

Contributions of RUSPHIN Programme: Knowledge, Attitude and Practices (KAP) to Sanitation and Hygiene in Gwer LGA, Benue State

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Abstract

The study assessed the contributions of RUSPHIN Programme to knowledge, attitude and practices (KAP) of sanitation and hygiene among the people of Gwer LGA of Benue State. The study adopts a survey design. A total of 381 samples determined by Taro Yamene's formula were drawn from the population of 7,994 households using purposive sampling techniques. Descriptive statistics including frequency, tables and percentages were used to present and analyse the data. Findings of the study showed that; there was a significant improvement in the level of KAP on sanitation and hygiene among the rural people after the implementation of the RUSHPIN Programme with only 1.8 % still practicing open defecation as against 83.7% who were engaged in the act before the implementation of the RUSHPIN programme. Strategies such as enactment of bye laws and frequent monitoring visits to the rural communities were put in place to help sustain the programme in the study area. Based on the findings, the study concludes that the standard of hygiene and sanitation in the study area is satisfactory but for a few issues such as lack of awareness of linkage between sanitation and personal hygiene, and water supply. The study thus recommends among others that efforts be geared towards the periodic assessment of the knowledge, attitude and practice of sanitation and hygiene at the household level. Particularly in the rural areas where basic and improved sanitation coverage is inadequate. As well as interventions by government and or international organizations through ensuring good sanitation and hygiene practice in the rural areas.

Keywords: Sanitation, Hygiene, Knowledge, Attitude and Practice

INTRODUCTION

Sanitation is a fundamental component of a healthy, dignified life and is recognized as a human right. Every individual is entitled to sanitation services that not only provide privacy, dignity, and safety but are also physically accessible and affordable. The United Nations' 2030 Agenda for Sustainable Development, particularly Goal 6.2, aims to ensure that everyone has access to adequate and equitable sanitation and hygiene. This goal also focuses on eliminating open defecation, with particular attention to the needs of women, girls, and vulnerable populations (United Nations, 2018). However, for billions of people worldwide, the reality is far from this ideal. Many live in environments where critical links in the sanitation chain—such as access to potable water, proper toilet facilities, waste treatment, and efficient disposal and management—are either missing or inaccessible (UNICEF/WHO, 2020). Globally, over 1.1 billion people lack access to

safe water supplies, and 2.6 billion are without adequate sanitation. In developing countries, only 31% of rural inhabitants have access to improved sanitation (UNICEF, 2014). This situation emphasises the urgent need for access to potable drinking water and effective sanitation systems to prevent infections and protect public health.

The lack of clean and safe drinking water and sanitation facilities poses significant public health risks, particularly in developing countries. Pathogens such as bacteria, viruses, and parasites are commonly excreted in large numbers through faeces. If not properly disposed of, these pathogens can contaminate drinking water sources, leading to widespread diseases. For instance, just one gram of faeces can contain up to 10 million viruses, one million bacteria, 1,000 parasite cysts, and 100 worm eggs (UNICEF, 1999). These microorganisms can cause severe health issues, including diarrheal diseases like dysentery, cholera, typhoid, and hepatitis A.

In Nigeria, the growth in the number of people using latrines has not kept pace with the country's rapid population growth, which is estimated at over 3% annually. Progress in improving sanitation facilities, often referred to as "climbing the Sanitation Ladder," remains slow across the country (Ibiang et al., 2019). The use of sanitation facilities varies across different states, as highlighted by the 2021 WASHNORM Survey. This survey, though informative, may not fully capture the progress in all states, particularly in those where the Community-Led Total Sanitation (CLTS) approach has been implemented. In many donor-funded states, sanitation coverage has likely increased significantly in recent years due to CLTS, though the data does reflect the varying degrees of sanitation coverage across different regions and population segments (UNICEF, 2017). For example, open defecation rates range widely, from as low as 1.2% of households in Abia to as high as 65.8% in Kogi. States with open defecation rates higher than the national average (37%) include Ekiti, Plateau, Oyo, Cross River, Benue, Taraba, Nasarawa, Kwara, Enugu, Jigawa, Ondo, Niger, Ebonyi, Osun, and Kebbi. In urban areas, flush toilets connected to septic tanks or pits are more common, whereas in rural areas, pit latrines without slabs or open pits are widely used. The use of improved latrine facilities is strongly correlated with the economic status of households: rich households (95%) use improved latrines, only 12% of the poor do so.

United Purpose, a UK-based international development and charity organization, operates in nine countries across Africa, Asia, and Latin America, including four in West Africa: Gambia, Ghana, Guinea, and Nigeria. In Nigeria, United Purpose has partnered with GSF/UNOPS as an Executing Agency (EA) for the Rural Sanitation and Hygiene Promotion in Nigeria (RUSHPIN) programme. This project covering six LGAs in Benue and Cross River States, aims to promote sanitation and hygiene in rural communities, with the Benue State government providing additional funding to scale up the programme to three more LGAs.

RUSHPIN's mandate includes improving toilet facilities for 1.3 million Nigerians and creating an open defecation-free environment for about 2.2 million people. The programme's objectives include increasing sanitation coverage and fostering sustainable hygiene behaviours through a demand-led process that empowers local communities. Additionally, RUSHPIN

seeks to strengthen political commitment across all levels of government to allocate appropriate resources for sanitation and hygiene.

As a five-year Global Sanitation Fund (GSF) supported initiative, RUSHPIN aimed to increase sanitation and hygiene coverage and help Nigeria achieve the Millennium Development Goals (MDGs) targets in these areas. Hygiene and sanitation promotion has become a critical tool for improving community health conditions. Community members, once empowered, can act as effective agents of change, promoting practices such as handwashing, toilet use, and maintaining hygienic environments. As people adopt good hygiene practices, they become peer advocates and also transfer this knowledge to their families and friends (De Gabriele et al., 2004).

With 2.9 million people in Benue State still practicing open defecation (Ikyaator, 2019; Duru, 2023), the importance of the RUSHPIN programme, which targets rural sanitation and hygiene, cannot be overstated. This research specifically assessed the first objective of the RUSHPIN programme in improving sanitation and hygiene among the rural population of Gwer LGA in Benue State, an area that has already been declared open defecation-free by the Federal Ministry of Water Resources. Objectives of the study include to identify sources of knowledge and promotional activities about sanitation and hygiene, assess knowledge, attitude and practices on sanitation and hygiene among rural people, ascertain the status of open defecation, and identify challenges to the implementation of sanitation and hygiene activities.

MATERIALS AND METHODS

Study Area

Gwer LGA derived its name from the Gwer River. It was created in 1976 out of Makurdi LGA with its headquarters in Aliade. The LGA has three districts; Yonov, Njiriv and Ngyohov and 14 Council wards, 71 Kindreds with a population of 168,660 (NPC, 2006,) projected to 223,465 people in 2021. Gwer LGA is bordered by seven other LGAs: Makurdi in the North-East, Gboko in the East, Konshisha in the Southeast, Obi and Oju in the South, Otukpo in the South West and Gwer West in the West. All LGAs of Benue State. The LGA is accessible by road to its headquarters and the communities except in some few communities where accessibility is difficult especially during raining season.

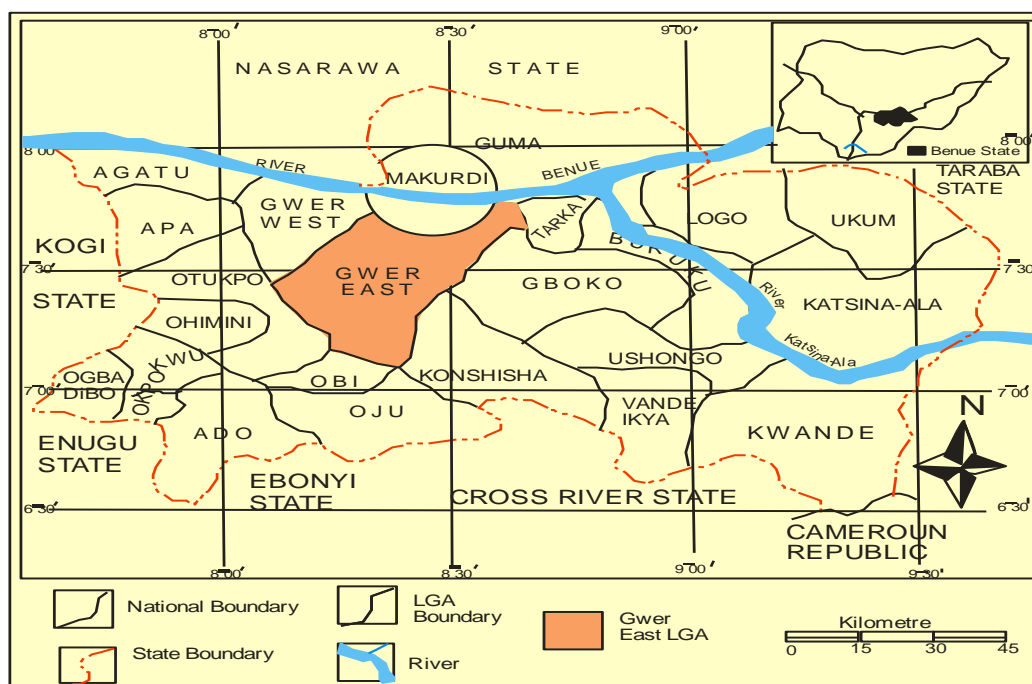


Fig. 1: Benue State showing Gwer LGA
Source: Ministry of Lands and Survey, Makurdi

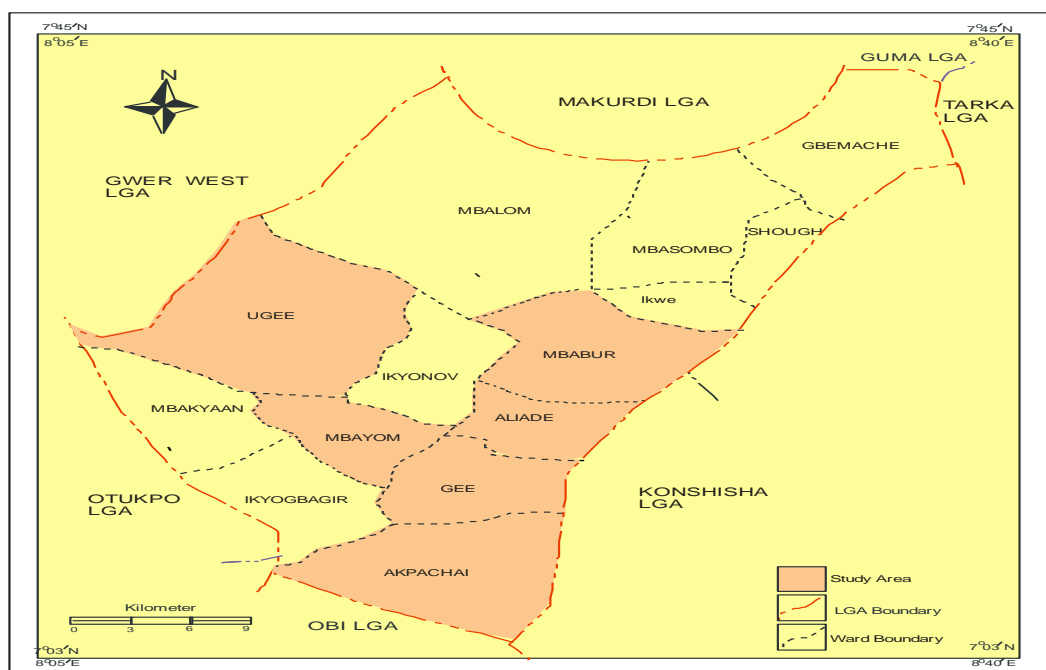


Fig. Gwer LGA Showing the study area
Source: Ministry of Lands and Survey, Makurdi

Gwer LGA has fourteen (14) council wards, and Seventy-One (71) Kindreds. The LGA predominantly are Tiv speaking people with a fraction of Igede speaking people in one council ward. It had a total population projection of 203, 949 in 2021 out of which 107, 076 are male while 96, 872 are female. Majority of the people in Gwer representing 85% of the population live in

the rural areas, but 15% live in small towns. Out of this number, 17,400 people in the LGA have access to safe water which represents 8.5 % of the LGA total population. Whereas, 1,320 Households have access to safe means of excreta disposal which represents 6.2% of the total estimated households of the entire LGA (Water

Sanitation and Hygiene (WASH) Unit Baseline, 2011).

The rich and fertile soil in the study area enables the production of agricultural produce such as Soybeans, Cassava, Beniseed, Groundnuts, Rice, Yams and Citrus which can provide sufficient raw materials for some industries in the area. There is also a gigantic industry located in the LGA known as Taraku Mills which produces vegetable oil. The location of the factory was based on the agricultural resources of the area especially soybeans and related raw materials which are produced in the area in large quantities. The location of Taraku mills in the LGA provided additional prospects for investors in animal husbandry.

Major revenue sources from which the local government generates its internal revenue include, taxes, rates and fees collected from major markets. These markets are: Ullam, Moi-Igbo, Ikon, Mase, Ikpayongu, Akpagher, Taraku, and Igbor. The head quarter of the LGA is also situated at a strategic position with a trunk 'A' road passing through it to the North and South of the country thereby making it easily accessible. The local government area is endowed with mineral resources which can be effectively tapped by investors. There is salt deposit at Mbayom council ward in Ngyohov District which has been locally exploited and baked for local consumption. The area is also blessed with clay deposit which is found in large commercial quantity in Akpachai council ward. It is exploited locally for molding of pots used as cooking utensils. Some of these are also used as dishes for serving meals and for interior decorations

Table 1: Total Number of Persons in Selected Communities within the selected Council Wards

Council Ward	Population within Council Ward	Total Communities within Council Wards	Households	Sample size
Akpachai	10,747	29	804	
Mbayom	9,361	19	504	
Ullam	12,549	36	1,628	
			7,994	

A total number of 381 Households were drawn from the six sampled council wards with a Households of 7994. The sample size is based on Yamane's (1973) formula as follows:

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

Where,
n = sample size

Methods

Research design

The study adopted a cross-sectional survey design. The survey relied on information from the sample respondents in Gwer LGA of Benue State. Consequently, questionnaire was designed and administered to the study population in order to elicit their responses. Focused Group Discussion (FGD) was also conducted and transcribed as a back-up source to the questionnaire. Community stakeholders who were part of the project, Water Sanitation and Hygiene Committee (WASHCOM) chairmen, Selected Local Government Staff of WASH Department, Traditional Rulers, Community Sanitation Taskforce were interviewed.

Data required

The type of data that was required for this study include: knowledge about hygienic practices (collection and storage, hand washing, sanitation and waste disposal), oral hygiene and wash up point after toilet among rural dwellers in the study area. These data were collected through the use of questionnaires, focus group discussion (FGDs) and Key Informant interview (KII). Information on Open Defecation (ODF) status in Gwer LGA, the RUSHPIN Programme closing out document and other media publications were consulted. Also, field observation was carried out to ascertain ODF status in the area.

Sampling procedure

For this study, the researcher purposively sampled six (6) council wards out of the fourteen (14) council wards within the study area. The total number of persons within the selected council wards are as shown in table 1.

Source: Pre-Survey (2020)

Sample size

N = population size
e = level of significance
Applying the formula
N = 7994
e = 0.05

This sample is distributed among the selected council wards using Bourley's (1964) formula as follows:

$$nh = \frac{nNh}{N}$$

Where,

nh = sample of households in each council ward

n = the total sample size

Nh = total number of households in each council ward

N = the population size

Applying the formula, we have:

i. For Akpachai, $nh = \frac{381 \times 804}{7994} = 38$

ii. For Mbayom, $nh = \frac{381 \times 696}{7994} = 33$

iii. For Gee, $nh = \frac{381 \times 1628}{7994} = 78$

iv. For Ugee, $nh = \frac{381 \times 2430}{7994} = 116$

v. For Aliade/Mbalav, $nh = \frac{381 \times 842}{7994} = 40$

vi. For Mbabur, $nh = \frac{381 \times 1594}{7994} = 76$

Method of data collection

The data for this study were collected through a structured questionnaire, direct field observations, oral interview and Focused Group Discussions (FGDs). The questionnaire was articulated in such a way that it contained open ended and multiple-choice questions with minimum ambiguity and biasness and was personally administered by the researcher and field assistants to respondents within the study area. In addition, the researcher carried out field observations with the help of tour guides who were indigenes of communities under study for the verification of the existence and functionality of sanitation and hygiene facilities and practices.

The Key Informant Interview (KII) interview were also conducted by the researcher with the help of trained research assistants. Information on knowledge about hygienic practices (collection and storage, hand washing, sanitation and waste disposal), oral hygiene and wash up point after toilet were also sourced from rural dwellers within their communities. These procedures helped immensely in reducing the

errors and strengthening the adequacy of the data that will be discussed. In order to ensure the validity and reliability of the questionnaire, the instrument was pre-tested by administering it to a few respondents from the selected sample; which enabled the researcher to clarify questions, ambiguities and determine the difficulty likely to be encountered by the respondents in completing the questionnaires.

Finally, under the Focused Group Discussion, traditional rulers/religious leaders and leaders of community-based organizations were interviewed giving responses on sanitation and hygiene practices in Gwer East LGA. These group were formed comprising of 7-12 members. The research asked questions, with the support of an assistant who took notes as well as use of a recording device for later transcription.

Secondary data was obtained from published documents related to sanitation and hygiene. Also, a list of communities from the United Purpose pre-baseline survey was used as a guide for this survey. Five (5) communities were randomly picked from 3 council wards each, they are; 1. Ikyonov- Nyam Agbadu, Kwaghkule, Mbaakesa, Mbawon and Utembe. 2. Mbakyaan-Veva, Mbaajime, Mbasema, Afer and Mbaaku. 3. Mbasombu- Yabo, Mbese, Mbaanku, Abiem and Achiba.

Analytical techniques

Data was analysed using descriptive statistics. Descriptive statistics including frequency counts, tables, and percentages were used to analyse data on hygienic practices/sanitation of the respondents. Information collected using focus group discussion and interview were transcribed and analysed thematically.

RESULTS AND DISCUSSION

Demographic and Socio-Economic Characteristics

The socio-demographic characteristics of the respondents were analysed and presented considering the following specific variables such as gender, age, marital status, educational attainment, income, occupation, religion and period of stay in the area. Table 2 shows the demographic and socio-economic characteristics of respondents in the study area.

Table 2 Demographic and Socio-economic Characteristics

Variable	Options	Frequency	Percentage (%)
Sex			
	Male	287	75.3
	Female	94	24.7
Marital status			
	Single	46	12.1
	Married	254	66.7
	Divorced	16	4.2
	Widowed	51	13.4
	Separated	14	3.7
Age			
	08-24 years	104	27.3
	25-44 years	178	46.7
	45 years and above	99	26.0
Educational qualification			
	No formal education	34	8.9
	Primary	118	31.0
	Secondary	174	45.7
	Tertiary	55	14.4
Occupation			
	Unemployed	14	3.7
	Retired/pensioner	21	5.5
	Farming	178	57.5
	Trading	31	8.1
	Employee of private business	12	3.1
	Self employed	50	13.1
	Civil servant	34	8.9
Monthly income			
	<10,000 naira	67	17.6
	11,000-50,000 naira	173	45.4
	51,000-100,000 naira	134	35.2
	101,000 and above	7	1.8

Source: Fieldwork, 2021

The demographic data provided in Table 1 shows that there is significant gender imbalance, with 75.3% male respondents compared to 24.7% female, suggests a potential bias in the sample that may affect the study's conclusions, especially in areas where gender differences could influence sanitation and hygiene practices. This disparity could stem from cultural or societal norms that limit women's participation in such studies or from the selection process itself, which may not have been inclusive enough. The age distribution, where 46.7% of respondents were between 25 and 45 years, and 26% are over 44 years, with a mean age of 35 years, indicating that the study primarily involves individuals in their most economically active years. This is a positive indicator, as these age groups are typically more

engaged in labour-intensive activities such as farming, which aligns with their involvement in sanitation and hygiene practices. However, the lack of representation of younger (below 25 years) and older age groups (above 45 years) may overlook the perspectives and practices of these populations, who might have different sanitation needs or constraints.

Regarding marital status, the data shows that 66.7% of the respondents are married, which is consistent with rural settings where marriage is often more prevalent among adults. However, 12.1% of respondents are single. The predominance of married respondents may indicate that family-based approaches to sanitation are prevalent, but it may also mask the experiences of single individuals, who could face

different challenges in maintaining sanitation and hygiene.

The educational background of respondents indicates that 45.7% have secondary education, 31% have primary education, and 14.4% have tertiary education. This distribution suggests that while a significant portion of the population has basic education, a smaller fraction has advanced education, which could influence their understanding and implementation of sanitation practices. The lower levels of tertiary education among the population might limit access to information and the ability to adopt more advanced or scientific sanitation methods, potentially affecting the effectiveness of hygiene practices in the area.

Income levels, with 45.4% earning between N11,000 and N50,000 and 35.2% earning between N51,000 and N100,000 per month, indicate that the majority of respondents fall within low to moderate income brackets. This

income distribution aligns with the occupation data, where 57.5% of respondents are engaged in farming—a sector typically characterized by lower income levels. The heavy reliance on farming as a primary occupation indicates that the rural and agrarian nature of the population, but it also suggests economic vulnerability, which could limit access to sanitation facilities and hygiene products.

Source of Knowledge about Sanitation and Hygiene

Public health conditions related to clean drinking water and treatment and disposal of human excreta and sewage is essential. It is important to assess awareness and source of knowledge of the rural people concerning sanitation in order to identify behavioural change agent in the area. The awareness and sources of knowledge about sanitation and hygiene is presented in Table 3.

Table 3: Source of Knowledge and Promotional Activities about sanitation and hygiene

Awareness about Sanitation and Hygiene	Frequency	Percentage (%)
Yes	377	99.0
No	4	1.0
Sources of Knowledge		
TV	2	0.5
Radio	32	8.4
RUSHPIN	347	91.1
Promotional activities carried		
Hand washing with soap and water	132	34.6
Using clean safe drinking water	4	1.0
Environmental hygiene practices	35	9.2
Good food hygiene	12	3.1
Using clean toilets	11	2.9
Option 1,2,3,4 and 5	187	49.1
Total	381	100

Source: Fieldwork, 2021

Information presented Table 3 shows that 99.0% of the respondents have heard about sanitation and hygiene and their source of information about sanitation and hygiene was from RUSHPIN, represented by 91.1% of the respondents. This shows that in the study area, majority of the inhabitant knew about sanitation and hygiene through RUSHPIN Programme. It was further revealed through Focus Group Discussions with Men, Women, WASHCOM and the traditional institutions that knowledge about sanitation and hygiene was passed onto them through RUSHPIN Programme. The kind of knowledge pass onto them by RUSPIN and other

sources include: wash hand with soap and water as a way of promoting sanitation and hygiene in the area (34.6% of respondents), and hand washing with soap and water, using clean safe drinking water, environmental hygiene practices, good food hygiene and using clean toilets are the ways of promoting sanitation and hygiene in the study area (49.1% respondents).

KAP on sanitation and hygiene among rural people

Knowledge

Information on knowledge about sanitation and hygiene in the area is presented in table 4.

Table 4: Knowledge on sanitation and hygiene

Options	Frequency	Percentage (%)
Meaning of Sanitation		
Clean clothes	41	10.8
Clean compound	112	29.4
Disposing of human excreta properly	97	25.5
Disposing domestic waste properly	63	16.5
Disposal of menstrual material properly	2	.5
All of the above	66	17.3
Meaning of personal hygiene		
Taking bath three times daily	41	10.8
Cutting nails regularly	27	7.1
Washing hands at critical times	41	10.8
Bathing after menstruation	23	6.0
Regular barbing of hair	13	3.7
All of the above	235	61.7
knowledge of sanitation and hygiene have improved as a result of RUSHPIN Programme		
Strongly disagree	6	1.6
Disagree	3	.8
Agree	132	34.6
Strongly agree	240	63.0
Total	381	100.0

Source: Fieldwork, 2021

Table 4 shows that the understanding of the rural people about sanitation is clean surrounding represented by 29.4% of the respondents, 25.5% of the respondents see sanitation as proper disposing of human excreta and also disposing of domestic waste properly. On personal hygiene, 61.7 % of the respondents affirmed that their understanding of personal hygiene was taking of bath three times a day, washing of hands at critical times and bathing after menstruation. It shows that the RUSHPIN Programme had actually shared knowledge of sanitation and hygiene with the rural people of Gwer East LGA. They are aware sanitation and hygiene is not only about defecating in the toilets but encompasses all aspects of personal, environmental and food hygiene. The study further reveals 63 % strongly agreed that the knowledge of sanitation and hygiene have improved as a result of RUSHPIN Programme. From the baseline documents as compared with Programme close out report as well as FGD and key informant interviews conducted, the study revealed a significant improvement in the knowledge of sanitation and hygiene in Gwer LGA after the programme intervention.

Attitude

Information in Table 5 shows that 99.2% of the study area have toilets facilities and do not

practice open defecation. From the FGD conducted, it was revealed that the 0.8% of the respondents without toilet facilities embark on dig and bury as well as share facilities with neighbours who have in other to avoid open defecation. The common toilet type used in the area as indicated by 37% of the respondents is pit latrine without slab/open pit, 31.8% of the respondents use pit latrine with slab, and 28.9% of the respondents of the use pour flush toilets. Most of the toilets are located outside the house as affirmed by 44.1% of the respondents, while 41.7% of the toilets are located in the house. Also, majority of these toilets were constructed between 2015 and 2018 as affirmed by 60.9% of the respondents which marked the period of RUSHPIN programme intervention.

Furthermore, the information reveals that majority of the respondents constructed toilets for health reasons, while 37.3% of the respondents constructed toilets for convenience purpose. Based on the data, toilets were constructed in the study area as a result of health issues and conveniences. This is also corroborated by the key informant interview with the Executing Agency (EA), United Purpose who averred that the most significant change observed as a result of the RUSHPIN Programme intervention in the LGA was increased awareness on sanitation and hygiene and link to disease and illnesses as well

as consciousness that there is significant dignity for the woman and girl child. Worthy of note here is that prior to the RUSHPIN Programme intervention, 25% of these people were practicing open defecations as confirmed and collaborated

in an interview with a key informant Implementing Agency (IA) Benue State Rural Water supply and Sanitation Agency (BERWASSA)

Table 5: Attitude of the rural people towards sanitation and hygiene

Availability of Toilet in households	Frequency	Percentage (%)
Yes	378	99.2
No	3	0.8
Kind of toilet in Households		
VIP Latrine	4	1.0
Pit latrine with slab	121	31.8
Pit latrine without slab/open pit	141	37.0
No facility/Bush/Field	3	.8
Water Cistern	2	.5
Pour Flush	110	28.9
Location of toilet facility		
Inside the house	22	5.8
Inside the compound	159	41.7
Elsewhere	32	8.4
Outside the compound	168	44.1
Years of toilet construction		
Before 2004	3	.8
2005-2008	5	1.3
2009-2011	16	4.2
2012-2014	67	17.6
2015-2018	232	60.9
2019 above	58	15.2
Reason for construction of toilets		
Health	210	55.1
Social prestige	8	2.1
Convenience	142	37.3
By compulsion	21	5.5
Owning or using a toilet		
Happy	374	98.2
Not happy	2	.5
I am forced to use a toilet	5	1.3
share toilet with others who are not family members		
Yes	184	48.3
No	197	51.7
family members within the household with no access to the toilet facility		
Children below 5yrs	70	18.4
mentally unstable members	2	.5
people with disabilities	15	3.9
Total	381	100.0

Source: Fieldwork, 2021

Information in Table 5 shows that 48.3% respondents do share toilet with others who are not family members while 50.9% respondents do not share their toilet with others who are not family members. An elaborate discussion on

sharing of toilet facilities was discussed during FGD with Men, Women and WASHCOMs in Gwer LGA, they opined that sharing of toilet facilities come as a result of collapsed toilets from other households, visitors, as well as by

vulnerable groups who are incapacitated to construct personal toilets at a particular time before been supported by the WASHCOM. It is a standing order for each household to own a toilet for its usage.

Hygiene practices

Hand hygiene is the practice of washing hands with soap and water under running water or cleaning the hands with antiseptic hand rub to remove disease causing microorganisms from the hands. Hand hygiene is especially indicated at certain critical times in general context such as

before cooking, before eating, before feeding a child, after visiting the toilet, after cleaning a baby's faeces. Also, A Nigeria WASH framework affirmed that the availability of hand washing facilities with soap and water within premises is a priority indicator for global monitoring of hygiene (WHO, 2020). In Nigeria, 17% of households have access to hand washing facilities with soap and water as reported in the 2021 WASHNORM (WASHNORM, 2021). Information on hand washing practice in the area is presented in Table 4.

Table 6: Hygiene practice

Times of washing hands	Frequency	Percentage (%)
After using the toilet	182	47.8
After changing a child's diaper	74	19.4
Before eating	79	20.7
Before preparing food	41	10.8
Others (Specify)	5	1.3
Places where members wash their hands		
Inside house	24	6.3
inside compound	84	22.0
tippy tap	256	67.2
Bucket/jug/kettle	7	1.8
No hand washing place	3	.8
No permission to see	5	1.3
Availability of water		
Water is available	357	93.7
Water is not available	20	5.2
Availability soap, detergent or ash for hand washing		
Soap, Detergent or Ash Available	332	87.1
Soap, Detergent or Ash Not Available	43	11.3
Water Sources		
Tube well/Borehole	61	16.0
Hand Dug Well	280	73.5
Rainwater collection	12	3.1
Surface water	26	6.8
Locations water source		
within the house	35	9.2
within the compound	251	65.9
Elsewhere	93	24.4
Time taken to reach water source		
<10minutes	241	63.3
10-30 minutes	82	21.5
30-60minutes	51	13.4
60minutes	2	.5
Availability of water		
Yes, always	229	60.1
No, most of the time	103	27.0
No some of the time	37	9.7
No rarely available	10	2.6
Total	381	100

Source: Fieldwork, 2021

Hand washing practice in the area shows that 47.3% of the rural people wash their hands after using the toilet, while 20.7% wash their hands before eating food. Majority of the rural people in the area wash their hands using tippy tap and 97.7% of the house affirmed that water was available for hand washing. Most of the rural people in the area represented by 87.1% use soap, detergent/ash and is always available. The available main source of water is hand dug well as affirmed by 73.5% of the respondents, while 16% have borehole as main source of water. Most of the people in the area take less than 10minutes to reach available water source as affirmed by 63.3% of the respondents, while 21.5% take 10-30 minutes to reach available water source. This indicates that the main source of water used in toilets and for hand washing within the study area is from hand dug wells and it the major source of water for the people. Water plays a key role in various aspects of human endeavour and its sustainable management is critical to the development of a society. Without water, achieving domestic, commercial, industrial, agricultural and recreational purposes will be a futile exercise. While is very necessary to make significant and sustained investment in water supply infrastructure, institutions and water

resource management, less developed countries like Nigeria lack adequate water infrastructure, suffer from weak institutions and poor water governance. Therefore, inadequate access to quality water, sanitation and hygiene (WASH) services continue to negatively impact health, education, infrastructure and have huge socioeconomic consequences on society (NRHH4ALL, 2021)

Discussions during FGD with Men, Women and WASHCOMs officers in Gwer LGA, revealed that the rural dwellers are mostly farmers lacking access to soaps and detergents thereby succumbing to the use of ashes as a local detergent. They also highlighted the benefits of ashes in the toilet to decrease faeces giving enough space in the pit, preventing flies perching on faeces, preventing odour emanating from the toilet as well as preventing transfer of infectious diseases.

Status of Open Defecation

Gwer LGA was declared open defecation free by the Federal Ministry of Water Resources in 2019. The study sought to determine the status and claims of this feat. Information on the status of open defecation in the area is presented in Table 7.

Table 7: status of open defecation in the area

Methods	Before		After	
	Frequency	Percentage	Frequency	Percentage
Open defecation	319	83.7	7	1.8
dig and bury	53	13.9	11	2.9
Toilet	7	1.8	361	94.8
Total	379	99.5	379	99.5

Source: Fieldwork, 2021

Information in Table 7 shows that, 83.7% defecate in an open place as their disposal method and practice before the introduction of Rural Sanitation and Hygiene Programme, 13.9% dig and bury excreta as their disposal method and practice and 1.8% do dispose excreta in toilet in the study area. This shows that before the introduction of Rural Sanitation and Hygiene programme in the study the method and practice of excreta was open defecation. After the RUSHPIN programme, only 1.8 % of the rural

people in the area still defecates in an open place as their disposal method and practice, while majority of the respondents represented by 94.8% use toilets in the area.

Challenges to the Implementation of Sanitation and Hygiene Activities

The challenges to the implementation of sanitation and hygiene activities in the area were assessed.

Table 8: Challenges to the implementation of sanitation and hygiene in the area

reluctant in constructing a toilet	Frequency	Percent (%)
I felt more comfortable defecating in an open space	36	14.4
I have never defecated in a toilet	35	14.0
Was reluctant to accept the new behaviour	153	61.2
Was afraid I may contact disease defecating in the toilet	26	10.4
Challenges faced in toilet construction		
Lack of funds	140	36.7
Wanted subsidy	72	18.9
Nature of terrain	112	29.4
Human and technical capacity	55	14.4
Total	381	100

Source: Fieldwork, 2021

Information in Table 8, shows that 61.2% of the inhabitants were reluctant to accept the new change/behaviour of sanitation and hygiene in the area, while 10.4% inhabitants were afraid that they may contact diseases when defecating in a toilet. This shows that resisting changes/accepting new behaviour of sanitation and hygiene was the reason they feel reluctant to construct toilets in the areas/homes. This can further be supported with the findings of KII and FGD carried out staff of UNITED PURPOSE (UP)/BERWASSA/WASH Coordinators, Traditional institutions within Gwer LGA which also affirmed that community members were reluctant in participating in the programme due to

failure of past programmes in the area. The results also shows that the major challenge faced in toilet construction in the study area as affirmed by 36.7% is lack of funds, and 29.4% of the respondents indicated the nature of the terrain as another challenge.

Strategies to Sustain the Programme Objective in the area

In order to sustain the programme achievement of attaining open defecation free in the area, strategies were put in place. Information on the kinds of strategies put in place is presented in Table 9.

Table 9: Strategies put in place to sustain sanitation and hygiene behaviour

Items	Frequency	Percentage (%)
Sustainability strategies		
Monitoring committees	221	58.5
Monitoring visits	80	21.0
Bye laws	78	20.5
Community regulations		
Fines	201	52.8
Sanctions	173	45.4
Others specify		1.8
Total	381	100

Source: Fieldwork, 2021

Strategies put in place to sustain sanitation and hygiene behaviour as presented in Table 9 shows that, 58.5 % suggested the constitution of monitory committee, 21% monitoring visit and 20.5 % were of the opinion that enactment of sanitation and hygiene laws were the best

strategies. Furthermore, information form the KII and FGD reveals that they utilized the National ODF verification protocol which stipulates that communities are verified every month for at least five (5) times before the National body visits for validation. This is to ensure that households and

communities maintain the open defecation status for a protracted time until it becomes a sustained practice. Also, enactment of by-laws on open defecation have helped to sustain sanitation and hygiene behaviour. The community regulations relating to having or using latrine or not defecating in open as shown in Table 8 shows that, 52.8% of the respondents suggested imposing fine on offenders of open defecation. While, 45.4% suggested community sanction as a way of sustaining and maintaining open defecation free environment.

CONCLUSION

The standard of sanitation and hygiene in many communities in Gwer LGA have improved seriously due to RUSHPIN intervention programme and with the new wave of awareness of linkages between poor sanitation and personal hygiene. The promotion of hygiene and sanitation has recently become a tool for the improvement of health conditions in rural communities. Consequently, community members can be effective change agents for behavioural practices such as washing hands, using latrines and maintaining hygienic environments. The contributions of the RUSPHIN Programme to knowledge, attitude and practices (KAP) of sanitation and hygiene among the people of Gwer LGA of Benue State have brought to the fore the need to support rural communities for efficient tackling of diseases in rural areas. Based on the findings of the study, the study recommended continuous education on sanitation and hygiene. This is important as it will ensure the correct, continuous and proper use of the services long after the technical support team of the programme have left.

REFERENCES

Duru, P. (2023). UNICEF calls for rapid action, collaborative efforts to end open defecation in Benue, *Sunday Vanguard* of 5th February, 2023.

- Ibiang, O., Nurudeen, S.O, and Ozah, H.P (2019) Status of Sanitation Facilities and Hygiene Practices in Yakurr Local Government Area, Cross River State, Nigeria. *European Journal of Preventive Medicine*; 7(3):65—70.
- Ikyator, T. (2019). *Sanitation and Hygiene Fund*, United Purpose Nigeria, https://twitter.com/UnitedPurposeNG/status/1207623820351332352/media_tags
- National Outcome Routine Mapping of Water, Sanitation and Hygiene service levels, Nigeria – NBS (WASH-NORM) 2018
- Nzeribe C. G. and Ilogu G.U. (1999). *Fundamentals of Research Methods*. Onitsha: West and Solomon Publishing Company.
- UNICEF (1999). Towards Better Programmemeing. A Manual on Hygiene Promotion, Water and Environmental Sanitation; Technical Guideline Series No. 6.
- UNICEF (2008). A Training Manual on Good Water Sanitation and Environmental Hygiene Practices for Primary Schools, United Nations Children Fund.
- UNICEF (2014). POST – 2015 Proposed Targets and Indicators for Households, Schools and Health Centers; World Health Organization (WHO) and United Nation Children Fund (UNICEF) Joint Monitoring Programme (JMP). Available at: <http://www.unicef.org/wash/files>
- UNICEF (2017) *Making Nigeria Open-Defecation-Free by 2025: A National Road Map*. www.unicef.org-nigeria-media-file-Nigeria-making-Nigeria-open...PDF Accessed 13th February, 2020
- UNICEF (2020). Evaluation of Nigeria's Government and UNICEF Water, Sanitation and Hygiene (WASH) Programme (2014-2017), Final Report.
- Yamane, T. (1973). *Statistics: An Introductory Analysis*. 3rd Edition, Harper and Row, New York.