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Re-engineering WASH Practice Culture in Basic Schools for a Sustainable Learning Environment in Ibadan

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Abstract

Improved access to Water, Sanitation, and Hygiene (WASH) services and its practices in public spaces such as schools is critical in achieving the Sustainable Development Goal (SDG) agenda. While focusing on primary schools in Ibadan, the availability and accessibility of WASH facilities among pupils with the aim of providing information on WASH practices at the basic school level for policy direction was investigated. A stratified sampling ofhead teachers of terminal upper basic classes (Primary 6) who assisted to administer survey questionnaire to 250 pupils in private schools and 141 pupils in public schools in Ibadan. The research questions focused on: what is the distribution pattern of WASH facilities in the sampled schools and how are the socio-economic variables of the pupils influence their WASH practices? The data which was obtained through the survey were analyzed using mean scores and regression analysis. The result shows that while the pupils in both schools show impressive knowledge of WASH practice, there is limited availability of functioning WASH facilities, with a poor practice culture in the public basic schools. The ratio of students to available WASH facilities is pervasive and has a negative effect on accessibility to WASH facilities in public schools. Also, the study revealed that socio-demographic factors such as age and gender significantly explain WASH practices of the pupils in both schools. This revelation calls for urgent interventions by stakeholders for the provision of WASH facilities and proper orientation of pupils on the importance of a good WASH practice culture in order to achieve a sustainable basic learning environment.

Keywords: WASH Practice, Basic Education, Sustainable Development Goals, Ibadan

Introduction

School-based Water, Sanitation, and Hygiene (WASH) initiatives encompass the implementation of measures such as ensuring access to clean drinking water, constructing sanitary facilities including toilets and hygiene amenities, establishing water treatment tanks, distributing menstrual hygiene products, promoting hygienic practices, and engaging the community to mitigate the spread of communicable diseases such as diarrhea, cholera, and other outbreaks (WHO/UNICEF, 2018; World Bank Group, 2017). The fundamental elements of WASH in school programs include engaging with the home and community, advocating for hygienic behaviours and education, and guaranteeing water sanitation. School-based water, sanitation, and hygiene (WASH) programs have a specific goal of enhancing school enrollment, performance, and attendance. Additionally, they seek to impact the hygiene practices of parents and siblings, by empowering children to become catalysts for change within their households and communities.

The issue of accessing WASH facilities is a worldwide occurrence (WHO/UNICEF, 2018; Abdul et al., 2020; Sah et al., 2017). According to the United Nations International Children's Emergency Fund (UNICEF), there are currently 2.2 billion people worldwide who do not have access to safe drinking water. According to the current UN Report, over 50% of the global population lacks access to good sanitation. This includes 3 billion individuals who do not have access to handwashing facilities with soap, and over 67 million people who engage in open defecation (United Nations, 2022). The worldwide WASH issue is mostly caused by factors such as population growth, low literacy rates, inadequate policies, poor governance, and weak institutional structure. Regardless of age, gender, or colour, the issue of accessing safe water, sanitation, and hygiene facilities affects all demographic population structures (Anamali et al, 2019; Kilakime et al., 2015; Williams as al., 2012).

A study conducted by the World Health Organization revealed that sub-Saharan Africa faces severe consequences due to inadequate water, sanitation, and hygiene (WASH) practices, particularly in the children subsector of the population structure (Tsekleves et al., 2022). The study conducted by Abdul et al. (2020) revealed that approximately 65% of children below the age of 5 in Bangladesh have a range of illnesses and nutritional problems as a result of

inadequate or substandard WASH practices. Satriani et al. (2022) argue that inadequate water, sanitation, and hygiene (WASH) practices are prevalent in Indonesia, particularly among students, as a result of limited awareness and policy intervention. In a study conducted by Obianyo et al. (2022) in Nigeria, it was shown that the country's WASH practices are inadequate, leading to healthcare-associated infections (HCAIs). The most vulnerable group affected by these illnesses are children under the age of. The issue of inadequate WASH practices among children is widespread across all countries, although it is particularly pronounced in certain poor nations.

Due to the scarcity of research on WASH practices challenges in Nigeria, the contributing elements vary significantly. For example, Nwajiuba et al (2019) conducted investigations that revealed inadequate management and upkeep of WASH facilities as significant barriers to WASH practices in Imo State, Nigeria. In the city of Jos, a study conducted by Afolaranmi et al. (2015) found that the inadequate knowledge about WASH practices among food vendors in public primary schools was the main reason for the low adoption of WASH practices. Similarly, a study by Obianyo et al. (2022) in Umuahie, Abia State, identified the absence of proper water, toilet facilities, soap, and handwashing equipment as significant obstacles to the effective implementation of WASH practices. Moussa et al. (2012) primarily focuses on the insufficient training of stakeholders in WASH principles. However, none of these studies solely examine the impact of socioeconomic factors in isolation.

The study aims to investigate the distribution pattern of WASH facilities in the sampled schools in Ibadan, the capital of Oyo State. This analysis is directed by two research questions, which are: what is the distribution pattern of WASH facilities in the sampled schools? How do the socio-economic factors of the students impact their WASH practices? The study seeks to offer valuable insights on the WASH practice patterns of the students in the study area, as well as the important socioeconomic aspects that influence their WASH habits. Ensure accurate spelling and grammar.

Literature Review

Previous studies have demonstrated the importance of the socioeconomic background of the users of WASH facilities in influencing the users' attitudes towards WASH practices. For instance, in Nepal, Sah et al. (2017) examined the experiences of women regarding WASH practices with the primary objective of investigating key issues and their associated challenges. The study considered social, political, cultural, and environmental differences and their implications for WASH practices in the region. It observed that variances in gender, ethnicity, and economic status have a significant influence on access to WASH facilities, participation in WASH programs, and WASH policy design. Prominent WASH-related issues confronting women's WASH habits include social inclusion, participation and access, hygienic living, and water shortages. The study concluded that there is low involvement of women in WASH initiative policies and recommended greater and sustainable efforts to improve women's participation in water committees. In another study by Ejimogu et al. (2019) emphasized the need for policy intervention to address the marginalization of women concerning gender equality and social inclusion, which remain a major threat to public health goals.

Nwajiuba et al (2019) examined the relationship between poverty levels and access to WASH facilities, such as clean water and toilets, specifically among low socioeconomic status households. The secondary data were obtained from relevant agencies and analysed using Cramer's V statistics and multiple logistic regression. The analysis revealed a robust correlation between the availability of toilet facilities per household and the sources of water. Conversely, the poorest families exhibited limited availability of sanitation facilities, which can be related to disparities in the supply of water, sanitation, and hygiene (WASH) services throughout the region. Furthermore, Wada et al. (2022) conducted a study to examine the experiences of teenage female students in peri-urban schools in Kinshasa with regards to WASH behaviours both prior to and after the Covid-19 pandemic. A cross-sectional study was conducted to assess the behavioural and institutional modifications related to the use of WASH facilities and practices. The findings revealed a severe lack of water, extremely inadequate handwashing facilities, and substantial breaches of WASH best practices. The survey also found that although there is

evidence of a rise in funding for supporting WASH systems, a small proportion of teenage school girls were seen practicing hand hygiene before and after using toilet facilities.

In a broader dimension, a study by Cronk et al. (2015) tried to understand the effects of racism, social exclusion, and discrimination on the WASH sustainable goal. A case study approach was used, and research focus was centered on marginalized communities. The study discovered that regardless of differences in socio-demographic characteristics such as race, ethnicity, gender, disability, property rights in the marginalized communities, the human right to safe water and quality sanitation is constrained by non-actionable priorities, which prioritize continuous access to safe water and sanitation provision as core government responsibilities in the communities.

At the primary school age category,Buitrago-Boret et al. (2023) assessed WASH practice experiences among public primary school pupils in Owerri municipal, Imo state, Nigeria. The study was primarily concerned with infectious diseases that emanate from poor WASH practices among children in developing countries. The primary school pupils were sampled, and a descriptive statistical approach was deployed to analyze the data. Findings revealed that the supply of water by water tankers and the use of ventilated improved pit toilets were dominantly used WASH facilities, while handwashing without soap was a prominent handwashing practice. The study concluded that WASH practice is inadequate due to the shortage of WASH facilities and advocated for a good WASH policy geared towards sustainable WASH practice in the state. Additionally, in Imo state, Bage (2023)extended their studies to cover twelve public primary schools. Primary pupils within age brackets of 6 years to 14 years were sampled, and some of their teachers participated in the questionnaire survey. In addition to a questionnaire survey, the study used observation and focus group discussion and descriptive statistical tools such as percentage and simple frequency distribution. The author found that only two (2) out of the twelve (12) selected public primary schools have handwashing basins with clean water that runs, while others improvised handwashing facilities. The authors posited that health educators in collaboration with the Parent Teachers Association should support the provision, management, and maintenance of WASH facilities in public primary schools.

Similarly,Oguntoke et al (2009) examined the knowledge and practice of food safety and hygiene among primary school pupils in Jos, Nigeria, with a focus on the food vendors. The author discovered a significant relationship between age and food safety practice, thus suggesting training and retraining on food safety and hygiene for food handlers in primary schools. More recently, Roy et al. (2023) addressed issues concerning the inequalities of WASH practices and categories of socioeconomic classes in the economy as critical barriers to achieving sustainable development goal six (SDG6) in developing countries such as Nigeria. The primary objective of the study is to examine the current school-WASH disparities among public and private schools in a low-income Nigerian community using mixed methods. A multistage sampling procedure was used to select 400 students from five public and private schools in Akinyele, Ibadan, Nigeria. Comparatively, findings revealed that all the private school pupils had better knowledge and attitude to WASH practices than the public primary school pupils. Also, while all the private primary schools have WASH facilities and services, public primary schools had none of the WASH facilities and services in the study area. The study concluded that inequalities among socioeconomic groups remain a great threat to SDG6. The study pointed to the need for stakeholders such as the community and government to facilitate sustainable school-WASH interventions.

This study is distinct from the previous work. Some of them are foreign studies that lack empirical evidence to explain the WASH practice experiences in the Nigerian case. The socioeconomic indexes in the study byBage (2023)are local-specific, and the outcome of the study is peculiar to the case study area and cannot be generalized due to differences in social, economic, and political factors that vary from one place to another. A close study by Nwajiuba et al. (2019), which examined Ibadan, focuses on a single area council, Akinyele, with its sample limited to five (5) public and private schools in the study area. However, our study gives broader scope coverage and perspectives, with pupils from private and public schools participating across eleven LGAs in Ibadan. The wider spread and inputs of pupils from different socioeconomic backgrounds are essential factors, and the outcomes of the study will provide useful information for stakeholders on WASH initiatives and interventions and policy direction.

Data and Method

The study is quantitative, and questionnaires were used to collect data. The study population consisted of pupils in Basic 6 from private and public primary schools across eleven (11) Local Government Areas (LGAs): *Ibadan North, Ibadan North-East, Ibadan North-West, Ibadan South, Ibadan South-East, Ibadan South-West, Ido, Oluyole, Ona-Ara, Akinyele, and Lagelu*.From the State Universal Basic Education Database of 2023, a total of 1,613 private and 910 public basic schools were identified. Using the Taro Yamane method, a sample rate of 16% was determined. This sample rate was applied, resulting in a sample size of 264 for private schools and 146 for public schools.The pattern of questionnaire administration and the number of valid questionnaires retrieved, along with their corresponding rates (%) for private and public schools, are presented in Table 1 as follows:

Table1: Analysis of Response

S/N	LGA	Private Primary School		Public Primary School	
		Total No. of Qns. Admtd	Total No. of Qns. Rtrvd (%)	Total No. of Qns. Admtd	Total No. of QnsRtrvd. (%)
1	Ibadan North	27	26 (96.3)	12	12(100.0)
2	Ibadan North-East	27	27(100.0)	12	12(100.0)
3	Ibadan North-West	26	25(96.2)	7	7(100.0)
4	Ibadan South	21	21(100.0)	13	13(100.0)
5	Ibadan South-East	17	15(88.24)	10	10(100.0)
6	Ibadan South-West	26	25(96.2)	14	13(92.9)
7	Oluyole	22	21(95.45)	18	16(88.9)
8	Ido	34	33(97.7)	12	12(100.0)
9	Ona-Ara	24	22(91.7)	16	14(87.5)
10	Akinyele	29	26(89.7)	19	19(100.0)
11	Lagelu	11	9(81.9)	13	13(100.0)
	Total	264	250(93.7)	146	141(96.9)

Note: Local Government Area – LGA, Questionnaire – Qns., Administered – Admtd., Retrieved – Rtrvd.
Sources: Author's Compilation, 2024

Method

The study employs both descriptive and inferential statistics to analyze the data. Descriptive statistical tools used include simple frequency distribution, percentage, and mean statistics. These tools help describe the important characteristics of the dataset and provide summary information on variable distribution.In addition, inferential statistical tools such as analysis of

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variance (ANOVA) and ordinary least squares (OLS) regression analysis were used to examine the dynamic effect of pupils' socioeconomic characteristics such as age (Ag), gender (Gd), income class (IC), and population size (PZ) on WASH practice (Wp) in the study area.The conventional mathematical expression of OLS regression analysis is given in Equation (1).

$$Wp = \propto + \beta_1 Ag_1 + \beta_2 Gd_2 + \beta_3 IC_3 + \beta_4 PZ_4 + \varepsilon_t \qquad \text{----------}Eqn.\ (1)$$

Where α is the constant, βi (β_1, β_2, $\beta_3$and β_4) denote the respective coefficients of the socioeconomic characteristics (Ag, Gd, IC, and PZ), which constitute the independent variables in the regression model. WASH practice (WP) is the dependent variable explained by the differences in the socioeconomic profile of the student. ε_t is the error term, and the variables are statistically significant at a 5% level of confidence ($p < 0.05$).

Result

Table 2 presents the results of the analysis of the socio-demographic background such as age (Ag), gender (Gd), income class (IC), and population size (PZ) of pupils in private and public basic schools in Ibadan. The analysis of age distribution shows that in private schools, the dominant age bracket is 6-10 years, accounting for 56.0%. The next prevalent age group is 11-15 years, representing 42.8% of the populace. A fewer number of pupils (1.2%) were found within the age bracket of 16-20 years, while none of the pupils were aged 20 years and above in private schools. Contrarily, pupils in public schools were much older, with the majority of them in the age range of 11-15 years, constituting 62.9% of their population. The age distribution of those within the categories of 6-10 years and 16-20 years accounted for 32.5% and 4.6% respectively, while none of them were aged 20 years and above. The result of the gender analysis points out a higher population of female pupils than their male counterparts. For instance, in private schools, female pupils account for 59.6%, compared to 40.1% male pupils. A similar gender distribution was observed in public schools, with 58.3% of the pupils being female and 41.7% being male.

By examining the population of pupils in basic schools, the results show that the majority of the schools have a number of pupils less than 500, with private and public schools accounting for

55.6% and 62.9%, respectively. However, the percentage of private schools(40.8%) with a population of pupils ranging from 500 to 1000 is higher than public schools (27.8%) in the same category. This further shows that there is an increasing enrollment of pupils in private schools compared to public schools at the basic education level. Also, more than half of the pupils' parents in private (54.8%) and public (55.0%) schools earn between ₦25,000.01 to ₦50,000.00 per month. However, parents of children in private schools earn better than their counterparts in public schools. For instance, the percentages of pupils whose parents' income falls in the higher categories such as ₦50,001 to ₦75,000.00; ₦75,001.00 to ₦100,000.00; and above ₦100,000.00 are respectively 18.0%, 10.8%, and 5.2% in private schools, compared to 17.9%, 5.8%, and 2.6% in the same categories in public schools.

Table 2: Socio-demographic Characteristics of Pupils in Basic Schools in Ibadan

Response	**Parameters**	**Private**		**Public**	
		Frequency	**Percentage**	**Frequency**	**Percentage**
Age Distribution (in years)	6-10	140	56.0	46	32.5
	11-15	107	42.8	88	62.9
	16-20	3	1.2	7	4.6
	Above 20	0	0.0	0.0	0.0
	Total	***250***	***100.0***	***141***	***100.0***
Gender Distribution	Male	101	40.1	59	41.7
	Female	149	59.6	82	58.3
	Total	***250***	***100.0***	***141***	***100.0***
Income of the Pupils' Parents (per month)	Less than #25, 000	28	11.2	27	19.2
	#25,001 - #50,000	137	54.8	77	55.0
	#50,001-#75,000	45	18.0	25	17.9
	#75,001-#100,000	27	10.8	8	5.8
	Above #100,000	13	5.2	4	2.6
	Total	***250***	***100.0***	***141***	***100.0***
Population of Pupils	< 500 pupils	139	55.6	89	62.9
	500-1000 pupils	102	40.8	39	27.8
	1001-1500 pupils	6	2.4	6	4.0
	1501-2000 pupils	2	0.8	0	0.0
	Above 2000 pupils	1	0.4	7	5.3
	Total	***250***	***100.0***	***141***	***100.0***

Source: Author's Field Survey, 2024

To gain insight into the knowledge of pupils on WASH practices in their respective schools, the study examines their level of awareness about WASH practices, including their level of

participation and habits towards WASH practices in the study area. The results of the analysis are presented in Table 3.

Surprisingly, about 70% of the students show some level of awareness about WASH practices in both private and public basic schools, but at varying degrees. For instance, in private schools, those pupils that indicated 'fairly aware' and 'aware' account for 20.0% each, while those that are 'very much aware' represent 13.2% of the sample. Those pupils that are 'somewhat aware' constitute 14.8%, and about 32.0% of them are not aware of WASH practices in private schools. The results are similar to the findings in public schools. The majority of public-school pupils fall into the categories of 'fairly aware' and 'aware', representing 26.5% and 23.8% respectively. A fewer of them (7.9%) are very much aware of WASH practices, those that expressed 'somewhat aware' is 11.3%, while another good number of them (30.5%) are not aware of WASH practices in public schools.

Table 3: Knowledge of WASH Practice in Basic Schools in Ibadan

Response	**Parameters**	**Private**		**Public**	
		Frequency	**Percentage**	**Frequency**	**Percentage**
Level of Awareness about WASH Practice	Not aware	80	32.0	43	30.5
	Somehow aware	37	14.8	16	11.3
	Fairly aware	50	20.0	38	26.5
	Aware	50	20.0	33	23.8
	Very much aware	33	13.2	11	7.9
	Total	***250***	***100.0***	***141***	***100.0***
Frequency of participation in WASH Practice	Very low	25	10.0	31	21.9
	Low	18	7.2	28	19.9
	Fair	101	40.4	34	23.8
	High	81	32.4	34	23.8
	Very high	25	10.0	14	10.6
	Tot	***250***	***100.0***	***141***	***100.0***
WASH practice habit of the pupils in the school	Poor	3	1.2	18	12.6
	Bad	11	4.4	14	9.9
	Fair	82	32.8	61	43.7
	Good	124	49.6	37	25.8
	Excellent	30	12.0	11	8.0
	Total	***250***	***100.0***	***141***	***100.0***

Source: Author's Field Survey, 2024

Meanwhile, there is a low level of participation in WASH practices among the pupils with a more significant notice in public basic schools. From the bottom of the table (very low and low), private schools earn a lesser percentage (17.2%) compared to public schools (41.8%). For the higher level of participation (high and very high), about half of the pupils in private schools (42.4%) participated, which is higher than the record in public schools (34.6%), while the majority of private schools (40.4%) fall into the fair level of participation. These results reflect the habits of pupils in basic schools towards WASH practices in the study area. This find is supported by Cronk et al. (2015), and attributed the reason for low participation to lack of access to clean water and sanitation facilities. Again, pupils in private schools demonstrate better ('good' and 'excellent') habits of WASH practices (61.6%) than their mates in public schools (33.8%). However, the majority of the pupils in public schools rated their habits of WASH practices fairly (43.7%). While a few categories of private schools, accounting for 5.6%, show bad/poor attitudes towards WASH practices, the percentage of the bad/poor attitude was a bit higher in public basic schools (22.5%) in the study area. By implication, one out of 10 children in basic public schools demonstrates better WASH practice concerning their good habits and high level of participation, while the ratio is relatively fair for basic private schools in the study area.

Furthermore, the study delves into the availability and affordability issues concerning WASH facilities in private and public schools in the study area. As presented in Table 4, about 98.8% and 88.1% ascertained the availability of WASH facilities such as water and toilets in private and public basic schools, respectively. Regarding accessibility, the level of access to WASH facilities is higher (with the addition of 'moderately' and 'very' accessible) in private schools (85%) than in public schools (64%). Also, fewer schools with no access to WASH facilities were recorded for private schools (5.2%) compared to public schools (13.2%).

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Table 4: WASH Practice in Basic Schools in Ibadan

Response	Parameters	Private		Public	
		Frequency	Percentage	Frequency	Percentage
Availability of WASH facilities (Water/Toilet)	No	4	1.6	17	11.9
	Yes	246	98.4	124	88.1
	Total	***250***	***100.0***	***141***	***100.0***
Accessibility to WASH facilities in the school	Not accessible	13	5.2	18	13.2
	Somehow accessible	26	10.4	33	23.2
	Moderately accessible	147	58.8	63	44.4
	Very accessible	64	25.6	27	19.2
	Total	***250***	***100.0***	***141***	***100***
Stakeholders' interventions in WASH Programmemes	Poor	7	2.8	28	19.9
	Bad	16	6.4	13	9.3
	Fair	92	36.8	56	39.7
	Good	122	48.8	33	23.2
	Excellent	13	5.2	11	8.0
	Total	***250***	***100.0***	***141***	***100.0***

Source: Author's Filed Survey, 2024

However, the majority of private schools (48.8%) rate stakeholders' intervention on WASH facilities as good, with a few indicating excellence (5.2%). For public basic schools, the majority rate stakeholders' intervention as 'fair' (39.7%), with 23.2% indicating 'good' and 8% expressing excellence. While fewer private schools expressed concerns about bad (6.4%) and poor (2.8%) interventions by their stakeholders, the rating for bad and poor interventions by public schools is higher, indicating 9.3% and 19.9%, respectively.

With an attempt to reveal the present conditions of available WASH facilities in the study area, the study examines the type and location of water facilities available to pupils in the schools. Additionally, the type, number, and condition of toilet facilities accessible to pupils on the school premises were examined, and the results of the analysis are presented in Table 5.

The common and dominant type of water facility in both private and public basic schools is the borehole, representing 50% of the sample. Next to boreholes are wells, constituting 42.8% for private schools and 41.7% for public basic schools. The use of public tap water is becoming unpopular, as about 7.2% and 7.3% of the respective private and public schools are still using it in the study area. No private schools were observed using spring/river waters, while less than 1% of public schools used them.

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Table 5: Condition of WASH Facilities in Basic Schools in Ibadan

Response	Parameters	Private		Public	
		Frequency	**Percentage**	**Frequency**	**Percentage**
Type of water facilities for pupils	Public tap	18	7.2	10	7.3
	Borehole	125	50.0	71	50.3
	Well	107	42.8	59	41.7
	Spring/river	0	0.0	1	0.7
	Total	***250***	***100.0***	***141***	***100.0***
Location of the water facilities for pupils	Within the school premises	205	82.0	100	70.9
	Outside the school premises	45	18.0	41	29.1
	Total	***250***	***100.0***	***141***	***100.0***
Type of Toilet for pupils	Open pit	13	5.2	42	29.8
	Modern Latrine	98	39.2	80	56.9
	Water closet	139	55.9	19	13.3
	Total	***250***	***100.0***	***141***	***100.0***
No of Toilet available for pupils	1-3	9	3.6	48	33.8
	4-7	191	76.4	64	45.7
	8-12	34	13.6	25	17.9
	13-15	12	4.8	4	2.6
	Above 15	2	0.8	0	0.0
	Total	***250***	***100.0***	***141***	***100.0***
Condition of the toilet facilities	Poor	0	0.0	10	7.3
	Bad	3	1.2	30	21.2
	Fair	43	17.2	76	53.6
	Good	121	48.4	19	13.2
	Excellent	83	33.2	7	4.6
	Total	***250***	***100.0***	***141***	***100.0***

Source: Author's Field Survey, 2024

Moreover, 82.0% and 70.9% of the water facilities were located within the school premises for private and public schools respectively, while the remaining private schools (18.0%) and public schools (29.1%) have their water facilities located outside their school premises. The majority of schools use borehole water facilities for water supply because they are relatively clean, safe, regular, and manageable, although costlier than well water. The low usage of public tap water reflects deficiencies in public water supply in the study area, which has led to the use of private water sources such as boreholes as alternative water supplies for domestic use. Analysis of toilet

facilities shows differences in the dominant types of toilets used in private and public basic schools. For instance, water closets are the major types of toilet facilities for pupils in private schools, accounting for 55.9% of the sample, and a good number of them (39.2%) indicated the use of modern latrines. Meanwhile, in public basic schools, there is prevalence in the use of modern latrine toilet facilities, constituting 56.9%, while fewer of them use water closets (13.3%) compared to those using open pit toilets (28.8%). The result implies that while some modern or upgraded public basic schools in terms of infrastructure use modern latrines or water closets, which are relatively healthier, a substantial number of them, especially public schools with old facilities, use traditional open pit toilets, thereby exposing pupils to unhealthy conditions. Concerning the number of accessible toilet facilities for pupils, the majority of schools have 4 to 7 toilet facilities, with a higher percentage recorded for private basic schools (76.4%) than public schools (45.7%). However, the study noticed that a good number of public schools (33.8%) have a limited number of toilet facilities ranging from 1 to 3 toilets, while about 3.6% of private schools have 3 or fewer toilet facilities. Considering the population of pupils, public schools with a lesser number of toilet facilities will hinder the level of access and have adverse effects on the efficient use and management of the toilet facilities.

Also, the condition of toilet facilities in private schools is better than in public schools as indicated by statistics. The toilet facilities in private basic schools were rated as good (48.4%) and excellent (33.2%). For public basic schools, the percentage for 'good' and 'excellent' is low at 13.2% and 4.6% respectively, while the toilet facilities for the majority of public schools (53.6%) fall under the fair condition. The result reflects the maintenance culture of the management of basic school facilities in the study area. It shows that private schools employ effective maintenance styles to sustain the functionality of educational facilities, including their toilet facilities. Meanwhile, the maintenance culture in public schools is not fully effective, as most of the facilities are deteriorating due to the lack of prudent management and pupils' attitudes in the use and protection of government facilities.

In Table 6, the socioeconomic characteristics such asage distribution, gender distribution, Income class of pupil's parents (social status), and population size, of the pupils in the private basic schools were regress on the their WASH practice to capture its dynamic effects. The

results show that all socioeconomic factors have a positive influence on WASH practices among pupils in private schools, but their levels of significance vary. For instance, age and gender have respective beta coefficients and p-values of 0.237 and 0.014, indicating a statistically significant effect ($p < 0.05$). Meanwhile, the effects of social status and population size, with respective coefficients of 0.326 and 0.227, are less statistically significant ($p > 0.05$). According to the model summary statistics, the combined effect of the socioeconomic factors (F-stat: 6.341) is statistically significant ($p < 0.05$) and accounts for 51.9% of the variation in the explained variable (WASH practice), as indicated by the adjusted R-squared value of 0.519.

Table 6: Effect of Socioeconomic factors on WASH Practice in Private Basic Schools in Ibadan

Socioeconomic Factor	Standardized Coefficients			ANOVA		Adj. R^2
	Beta	t-Stats	p-value	F-Stats	p-value	
Age Distribution	0.237	2.257	0.014			
Gender Distribution	0.136	2.301	0.047			
Social status (income)	0.326	1.503	0.136	6.341	0.001	.519
Population Size	0.227	1.726	0.079			

Dependent Variable: WASH Practice; Level of Significant at 5% (p<0.05); Significant p-value @ 5%
Source: Author's Field Survey, 2024

A similar regression analysis was conducted for public schools, and the results are presented in Table 4. As revealed, except for population size, which has a negative (-0.166) and statistically nonsignificant ($p > 0.05$) effect on WASH practices, all other socioeconomic factors such as age (0.237), gender (0.357), and social status (0.442) have positive and statistically significant effects on WASH practices. Additionally, the joint effect of these factors is statistically significant and explains 42.6% of the variation in the precision of WASH practices among the pupils in the study.

A similar regression analysis was conducted for public schools, and the results are presented in Table 7. As revealed, except for social status, which has a negative (0.442) and statistically nonsignificant ($p > 0.05$) effect on WASH practices, all other socioeconomic factors are statistically significant ($p<.05$) with age (0.237), and gender (0.357) having positive effects and population size (-0.166) has negative effect on WASH practices. Additionally, the joint effect of

these factors is statistically significant and explains 42.6% of the variation in the precision of WASH practices among the pupils in the study.

Table 7: Effect of Socioeconomic factors on WASH Practice in Public Basic Schools in Ibadan

Socioeconomic Factor	Standardized Coefficients			ANOVA		Adj. R^2
	Beta	t-Stats	p-value	F-Stats	p-value	
Age Distribution	0.348	3.119	0.025			
Gender Distribution	0.357	1.156	0.017	4.312	0.007	.426
Social status (income)	0.442	1.883	0.092			
Population Size	-0.166	-2.752	0.021			

Dependent Variable: WASH Practice; Level of Significant at 5% ($p<0.05$); Significant p-value @ 5%
Source: Author's Field Survey, 2024

Discussion

The relatively younger population of pupils in private schools depicts the early entry educational system encouraged be the basic schools in the private sector. The situation in public schools differs as more emphasis is placed on children growing to a certain level where they can talk, speak, and identify some things before enrollment. In most cases, a child gets to about 5 to 6 years old before enrolling in public schools, which remains a major reason why pupils in public schools spend more years completing elementary education compared to their counterparts in private schools. However, with differences in enrollment in private and public basic schools, the government, through the universal basic education, regulates and standardizes the minimum age and years of pupils in basic schools.

The study observed an increase in the enrollment of female children in schools, thereby enhancing girl-child education in the country. The current trend in girl child education contrasts with traditional beliefs that deny the girl child her right to education. However, enhancing girl child education is encouraged by UNESCO and is a key agenda of the SDGs, advocating for the empowerment of girls through education and skills to compete favorably and ensuring gender equality and inclusiveness, especially in developing countries where gender equality is not fully embraced. Moreover, the survey adequately captured both genders, and their opinions are well represented.

Also, the competitiveness in the private school business brings efficiency to the private educational sector, where student-centered and conducive learning environments are prioritized,

and providing quality educational facilities including buildings, equipment, and instructional materials that enhance child learning skills and understanding are embarrassed. These have made private schools to compete favorably with public schools. Whereas, the challenge in public schools is not about the quality of teaching staff, but the adequacy and effective management of the staff members, dilapidated buildings, inadequate educational facilities, and corruption in the system; and compromising the standard of the learning activities and lowered the confidence of parents in sending their wards to public schools. Again, the social stigma towards believing that it is only the children of the poor in society that send their wards to public schools is another setback to public educational facilities at the elementary level.

The study observes a significant influence of age and gender among pupils in private and public schools, implying that differences in age and gender remain strong determinants of their WASH practice activities. For example, regarding age differences, it is expected that certain age categories, especially the older ones, will demonstrate better WASH practices compared to the younger ones; therefore, as pupils get older, their WASH practice habits improve. Similarly, the gender of the pupils (male or female) explains the level of WASH practices, indicating that females may be more committed and perform better in practicing good WASH habits compared to their male counterparts, or vice versa. The significant effects of socioeconomic background such as age, gender, and economic status of pupils on WASH practice underscore its importance, the result aligns with the previous studies. For example, Afolaranmi et al. (2015)andEjimogu et al. (2019)identified the significant role gender and economics status play in ensuring good WASH practice, Wada et al (2022) reported relatively low participation in WASH practice among adolescence schools' girls.

The increasing trend observed in the number of pupils becoming aware of WASH practices is encouraging, and the positive result can be attributed to enlightening programmes for pupils through education, public advocacy, and sensitization. The new curriculum design for primary school sections by the Universal Basic Education Commission (UBEC) of some concerned subjects such as elementary science, social studies, health education, moral instruction, and home economics has improved the exposure of pupils to WASH values and practice systems, and the continuous advocacy on good WASH practice habits by private organizations and international

bodies such as NGOs has complemented the improvement recorded in the level of awareness among the pupils at the basic educational level. However, the publicity on good habits of WASH practices still needs to be intensified, especially among pupils in public schools, because a substantial number of them are not fully aware, with a poor level of participation and habits regarding WASH practices.

It is not surprising that private schools enjoy better stakeholders' interventions, especially from the pupils' parents, school managements, private organizations, and partner NGOs, than public schools. This is because stakeholders of private schools, although relatively smaller, are well-coordinated, with a high level of transparency, which is critical for attracting potential organizations and companies for partnership on WASH practices. Additionally, the functioning parents' associations and alumni also complement the school management efforts to provide basic WASH facilities in the overall interest of enhancing the learning skills of the pupils and promoting the image of the schools.

On the other hand, the misconception about public schools being the sole responsibility of the government has hindered them from enjoying donations and gifts from private individuals and organizations. Government efforts towards providing modern learning facilities across public schools have yielded little results due to the larger number of public schools and government attention in other key sectors such as health and agriculture, as well as infrastructure. NGOs have been a great support to the government in education, but more interventions are still needed from the private sector to complement government efforts to provide a better learning environment for pupils at the basic educational levels. The better performance of private schools in WASH facility provision, practice, and habits compared to public schools was also noted by Cronk et al. (2015),who concludes that private schools have more adequate WASH facilities than public schools.

Conclusion

This study investigates the water, sanitation, and hygiene (WASH) behaviours of students in both private and public primary schools in Ibadan. More precisely, it focuses on the trends of WASH (Water, Sanitation, and Hygiene) behaviours in relation to the knowledge, availability, ease of use, and condition of WASH facilities. Additionally, it examines how the socioeconomic

characteristics of students influence their WASH practices in the area being studied. Data from primary 6 kids was collected using a questionnaire instrument, which was administered by their class teachers. The replies of the pupils were then analysed. The study revealed that private elementary schools exhibit greater pupil enrollments in comparison to public schools. In both private and public schools, the primary age group of students is 6-10 years for private schools and 11-15 years for public schools. It is worth noting that there is a higher proportion of female students in both settings. Although there is a significant level of awareness regarding WASH practices, the level of involvement is poor, particularly in public schools where the situation is even worse.

Both private and public schools have said that there are no problems with the availability of WASH facilities. However, students in private schools have more access to these facilities. Private schools possess ample WASH facilities, including water stations, toilets, and sanitation and hygiene supplies, that are well-maintained and situated within the school premises. On the other hand, public schools face a scarcity of WASH facilities, with most of them being in a state of disrepair, which poses challenges for students to use them. The study found that age and gender had a substantial impact on WASH practices in both types of schools. This suggests that the maturity levels of students and gender differences influence how they behave in relation to WASH practices in the study area. Ultimately, it is crucial to prioritise the involvement of all relevant parties in implementing and educating students on proper WASH practices in order to establish a sustainable learning environment in basic education.

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