

SERVICE DELIVERY, CONSTRAINTS AND PROSPECTS OF PORTABLE WATER SUPPLY AND SANITATION IN BENUE STATE: A CASE STUDY OF WATERAID NIGERIA

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Abstract

The purpose of this study was to assess the service delivery, constraints and prospects of prospects of portable water supply and sanitation in Benue State: A case study of WaterAid Nigeria. Thirteen objectives with corresponding research questions and three null hypotheses were postulated to guide the study. The study utilized case study research design. The population for the study comprised 348 respondents. The instrument used for data collection was questionnaire. The data collected were analyzed using frequency, percentages, mean t-Test and Chi-square. The results shows that portable water supply and sanitation was inadequate (\bar{x} 1.38) (refuse disposal (\bar{x} 1.38) sewage disposal (\bar{x} 1.93), open dumping/burning (66.1%) and burying (27.9%) were the methods of refuse disposal; inadequate funding, lack of legislation and inadequate manpower were the major constraints to water supply and sanitation. The results further showed that the prospects of water supply and sanitation included extension of pipe borne water (94.0%), sewage systems (90.5%), monitoring and evaluation (87.1%), private sector participation (86.2) and logistic support (86.5%). There was no significant difference between urban and rural areas regarding constraints to portable water supply and sanitation, maintenance of resources, treatment of water, sewage and effective monitoring and evaluation of water and sanitation program in Benue State, Nigeria.

Key words: Service delivery, constraint, prospect, water supply and sanitation

Introduction

The supply of potable water and sanitation is an essential determinant of good health among people regardless of race, ethnicity, religion or creed globally. It is in recognition of the importance of water supply and sanitation that World Health Organization – WHO (1978) declared potable water supply and sanitation as a basic human right to achieve for people all over World by the year 2000. WHO set basic human physiological water requirement for adults who weight 60 kg at 2 liters per day depending on weather, exercise and health. Water is a colourless liquid which is aesthetically appealing and socially acceptable for human consumption. Park (2015) defined water as substance that is free from pathogenic organisms and harmful chemicals, pleasant to the taste, without colour and odour, acceptable and useable for domestic purposes. In this context, potable water supply refers to water that is free from harmful organisms and other elements which can cause diseases. Water supply and sanitation are inseparable concepts. This is because they complement each other. Water is useful for body processes and sanitary practices such as washing, moping of floor and flushing of toilets. The WHO (1977) stated that more than one billion people in developing nations including those in Nigeria and Benue State in particular lack access to safe water supply and that about two billion do not have access to adequate facilities for sanitary disposal. Sanitation is the act of preventing diseases and safeguarding health. National Sanitation Foundation-USA (1971) refers to sanitation as a way of life, quality of living in a clean home, farm, business/industry, community and neighbourhood. Park (2015) defined sanitation as the science of creating and maintaining conditions that prevent diseases and promote health. Sanitation in this study refers to the act of preventing diseases and consciously promoting individual, family, group of individuals and community health cleanliness.

Nigeria government sign United Nations Treaty on International Drinking Water and Sanitation Decade whose major objective was to ensure the provision of potable water supply and sanitation to the people of the World between 1981-1990. national water supply and sanitation project-WSSP, (2000) revealed that Nigeria government and United Nations Development Project gather hydrological data for the management of water and sanitation to Nigerians. Despite concerted

efforts by the government to provide potable water for the people; potable water supply and sanitation coverage in the country Nigeria had continued to be low. The trend was attributed to factors such as inadequate planning and faulty implementation of water supply and sanitation projects particularly in BenueState.

Lack of potable water supply and sanitation is a serious public health problem. According to Ocholi (2006) lack of water supply and sanitation led to outbreak of cholera epidemic in Benue. In Order to combat the epidemic, Water Aid Organization and UK Department for International Development (DFID) began to facilitate implementation of water and sanitation projects in urban and rural areas of the State. Urban area refers to a geographical area that has essential social services such as good network of roads, power supply, safe water supply and sanitation among others. Rural areas refer to areas with poverty linked characteristics which distinguish them from cities. Water Aid is an International Organization based in United Kingdom (Ebisemiju, 2006). The mandate of Water Aid was to ensure the International Drinking Water Supply Decade in 1981-1990. According to Ebisemiju, the branch of WaterAid in Nigeria is referred to as Water Aid Nigeria. Contributing, Ocholi (2006) stated that the mandate of Water Aid Nigeria was to support poor people to own or access potable water supply and sanitation facilities throughout the whole World including BenueState. In order to achieve the set goal, Water Aid Nigeria began a pilot water and sanitation scheme in collaboration with the BenueState government in support of water supply and sanitation projects in the State. The outcome was the water and sanitation scheme, water supply and sanitation policy draft in 2005; training of people for the management of water and sanitation projects in BenueState. Management in the context of the study refers to taking charge of water and sanitation in BenueState.

Water Aid Nigeria has been helping people all over the World to access potable water supply and sanitation. The people were expected to adopt household latrines and ensure refuse and sewage disposal. For instance, the water supply and sanitation projects were meant to be sustainable for the welfare of the people. The study focused on determining constraints and prospects of water supply and sanitation by Water Aid Nigeria. Alaba and Alaba (2001) in a related study stated that poverty, income, level of education, age, location, lack of fund and manpower construed provision of water and sanitation in Ibadan Nigeria; Benue State inclusive. Lack of water and sanitation affects human health resulting to water and sanitation associated morbidity and mortality that is persistent particularly in BenueState. In order to avert this ugly trend in the State, Water Aid Nigeria a nongovernmental organization began to assist people in Benue State to access potable water supply and sanitation since 1996 to date. It became necessary therefore for want of empirical data to carry-out a case study to determine the adequacy, constrains and prospects of potable water supply and sanitation facilitated by Water Aid Nigeria in Benue State with a view to make recommendations to the State.

Purpose of the Study

The purpose of the study was to assess the service delivery, constraints and prospects of potable water supply and sanitation by Water Aid Nigeria in BenueState.

Research Questions

The study answered the following questions:

1. What is the adequacy of potable water supply by Water Aid Nigeria among people in BenueState?
2. What is the adequacy of refuse disposal services by Water Aid Nigeria among people in BenueState?
3. What is the adequacy of sewage disposal services by Water Aid Nigeria among people in BenueState?
4. What is the state of collection/storage bins facilitated by Water Aid Nigeria among people in BenueState?
5. What are the methods used for disposal of refuse among people in the State?
6. What are the constraints to potable water supply and sanitation facilitated by Water Aid Nigeria among people in BenueState?

What are the ways of improving the service delivery, potable water supply and sanitation by Water Aid Nigeria to the people of BenueState?

Hypotheses

The following hypotheses were formulated to guide the study. Each hypothesis was tested at 0.5 level of significance.

1. There was no significant difference between semi-urban and rural areas in the provision of public potable water supply and sanitation service delivery by Water Aid Nigeria in BenueState.
2. There was no significant difference in the constraints to the provision of public potable water supply and sanitation service delivery by Water Aid Nigeria between semi-urban and rural areas in BenueState.

Method

The study was carried out in BenueState including Ado, Logo, Oju, Okpokwu, Ogbadibo, Obi and Vandeikya local government areas where Water Aid assisted projects were located. The people especially women and children in the state are faced with the problem of acute shortage of water supply and sanitation. The study covered areas where portable water supply and sanitation were facilitated by Water Aid Nigeria in BenueState, its constraints and prospects. The study covered service delivery, potable water supply and sanitation projects (refuse and sewage disposal) in the area. Factors such as adequacy, constraints and prospects of the project implementation were examined.

The study adopted case study research design. The population for this study comprised 11,715 consisting of Water Aid core staff in Water Aid Nigeria Office Makurdi, volunteers and adult residents in six Local Government Area where Water Aid Nigeria assisted projects were located in Benue State. (Official Records in Water Aid Nigeria Benue Office, 2009). The sample for the study comprised 351 staff of Water Aid Nigeria Benue Office, service providers and adults in WASH project communities in the State. The instrument for data collection was questionnaire and observation. The research questions were answered using means, frequencies and percentages; t-Test and chi-square statistics were used for testing the hypotheses at .05 level of significance.

Results

Table 1

Adequacy of Public Potable Water Supply by Water Aid Nigeria Among the Benefiting Communities in Benue State (n= 348)

S/N	Items	\bar{x}	SD	Decision
1	Water from rain water harvester	1.24	.427	Not adequate
2	Water from Hand dug wells	1.26	.437	Not adequate
3	Water from boreholes	1.64	.488	Not adequate
	Overall mean	1.38	.451	Not adequate

Data in Table 1 shows the mean scores of 1.24, 1.26 and 1.64 for Water from rain water harvester, water from hand dug wells and water from boreholes respectively, which were less than the criterion mean of 2.50. The Table also shows overall mean of 1.38 which was less than the criterion mean of 2.50. This implies that the various water supply options provided by Water Aid Nigeria were inadequate.

Table 2

Adequacy of Refuse Disposal service facilitated by WaterAid Nigeria Among the Benefiting Communities in Benue State (n=348)

S/N	Items	\bar{x}	SD	Decision
1	Refuse storage	1.98	.207	Inadequate
2	Salvaging/recycling	1.66	.549	Inadequate
3	Refuse collection	2.01	.207	Inadequate

4	Disposal of refuse	2.05	.263	Inadequate
	Overall Mean	1.93	.358	Inadequate

Data in Table 2 shows mean scores of 1.98, 1.66, 2.10 and 2.05 for refuse storage, salvaging/recycling, refuse collection and disposal of refuse respectively, which were less than the criterion mean of 2.50. The Table also shows overall mean of 1.93 which was less than the criterion mean of 2.50. This implies that the refuse disposal services by Water Aid Nigeria were inadequate.

Table 3
Adequacy of refuse disposal services by Water Aid Nigeria

S/N	Items	\bar{x}	SD	Decision
1	Construction of sewers	1.89	.328	Inadequate
2	Treatments of sewage	1.61	.543	Inadequate
3	Sewage disposal	1.98	.185	Inadequate
4	Construction of household latrines	1.52	.351	Inadequate
	Overall Mean	1.52	.351	Inadequate

Table 3 shows the mean values of 1.89, 1.61, 1.98 and 2.12 for construction of sewers, treatments of sewage, sewage disposal and construction of household latrines respectively, which were less than the criterion mean of 2.50. The Table also shows overall mean of 1.52 which is less than the criterion mean of 2.50, indicating that the sewage disposal facilitated by WaterAid Nigeria was inadequate.

Table 4
State of the Collection/Storage Bins Facilitated by WaterAid Nigeria in Benue State n = 348

S/N	Items	f	%
1	Bin is fittedly closed	198	65.9
2	Bin is overflowing	84	24.1
3	Bin is water tight	62	17.8
4	Bin is open to liters and attract flies	4	1.1

Table 4 shows that 198 (65.9%) respondents indicated that available bin is fitted closely; 84(24.1%) indicated that bin is overflowing, 62 (17.8%) indicated that bin is water tight, while 4 (1.1%) indicated that the bin is open to liters and attract flies.

Table 5
Methods adopted by the benefiting communities at the Final Refuse Disposal Sites (n-348)

S/N	Items	f	%
1	Open dumping burning	230	66.1
2	Incineration	3	.9
3	Burying	97	27.9
4	Controlled tipping/sanitary landfill	13	3.7
5	Composting	5	1.4

Table 5 shows that 230 (66.1%) of the respondents reported that the most common method used for refuse disposal at final disposal site(s) in the areas included open dumping and burning, followed by 97 of the respondents (27.9%) who indicated burying, 5(1.4%) of the respondents acknowledged composting while 3 (.9%) indicated incinerators.

Table 6

Constraints Identified by the Respondents which Hinder the Provision of Potable Water Supply and Sanitation Facilitated by WaterAid Nigeria in Benue State (n = 348)

S/N	Items	\bar{x}	Decision
1	Inadequate funding	3.10	VLE
2	Inadequate manpower	2.65	LE
3	Poor maintenance	1.85	NAC
4	Inadequate community participation	2.09	NAC
5	Lack of government legislation	3.09	LE
6	Inadequate monitoring and evaluation	1.91	NAC
	Overall Mean	2.45	NAC

Table 6 shows that the respondents with mean value of 3.1 indicated inadequate funding, lack of government legislation (\bar{x} 3.09), inadequate manpower (2.65) which were greater than the criterion mean of 2.50 and above for judging an item as constrain. The Table further shows that the respondents with mean value of 1.85, 2.09, 1.91 for poor maintenance and inadequate community participation, inadequate monitoring and evaluation respectively were less than the criterion mean of 2.50. The Table also showed overall mean value of 2.45 which was less than the criterion mean of 2.50. This implies that the items are not constraints to the provision of public potable water supply and sanitation by WaterAid Nigeria among the benefiting communities in BenueState.

Table 7

Ways for Improving on Potable Water Supply and Sanitation by WaterAid Nigeria in Benue State (n=348)

S/N	Items	Yes		No	
		f	%	f	%
1	Extension of pipe borne water supply or other water supply options to settlement areas	327	94.0	21	6.0
2	Effective monitoring and evaluation of water supply and sanitation	303	87.1	45	12.9
3	Provision of specially covered vehicle for effective refuse disposal services	310	89.1	38	10.9
4	Extension of sewage system to settlement areas for effective sewage disposal services	315	90.5	33	9.5
5	Research and implementation of research findings on water supply and sanitation	310	89.1	38	10.9
6	Private sector participation in water supply and sanitation	300	86.2	48	13.8
7	Continuous supply of fuel for plants/vehicles, treatments of water, sewage and maintenance of resources	301	86.5	47	13

Table 7 shows that majority of the respondents indicated that the ways for improving on the provision of potable water supply and sanitation are: Extension of pipe borne water supply or other water supply options to settlement areas (94.0%) provision of specially covered vehicles for effective refuse disposal services (89.1%) and research and application of the research findings (89.1%) on water supply and sanitation. The table further reveals that other ways of improving potable water supply. Monitoring and evaluation (87.1%), supply of fuel for plants and vehicles, chemicals for treatments of water, sewage and maintenance of resources (86.5%) and private sector participation (86.2%) in water supply and sanitation.

Table 8

t-Test Analysis of null Hypothesis of no Significant Difference Between Urban and Rural Areas on the Provision of Potable Water Supply and Sanitation Facilitate by WaterAid Nigeria

Variables	Urban	Rural	Urban	Rural	SD ₁	SD ₂	t-cal	df-	t-table	Decision
	\bar{x}_1	\bar{x}_2	\bar{x}_1	\bar{x}_2						
1	Water from rain harvester	1.37	1.11	0.484	0.313	5.923	346	1.96	Rejected	
2	Water from hand dug wells	1.25	1.26	0.436	0.439	1.23	346	1.96	Accepted	
3	Water from bore holes	1.54	1.73	0.500	0.458	3.690	346	1.96	Rejected	
4	Refuse storage	2.011	1.75	0.170	0.562	2.347	346	1.96	Accepted	
5	Salvaging/recycling	1.68	1.63	0.536	0.170	.976	346	1.96	Accepted	
6	Refuse collection	2.03	1.99	0.238	0.352	1.815	346	1.96	Accepted	
7	Disposal of refuse	2.10	2.01	0.301	0.352	1.637	346	1.96	Accepted	
8	Construction of sewers	1.91	1.86	0.301	0.352	1.637	346	1.96	Accepted	
9	Treatments of sewage	1.71	1.52	0.552	0.512	3.199	346	1.96	Rejected	
10	Sewage disposal	1.99	1.97	0.170	0.199	1.159	346	1.96	Accepted	
11	Constructive of household latrines	2.16	2.08	0.394	0.293	2.008	346	1.96	Accepted	
12	Metal bins with lid and handles	.69	1.57	.809	814	3.587	346	1.96	Rejected	
13	Bins fitly closed	1.69	1.57	.809	814	1.321	346	1.96	Accepted	
14	Refuse bins	2.03	1.99	.321	313	1.183	346	1.96	Accepted	
15	Final disposal sites	1.04	1.03	.197	183	1.667	346	1.96	Accepted	
16	Daily reuse disposal	2.76	2.64	.663	783	1.656	346	1.96	Accepted	
17	Open dumping/burring	1.77	1.70	1.130	1.016	.599	346	1.96	Accepted	
18	Outside the compound	1.98	2.07	.364	548	-1.842	346	1.96	Accepted	
19	Non-protective devices	23	18	.934	840	423	346	1.96	Accepted	

The data in Table 8 show that the calculated t-test values of 5.923; -3.690; 3.199 and 3.587 for water from rain water harvesters; water from boreholes; treatment of sewage; and metal bins with handle were greater than the t-Table value of 1.96 at 346 degrees of freedom and at .05 level of significance. The null hypothesis of no significant different between semi-urban and rural areas regarding those items was rejected. This implies that there were differences in the provision of public potable water supply and sanitation facilitated by WaterAid Nigeria according to location. The Table further revealed calculated t-Test values of 1.23, 2.347, .976, 1.815, 1.637, 1.637, 1.159, 2.008, 1.321, 1.183, 1.667, 1.655, 1.037, 1.99, 1.819, .599, -1.842 and .423 for water from hand dug wells, refuse storage,, salvaging/recycling, refuse collection, disposal of refuse, sewers, sewage disposal, household latrine, bins fitly closed, refuse bins, final refuse disposal, daily, inadequate, inefficient, open dumping/burning and non-protective devices were less than the t-Test value of 1.96 at 346 degrees of freedom and at .05 level of significance. The null hypothesis of no significant difference between urban and rural areas regarding the items was accepted. This means that the services did not differ according to location.

Table 9

t-Test Analysis of Null Hypothesis of No Significant Difference in the Constraints to the Provision of Public Potable Water Supply and Sanitation by WaterAid Nigeria Between Urban and Rural Areas of Benue State

Variables	Urban	Rural	Urban	Rural	SD ₁	SD ₂	t-cal	df-	Cal.	Decision
	\bar{x}_1	\bar{x}_2	\bar{x}_1	\bar{x}_2						
1	Inadequate funding	3.12	3.10	0.420	0.374	346	1.96	0.686	Accepted	
2	Inadequate manpower	2.07	2.02	0.296	0.284	346	1.96	0.140	Accepted	
3	Poor maintenance	1.75	1.96	0.692	0.520	346	1.96	0.001	Rejected	
4	Inadequate community participation	2.06	2.11	0.390	0.449	346	1.96	0.309	Accepted	
5	Lack of government legislation	3.06	3.11	0.40	0.521	346	1.96	0.309	Accepted	
6	Inadequate monitoring and evaluation	1.94	1.88	0.465	0.518	346	1.96	0.231	Accepted	

Table 9 presents calculated t-test value of 3.241 for poor maintenance at 346 degree of freedom which is greater than the t-Table value of 1.96. The null hypothesis of no significant difference in the constraints between urban and rural areas regarding this item is rejected. This implies that there was difference regarding constraints to the service delivery according to location. The Table further shows calculated t-test values of 0.686, 1.140, 0.309, 0.201 and 0.309 for inadequate funding, inadequate manpower, lack of government legislation, inadequate monitoring and evaluation and inadequate community participation respectively; which were less than the t-table values of 1.96 at 346 degrees of freedom and .05 level of significance. This means that the null hypothesis of no significant difference between urban and rural areas regarding these items is accepted. It implies that the constraints against the service delivery facilitated by WaterAid Nigeria did not differ according to location.

Discussion

The finding in Table 1 shows that the potable water supply options provided by WaterAid Nigeria were inadequate. This result was quite surprising because of the devotion by WaterAid the provision of safe water supply and sanitation projects. However, there may be inadequacy as a result of financial constraints in which case water supply and sanitation projects could not go around. Inadequate potable water supply in these instances may be better than complete lack of access to safe water supply. The implication of inadequate water was that it subjects the people to thirst and prolonged thirst leads to dehydration. The finding was in partial agreement with Opara (1991) in Owerri urban which showed that the residents had access to adequate pipe borne water supply and sanitation. The two findings agreed that both subjects accessed potable water supply and sanitation but the rate of access, volume of water supply, sanitation and geographical location differ. Further finding showed that refuse disposal was inadequate (Table 2, 3). This finding was unexpected for obvious reasons. The issue of refuse disposal should be a routine assignment for everybody as cleanliness promotes individual and community health. The finding partially agreed with that by Akpovi (1984) in Benin; who found inadequate refuse bins for disposal of refuse. The finding in Table 4 shows that sewage disposal services were inadequate. This is surprising because one expected to find stagnant water and waterborne related diseases. But on the contrary the study area was tidy at the time of the study. Perhaps, this may be as a result of awareness created by the WaterAid intervention whereby the beneficiaries learnt how to manage water as a scarce commodity.

The finding in Table 4 shows that more than half of the respondents (56.9%) used tight fitted collection/storage bins compared to 24.1% who used overflowing bins. The finding was encouraging. This is because the beneficiaries were using durable types of refuse receptacles. The implication of this was that the bins needed proper care to ensure optimal functioning. Experience has shown that collection and storage bins utilized were of quality which did not permit littering and transmission of diseases by vectors like flies and rodents. This may be based on family size, the larger the family, the bigger the receptacles needed by such family. In other words, such differences could be due to economic status of the beneficiaries in acquiring the facilities. Proper education by the service providers may have inspired the people to adopt quality waste receptacles. Data in Table 9 revealed that majority (81.6%) of the respondents indicated that collection and storage bins were emptied daily. This finding is encouraging. Experience showed daily evacuation of refuse resulting to low accumulation of wastes and reduction in incidence of infections. This finding disagrees with that by Coker et al. (1999) Ibadan which showed that collection, storage and emptying of bins was done weekly. The finding also differs with the assertion by Park (2015) which stated that standard solid waste receptacles were used in Britain.

The result in Table 6 shows inadequate funding, lack of legislation and inadequate political will to enforce potable water and sanitation. Similarly, inadequate manpower might have led to the use of auxiliary staff which lack technical know-how needed for effective services. The findings collaborated with the result by Agbaje, (2006); in Nsukka which indicated poor funding, lack of manpower, legislation and poor maintenance culture. The two studies agreed that their subjects had similar characteristics although the geographical location differed. The finding in Table 7 shows that the respondents indicated that the prospects of the services include: extension of pipe borne water supply refuse and sewage disposal (80-94%), introduction of research (89.1%), effective monitoring and evaluation (87.1%), provision of refuse vehicles (89.1%), private sector participation (86.2%),

treatment of water, sewage and maintenance of resources (86.5%). This finding was expected and not a surprise. This is because experience has shown that when potable water supply and sanitation is adequate in an area more people can access safe and abundant water supply and sanitation. Thus, scientific research and technology bring solution such as purification of contaminated water, manufacturing of dustless vehicles and reengineering of water supply facilities and services powered by private sector participation.

The result agreed with the study finding by Opara (1991) in Owerri urban which show that the people of the area had access to portable water supply and sanitation. It also agreed with the view of Lucas and Gilles (2009), that for any project to succeed, it requires monitoring and evaluation of the resources. In this instance, innovation is necessary to enhance potable water supply and adequate sanitation. The finding is in consonance with the assertion by Lucas and Gilles (2009) who stated that modern refuse vehicles were used for waste disposal in Britain. This finding is not too surprising. This is because constraint does not respect geographical location. Experience has shown that constraints to project delivery can be overcome through carefully planned strategies. There was difference between urban and rural regarding extension of sewage system and continuous supply of fuel, treatment of water, sewage and maintenance of resources. This implies that the ways for improving on potable water supply and sanitation was not dependent on location. Experience has shown that the services by WaterAid Nigeria had on several occasions succeeded in other areas the organization had earlier worked.

Implications of the Study for Public Health Education

The implication of the finding of inadequate potable water supply and sanitation is that it exposes the community to inadequate water supply and sanitation resulting to water and sanitation related morbidity and mortality. Although available records confirmed occurrence of such diseases but it has been reduced following the WaterAid intervention; more efforts is needed by the organization for adequate supply of safe water supply and sanitation.

The result of inadequate collection and storage bins/receptacles was deplorable; except that the result showed that available refuse bins were emptied daily. Inadequacy implied that more attention is needed by the NGO to facilitate the provision of sanitation receptacles example refuse depots, incinerators and refuse vehicles to forestall spread of diseases.

The study found that the most common method of waste disposal adopted by the beneficiaries included: open dumping, burning and burying. The implication of this finding is that the method exposed people to irritation and respiratory tract infections as a result of in-haling fume or noxious substances. It implies that urgent attention is needed by public health educators to educate stakeholders to sanitize their environment to prevent respiratory tract infections and to promote sound environment that is safe to inhabit.

Conclusion

The study concluded that potable water supply and sanitation facilitated by WaterAid Nigeria was inadequate. Hence, there is need to allow private sector participation in water supply and waste management. Stakeholders should collaborate with NGOs for adequate funding, legislation, water, sewage, and effective monitoring and evaluation of water supply and sanitation.

Recommendations

1. Individual should wear protective covering to manage his or her householder waste well.
2. The BenueState government should provide funding support for potable water supply and sanitation.
3. The State government should enact legislation in support of water supply and sanitation.
4. They should be community and private sector participation in the provision of potable water supply and sanitation in the State.

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