civil engineering, EE=Electrical engineering, C/E=Chemical engineering, BC=Biochemistry, GEOL=Geology, GEOG=Geography, MC= Mathematics /Computer  
CHEM=Chemistry, ITE=Industrial and Technology Education, LIT=Library and Information Technology, MICR= Microbiology, CLI=Clinic ,

Fig2:- Multiple bar charts showing students population in hostels

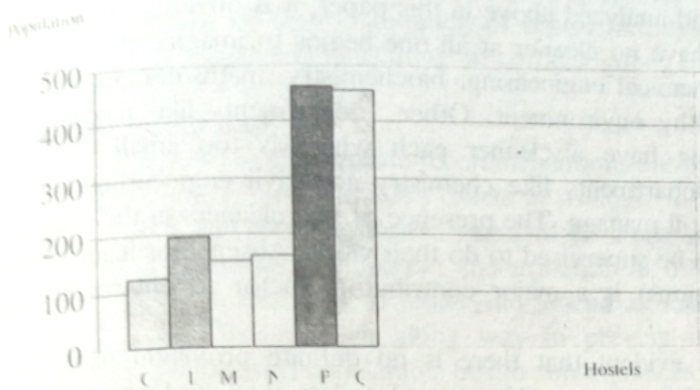


Fig 3 Pie- chart showing shabby and hygienic environmental practices

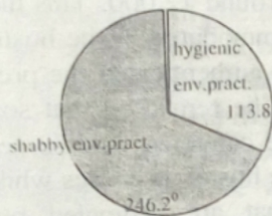
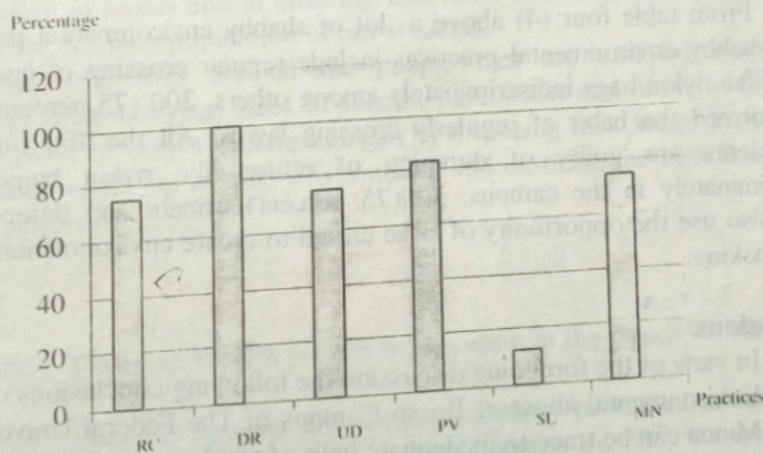


Fig 4 Percentage Bar Chart Showing Shabby environmental practices



Where, RC=Regular crossing of lawns,DR=Dumping of refuse and other waste indiscriminately,UD=Urinating and defecating at corners,Pv=Parking of vehicle on the road,SL=Sleeping in lecture hall and bathing outside,MN=Making hell of noise at lecture halls.

### Results and Discussion

From the data gathered and analyzed above in this paper, it is obvious from table 1 that many of the departments have no cleaner at all one begins to imagine the type of magic which departments like chemical engineering, biochemistry, maths/computer, etc, will perform to maintain a healthy environment. Other departments like mechanical engineering, electrical engineering have a cleaner each which is too small for any meaningful work to be done. Departments like chemistry and civil engineering where there are two cleaners each can still manage. The presence of five cleaners in the clinic is commendable if such workers can be supervised to do their work. Absence or inadequacy of cleaners at departments (sections) is a major contributory factor to environmental abuse and vice versa.

From table two (2) it is evident that there is no definite provision made for students' toilets in the various departments. Absence of toilets that students can use whenever they are pressed is responsible for shameless defecation and urination at corners. This goes a long way to contribute to the degradation of the university environment.

The students accommodation is grossly inadequate as shown in Table three(3). The total population of the students that are officially accommodated in Bosso Campus stands at 1,556 vis-a- vis the total population of around 12,000. This means about 7.7% of the total students population are officially accommodated in the hostel. The squatters are not included in the above figure. Adama,(2004) authenticated the precarious situation of students accommodation in the university when he remarked that some students had no choice than to sleep in the classrooms or at the cafeteria. And some female students resorted to taking their bathe in the open within the hostel premises while majority of the students live off campus especially in zones that are bedeviled by insecurity and exploitation. It is apposite to add that some anti- social behaviour like cultism, rape, drug addiction etc are the direct impact of lack of accommodation .However, it is not only the halls of residence that are inadequate. Lecture theatres too are grossly inadequate. A situation where about 300 students attend lecture in a room at D block is rather pathetic and unfortunate. Hence, the need for construction of more hostels and big lecture theatres becomes mandatory.

From table four (4) above a lot of shabby environmental practices are exhibited .such shabby environmental practices include regular crossing of lawns, and dumping of refuse like nylon bags indiscriminately among others. 300 (75 percent) of the respondents have formed the habit of regularly crossing lawns. All the 400 (one hundred percent) respondents are guilty of dumping of refuse like nylon bags and other wastes indiscriminately in the campus. 300(75 percent) urinate and defecate at jungles. 75% (300) also use the opportunity of large crowd to create environmental pollution in form of noise making.

### Conclusions

In view of the foregoing discussion the following conclusions can be reached.

- 1) Environmental abuse at Bosso Campus of The Federal University of Technology, Minna can be trace to inadequate halls of residence and lecture theatres.
- 2) Lack of specific toilets for students in various departments is a function of environmental degradation.
- 3) The sordid sites that are obvious in some departments the university are due to lack or inadequacy of cleaners in such departments.

- 4) A lot of shabby environmental practices can be identified ranging from regular crossing of lawns, dumping of refuse like nylon bags and waste indiscriminately to urinating and defecating at corners among others.

### Recommendations

The following plausible recommendations are made in view of this study.

1. Construction of modern toilets in strategic locations should be embarked upon by the University Authority. This will go along way to prevent and curb all careless and shameless defecation and urination at different jungles. Added to the above points is the need to repair and amend all leaking toilets, septic tanks and suck-away. This will go along way to prevent unnecessary, environmental and air pollution with unpalatable health consequences
2. Employing more cleaners and sweepers who should be supervised to ensure that lecture rooms, office premises and the general university environment is always kept tidy. Central co-ordination should be done.
3. Construction of about four more new lecture theatres akin to the size of the present new lecture theatre one and two. This will go a long way to prevent noise pollution, enhance and stimulate learning and help to accentuate adequate class control on the part of the lecturers. A situation where about 400 students sit for lecture in a room in D block is unfortunate. Neither meaningful teaching nor leaning can take place in such environment.
4. Crossing of lawns and defacing of our fields and lawns should be checked immediately. On this note, our pedestrian routes should be clearly demarcated and big inscriptions should be written and placed conspicuously across our lawns to check unguarded crossing and defacing of our lawns.
5. Putting big refuse containers in strategic points in all schools for onward emptying into the refuse truck is highly necessary.
6. Construction of more halls of residence and encouraging private participation in hostel provision. Private sector participation in hostel provision at reasonable price should be encouraged. Private participation will go a long way to enhance standardization in hostel and in ensuring that more facilities are provided to meet the need of the teeming population of our students.
7. The students, the staff are all the people that are carrying out business activities (like photocopying, sales of snacks, pure water and food) in the campus must endeavour to keep the campus clean by disposing their waste in appropriate waste baskets, sweeping of dirty environment and ensuring the cleanliness of the campus at all times.

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