STUDENTS' WASTE DISPOSAL HABIT: A CASE STUDY OF UMARU ALI SHINKAFI POLYTECHNIC AND SHEHU SHAGARI COLLEGE OF EDUCATION SOKOTO

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ABSTRACT

This research was aimed at investigating waste disposal habits of the students of Umaru Ali Shinkafi Polytechnic and Shehu Shagari College of Education, Sokoto. The data was collected using consecutive methods of questionnaire administration, interviews and observation techniques for two months. A total of one hundred and twenty (120) questionnaires were distributed, sixty each for the two tertiary institutions. Significant inspection around the two institutions and its environments revealed apparently poor sanitary conditions. This unhealthy environmental situation was largely blamed on unwholesome waste disposal habits of the students living in the campuses. and the neighborhood. The environments where the students live were observed to be unhealthy as a result of indiscriminate waste disposal habits of the students. It is recommended that the students should be enlightened on environmental problems and health implications, waste management and proper disposal habits. School management should provide students with waste disposal units for each block of classrooms and hostel lodge with at least three big size waste bins properly labeled and regular environmental sanitation should be carried out on weekly basis.

Keywords: Solid waste, Disposal Habits, Management, Environment

INTRODUCTION

Disposal of waste is the responsibility of the householders. This might have been relatively easy for countrymen, but was very difficult for town, cities and institutions dwellers thus human beings are faced with the problems of environmental sanitation due to the day to day activities unless every living individual takes goods care of his environment, the problems of sanitation will continue to be increased (Saidou and Aminou, 2015).Today with the rapid increase in population's urbanization and industrialization the volume and diversity of wastes generated have increase in quality and complexity. The increase and complexity have thus created a need to device appropriate waste disposal method to ensure a clean and healthy environment. (Ekong and Enifiok,2013)

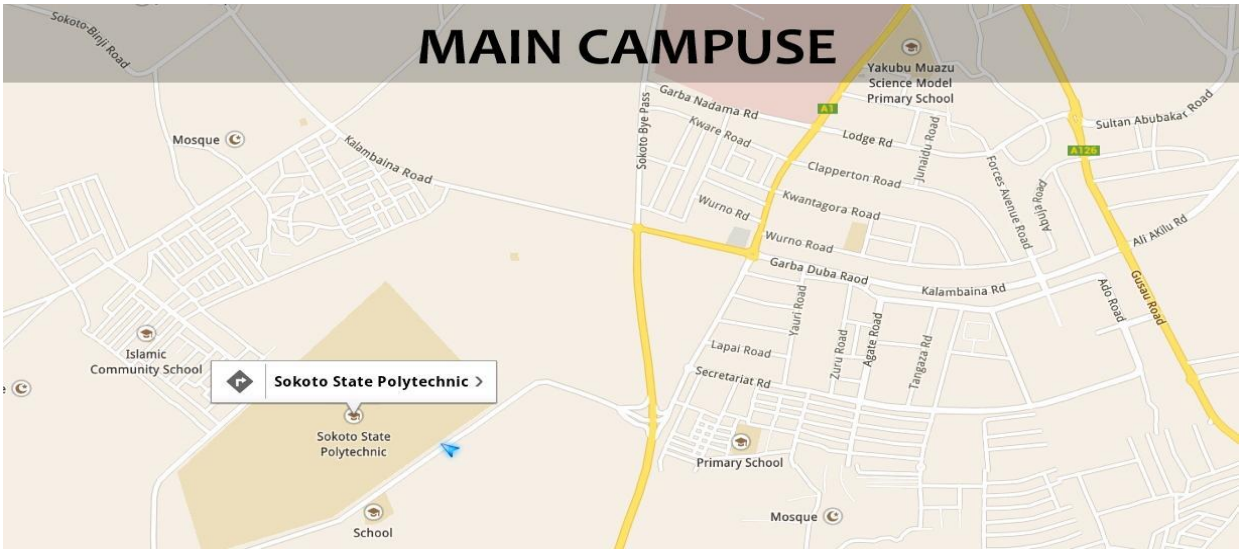
It may be generally assumed that student of higher learnings such as polytechnic and college of education are enlightened and should champion environmental friendliness. Solid waste is generated from industrial, residential and commercial activities in a given area and may be handled in a variety of ways as such; landfills are typically classified as sanitary, municipal, construction and demolition or industrial waste sites. Categorization may also be based on hazard potential, including radioactive flammable, infection, toxic or nontoxic categories may also pertain to the origin of waste such as industrial, domestic, commercial, institutions or construction and demolition. (Eje, 2016). The aim of this study is to carry out a study of solid waste disposal habit of students in Sokoto State Institutions: a case

study of Umaru Ali Shinkafi Polytechnic Sokoto and Shehu Shagari College of Education Sokoto. The objectives are:

1. To determine the types of wastes being generated within the two institutions in Sokoto State.
2. To determine the effect of inappropriate solid waste disposal in these institutions of Sokoto State.
3. To suggest the feasible solution on how bad solid wastes disposal habits of students can be authorized without detriment to the educational system
4. To ascertain whether the school management of Shehu Shagari College of Education Sokoto are doing their best in ensuring an environmental sanitation.

Environmental sanitation is a great concern to government and policymakers in a bid to prevent diseases occurrence it is authoritative upon us. The waste matter at different stages of decomposition is allowed to grow in size developing into hills and becoming an eyesore in the community with its associated stench. (N C R A C E, 2013). Nigeria is one of the biggest countries in the world and also has been faced with problems of waste disposal. However, Sokoto state institutions have a large population of peoples who invariably generate waste due to their day to day activities is also facing some problems of waste disposal and therefore the needs to study the waste disposal method being employed by different section of the institutions viz: residential, school area and environs. Environmental sanitation as a way of preventing communicable diseases, as a result of improper sanitation, the improper waste disposal can cause disease such as cholera, diarrhea, and vomiting, scarlet plague being transmitted by rat. (Nadeem el at',2016)

1.2 MAP OF THE STUDY AREAS



source: Google map, 2018.

Figure 1.2.1: MAP OF UMARU ALI SHINKAFI POLYTECHNIC MAIN CAMPUS SOKOTO

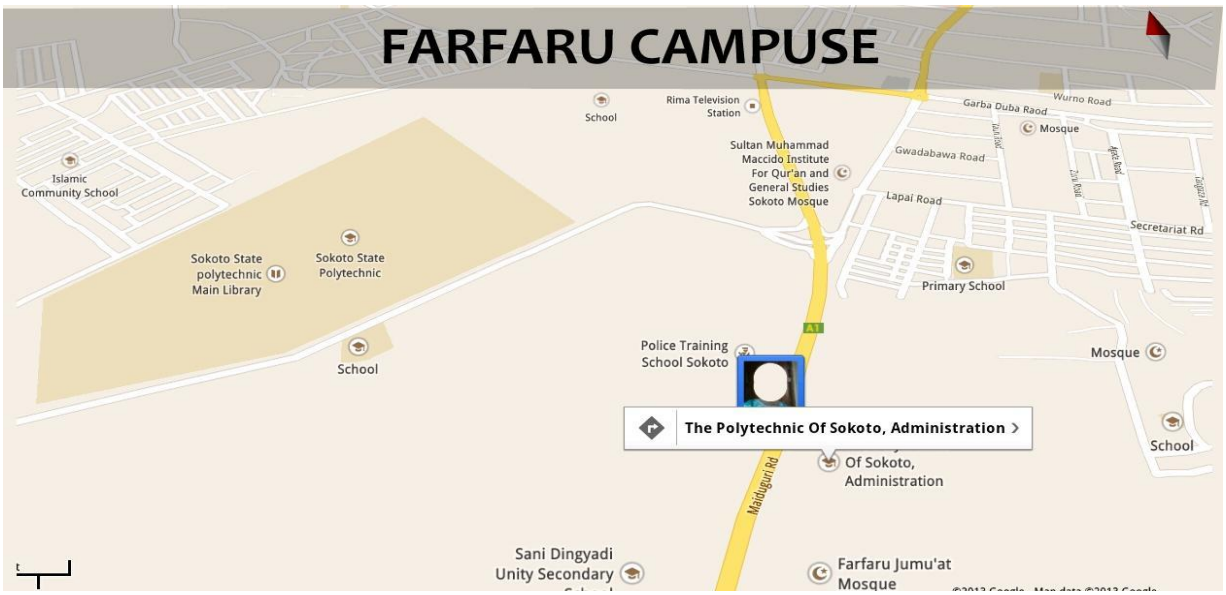


Figure 1.2.2: MAP OF UMARU ALI SHINKAFI POLYTECHNIC COLLEGE OF ADMIN. FARFARU CAMPUS

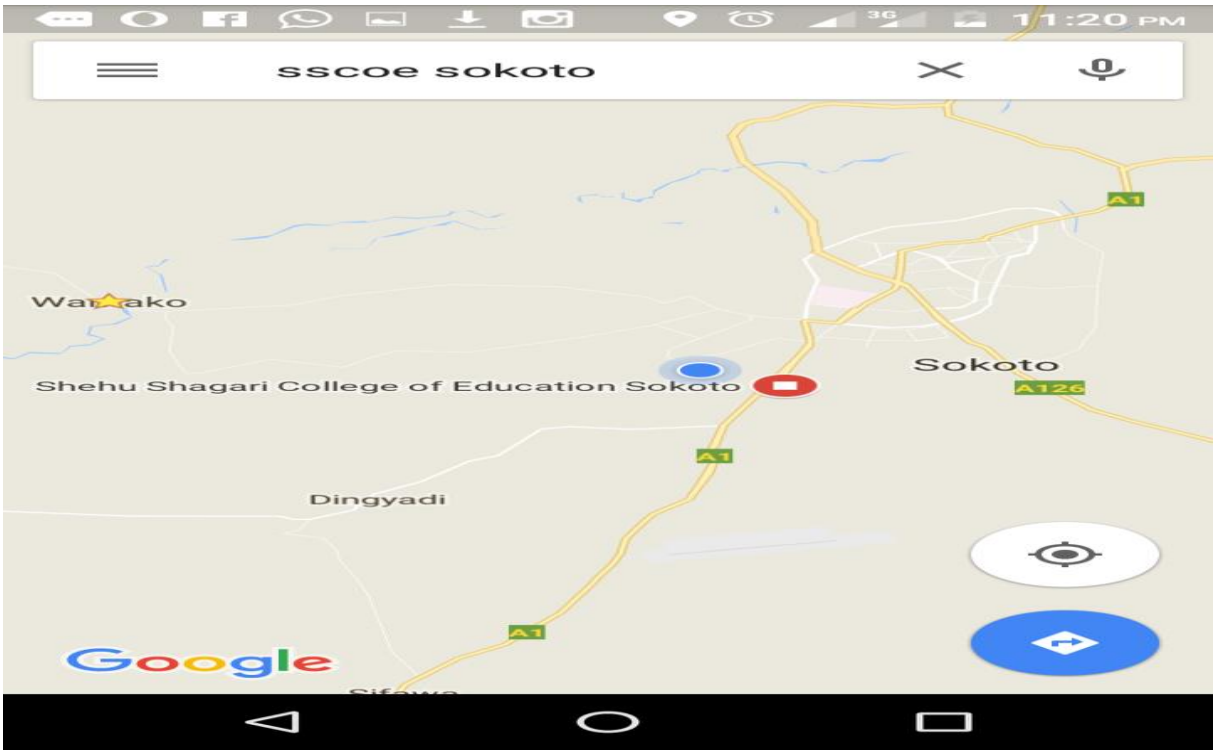


Figure 1.2.3: MAP INDICATING SHEHU SHAGARI COLLEGE OF EDUCATION SOKOTO

LITERATURE REVIEW

A few decades ago, wastes were defined as useless, unwanted, unused or discarded materials resulting from the normal community activities. But now because of development in recycling and resources recovery technologies, the above definition is no longer completely correct. Some of what is known previously to be useless and unwanted is now reprocessed into different valuable products. Wastes are

generated from industries, homes, institutions and public places. Waste generation generally depends among other factors on the nature of economic activities, level of influence and general attitude of the public towards wastes (Alakinde, 2013). Every community produces both liquid and solid wastes. The liquid portion (wastewater) is essentially the water supply to the community after it has been fouled by a variety of uses. Wastewater may be defined as a combination of the liquid or water wastes removed from residences, institutions, and commercial and industrial establishments, together with such groundwater, surface water, and stormwater as may be present(Omole and Alakinde, 2013).Waste must not always be seen as something that is completely valueless or rubbish that must be discarded, but as something which when properly managed can create wealth (Sharma,2014).

RESEARCH METHODOLOGY

The survey method employed in this research work include the use of a questionnaire, and observation techniques. The two institutions have an estimate.This makes a total of 34,700 students as population of this study. (Academic Secretary/Registrar @ UASPOLY/SSCOE, 2017).

Questionnaire Administration

The questionnaire was divided into two sections: A and B. Section A describes the background information about the respondents. Section B seeks information about the respondent's disposal behavior of solid waste disposal.

Observation Techniques And Population Of The Study Area

The personal observation was carried out in order to have firsthand information to knowledge about solid waste disposal and also to know the proper solution to it. Therefore, several trips were carried out to the waste dumping sites and also relevant site photographs were taken in the study area. The observation was carried out in order to determine the types of waste being generated and the waste disposal methods within the two institutions. This can be used to determine the effect of in-appropriate solid waste disposal within the two institutions in Sokoto state metropolis

RESULTS AND ANALYSIS

The data collected from each of the two institutions from students' hostels, offices, classrooms, households, and cafeteria were presented and analyzed in tables 4.1 to 4.14 below:

TABLE 4.1: The % distribution of the demographic characteristic of respondents in Umaru Ali Shinkafi Polytechnic Sokoto

DEMOGRAPHIC CHARACTERISTICS		NUMBEROF RESPONDENTS	PERCENTAGE (%)
GENDER	MALE	35	58.3
	FEMALE	25	41.7
OCCUPATION	CIVIL SERVANT	5	8.3
	STUDENT	50	83.3
	TRADER/FARMER	5	8.3
MARITAL STATUS	SINGLE	45	75
	MARRIED	15	25
TOTAL		60	100

Source (Field Work 2017)

Table 4.1 above showed the % of males were 58.3% and females 41.7%. Majority of the respondents were male. Invariably, that may be why most of the respondents were single (75%) while 25% were married. Majority of the respondents were students (83.3%) whereas other civil servants, traders/farmers were 8.3% each. These figures out that most of the respondents were young men and female students who generate a bulk number of waste within Umaru Ali Shinkafi Polytechnic Sokoto.

TABLE 4.2: The % distribution of demographic characteristic of the respondents in Shehu Shagari College of Education Sokoto

DEMOGRAPHIC CHARACTERISTICS		NUMBEROF RESPONDENTS	PERCENTAGE (%)
GENDER	MALE	39	65
	FEMALE	21	35
OCCUPATION	CIVIL SERVANT	9	15
	STUDENT	48	80
	TRADER/FARMER	3	5
MARITAL STATUS	SINGLE	48	80
	MARRIED	12	20
TOTAL		60	100

Source (Field Work 2017)

Data from the demographic section yielded information about respondents, (65%) were male while (35%) female. Majority of the respondents were students (80%) whereas others; civil servants were (15%) and farmers/traders (5%). Apparently, the majority of the respondents were single (80%) while (20%) were married. These figures out that most of the respondents were young men and female students who generate a bulk number of waste within the Shehu Shagari College Of Education Sokoto.

TABLE 4.3: Types of refuse generated in Umaru Ali Shinkafi Polytechnic Sokoto

TYPE OF WASTES	NO. OF RESPONDENTS	PERCENTAGE%
RUBBISH	15	25
NYLONS	25	41.7
PAPERS	10	16.7
FOOD WASTE	7	11.7
OTHERS	3	5
TOTAL	60	100

Source (Field Work 2017)

Table 4.3 above shows that the densest type of waste observed were nylons (41.7%) and the least is others (5%).

TABLE 4.4: Types of refuse generated in Shehu Shagari College of Education Sokoto

TYPE OF WASTES	NO. OF RESPONDENTS	PERCENTAGE%
RUBBISH	10	16.7
NYLONS	18	30
PAPERS	15	25
FOOD WASTE	15	25
OTHERS	2	3.3
TOTAL	60	100

Source (Field Work 2017)

Table 4.4 shows that the densest type of waste observed were nylons (30%) and the least is others (3.3%).

TABLE 4.5:Dirtiest place in Umaru Ali Shinkafi Polytechnic Sokoto

NAME OF PLACES	NO. OF RESPONDENTS	PERCENTAGE %
CLASS ROOMS	18	30
HOSTELS	24	40
OFFICES	3	5
CAFETERIA	6	10
STAFF QUARTERS	6	10
OTHERS	3	5
TOTAL	60	100

Source (Field Work 2017)

Table 4.5 revealed that (40%) of the respondents say “hostels” are the dirtiest place in the school, (30%) of the respondents go for classrooms, offices (5%), cafeteria (5%), staff quarters (10%) and others (5%). This shows that the dirtiest place in Umaru Ali Shinkafi Polytechnic Sokoto is the hostel environment.

TABLE 4.6: Dirtiest place in Shehu Shagari College of Education Sokoto

NAME OF PLACES	NO. OF RESPONDENTS	PERCENTAGE %
CLASS ROOMS	15	25
HOSTELS	12	20
OFFICES	3	5
CAFETERIA	21	35
STAFF QUARTERS	6	10
OTHERS	3	5
TOTAL	60	100

Source (Field Work 2017)

Data from the demographic section yield information about respondents where (35%) of the respondents says cafeteria is the dirtiest place in the school, (25%) of the respondents go for classrooms, (20%), says its hostels, (10%) staff quarters, offices and others (5%) each. This shows that the dirtiest place in Shehu Shagari College of Education Sokoto is the "cafeteria" as described by the respondents.

TABLE 4.7: Provision of waste bins in Umaru Ali Shinkafi Polytechnic Sokoto

PROVISION OF WASTE BIN	NO. OF RESPONDENTS	PERCENTAGE %
YES	39	65
NO	21	35
TOTAL	60	100

Source (Field Work 2017)

Data from table 4.7 yield information about respondents on condition of waste bins in two campuses of Umaru Ali Shinkafi Polytechnic Sokoto, (65%) said YES there is and (35%) said NO. Collectively majority of the respondents from both campuses said there are waste bins provided in the campuses.

TABLE 4.8: Provision of waste bins in Shehu Shagari College of Education Sokoto

PROVISION OF WASTE BIN	NO. OF RESPONDENTS	PERCENTAGE %
YES	33	55
NO	27	45
TOTAL	60	100

Source (Field Work 2017)

Data from the demographic section yield information about respondents on condition of waste bins, where (55%) go for YES and (45%) said NO. in Shehu Shagari College of Education Sokoto. Collectively majority of the respondents said there are waste bins provided in the campuses.

TABLE 4.9: Do you have cleaners in Umaru Ali Shinkafi Polytechnic Sokoto

OPTIONS	NO. OF RESPONDENTS	PERCENTAGE %
YES	60	100
NO	0	0
TOTAL	60	100

Source (Field Work 2017)

Data from table 4.9 shows that (100%) or all the respondents believe that there are cleaners employed in the institution. Now the question which will arise is: Are these cleaners carrying out their duties?

TABLE 4.10: Do you have cleaners in Shehu Shagari College of Education Sokoto

OPTIONS	NO. OF RESPONDENTS	PERCENTAGE %
YES	60	100
NO	0	0
TOTAL	60	100

Source (Field Work 2017)

Data from table 4.10 shows that (100%) or all the respondents believe that there are cleaners employed in the institution. Now the question here is: Are these cleaners carrying out their duties effectively?

TABLE 4.11: Is the school management of Umaru Ali Shinkafi Polytechnic Sokoto doing their best in ensuring environmental sanitation?

OPTIONS	NO. OF RESPONDENTS	PERCENTAGE %
AGREED	33	55
STRONGLY AGREED	21	35
DISAGREED	3	5
STRONGLY DISAGREED	3	5
UNDECIDED	0	0
TOTAL	60	100

Source (Field Work 2017)

Data from the demographic section yield information about respondents on how they saw the effort of the school management in ensuring a sanitary environment, (55%) agreed, (35%) strongly agreed, (5%) disagreed, (5%) strongly disagreed, and (0%) undecided for Umaru Ali Shinkafi Polytechnic Sokoto.

TABLE 4.12: Is the school management of Shehu Shagari College of Education Sokoto doing their best in ensuring a sanitary environment?

OPTIONS	NO. OF RESPONDENTS	PERCENTAGE %
AGREED	30	50
STRONGLY AGREED	18	30
DISAGREED	6	10
STRONGLY DISAGREED	3	5
UNDECIDED	3	5
TOTAL	60	100

Source (Field Work 2017)

Data from the demographic section yield information about respondents on how they saw the effort of the school management in ensuring a sanitary environment, (50%) agreed, (30%) strongly agreed, (10%) disagreed, (5%) strongly disagreed, and (5%) undecided for Shehu Shagari College of Education Sokoto.

TABLE 4.13: Students' habit of waste disposal in Umaru Ali Shinkafi Polytechnic Sokoto

CONDITION OF WASTE DISPOSAL	NO. OF RESPONDENTS	PERCENTAGE %
GOOD	27	45
FAIR	24	40
POOR	6	10
VERY POOR	3	5
TOTAL	60	100

TABLE 4.14: Students' habit of waste disposal in Shehu Shagari College of Education Sokoto

CONDITION OF WASTE DISPOSAL	NO. OF RESPONDENTS	PERCENTAGE %
GOOD	18	30
FAIR	21	35
POOR	12	20
VERY POOR	9	15
TOTAL	60	100

Source (Field Work 2017)

Data from the demographic section yielded information about respondents on students' habit of the habit of waste disposal, (45%) said it's recommendable, (40%) fair, (10%) poor, and (5%) very poor. Majority of the respondents said it is recommendable habit. Generally, the above information indicates that the waste disposal habits of students of Umaru Ali Shinkafi Polytechnic Sokoto are apparently recommendable and sometimes unfair. The summation of percentages for recommendable and fair gives (85%).

Data from the demographic section yielded information about respondents on students' habit of the habit of waste disposal, (35%) said it is fair, (30%) said it is recommendable, (20%) poor, (15%) very poor. Majority of the respondents said it is recommendable habit. Generally, the above information indicates that the waste disposal habits of students' of Shehu Shagari College of Education Sokoto are apparently recommendable. The summation of percentages for recommendable and fair gives (65%).

CONCLUSION

The young men and female students were found as the main agents who generate a bulk number of waste within Umaru Ali Shinkafi Polytechnic Sokoto and Shehu Shagari College of Education. Cafeteria and hostel environment was found to be the dirtiest place in Shehu Shagari College of Education Sokoto and Umaru Ali Shinkafi Polytechnic Sokoto respectively. The result of the study shows that the school management was doing their best in ensuring the school premises were clean and looks tidy. Clean environment, portable water supply, constant electricity supply, and security were areas of critical concern in human settlements. Deficiencies in these services manifest themselves most obviously in the form of pollution, disease outbreak, and economic situation. Students in higher institutions and other enlightened persons should take the lead in promoting best sanitation practice to enhanced environmental friendliness. We have the possibilities for informal recycling or disposal of the refuse we generate at the school; home for better environment persistent habit of indiscriminate disposal of solid waste should be reported to the school management or sanitation enforcement agencies who must take inappropriate disciplinary measures against defaulters.

RECOMMENDATIONS

The recommendation given here is based on the findings of the research work. The following were the recommendation made

1. The hostel environment in UASPOLY and cafeteria in SSCOE should be given more attention for frequent environmental cleanliness.
2. The students irrespective of their courses of study should be educated on environmental health issues.
3. The school management should encourage the student to create circumstances that make easy disposal of waste within the institution and also monthly environmental sanitation should also be carried out within the students.

REFERENCES

Alakinde, N. (2013). Mitigating the impact of solid waste in an urban center in Nigeria. *Journal of human and ecological science* vol 1 34 no. pp 125-133.

Eje, (eur j endocrinoljan 2016 174: r267-r274 published in advance January 20, 2016):10.1530/eje-15-1033

Ekong, E. D. and Enefiok, I. (2013). Solid waste disposal habit of student in Nigerian universities: a case of the university of Oyo, *Nigeria, Journal of environmental science, toxicology and food tech,* (IOSR-JESTFT), e-ISSN2319-2402, p-ISSN: 2319-2399. Volume 5, issue 6 (Sep.-Oct. 2013), pp 46-50, www.Iosrjournals.org

Nadeem k, Farhan k, Ilyas h (2016). *waste among survey and physiochemical analysis of municipal solid waste generation in Gujranwala Pakistan.* J waste resources 6: 196.doi 10.4172/2252-5211.1000196.

National conference on recent advances in civil engineering (N C R A C E 2013) During 15-16 November 2013 an iso 3297, volume 3, special issue 4, March 2014. ISSN (online):2319-8753.

Omole, S. and Alakinde, N. (2013). solid waste management in Nigeria, problems and issues", *journal of environmental management* vol.22 no 6 pp 849-856.

Saidou, H. and Aminou, S. (2013). solid waste management in the town of Maradi in the Niger Republic, *journal of environmental protection,* 6,359-373.http://dx.doi.org/10.4236/jep.2015.64036.

Sharma B.K (2014). Environmental chemistry goal publish house, *Meerut,journal of environmental science* (IOSR-TESDT) APP 101-1018 ISSN 4323-5376.