

A Review of Students' Perception of Environmental Sanitation

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Abstract— *Environmental sanitation is fundamental to health and development in schools because having healthy school environments sets schools on track for conducive and active learning. Many schools are experiencing poor environmental sanitation. The objective of this research is to review students' perception of environmental sanitation. The method used is review of academic articles, textbooks, internet materials, thesis, journals and publicly available materials on environmental sanitation. This enabled the researchers to capture other authors view on students' perception of environmental sanitation. Results of the review based on the convergent views of previous authors, showed that there was poor environmental sanitation practices in schools. It is therefore recommended that: (1) there is need for environmental awareness among students on the importance of environmental sanitation; (2) Provision of waste bins at strategic points, especially in all classroom buildings; (3) Inclusion of environmental education in school curriculum at all levels of the educational system; and conducting environmental sanitation on Tuesdays and Thursdays in schools on regular basis.*

Keywords— *Diseases, Environmental Sanitation, Environmental Sustainability, Schools, Students, Review.*

I. INTRODUCTION

All over the world, poor environmental quality is increasingly recognized as a major threat to social and economic development and even to human survival (Acheampong, 2010). The impacts of environmental deterioration are severe on developing countries thus hindering and undermining their development (Bello, 2007). The world Health Organization (WHO) (2008) defined environmental sanitation as the control of all those factors in man's physical environment, which exercise or may exercise a deleterious effect on his physical development, health and survival. In the view of Vivienne (2014), environmental sanitation is the practice of collection, reuse and disposal of human excreta and

domestic wastes with the overall objective to protect the school health. In an attempt to keep the environment clean, it is the human lives that are paramount. The concept of environmental sanitation entails the control of water supplies, excreta disposal, waste water disposal, refuse disposal, vectors of diseases, housing conditions, food supplies and the safety of the working environment (Acheampong, 2010). Mmom and Mmom (2011) opined that effective environmental sanitation in cities is a function of positive environmental behavior and availability of facilities and services. Thus, Daramola (2015), Olowoporoku (2014) and Afon and Faniran (2013) complimented that availability of adequate environmental sanitation facilities and enabling environmental sanitation policies positively influence the achievement of a healthy living environment.

According to Tecer (2007), environmental deterioration, extinction, or pollution in many vital earth systems such as air, water, soil, forest and biological diversity have required countries to develop policies for protecting and developing the earth and promoting global cooperation on these issues. Atasoy (2005) stated that environmental problems have become globalized and have reached the stage where they present a threat to life on earth. He further stated that the situation has led to the review of people's relationship with nature, their attitudes and behaviors towards the environment, the duties and responsibilities assumed by the individual towards nature, and the redefinition of ecological culture and environmental awareness. This research is therefore, focused on a review of students' perception of environmental sanitation.

1.1 Statement of the Problem

The negative perception of people towards the environment does not exclude the educational institution whose problem has been aggravated by constant changes not just in curriculum content but also school subjects (Mensah, 2011). According to him, school subjects such as hygiene where students were once taught sanitation of the environment has

been replaced with health education, providing little or no opportunities through which students can be taught or learn the act of waste management and sanitation. He was also of the opinion that environmental education was integrated into school curriculum where students are taught environmental related issues in and around their communities; the later introduction of the programme was aimed at raising the awareness level of the students about environmental quality which is approaching on clear direction.

A cursory observation in schools such as universities and secondary schools showed that many places are littered with water sachets, pieces of paper, plastics of different types and broken furniture. In hostels, there are problems of littering, exposure to used sanitary pads, students urinating around the hostels, students defecating in polythene bags. This poor state of sanitary conditions affects the health of both students in the hostels and workers alike. Management of solid waste materials and substances like pieces of paper, pack from wrappings, tins, wood, littering the environment and classrooms is a problem. Where attempts are made to sweep, heaps of refuse are uncontrollably dumped haphazardly and mixed up together unsorted with both degradable and non-degradable materials which mix up and causing mind blighting stench, harboring mosquitoes and pests such as rats, cockroaches and eyesores (Vivienne, 2014). There have been several interventions by the school administrations to reduce the rate of insanitary conditions in schools, yet students' perception of waste disposal has not changed. If appropriate efforts are not made to halt the practices in schools, they will continue to spend the greater part of its monetary resources in an attempt to ensure good environmental sanitation without success (Vivienne, 2014). The above problem makes it clear that the school is unable to cope with the problem of environmental sanitation. On the bases of the above problems, there is need to review students' perception of environmental sanitation and make necessary recommendations on it.

1.2 Objective of the Study

The objective of the study is to review works on students' perception of environmental sanitation.

II. CONCEPTUAL FRAMEWORK: ENVIRONMENTAL SUSTAINABILITY

This research is based on the concept of environmental sustainability. Environmental sustainability could be defined as a condition of balance, resilience, and interconnectedness that allows human society to satisfy its needs while neither

exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs nor by our actions diminishing biological diversity (Morelli, 2011). A poor sanitation practice combined with its perception by students affects the school environment which this research tends to review so as to make recommendations that will promote environmental sustainability in sanitation practice.

III. METHODS

The researchers made use of academic articles, journals, thesis, textbooks and internet materials. The researcher gathered 26 materials for the research but summarized the characteristics of 10 that centered more on students' perception of environmental sanitation. This enabled the researchers to make a synthesis of various researchers' views on students' perception of environmental sanitation.

IV. REVIEW OF RELATED LITERATURE

Acheampong (2010), in his investigation on environmental sanitation management in Kumasi metropolitan area opined that sanitation is one of the most basic services in human life and improving environmental sanitation is known to have a significant beneficial impact on health both on households and across communities. He further explained that it is easy to take for granted the importance of good sanitation. However according to him, its economic and intrinsic value cannot be overstated because a clean and healthy environment can effectively help to attract investment and trade to the urban cities and to better provide services critical in meeting the needs of its growing population. In Adah's (2013) work on the attitudes of people of Nasarawa State towards environmental sanitation, a case study of Lafia Local Government Area, he asserted that the issue of environmental sanitation is nationwide, but the degree of attitude varies. The characteristic of environmental sanitation is a problem which exists by such factors as uncontrolled reuse, disposal, lack of good water supplies, well-constructed street, and pollution and most of these problems either causes diseases, or reduce the life span of the people.

Napari and Cobbinah (2014), in their research on environmental sanitation dilemma in Tamale metropolis, Ghana, indicated that poor attitudes of city residents towards environmental sanitation coupled with weak institutional facilities have affected the development of cities in many ways. First, the poor attitude toward environmental sanitation is the major cause of choked sewerage system with solid waste as a consequence and also

flooding has become a normal phenomenon accompanying rainfall in cities. This situation does not only worsen the environmental sanitation conditions but threatens the lives of residents especially during heavy downpour. Second, the poor state of environmental sanitation in the cities has contributed to various infectious diseases such as malaria, cholera and diarrhea. Also, the city residents reported high incidence of early mortality rates in the cities which they believe poor environmental sanitation is a key contributory factor. Mmon and Mmon (2011) commented in environmental sanitation and public health challenges in a rapidly growing city of the third world: the case of domestic waste and diarrhea incidence in Greater Port Harcourt Metropolis, Nigeria, that poor environmental sanitation practices exhibited in the disposal of solid wastes, wastewater and excreta, cleaning of drainage including personal, household and community hygiene significantly contribute to infant and child mortality and in order to achieve proper environmental sanitation practices, good sanitation behavior and availability of facilities and services must work in unison. They also stressed that numerous studies have shown that the incidence of many diseases is reduced when people have access to and make regular use of adequate sanitary installations.

According to Olowoporoku (2017) on his assessment of environmental sanitation situation in Nigeria, environmental sanitation should not be viewed alone from the promulgation of laws for citizens and periodic conduct of exercise only, rather it should be seen as a civic responsibility involving all levels of human activity, sound environmental sanitation management ensures that appropriate intervention are introduced and implemented to promote behaviour change and the attitude and behaviour of the stakeholders on environmental issues determine its end. Bello (2007) assessed behavioural responses to environmental sanitation facilities in the core areas of developing countries: case study of Ikorodu, Nigeria and noted that several studies have shown that problems of environmental sanitation are not limited to a particular residential zone, studies showed that such problem occurred in the traditional core areas, urban centers, peri-urban or suburbs and various institutions like schools. He stated that it is evident that provision of adequate environmental sanitation facilities and services could at best be referred to as a means to end.

Uzum and Saglam (2006) studied high school students' environmental attitude: scale development and validation and opined that individuals, who have negative attitude towards the environment, will be insensitive to

environmental problems and may adopt behaviors that damage the environment. So the enhancement of the environmental knowledge of students leads to the development of positive attitudes towards the environment. In the opinion of Vivienne (2014) on the attitudes of students and staff of Asamankese senior high school towards environmental sanitation, an individual who has a positive attitude towards the environment tends to act positively, approaches, show concern, support, and assist the environment but an individual whose attitude is negative towards the environment tends to be indifferent to it or alternate, criticize or even damage it. Aduku's (2014) assessment of the attitude of SHS students towards environmental sanitation in Ghana revealed that high expectation of school health and environmental sanitation education programme have not always been fulfilled, in many countries, schools are not safe for children due to neglect of the operation and maintenance of facilities. In addition environmental sanitation education given to students has not always been relevant or effective. He further stated that the effective management of environmental sanitation requires strategies that bring about fundamental change in how students perceive environmental sanitation in the city and service delivery.

Olawale and Olatunji (2014) studied knowledge and attitudes of people on monthly environmental sanitation programme in Osun State, Nigeria and posited that people did not derive any health benefits from monthly environmental sanitation programme because most of the waste disposal left at the road junction and at times people defecated at the uncompleted building as a result of lack of public toilets in core areas such as market place and motor parks which resulted to cholera and dysentery in the community. Adi (2009) revealed in his study on influence of knowledge of environmental sanitation on health practices of senior secondary school students in Taraba State that there was the need for health officials to be visiting secondary schools promoting enlightenment on environmental sanitation among secondary school students. According to him, students who are directly controlled and enlightened have better disposition in their environmental sanitation and practice.

McConville (2008) conducted a research on assessing sustainable approaches to sanitation planning and implementation in West Africa and asserted that improving sanitation is not only about installing technological systems, but also about changing the hygiene and defecation practices of the local population. Anijah, Eneji, Ubom, Dunnamah and Williams (2013) in their research on

introducing environmental sanitation education in the primary school curriculum stated that environmental sanitation education as a progressive policy cannot be disputed, for it is only when the majority of the people are physically and philosophical involved that sustained environmental ethnics can be assured. To this end environmental sanitation education should not only focus on basic hygiene and keeping the surroundings clean, but also campaigns against bad toilet habits such as indiscriminate defecation and urination as well as inefficient disposal of waste. It must also in addition concern itself with the major problems of air and water pollution.

Faiza, Wanjala, Shaviya, Barasa, Sowayi, Vincent, Johnston and Josphat (2015) conducted a research on state of sanitation and hygiene of public primary schools in Kakamega municipality, Western Kenya and observed that children spend much of their daily activities within school environment during critical developmental stages, it is crucial that the same environment be kept clean. According to them, most schools had clean compounds while some of the schools had compost pits filled up wastes which resulted in a pile of solid wastes in the school compound indicating poor solid waste management in schools. Since children lack experience to determine risks associated with their behaviours, such presence of wastes posed health risks to them. These behaviours include playing with waste, placing their fingers and other objects in the mouth and not washing hands before eating and after visiting the latrine. Preventing childhood exposure to environmental hazards may prevent injuries and many illnesses, such as respiratory infections and diarrhoeal diseases. In Latha and Ranganath's (2014) work on assessment of environmental sanitation: co-ordination among service providers at district level in Kolar, India, they opined that to achieve good environmental sanitation which is an essential component of primary

health care, intersectoral co-ordination is the most appropriate principle to be executed. But intersectoral co-ordination is likely to happen more often during emergencies such as epidemics rather than on routine basis. The intersectoral co-ordination is important in activities of monitoring, surveillance, fund allocation, health education and reducing duplication of work.

Pore and Randive (2014) carried out a study on environmental sanitation and personal hygiene among the slum area in Solapur city, Maharashtra India and observed that the lack of environmental sanitation and safe water has significant negative health impact on people and due to unsafe water, inadequate sanitation and unhygienic, people suffer from allergies, and diseases. According to them, unsafe drinking water, poor environmental sanitation, unsanitary food preparation, improper disposal of waste and unclean household environment constitute a major burden on health and leading to causes ill health in children. In Anijaobi-Idem, Ukata and Bisong's (2015) work on environmental awareness and school sanitation in Calabar metropolis of Cross River State, Nigeria, they opined that the desire and need of school personal to maintain a healthy school environment depends completely on their level of awareness concerning the environment. School personnel who are aware that the environment is part of their existence tend to make their schools convenient and conducive for teaching and learning with the availability of eco-friendly facilities. Ibanga (2015), his research on assessment of environmental sanitation in an urban community of southern Nigeria, asserted that there is no significant difference between the odd participation of good environmental sanitation and practice between higher and lower educational qualification. He also stated that participation of males in sanitation is higher than that of the females.

Table.1: Summary of characteristics of some Studies that describe the Students' Perception of Environmental Sanitation.

S/N	Author (s)	Topic of the Research	Method(s)	Results	Recommendation(s)	Conclusion
1	Adah (2013).	The Attitudes of People of Nasarawa State Towards Environmental Sanitation: A Case Study of Lafia Local Government Area.	Questionnaire, oral interview and direct observation.	Majority of the people disagreed that government do not provided any disposal facilities.	More waste disposal facilities eg dustbins, incinerator and refuse vans should be provided. Establishment of many refuse collection centers instead of only one designated area.	Sanitation edict was erected to help educate people on how they should behave towards environment sanitation in various localities, Emulate the federal authority in changing the opposite side of people's perception towards

						environmental sanitation.
2	Acheampong (2010).	Environmental Sanitation Management in the Kumasi Metropolitan Area.	Questionnaire, oral interview and direct observation.	Women play a very important role in sanitation in the home, and as such are major stakeholders in charting sanitation programmes.	Enforcement of environmental sanitation regulations and bye-laws, provision of sanitation facilities in cities, need for urban planning and development.	Sanitation regulations and law enforcement plays crucial role in ensuring good environmental sanitation condition.
3	Anijabi-Idem, Ukata, and Bisong (2015).	Environmental awareness and school sanitation in Calabar metropolis of Cross river state.	Questionnaire	Positive significant relationship between environmental awareness and school sanitation in terms of classroom sanitation, school compound sanitation and provision of refuse dumps	Environmental experts should be brought to the schools once in a while to enlighten students and staff on school sanitation. This will equip the school with the necessary knowledge in the maintenance of a healthy school environment.	Environmental awareness leads to the maintenance of classroom sanitation, school compound sanitation and provision of refuse dumps.
4	Aduku (2014).	An Assessment of the Attitude of SHS Students towards Environmental Sanitation in Ghana: A Case of Some Selected SHSs within the Greater Accra Region.	Questionnaire and interview.	Differences exist in sanitation behavior among students from the various schools, Students have poor attitude towards sanitation.	Intensive public education to promote a positive attitude for environmental sanitation in schools.	Environmental education is considered an appropriate intervention for creating awareness of, and an understanding of the challenges of environmental degradation so as help reduce the problem of unsanitary surroundings.
5	Bello (2007).	Assessment of Behavioural Responses to Environmental Sanitation Facilities in the Core Areas of	Questionnaire and observation.	There is a relationship between the education and occupation of the respondents	There should be adequate provision of the basic infrastructural facilities to enhance the health condition of the residents.	The poor environmental sanitation conditions noted in Ikorodu resulted from inadequate supply of amenities and resident's response to the inadequacies.

		Developing Countries: Case Study of Ikorodu, Nigeria.		and the duration of waste storage before disposal.		
6	Mmom, and Mmom, (2011).	Environmental Sanitation and Public Health Challenges in a Rapidly Growing City of the Third World: The Case of Domestic Waste and Diarrhoea Incidence in Greater Port Harcourt Metropolis, Nigeria.	Questionnaire and direct observation.	Prevalence of diarrhea in the area as due to long or exposure to wastes disposed. Urbanization of the city is overpowering the carrying capacity of the existing waste management infrastructure.	Provision of sanitation facilities by the government. Collection of disposed waste should be at regular intervals.	The unplanned urban growth in the area has over powered the carrying capacity of the existing waste management infrastructure in the city. Proliferation of heaps of wastes in the area which Disease vectors feed on.
7	Napari and Cobbinah, (2014).	Environmental Sanitation Dilemma in the Tamale Metropolis, Ghana.	Interview and focus group discussion.	Poor perception of some city residents cause of poor environmental sanitation. Indiscriminate disposal of wastes exist.	Preparation of environmental sanitation plan, collaboration and engagement of environmental sanitation stakeholders and fund environmental sanitation.	Underlying causes of the appalling state of environmental sanitation and the weak approaches used in managing it are largely attitudinal.
8	Olawale and Olatunji (2014).	Knowledge and Attitudes of People on Monthly Environmental Sanitation Programme in Osun State, Nigeria.	Questionnaire and direct observation.	Inadequate waste disposal facilities people dumping wastes indiscriminately, monthly environmental sanitation reduces floods.	Provision of waste disposal facilities at the strategic junctions, desilting of drains and removal of garbage dumped at the roadsides.	Gross Environmental contamination or pollution due to poor sewage and refuse disposal. Flood has been reduced due to clearance of big rivers and streams.
9	Olowoporoku (2017).	A Recipe for Disaster: An Assessment of Environmental Sanitation Situation in	Review of articles, journals and textbooks.	The main strategy for achieving environmental sanitation in Nigeria has	Promulgation of environmental sanitation laws, change in environmental behavior and provision of facilities and services	Nigeria's environmental sanitation strategy lacked the necessary ingredients to achieve a healthy Environment.

		Nigeria.		been a recipe for disaster (monthly or bi-monthly environmental sanitation exercise).	as key factors in improving the environmental sanitation condition in Nigeria.	
10	Vivienne (2014).	The Attitudes of Students and Staff of Asamankese Senior High School Towards Environmental Sanitation.	Questionnaire and direct observation.	Both students and teachers consider water shortage and littering as major environmental problems in school. Inadequate dustbins accounts for the reasons why students and teachers litter.	The school should constitute a team with a duty of checking the environmental sanitation conditions in the school.	There is an earnest need to update students and teachers environmental knowledge. There is need for every available strategy and persons to be used in keeping the school environment clean and beautiful.

Source: Researchers' design, 2017.

V. RESULTS AND DISCUSSION

From Table 1, the studies made are of standard methods for collecting data which include: 1. Questionnaire, 2. Interview, 3. Physical observation, 4. Literature review of materials, and 5. Focus group discussion. Improving environmental sanitation is known to have a significant beneficial impact on health both on households and across communities (Acheampong, 2010). Napari and Cobbinah (2014), Mmom and Mmom (2011) and Adah (2013) were of a convergent view that poor environmental sanitation causes diseases, reduce the life span of people and also increase mortality. Aduku (2014) and Faizaet al (2015) viewed that the poor environmental sanitation in school affects both intellectual and physical wellbeing of the students and there is need for environmental education to enlighten the students about good sanitation. Also, Bello (2007) and Ibanga (2015) believed that educational qualification affects their perception to environmental sanitation.

On the contrary, McConville (2008) believed that improving sanitation does not end in installing technologies that enhance sanitation but changing hygiene and defecation practice goes a long way in improving sanitation. This

largely depends on how people perceive environmental sanitation in their localities.

VI. RECOMMENDATIONS

The recommendations emanating from this paper are:

1. School administration should provide waste bins at strategic points especially in all classrooms.
2. Environmental sanitation should be carried out regularly on Tuesdays and Thursdays in schools.
3. Environmental education should be introduced to school curriculum at all levels of the educational system.
4. Awareness should be created in school in order to enlighten students on the importance of environmental sanitation.
5. Schools should form an environmental club where students can improve their knowledge on environmental sanitation and general environmental issues.

VII. CONCLUSION

This paper discussed students' perception of environmental sanitation by reviewing various work done on perception of environmental sanitation. The works reviewed showed that

the sanitation practice of many school is weak and this is as a result of lack of sanitation facilities, poor environmental awareness of environmental sanitation and non-challant attitude of school administrative on sanitation practices. This study therefore, concludes that given the poor state of environmental sanitation in schools, efforts should be geared towards changing the poor perception of students, or else the school stand on gunpowder of epidemics.

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