



An Assessment of Strategies for Addressing Open Defecation Practices in Kaduna State, Nigeria

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ABSTRACT

Open Defecation (OD) remains a major socio-economic, behavioral and public health challenge in many developing countries including Nigeria. This practice contributes to groundwater contamination, disease burden and hindered progress towards SDG 6.2, which aimed at access to achieving adequate and equitable sanitation and hygiene for all by 2030. The study analyzes the strategies to eliminate open defecation in rural and urban areas of Kaduna State, Nigeria, with a view to informing effective interventions to address this critical public health issue. A multi-stage sampling technique was adopted in conducting this research. The first stage involved stratified sampling using the senatorial boundaries. The second stage was selection of three (3) LGAs from each senatorial district. The third stage included the random selection of respondents from each strata of the study. A total of Three hundred and ninety-one (391) respondents participated in the survey. Data were acquired from both primary and secondary sources. Three (3) LGAs covering both rural and urban LGAs were selected. The Findings revealed that, 50% of the respondents between 18 and 29 age group defecate in the open. 90% of the respondents earned below ₦100,000 monthly while another 70% lacked knowledge on open defecation. The result further revealed that approximately 40% of the respondents reported that open defecation is highly prevalent in their community. Low income was reported to be the major factor that influences open defecation constituting about 40% of the respondents. Furthermore, 65% of the respondents do not have access to proper sanitation facilities. Hence, the study concluded that the attainment of ODF status in Kaduna State by 2030 is quite difficult. The study recommended the Government should adopt sanitation marketing to empower communities take charge of their sanitation needs through awareness campaigns, encouraging behavior change and promoting the construction of toilets.

CITATION

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INTRODUCTION

The practice of open defecation is a global problem with health-related issues facing developing nations (Farouk, et al., 2024). Open defecation is the worst kind of sanitation

that involves disposing human waste in garbage bins, water bodies, public areas, forests, farmlands or other open and green spaces (UNICEF/WHO, 2015). According to a report by WHO (2022), about 2.4 billion people do not

have access to basic sanitation facilities and 946 million people still defecate openly in streets gutters, behind bushes or into open bodies of water. WHO/UNICEF (2014) revealed that 40% of Indian population practice open defecation and it is known as the country with the highest number of people practicing open defecation. Other countries with high percentage are; Indonesia (63 million people), Nigeria (48 million people), Pakistan (40 million people), Ethiopia (38 million people), Sudan (19 million people), Nepal (15 million people), China (14 million people), Niger (12 million people), Burkina-Faso (9.7 million people), (WHO/UNICEF, 2010). WASHplus (2014a) revealed that in Kenya, over 5.8 million people defecate in the open space which increases their risk of diarrhea. Open defecation presages grave environmental and economic implications in both urban and rural areas (Ayadi and Rotowa, 2020). It is estimated that 8.2% of the urban population in sub-Saharan Africa engage in it (World Bank, 2015). Economically, open defecation reduces the human capital of a country's workforce and inhibits people's physical and cognitive development as opined by Mara (2017). Thus, open defecation is regarded as an unimproved method of sanitation and the least status on the rungs of the sanitation ladder that affects everyone.

Several studies have attempted to address the achievement of Joint Monitoring Program (JMP) on sanitation globally such as the work of Karanja (2018); Charles (2020); and Jibril (2021). Adeoye (2015), revealed that poor sanitation has led to higher mortality and morbidity rates especially among children that are below five years old; therewith, about 70, 000 deaths are recorded annually caused by diarrhoea, intestinal worms, polio, typhoid fever, hepatitis and trachoma which are some of the diseases challenging public health due to open defecation and poor sanitation practices. In Nigeria, there is a national roadmap to eliminate OD by 2030 and the institutional platform for meeting the target include the National Task Group on Sanitation (NTGS) at federal level, as well as Rural Water Supply and Sanitation Agencies (RUWASSA), State Task Group on Sanitation (STGS), and WASH departments and committees (WASHCOMs) at state and local government area (LGA) levels. partnership between the government and UNICEF, WaterAid and other NGOs, a pilot community led total sanitation (CLTS) program was established in 2004 to help communities

recognize the adverse effects of poor sanitation, especially OD, and to assist them to develop a plan and act towards becoming totally open defecation free (ODF).

In Kaduna State, UNICEF (2024) reported that about 619,000 people still practice open defecation. Abubakar (2018) in his study, noted that a roadmap in order to eradicate open defecation at State level was established by Kaduna Rural and Water Supply and Sanitation Agency (KADRUWASSA). This agency was set up to help reduce the adverse effects of poor sanitation and design a program to become ODF by 2030. This initiated programme has not been sustainable in the long run due to many factors like large populations, extensive rural settlements, rapidly growing urban areas, and substantial differences in access to sanitation facilities across communities and the nonchalant attitude of people who live in these areas (Odagiri, Muhammad, Cronin, Gnilo, Mardikanto, Umam, and Asamou, 2020). Drawing from this backdrop, this study seeks to bridge this long existing gap to examine the strategies for addressing open defecation practices in Kaduna state, Nigeria and aims towards achieving Sustainable Development Goal 6 sub section 6.2.

Aim and Objectives

The aim of this study was to examine the strategies for addressing open defecation in Kaduna State and was achieved through the specific objectives, which are to:

1. Examine the prevalent rate of open defecation practices in Kaduna State.
2. Determine the factors influencing open defecation practices in Kaduna State.
3. Analyze the strategies for addressing open defecation practices in Kaduna State.

Study Area

Kaduna State is situated in the mid-central part of Northern Nigeria. The State is located between latitudes 9° 03' and 11° 32' North of the Equator and longitudes 6° 03' and 8° 38' East of the Greenwich Meridian as shown in Figure 1. Niger State to the West, Bauchi and Plateau States to the East, and Nasarawa State with FCT to the South. Kaduna State has 3 senatorial districts, namely, Kaduna North, Kaduna South and Kaduna Central, 23 Local Government Areas (LGAs) and 255 political wards.

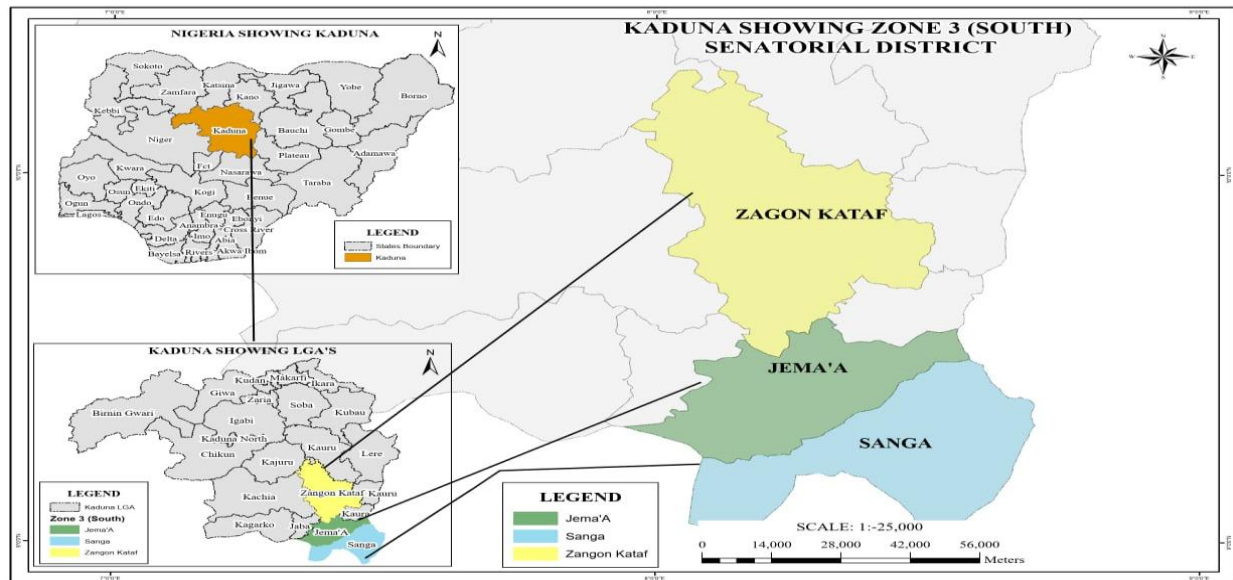


Figure 1: The study Area

Source: Kaduna State Geographic Information Service (KADGIS), 2025

MATERIALS AND METHODS

Study Design

The research adopted a cross-sectional descriptive study design. This involved the administration of structured questionnaires and the use of an observational checklist on sanitation facilities of respondents. It also made use of a mixed approach interventions which includes; access to proper sanitary facilities, behavioral change and policy implementations to measure the of open defecation in the study.

Data Collection

Data were generated from questionnaire administration. Also, Key Informant Interview (KII) and Focus Group Discussion (FGD) were also used for the data generation.

Methods of Data Analysis

The five-dimensional Likert scale was used to reveal the perception on efficacy, safety, affordability, and availability. Weighted arithmetic mean was calculated by assigning weight to quantify and summarize the interventions on eliminating OD. The view of the respondents on their perception was recorded with an assigned weight, Strongly Agree (1), Agree (2), Undecided (3), Disagree (4) and Strongly Disagree (5). The total weight score was determined by summing the total weight and dividing by the sample size to obtain the overall perception.

Weighted Arithmetic Mean (WAM) =

$$WAM(x) = \frac{w_1x_1 + w_2x_2 + \dots + w_nx_n}{w_1 + w_2 + \dots + w_n} \text{ (Amartya, 2017)}$$

Where

w_i = weight assigned to data point

x_i = value of each data,

n = number of data point

Population

The population of the study was estimated to be 1,300,206 people (NPC, 2006) covering the three (3) selected LGAs in the study. These included both male and female with an age 18 years and above.

Sample Frame and Size Determination

Slovins (1960) population determination formula for sample size was used to calculate the number of questionnaires administered. The adoption of this technique is to ensure easy access to respondents and to obtain a fair represent. The Slovins (1960) formula is thus:

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

Where n = the sample size, N = Population, e = limited sample error (0.05) at 95% confidence level.

$$n = \frac{1,300,206}{1 + 1,300,206(0.05)(0.05)} = \frac{1,300,206}{3,251.515} = 399.87 \approx 400$$

The sample frame consists of 1,300,206 people covering the three (3) selected LGAs in the study. The distribution of these LGAs covered both rural and urban areas within the study (Table 1). To ensure fair share representation of the LGAs, Pandey and Verma (2008) sample size of proportional allocation (n_i) was adopted as shown in equation two. Under this method, the samples from the different strata were made to be proportional to the size of the strata population as presented mathematically;

$$\text{It is given as } n_i = n \frac{N_i}{N} \quad (2)$$

Where n = sample size

N_i = LGA population N = total LGA population

For Lere LGA; $400 \times \frac{560,400}{1,300,206} = 172$, the sample size is 172.

This was done to other LGAs as presented in Table 1.

Table 1: Sampled Size

Senatorial Zones	LGAs	NPC 2025 Projected Population	Sample Size (n)	No. of Questionnaires Administered	No. of unreturned Questionnaire
Kaduna South	Zangon Kataf	560,400	$400 \times \frac{560,400}{1,300,206} = 172$	172	5
	Jema'a	473,679	$400 \times \frac{473,679}{1,300,206} = 146$	146	3
	Sanga	266,127	$400 \times \frac{266,127}{1,300,206} = 82$	82	1
	Sub total	1,300,206			
	TOTAL		400	391	9

Source: Fieldwork (2025)

Of the 400 distributed questionnaires, nine (9) were unreturned. Therefore, 391 questionnaires were used for the study.

Sampling Procedure

A multi-stage sampling technique was adopted in conducting this research. The first stage involved stratified sampling using the senatorial boundaries. The second stage was purposive selection of three (3) LGAs from each senatorial district. One OD LGA, one Open Defecation Free (ODF) LGA, and one LGA with the highest population were selected for the study. The third staged included the random selection of respondents in each strata of the study.

Ethical Considerations

Approval to carry out the study and to gain access into the communities was also gotten from the rural heads. Verbal informed consent was duly sought from every respondent. Participation of respondents was strictly voluntary; respondents were informed that they have the right to withdraw from the participation at any time without the fear of penalty. The respondents were assured of confidentiality and privacy and no indication of names on the questionnaire to ensure anonymity

RESULTS AND DISCUSSION

The socio-demographic percentage by age of male respondents is more in Sanga LGA than Zangon Kataf and Jema'a than the female (Table 2). This could be that the males find ease to defecate in the open than the females.

Table 2: Socio-demographic Characteristics of Respondents

Socio-Demography	Zangon Kataf		Jema'a		Sanga	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Gender						
Male	32	71.1	22	57.9	21	95.5
Female	13	28.9	16	42.1	1	4.5
Total	45	100	38	100	22	100
Age						
18-29	23	51.1	19	50	10	45.5
30-39	6	13.3	7	18.4	5	22.7
40-49	5	11.1	4	10.5	4	18.2
50-59	8	17.8	6	15.8	2	9.1
60 and above	3	6.7	2	5.3	1	4.5
Total	45	100	38	100	22	100
Monthly income						
Below ₦100,000	34	75.6	35	92.1	21	95.5
Above ₦100,000	11	24.4	3	7.9	1	4.6
Total	45	100	38	100	22	100
Educational Background						
Formal	14	31.1	29	76.3	15	68.2
Informal	31	68.9	9	23.7	7	31.8
Total	45	100	38	100	22	100

Socio-Demography	Zangon Kataf		Jema'a		Sanga	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Marital status						
Single	24	53.3	22	57.9	7	31.8
Married	7	15.6	9	23.7	9	40.9
Divorced	5	11.1	3	13.2	2	9.1
Separated	6	13.3	2	5.3	2	13.6
Widowed	3	6.7	0	0	1	4.6
Total	45	100	38	100	22	100
Household ownership						
Yes	33	73.3	35	92.1	19	86.4
No	12	26.7	3	7.9	3	13.6
Total	45	100	38	100	22	100
Ethnicity						
Hausa	5	11.1	5	13.2	7	31.8
Igbo	0	0	0	0	0	0
Yoruba	1	2.2	0	0	0	0
Others	39	86.7	33	86.8	15	68.2
Total	45	100	38	100	22	100
Religion						
Islam	2	4.4	3	7.9	7	31.8
Christianity	43	95.6	35	92.1	15	68.2
Traditional	0	0	0	0	0	0
Total	45	100	38	100	22	100

Source: Author's Field Work (2025)

The result revealed that more than 50% of the respondents defecate in the open. This means that OD is attributed to adulthood in the LGAs. Less than 6% are 60 years and above. The result further revealed that less than 90% earn below ₦100,000 and less than 65% had no formal education. This means that an average of them cannot afford to build toilets in their homes or opt for shared sanitation facilities and may not have the knowledge to manage their waste properly. The result further revealed that over 50% of the respondents are single and more than 10% are divorced. This means that most of the respondents preferred to use shared sanitary facilities since they are not married. The result revealed that

ethnicity of the respondents is mostly others (Atyap and Bajju) in majority. This is due to the dominance of Atyap and Bajju in majority in the Southern Senatorial Zone. The result further revealed that over 90% of the respondents practice Christianity religion while lesser percentage practice Islam.

Income and Education Level of Respondents in Kaduna South Senatorial Zone

From Table 3, it was revealed that, the income level among the respondent earning below ₦100,000 across the LGAs (Zangon Kataf, Jema'a and Sanga) is below 95%.

Table 3: Income and Education level of Respondents in Kaduna South Senatorial Zone

Monthly income	Zangon Kataf		Jema'a		Sanga	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Below ₦100,000	34	75.6	35	92.1	21	95.5
Above ₦100,000	11	24.4	3	7.9	1	4.6
Total	45	100	38	100	22	100
Educational Background						
Formal	14	31.1	29	23.7	15	31.8
Informal	31	68.9	9	76.3	7	68.2
Total	45	100	38	100	22	100

Source: Fieldwork (2025)

This income level is too low economically. This means that majority of the respondents may struggle to afford basic sanitation facilities. This also in congruent with a female respondent in an FGD conducted in Gwantu Sanga LGA who stated thus; “the government has not provided adequate support or infrastructure to end open defecation in our community”. The informal education level among the respondents was revealed to be less than 30%.

Practices of Open Defecation

The findings are shown in tables 3, 4, 5 and 6 respectively.

Practice of Open Defecation among Respondents

Table 4 presents the level of practice of open defecation among the respondents. It was revealed that over 40% of the respondents opined that open defecation (OD) is very high in their community. This percentage rise in the prevalence is quite alarming and was attributed to the difference in the socioeconomic status as well as the standard of living of the respondents. The chart is shown in Figure 2.

Table 4: Level of practice of open defecation among Respondents

Variable	Frequency	Percentage (%)
Very high	169	43.2
High	112	28.6
Undecided	52	13.3
Low	32	8.2
Very low	26	6.7
Total	391	100

Source: Fieldwork (2025)

This high percentage response also supports the findings on the existence of open defecation. A respondent in a Key Informant Interview (KII) conducted in Zangon Kataf LGA is in agreement with this evidence stated thus; “Well, for me, many people are practicing it here. If you go to some public schools or along drainage paths you will see it. It is very prevalent in my community”. (Male, Farmer, 27 years of age, Rural residence).

Respondents’ opinion on whether open defecation is practiced in their community

Table 5 revealed that more than 60% of the respondents affirmed that open defecation is practiced in their community. Less than 25% of the respondents did not affirm to open defecation practice in their community. While 10% do not know of the practice in their community.

Table 5: Respondents opinion on whether open defecation is practiced in their community

Variable	Frequency	Percentage (%)
Yes	256	65.5
No	96	24.6
Don’t know	39	9.9
Total	391	100

Source: Fieldwork (2025)

This response on practice of open defecation can be attributed to the fact the majority of the respondents live in the rural areas where the practice of open defecation is endemic. The findings from KII corroborated with this result as a respondent in Kaninkon, Jema’a LGA stated thus; “The practice is very much in our community. Most people enter the bush, primary school or any form of enclosure they use it for defecation. Many people do it” (Male, Farmer, 48 years of Age, Rural residence).

Another respondent corroborated the first assertion stating thus: “This your topic is a little funny open defecation... (that is those people that defecate anywhere

anyhow). It happens. They do it in some of the public schools that are not fenced. You know everywhere here is like urban there are not much of bushes or streams, but around schools, Motor Parks and any open environment. My guess is they mostly do it at night or very early in the morning.” (Female, Retired Teacher, 72 years of Age, Urban residence)

Distribution of Respondent’s opinion on Whether Open defecation is practiced in their Community

The result of attitude of the respondents towards open defecation is presented in table 6.

Table 6: Respondents Attitude towards open defecation

Variable	Frequency	Percentage (%)
Good	196	50.1
Moderate	120	30.7
Poor	75	19.2
Total	391	100

Source: Fieldwork (2025)

From the table, it was seen that 50% of the respondent’s had good attitude towards open defecation. This means that open defecation was perceived to be a social practice

in the LGAs which they believed has no health or environmental consequences. The pie chart is shown in Figure 2.

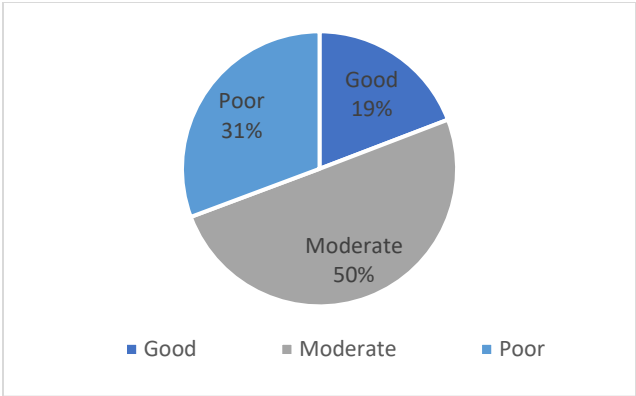


Figure 2: Respondents Attitude towards open defecation
Source: Field work (2025)

Factors Influencing Open Defecation Practices in Kaduna State

Table 7: shows the factors that influences open defecation practices in Kaduna State. From the result, it was revealed

that low income emerged as the most significant contributor, indicating that most respondents simply could not afford any form of sanitation facility.

Table 7: Factors Influencing Open Defecation Practices in Kaduna State

Variables	Frequency	Percentage
Low income	156	39.9
Tradition	49	12.5
Absence of toilet	93	23.8
Not a priority	75	19.2
Unsuitable Toilet	18	4.6
Total	391	100

Source: Field work (2025)

This is followed closely by absence of toilet facilities, which also recorded a high percentage, reinforcing the point that even when toilets exist, they are often too few to serve all members of a household adequately. Absence of toilet was another reason. This suggests that financial constraints limit residents’ ability to construct or access proper toilet facilities. A respondent in an FGD conducted in Sanga LGA, is in agreement with this evidence and stated thus; “I am aware that open defecation is not good however, we cannot restrict members not to defecate in bushes. Community members have complained on the cost of construction materials and other charges. We therefore became considerate and hence until 20 years to

come, I do not think we can restrict members not to defecate in bushes...” (Male, trader, 39 years of Age, Rural residence). Not a priority had a significant percentage, indicating that owning them also discourages usage, leading some to resort to open defecation instead. Interestingly, unsuitable toilet had the lowest percentage, which clearly implies that open defecation is a socially accepted practice. This means that the habit is regarded as a social norm. Also, those who engage in open defecation are doing so out of necessity, and often due to a lack of awareness of the serious health and environmental risks involved.

Strategies for Addressing Open Defecation

Access to proper sanitation facilities, behavioral change and policy implementations were the approaches used to address the interventions of OD in the study. These are presented in the following sub sections.

Access to Proper Sanitation Facility

From the result in table 8, about 65% of the respondent do not have access to adequate and clean sanitary facilities, only less than 20% had. This means that people in the study avoid toilets and opt for open defecation. 70% revealed that the toilets are not more than 100. This inadequacy is not healthy for the community. Adequacy of sanitary facility was seen to be poor as 74.7% revealed

inadequate. 53.7% access sanitary in the morning while 48.9% access at night. This percentage was high as vulnerable residents are prone to harsh weather or attack by snake bites or scorpion stings in early hours. On the impact of KADRUWASSA in the study, over 60% of the respondents revealed that not much was done by KADRUWASSA. This means that access to safe water, better sanitation and hygiene cannot be attained. Regarding response to public/private partnership to provide access to sanitation, over 60% do not have knowledge of the ongoing partnership. This means that there may be poor adoption of proper sanitation practices in the study.

Table 8: Access to Proper Sanitation Facility

S/N	Variables	Strongly Agree	Disagree	Agree	Strongly Disagree	Undecided	Total
1	Do you have Access to adequate and clean sanitary facilities in your community?	33	257	64	24	13	391
	%	8.4	65.7	16.4	6.1	3.3	100
2	Are the sanitary facilities more than 100 in your community?	57	277	23	15	19	391
	%	14.6	70.8	5.9	3.8	4.9	100
3	Are the sanitary facilities adequate in your community?	48	292	13	22	16	391
	%	12.3	74.7	3.3	5.6	4.1	100
4	Do you access the sanitary facilities at night?	191	155	23	16	6	391
	%	48.9	39.6	5.9	4.1	1.5	100
5	Do you access the sanitary facilities in the morning?	210	102	34	25	20	391
	%	53.7	26.1	8.7	6.4	5.1	100
6	Are the public toilets in your community cheap to access?	121	253	10	5	2	391
	%	30.9	64.7	2.6	1.3	0.5	100
7	Has RUWASSA/WASH impacted much in the sanitation provision in your community?	119	251	10	7	4	391
	%	30.4	64.2	2.6	1.8	1.0	100
8	Is there any ongoing private/public partnership that provides access to sanitation products or infrastructure in your community?						

Source: Author's field work (2025)

In a KII conducted with a member of KADRUWASSA regarding access to proper sanitary facility reflected thus: “yes, you know when these facilities are provided to this communities, some of these equipments are being vandalized within 4-5 months of installations”. Another staff reflected as follows: “what prompt lack of access to proper sanitary facilities is slow approval of funds. Most times it takes close to a year before approval is made for a sanitary installation”. Another view from a traditional head in Zangon Kataf LGA revealed thus; “some of the sanitation

facilities provided are substandard. For example, a public toilet was installed and commission just 2 weeks ago. But now, the roof of the toilet has collapsed and the sanitary ware has damaged”. Another view from a traditional head in Fada community in Jema’a LGA stated; “there’s absence of running water in some of the toilets recently built. Even, when people come to use these toilets, they clean themselves with leathers or even rag”.

From the above KII, it was revealed that slow approval of fund by the government, vandalism, substandard product

and absence of running water hinders access to sanitary facility. But a contrary view was stated in a KII conducted by a traditional head in Sanga LGA, Hakimi community, “the main challenge here is that, the users often a times don’t clean these facilities after use. Most especially when you visit those places in the morning, you will find faeces all over”. “the major problem here is that people don’t patronize this facility because they think sharing toilets with people you don’t know may cause illnesses such as skin rashes and other viral infections”.

From the above KII, it was revealed that unclean sanitary facility and shared facility prevent people from proper access to sanitary facility.

Behavioral Change Approach

Table 9 reveals the behavioral change approach as a method of curbing the prevalence of open defecation in the study.

Table 9: Behavioral Change approach

S/N	Variables	Strongly Agree	Disagree	Agree	Strongly Disagree	Undecided	Total
1	Are you aware of the Behavioral Change Communication in your community?	122	232	27	3	7	391
	%	31.2	59.3	6.9	0.8	1.8	100
2	Is open defecation ingrained in the culture of the people in your community?	152	209	13	10	7	391
	%	38.9	53.5	3.3	2.6	1.8	100
3	Is open defecation generally acceptable in your community?	121	59	179	17	15	391
	%	30.9	15.1	45.8	4.3	3.8	100
4	Does open defecation influence changes on individuals’ health?	101	79	172	35	4	391
	%	25.9	20.2	43.9	8.9	1.0	100
5	Is open defecation attributed to traditional beliefs in your community?	193	173	15	7	3	391
	%	49.4	44.2	3.8	1.8	0.8	100
6	Does having sanitary facility in/outside your home regarded as a good hygiene practice?	359	14	11	5	2	391
	%	91.8	3.6	2.8	1.3	0.5	100
7	Does having sanitary facility in your home attracts demons?	287	75	13	7	9	391
	%	73.4	19.2	3.3	1.8	2.3	100

Source: Author’s field work (2025)

It was revealed that less than 60% of the respondents were not aware of the behavior change communication (table 6.2). Only 31.2% are aware of the behavioral change communication. This means that people may not be able to adopt and sustain healthy behavior and lifestyles towards open defecation. 60% of the respondents revealed that open defecation is ingrained in the culture of the people in their community. This norm will be difficult to stop as more people sees it as a social life style. More so, about 40% of the respondent revealed that open defecation is accepted in their community. This means that there is low awareness of the effects of open defecation practices in those communities. In the same vein, less than 45% of the respondents are not sure of the influence of open defecation on individual’s health. This

may be that the respondents are not aware of the infectious diseases spread by open defecation. About 50% of the respondents revealed that open defecation is attributed to their traditional beliefs. This means that open defecation practice is tide to their ancestral belief and may be difficult to change. Majority of the respondents equally noted that having toilet inside the home is regarded as a bad hygiene practice. This maybe that most of the respondents prefer to have their toilets outside because of the bad smell from the toilets. Only a 0.8% of the respondents revealed having toilet inside the home is regarded a good hygiene practice. Furthermore, about 70% of the respondents revealed that having sanitary facility in their homes attracts demons. In an KII conducted with a traditional head in Jema’a LGA, regarding behavioral

change reflected thus: “people in this community don’t feel shy when they defecate in the open. You may see people in broad day light defecating everywhere”.

In another view from a traditional head, Zangon “Kataf LGA reflected; “open defecation in my community is very rampant. People are not adequately aware of the dangers it poses to the health”. Another view from a traditional head in Gwantu community in Sanga LGA opined; “the way and manner people defecate openly in this community is tied to culture. People view it here as an ancestral practice that poses no danger to the health”. From the above KII, it was seen that attitude, awareness and ancestral belief

prevents people from elimination of OD in their communities.

Policy Implementations

Table 10 presents the respondent’s view on policy implementations and legal framework approach as an intervention to eliminate OD in the Kaduna State. It was revealed that majority of the respondents are not aware of the national campaign programme on making Nigeria open-defecation-free by 2025. This means that lack of access to media, internet and other sources of information was not sufficient to enlighten them on the national campaign programme.

Table 10: Policy Implementations Approach

S/N	Variables	Strongly Agree	Disagree	Agree	Strongly Disagree	Undecided	Total
1.	Are you aware of the National Roadmap: Making Nigeria Open-Defecation-Free By 2025 campaign programme?	56	272	30	20	13	391
	%	14.3	69.6	7.7	5.1	3.3	100
2.	Are you aware of the “Clean Nigeria: Use of Toilet” campaign project?	34	304	23	17	13	391
	%	8.7	77.8	5.9	4.4	3.3	100
3.	Are there any interventions towards improving sanitation delivery such as; TBC, BCC, CLTS, PHAST, PEWASH and SLTS?	27	331	13	11	9	391
	%	6.9	84.7	3.3	2.8	2.3	100
4.	Is your LGA certified ODF?	121	167	58	33	12	391
	%	30.9	42.7	14.8	8.4	3.1	100
5.	Are there any Stakeholder Collaboration to end OD in your community?	23	283	45	26	14	391
	%	5.9	72.4	11.5	6.7	3.6	100

Source: Author’s field work (2025)

Also, 77.8% of the respondents were not aware of the Clean Nigeria: Use of Toilet campaign project. This means that there’s absence of community sensitization against open defecation practice. Also, majority of the respondents were not aware of the sanitation campaign such as; TBC, BCC, CLTS, PHAST, PEWASH and SLTS. This also means that large population and awareness hinders understanding and engagement with sanitation messages. 2.3% of the A poor respondents are not sure whether their LGA is certified open defecation free. This may that the OD campaign wasn’t sustainable to make people aware whether they are OD or ODF.

Furthermore, over 70% of the respondents were not aware of stakeholder collaboration to end OD in their community. This means that there’s absence of sanitation intervention to end OD in their community. Lastly, policy implementations and legal framework approach was seen to be tied to lack of sufficient funding, resources and implementation of sanitation programs. This as such may hinder eliminating OD in the study. This supports the

findings of a KII conducted with a sanitation staff of KADRUWASSA, regarding policy implementations and legal framework who reflected thus; “you see, there’s lack of adequate funding to drive policy implementation. when these funds are not provided, the community members may have several alternatives to open defecation”.

Another staff of KADRUWASSA reflected thus; “there’s no long-term commitment by government and NGOs when such policies on OD eradication are being made”. In an KII conducted with a traditional head in Jema’a LGA, regarding policy implementations and legal framework reflected thus: “there’s slow and poor coordination in gaps between state, local governments and community leaders. Sometimes even among the project’s agencies like KADRUWASSA, WASH, WASH-NORM, etc. prevents implementations of policy and legal framework on OD elimination”. Another view from a traditional head in Takanai community, Zangon Kataf LGA stated; “lack of political will, shifting political priorities and corruption hinder consistent and long-term commitment prevents

implementations of policy and legal framework on OD elimination”.

Discussion

This study assessed the strategies for addressing open defecation practices in Kaduna state, Nigeria. The findings from the study revealed that more than 50% of the respondents defecate in the open. This is similar to the findings of Amawulu *et al.*, (2020), who reported a 20% of open defecators in Yenagoa Metropolis, Bayelsa State, Nigeria. The difference with that of the present study is surprising, however, it may be attributed to the differences in the socioeconomic status as well as the standard of living of people in the two study areas. This is quite alarming and could be attributed to the differences in the socioeconomic status especially in rural areas where there's low practice of adequate sanitation. House ownership was also observed as a significant determinant of the practice of open defecation. Those living in their own house tend to practice less open defecation relative to those living in rented apartments. This supports the findings of Onyemaechi *et al.*, (2022) which showed that there is a lower prevalence of open defecation among people living in their own houses. Level of education was observed to be a major role of open defecation in the study because the respondents without formal education had the highest frequency. This agrees with the report of WHO that the population practicing open defecation decline with increasing levels of education (WHO, UNICEF, 2017). The level of practice of open defecation among the respondents was revealed to be over 40%. This is in congruent with the findings of Ayadi and Rotuwa (2020) that there's a high prevalence of OD practice in the residential zones of Akure, Nigeria. Among the factors that influences open defecation practices, 40% of the respondents revealed that low income was the major factor. This means that most of the respondents could not afford to build toilet in their homes. The existing interventions on eliminating OD showed that 65% of the respondent do not have access to proper sanitation facilities. This means achieving an open defecation free status in the LGAs is quite difficult.

CONCLUSION

Open defecation is still a common practice, especially where there is significant lack or limited access to improved sanitation facilities. The drive to protect human health and improve environmental sanitation would essentially require ending open defecation practice. Findings in this study showed that respondents do not have good knowledge of open defecation. It was also observed that basic sanitation facilities in the study area such as toilets, access to improved water source, drainage system was not available. Hence, achieving an open

defecation-free environment would require the collaborative effort of relevant stakeholders.

RECOMMENDATIONS

The study recommended that the State Government should adopt sanitation marketing through awareness campaigns, encouraging behavior change and promoting the construction of toilets.

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