

Assessment of Sanitation Facilities in Selected Private Primary Schools within Ilorin Metropolis

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Abstract

Proper sanitation is a prerequisite for the prevention of child killer diseases and sustenance of global health. This study was undertaken to assess the sanitation facilities and solid waste management techniques adopted by selected private primary schools in Ilorin, North Central Nigeria. Key parameters such as quality, quantity, usage, convenience, practice and efficiency were used as criteria for assessment. The results of the study showed that most of the assessed schools have reasonable quantity of water for sanitation purposes with well over 80% of the schools meeting the required standard. Only 50% of the assessed schools met the quality requirement for toilet and hand washing facilities. Most of the schools also adopted unsanitary and underdeveloped solid waste management techniques. It is recommended that sanitary guidelines should be met before the establishment of primary schools and sanitary inspectors should extend their services to schools.

Keywords: Assessment, sanitation, facilities, private, primary schools, solid waste.

1 Introduction

Sanitation is defined as the arrangement to protect public health, provision of clean drinking water and the disposal of sewage. This also includes the disposal of excreta (human faeces and urine) and small amounts of wastewater (WHO, 2006). Inadequate access to safe water and sanitation services, coupled with poor hygiene practices, is the cause of at least one quarter of all child deaths and one fifth of the total childhood disease burden globally (UNICEF, 2005). Water, sanitation and hygiene are also linked to school attendance and performance (particularly among girls), safety and security of women and girls, economic and social development of communities and nations (UNICEF, 2006).

Boosting the standard of sanitation in poorer countries of the world is said to be a matter of human dignity as agreed upon by United Nations member countries in Geneva in 2006. An estimated 2.5 billion people lack access to decent sanitation, 1.5 billion without access to safe drinking water and 40 percent of the global world population still does not have access to toilet facilities (Gumisai, 2004). The United Nations Committee on Economic, Social and Cultural Rights clarified in 2002 that right to water emanates from the right to an adequate standard of living including food,

housing and clothing. Providing adequate levels of water supply, sanitation and hygiene in schools is of direct relevance to the United Nation Millennium Development Goals of achieving universal primary education, promoting gender equality and reducing child mortality.

Investing in sanitation will not only lead to the enjoyment of human rights, but will also contribute to improved development outcomes and overall living standards. An estimated 5,000 children die from diarrhoea every day, and treating diseases related to diarrhoea costs an average of 12 per cent of national health budgets in sub-Saharan African countries (UN, 2008). It is estimated that that 88% of diarrhoeal disease is caused by unsafe water supply, inadequate sanitation and hygiene (WHO, 2004). Lack of toilets in schools increases the number of student absences, and worker productivity also suffers through widespread disease and illness (UNICEF, 2006). More basically, being forced to defecate in public is an affront to human dignity. Infant deaths, lost work days and missed school are estimated to have an economic cost of around \$38 billion per year and proper sanitation is considered to be superior to antibiotics, vaccines and anaesthesia (WHO, 2009).

In Nigeria, there has been a pragmatic shift from public to private schools due the failing standard of government owned schools. Private primary schools are springing up yearly, for example the number of registered private primary schools in Ilorin is 346 (KWMET, 2010), while a greater number of unregistered schools still operate illegally within the metropolis. Some of these schools serve communities that have high prevalence of diseases related to inadequate water supply, sanitation and hygiene. Hence, there is the need to assess the state of the sanitation facilities in these schools because according to World Health Organization (WHO, 2009) poor water, sanitation and hygiene conditions and intense levels of person to person contact are high risk environments for children and staff.

2 Materials and Method

2.1 Study area

The study area is the city of Ilorin which is the largest urban center in Kwara State. It is also the capital of Kwara State. Ilorin city occupies an area of 89km² and lies between the latitude 8°30' North and longitude 4°35' East (Abdulrasaq, 1998). Ilorin metropolis is composed of three local government areas; Ilorin West, Ilorin East, and Ilorin South. The population of Ilorin is 777,667 (National Population Commission, 2007). According to the records of Kwara State Ministry of Education and Technology (KWMET), there are 346 registered private primary schools and 207 public primary schools in Ilorin.

2.2 Sources of data

A list of private primary schools in Ilorin metropolis was obtained from the Kwara State Ministry of Education and Technology. Data for the study was obtained primarily from field study through critical observation. Additional data was obtained from a developed questionnaire in order to obtain information on water supply, sanitary facilities, and solid waste management. The questionnaire was pretested and modified, and the final copy was distributed to randomly selected registered private primary schools. A total of 100 completed questionnaires which span through Ilorin East, Ilorin West and Ilorin South Local Government Authority were analyzed.

2.3 Assessment criteria

The assessment criteria and scores were adopted from Reed and Shaw (2008). The facilities examined are those related to water supply, sanitation, hygiene and solid waste management.

Assessment of toilet and hand washing facilities: The assessment of toilet and hand washing facilities was based on quantity, quality and usage.

- i. *Quantity* refers to the number of facilities, for boys, this will include not only the number of cubicles, but also the length of urinals.
- ii. *Quality* refers to the condition of the facilities.
- iii. *Usage* refers to the suitability of the facilities for the people who use them.

Assessment of water supply : The assessment of school water supply was based on quantity, quality and convenience.

- i. *Quantity* refers to the amount of water provided for a child per day. Generally, this includes water provided for staff but not for high water use activities such as irrigation or washing large floor areas.
- ii. *Quality* relates to how clean and safe the water is. In this study, only physical examination was used for judgment.
- iii. *Convenience* relates to how easy it is for children and staff to reach the water point and use it in the correct way. This includes the distance to the water source and the design of the water collection point.

Assessment scores: Scores were assigned based on the state of the facilities. The description of each assessment score is presented in Table 2.1

Table 2.1 Description of Assessment Scores

Score	Description
0	The existing situation and facilities are acceptable. No improvement is necessary
1	The existing situation and facilities are reasonable but would benefit from improvement. Action is not necessarily a priority
2	The existing situation and facilities are very poor. Improvement is urgently required.
3	There are no facilities. Provision is the highest priority

Assessment of solid waste management : The activities involved in solid waste management was divided into units; solid waste storage, collection and disposal. An appraisal of each unit operation was made based on visual inspection and the response obtained from school administrators.

3.0 Results and Discussions

3.1 Results of water and sanitation facilities assessment

Table 3.1 Spread of selected private primary schools within the three Local Government Areas in Ilorin metropolis

Number of schools	Local Government Area
30	Ilorin West
34	Ilorin East
36	Ilorin South

Figure 3.1 shows the scores obtained from the assessment of toilet and hand washing facilities using quality, quantity and usage within the sampled schools. From the Figure, 10% of the schools have facilities that are adequate in quality, 40% of the schools have reasonable quality of facilities, 32% of the schools need improvement of facilities and just 18% of the schools have poor quality of facilities. 73% of the schools have sufficient quantity of facilities, 22% of the schools need improvement of their facilities while 5% of the schools have facilities that are not acceptable as construction of new facilities is of utmost importance. It was observed that 79 schools use their facilities effectively while 21 schools do not use their facilities effectively.

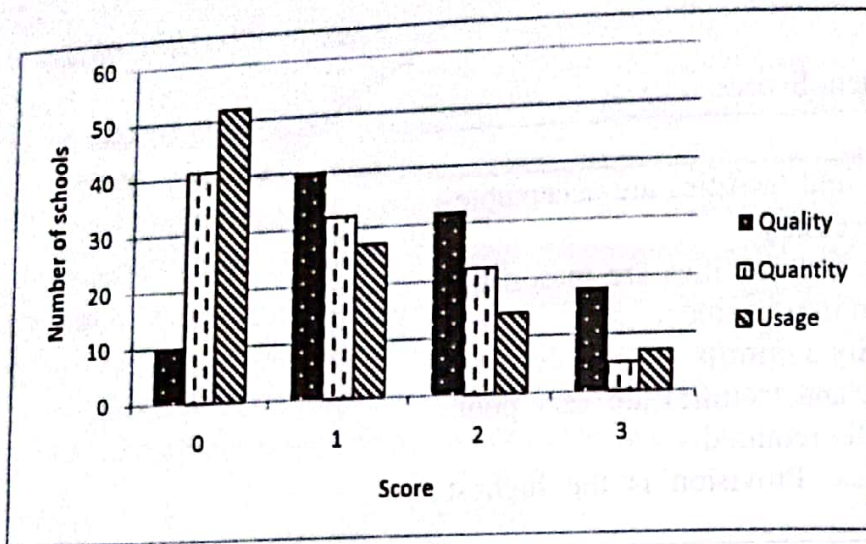


Figure 3.1 Scores obtained from the assessment of toilet and hand washing facilities.

Figure 3.2 shows the scores obtained from water supply assessment. From the Figure, 80% of the assessed schools have sufficient quantity of water for sanitation purposes even though just 40% of the schools met the minimal requirement for the visual evaluation. 58% of the schools have their water sources within the required distance for convenience while 42% of the schools source their water from point that do not meet the required standard for convenience.

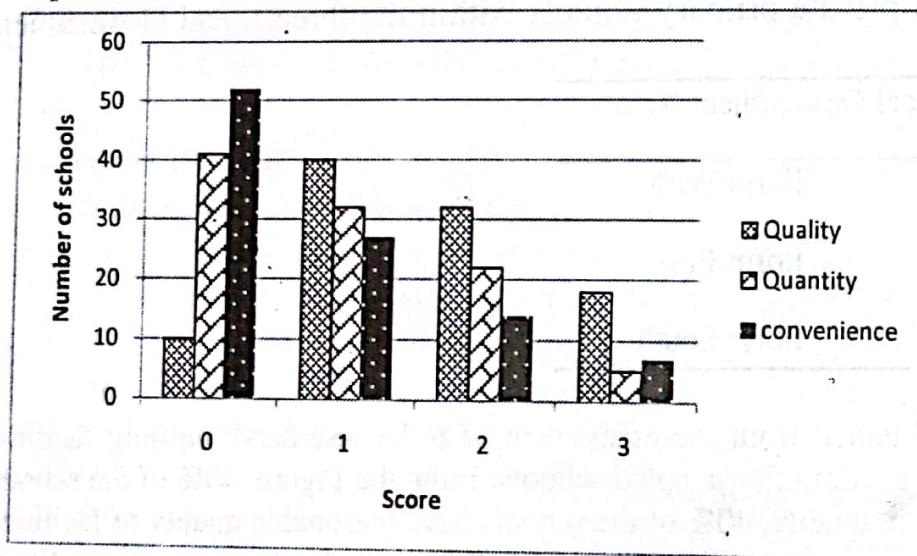


Figure 3.2 Scores obtained from the assessment of water supply within the sampled schools

3.2 Results of solid waste management assessment

The process of solid waste management in schools is important so as to ensure that the environment in which students are exposed to is good enough for proper learning to take place. The assessed unit operations involved in solid waste management are storage, collection, and disposal.

Methods adopted for the storage of solid wastes by the sampled schools: The methods adopted for the storage of solid wastes generated within the sampled school compounds are presented in Figure 3.3, 54% of the sampled schools use municipal waste bins, 20% use large or small dustbin, while 6% use polyethylene bag.

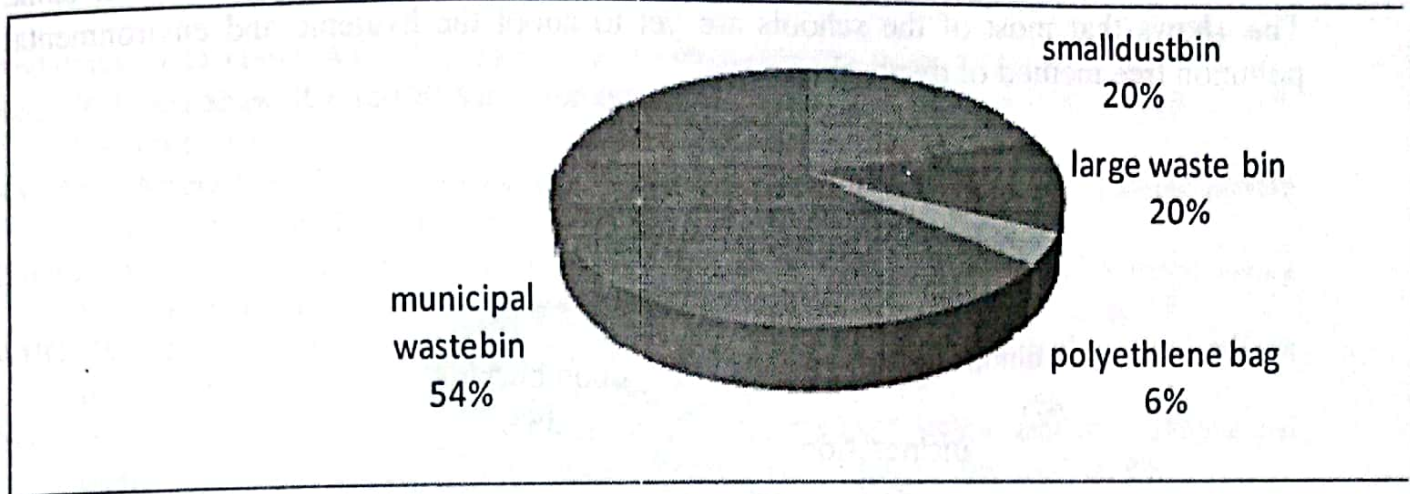


Figure 3.3 Method adopted by the sampled schools for storage of solid waste

Methods adopted by the sampled schools for the collection of solid wastes : Figure 3.4 shows the solid waste collection method adopted in the sampled schools. 64% of the school use paid staff in transporting solid waste to the point of disposal, 20% use collection vehicle, 12% use cart/wheel barrow and 4% use students to collect wastes to the disposal point.

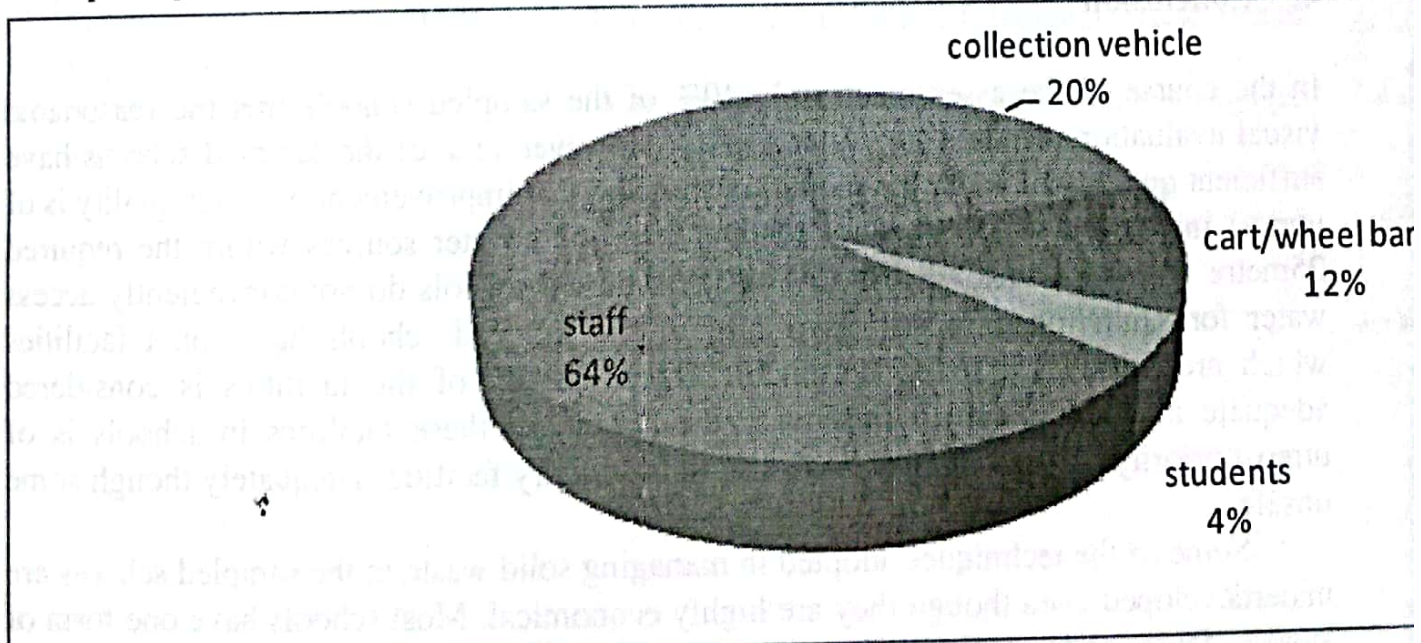


Figure 3.4 Method adopted by the sampled schools for the collection of waste

Solid waste disposal methods adopted by the sampled schools :Figure 3.5 shows the different methods adopted by the schools for the disposal of solid wastes. A total of 35% of the schools dispose their waste by open burning, 25% onto open grounds, 21% by incineration, 13% into municipal waste bin, 4% by land filling and 2% at the river bank. This shows that most of the schools are yet to adopt the hygienic and environmental pollution free method of disposal.

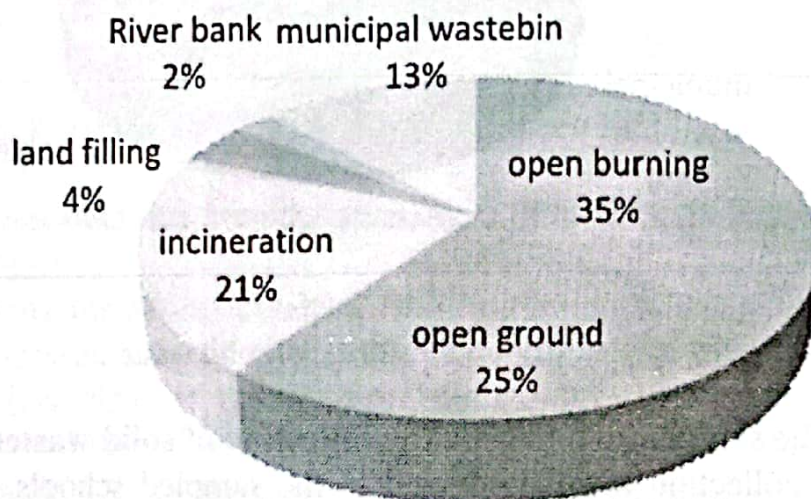


Figure 3.5 Waste disposal method adopted by the sampled schools.

4. Conclusion

In the course of the assessment, only 40% of the sampled schools met the reasonable visual evaluation standard for water quality. However 71% of the sampled schools have sufficient quantity of water for sanitation showing that improvement of water quality is of utmost importance. 58% of these schools have their water sources within the required 25metre span which shows that 42% of the sampled schools do not conveniently access water for sanitation purposes. Two-third of the sampled schools have toilet facilities which are considered to be reasonable. Three-quarter of the facilities is considered adequate in quantity whilst improving the quality of these facilities in schools is of utmost priority. A total of 79 schools use their sanitary facilities adequately though some unsafe.

Some of the techniques adopted in managing solid waste in the sampled schools are underdeveloped even though they are highly economical. Most schools have one form of storage device and a staff is assigned for waste collection or a collection vehicle hauls the waste to the disposal site. The disposal method by most schools is open burning of wastes or unto open ground or an evacuated trench (landfill). This method is not

environmentally friendly because it could breed rodents, cause air pollution, or act as source of ground water contamination.

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