

Effluent Pollution in Custodial Centres and its Environs in Nigeria

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ABSTRACT

Effluent pollution is the degradation of the physical, chemical or biological properties of sewage, altered as a result of the introduction of certain substances which renders it unsafe and therefore, regarded as wastewater. This paper aims to examine the effects of effluent pollution on the socio-economic, environment, and health status of people around (9) custodial centres in Nigeria. The study locations are Medium Security Custodial Centres Kuje (Abuja), Kirikiri (Lagos), Suleja (Abuja), Badagry (Lagos), Ikoyi (Lagos), Female Kirikiri (Lagos), Maximum Security Custodial centres (Kirikiri-Lagos and Port-harcourt Rivers) and Correctional Farm Centre Dukpa (Abuja). In the study, descriptive survey method was used after familiarity with the environment and selection of 372 respondents through purposive sampling technique. The process of questionnaire administration, interviews and Focused Group Discussions (FGD), was systematically applied in collection of data which were analyzed using frequency/percentage modules. Consequently, inferential statistics was adapted to test the hypothesis postulated using SPSS 20.0. The findings revealed that nature of generating wastewater from hygiene and sanitation procedure among inmates using restroom and flushing toilet at the rate of about 41-50 litres of water per inmate per day causes significant flooding, as well as generate chemical compounds which catalyses air and soil pollution. Inappropriate discharge of wastewater result to outbreak of diseases in the custodial environment resulting in high rate of cholera, typhoid, malaria and dysentery. These health challenges constitute serious socio-economic burden for the management of the custodian centres. The study also shows significant effects of effluent pollution in the area of study at a level of 0.05% significance. Thus, recommendations were made to proffer solution to the menace of effluent discharge on pollution crises around the environment correctional centres.

Keywords: effluent, environment, custodial centres, inmates, Nigeria, pollution

INTRODUCTION

Effluent is the gas or liquid that escapes from man-made structure or natural bodies of water. The United State Environmental Protection Agency (EPA) defines effluent as “Wastewater that exists a treatment facility, sewer, or industrial outfall whether it has been treated or not” (EPA, 2019; UNEP & IETC, 2020). Wastewater is an inevitable by-product of most human activities. Wastewater is water whose physical, chemical or biological properties have been altered as a result of the introduction of certain substances which renders it unsafe for some purposes such as drinking, bathing, irrigation and even swimming (Gutberlet, 2017). Effluent is waste from kitchens or toilets, surface water or domestic sewage. It can be produced and discharged by any industrial, institution, government agencies or commercial premises. Sewage effluent contains industrial waste, municipal wastes, animal remains and slaughterhouse wastes, water and wastes from domestic baths, utensils and even markets and public and private buildings. Most human activities generate all sorts of wastes (Brunner & Rechberger, 2014).

However, waste production remains a major concern, as it has been since prehistoric times issue of global concern. Recently, the rate and amount of waste generation has increased. As the amount of waste increases due to population explosion, so does the variety of wastes (Ferronato & Torretta, 2019; Vergara & Tchobanoglous, 2012). It has led to an increase in the quantum of wastes, which contributes significantly to the amount of harmful industrial waste and biomedical waste in the waste flow, and has the potential to have

serious effects on the environment and human health (Gutberlet, 2017). One institute that generates effluent pollution is the correctional service charged with specific mandate to keep safe custody of law breakers, reform and rehabilitate them with useful tools for reintegration back to the society as positive addition to manpower capacity of the community. This mandate made it compulsory for the removal of risks to inmates from whatever sources. The performance index of correctional service is unarguably the ability of the agency to maintain the inmates in safe, secure custody, under improved health, reduced death rate, increased skill and upgraded moral capacity of the inmates through the use of various professional instruments. The amount of wastes generated in custodial centres also regard as correctional service centres is a cumulative product of inmate population, rate of material consumption and the process the wastes are subjected to.

Likewise, environmental, social and economic impact of waste matter is a very disturbing issue in global governance of cities because of the ever-increasing population and human development on limited land resources. The overcrowded cells are without equivocation, a recipe for overwhelming wastewater control and discharge. Manual evacuation and dumping in bore holes within the yard is a bad practice which revolve health and social ills within the custodial centres. Problem of water shortage to flush the toilets are serious challenge leading to clogging of sewer pipes and stocking of septic tanks. Effluent discharge problems is therefore synonymous with the traditional practices such as use of pit latrine, ventilated pit latrine and use of buckets to defecate and empty in any out spaces afterwards (Shen, et al., 2015; Mehtab., et al 2017). Nigeria inmate's population came to a peak of 76,000 in 2018 but with the new responsibility granted by the Nigerian Correctional Service Act, 2019, the non-custodial service measure leads to a drop in the number (World Prisons Report, 2019). Inmates' population is having a large influence on effluent discharge, given that effluent discharge by each inmate is equivalent to the water served to an inmate (50 liters per inmate per day) and the hazardous compounds present have negative effects on aquatic ecosystems and humans at both the national and international levels that can result to diseases in human, death of aquatic life, algal blooms, habitat destruction from sedimentation, debris, and increased water flow, as well as other short and long term toxicity from chemical contaminants (Canada Gazette, 2010).

In Nigeria, the custodian centres waste water from different sources, are discharged directly into the ground through individual septic and soak-away pits without due consideration for certain basic geological, topographical and hydrological parameters such as the water retaining capacity of the lateritic layer, the pollution intensity of groundwater and the porosity of the weathered basement. The major sources of waste in prisons are human and material waste passed into the sewerage. It encompasses a wide range of contaminants which can be potentially harmful or concentrations that can lead to degradation in water quality (Adetula., et al., 2010). These potential contaminants include soaps and detergents from bathrooms, food scraps and oil from kitchens and other human activities that involve the use of water. Therefore, the study is necessitated to investigate the effect of effluent pollution on the environment, socio-economic and on the health of the inmates in the custodian centres in Nigeria. And further hypnotically assess the significant effects of wastewater pollution in the custodial centres and the immediate surrounding communities.

LITERATURE REVIEWS

Effluent waste discharge is synonymous with the traditional practices such as use of pit latrine, ventilated pit latrine and use of buckets to defecate and empty in any out spaces afterwards. Effluent is sewage that has been treated in a septic tank or sewage treatment plant. It is also referred to as "trade effluent" or "wastewater." Wastewater is composed of various microorganisms, heavy metals, nutrients, radionuclides, drugs, and personal care products." Wastewater is mainly organic in nature; due to the organic load of wastewater, "the oxygen concentration in the receiving water decreases, which is why Wastewater has high BOD". Wastewater can be contaminated with different components which mostly include pathogens, synthetic chemicals, organic matter, nutrients, organic compounds and heavy metals. These occur either in solutions or as particulate matter (Abdullahi, 2013). Wastewater discharge leads to increased water pollution and depletion of clean water resources" (Avalon Global Research, 2012). Densely populated cities produce

large amounts of this waste every day, which is eventually washed away by drainage systems that lead to nearby rivers or aquatic systems (Espinosa, 2013). Due to the continuous increase in the amount of waste water produced, the social and economic conditions, human health and environmental quality are continuously deteriorating. The direct and indirect costs to society and individual citizens related to the generation, treatment and disposal of these wastes are increasing (Edokpayi, 2017 and Ebikapade & Jim., 2016).

Environmental effects of Effluent Pollution

Effluent pollution infiltrating the ground adversely affect the groundwater and the one that is channeled into drains end up in the surface water sources where the quality of both sources become compromised and affect the environment and its components regressively. These also affect the soil and air quality and its inappropriate management affect the environment, health and the social and economic status of the society at large (Imoobe & Koye, 2010; Colgate-Palmolive Co., 2014). It leads to widespread ecological degradation, such as decreased water quality and availability, floods, loss of species, and changes in the distribution and structure of aquatic biota (Kanu & Achi, 2011). The effect of wastewater depends on the composition and concentration of pollutants, as well as the amount and frequency of wastewater entering the water body (Akpore & Muchie, 2011; McAllister, 2015). Environmental pollution has a huge negative impact on the livelihoods, business, education and occupation of the general public. In addition, other adverse effects of pollution on the environment and economic growth include loss of biodiversity and decreased levels of food and agricultural production. Wastewater infiltrating the ground adversely affect the groundwater and the one that is channelled into drains end up in the surface water sources where the quality of both sources become compromised and affect the environment and its components regressively. These also affect the soil and air quality and its inappropriate management affect the environment, health and the social and economic status of the society at large (Imoobe & Koye, 2010; Colgate-Palmolive Co., 2014).

Socioeconomic Effects of Effluent Pollution

The social, political, and economic complexities surrounding the development and implementation of effective wastewater treatment in curbing water pollution are enormous. Thus, financing improvements in wastewater infrastructure is a challenge everywhere. Typically, a large portion of water infrastructure is underground and out of sight; hence, most investors and elected officials interested in investing resources in prominent environmental problems may be reluctant to support wastewater infrastructure improvements (Cao & Prakash, 2012). Large-scale wastewater management is very expensive, and the benefits derived from investment in improved treatment are often enjoyed by downstream communities and/or future generations, rather than by those investing resources to reduce pollution. Improved water treatment is only achieved when all or the great majority of the public, follow the rules (UNWater, 2017).

Health effects of Effluent waste

Inappropriate sewage management poses serious health challenges to the inhabitants of the immediate environment. Certain forms of liquid waste are classified according to Britannica (n.d) as hazardous wastes because they are harmful to human health and the environment. Hazardous waste includes toxic, reactive, flammable, corrosive, infectious, or radioactive materials. Toxic wastes are essentially chemical wastes from industrial, chemical, or biological processes, which can cause injury or death when ingested or absorbed through the skin. Reactive wastes are chemically unstable and react violently or explosively with air or water (Akpore & Muchie, 2011). Hazardous wastes present special handling, storage, and disposal challenges, which vary depending on the nature of the material. There is a greater connection between pollution and health problems. Many water-borne diseases are spreading from person to person and 10% of the population depends on food and vegetables grown in polluted waters (Alrumman, El-kott & Kehsk, 2016; Olajumoke et al, 2018). Many waterborne infectious diseases are related to faecal contamination of water sources and lead to faecal infections among population. The health risks associated with contaminated water include different diseases such as respiratory diseases, cancer, diarrheal diseases, neurological diseases, and cardiovascular diseases (Bibi et al, 2016).

Generally speaking, pollution-induced diseases cause significant economic costs globally, as well as direct medical costs, opportunity costs that lead to reduced productivity of the contaminated population, and health system costs (Landrigan and Fuller, 2015). According to research conducted (Akpors & Muchie, 2011; McAllister, 2015; Bibi et al, 2016; Canada Gazette, 2010 and Gutberlet, 2017), wastes discharged by infected humans or animals account for the majority of waterborne germs that cause human disease (Kris, 2007). Bacteria, viruses, and protozoa are the most frequent health risks linked to the consumption of untreated drinking and recreational waters. Many water-related illnesses, including cholera, typhoid fever, salmonellosis, campylobacteriosis, giardiasis, cryptosporidiosis, and hepatitis A, are spread by untreated water. The majority of pathogenic microorganisms have the ability to intensify degenerative heart diseases and stomach ulcers, as well as acute and chronic diseases with short- to long-term impacts. Among the most significant and possibly dangerous pollutants in wastewater are viruses. They are more infectious, more resistant to treatment. They take fewer dosages to cause infections and are more contagious, harder to detect, and resistant to therapy (Okoh et al., 2007). They are the most prevalent microbiological contaminants in wastewater for bacteria. They can cause a variety of illnesses, including skin and tissue infections, diarrhea, and dysentery. Giardia and Cryptosporidium are the two main harmful protozoans connected to wastewater. Compared to other environmental sources, wastewater has a higher prevalence of them (Akpors and Muchie, 2011; Tilley et al., 2014). Most harmful organisms, including bacteria, fungus, protozoa, and viruses, can breed in wastewater due to the organic debris and other impurities. The need for treatment before discharge into receiving water bodies is due to the fact that the presence of these organisms in wastewater is typically responsible for a variety of water-related ailments (Jegatheesan et al., 2008). Such microbially contaminated wastewater poses a major threat to both human and animal health when it enters aquatic bodies (Surface Water Quality Bureau, 2008). Large-scale wastewater management is very expensive, and the benefits derived from investment in improved treatment are often enjoyed by downstream communities and/or future generations, rather than by those investing resources to reduce pollution. Improved water treatment is only achieved when all or the great majority of the public, follow the rules (UNWater, 2017 WHO and UNICEF, 2020).

MATERIAL AND METHODS

The study considered three states in Nigeria representing the geo-political zones; FCT Abuja of Northern zone lies between 8°25` and 9°25` North Latitude and 6°47` and 7°40` East Longitude, Lagos of the southern zone lies between longitudes 2°42`E and 3°22`E, and between latitudes 6°22`N and 6°2`N and Rivers (Port Harcourt) of the eastern zone between latitudes 4 ° 45`N and 4 ° 55`N, 6 ° 55`E and 7 ° 05`E. These locations spatially cover the geographical position of Nigeria with different weather condition, culture and occupations as well as nine (9) custodian Centres (See Fig 1).

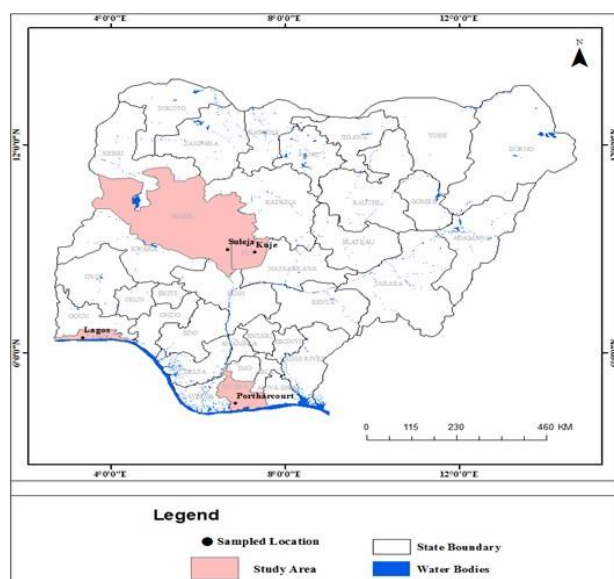


Figure 1: Locations of the Study Areas

Abuja, Lagos and Rivers state have growing population between 4-5% annually and considered to be among the largest growing cities in west-Africa. Because they are administrative, industrial and business areas, large presents of effluent pollution are detected base on the activities place in the region. Descriptive research survey was used for the study after a recognisance survey was done for familiarity with the environment in mid of 2022. A purposive sampling was used because of the existing elements in the selected custodial centres and a sample size of 375 was determined using the Educational and psychological measurement Table of Krejcie and Morgan (1970) at 95% confidence level with a degree of accuracy of 5% while sampled respondents were randomly selected base on percentage allocation to each centre out off 13,799 population of inmate in the study region. Observations, interview, FGD and questionnaire were the primary source applied for data collection. Questionnaire was administered to respondents systematically through assistance of two assistants research from the department of the study (Geography) base on the objectives postulated. Procedure for managing wastewater was observed in the three (3) locations; like the biogas plants, septic tanks and the water and sanitation facilities in the various custodial centres were also undertaken, counted and their sizes and capacities measured and recorded. Observation of the problems, indicators and the corrective measures for evaluation of effluent management in the custodial centres were undertaken across the selected areas. Stakeholders in the Nigerian Correctional centres and residents in environment were interviewed to acquire additional information that will be explanatory. Data collected were coded and analyzed using SPSS version 20.0 of inferential Statistics (Chi-square) at significance level of 95% (0.005) and findings were presented in an emerge in charts, graphs and tables of frequency/percentage.

RESULTS AND DISCUSSION

The findings on table 1 reveals that over 80% of those that participated in the survey are male while only 20% are female. This is attributed to the fact that only few females are incarcerated in prisons across the country and the number of female warders are also very few. Majority of respondents (24.4%) belong to age range of 31 – 40 years is in the most active age bracket which is also actively engaged in crimes and criminality and are in the custodial centres. Age 1 – 20 with 33.8% married and had HND/BSC certificate (25.2%). inmates in the custodial centre have stayed between 1-10 years under custody (42.6%). this shows that crime in Nigeria are committed within the youthful age (see table 1)

Table 1: Socio-Demographic Characteristics of Respondents (Inmates)

S/no	Attribute	Frequency	%
1.	Gender		
	Male	298	80
	Female	75	20
2.	Age		
	1-20	61	16.4
	21-30	63	16.8
	31- 40	91	24.4
	41 – 50	83	22.3
	51 & above	75	20.1

3.	Marital Status		
	Single	126	33.8
	Married		
	Divorced	118	31.6
	Widowed	73	19.6
4.		56	15.0
	Qualification		
	First School Leaving Certificate/SSCE	102	27.6
	OND/NCE	81	21.7
	HND/BSC	87	23.3
	94	25.2	
	MSC/PhD	8	2.3
5.	Length of Stay in Prison Environment		
	1 – 10 years	159	42.6
	11 – 20 years	144	38.6
	21 – 30 years	65	17.4
	31 & above years	5	1.4
	TOTAL	373	100%

The nature and types of sanitation and hygiene facilities in the Custodial Centres in Nigeria in figure 2 revealed over forty-seven percent (47.2%) of the respondents are of the view that flush toilet is the most available and used facility followed by wash hand basin (18.5%) and others while 16.9% of the respondents said that all of the listed facilities are available in the custodial centres at various levels of use and functionalities. Except for the custodial centres built during the pre-colonial times based on population, architecture, political reasons and civilization of the time, all modern facilities with approved plans and regulatory monitoring and evaluation should have all these facilities in place.

The minority (3.5%) of the respondents said that the sink facilities are available in the custodial centres. But Fitsum, Brhane, Kebede and Negash (2019) observed that the prisoners themselves clean and maintain the toilets but dispose liquid waste at open field. The types of toilets available at the prison are simple pit latrine type. The water pumps built in each toilet were non-functional during our visit. However, we have observed water filled containers (barrel type) in some toilets.

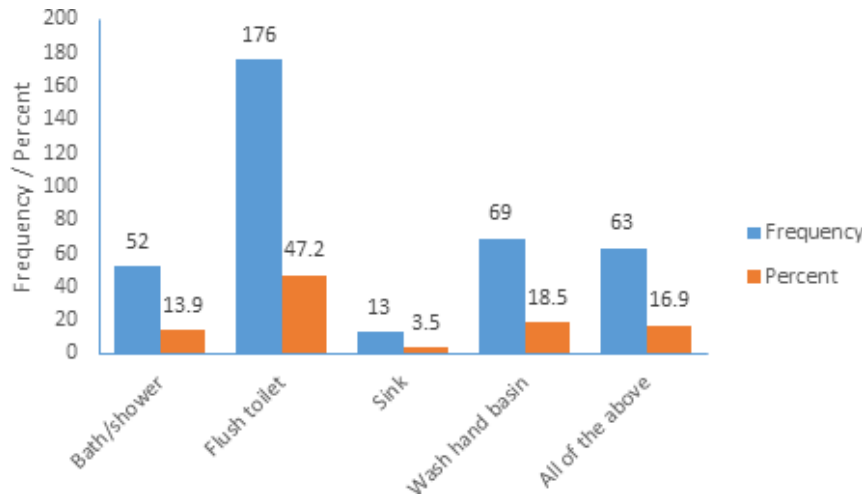


Figure 2: Nature and types of sanitation & hygiene facilities the custodial centres

In table 2 revealed the waste and volume per day in the custodial centres, kitchen wastewater (1.1%), bath waste water (4.8%) and toilet sludge (30.3%) are all considered by 63.8% of the respondents as the type of sewage generated in the Prison yards. This is followed by toilet sludge in which 30.3% of the respondents view as a waste generated in and around the custodial centres. Also, as stated in Table 7, only 1.1%) of the respondents said kitchen waste water is generated in the Prison yards. On the daily volume of waste water generated in the custodial centres, about 80% of the respondents said that between 41-50 litres are generated per day per capital by each inmate. It is also observed that 1-20 litres generated is a very slim possibility as only 1.1% percent of the respondents agreeing to generate this very little quantity. But the standard quantum of wastewater generated from hygiene and sanitation for individuals as documented by ICRC (2015) ranges above 50 litres per day.

Table 2: Type and Volume of Wastewater generated daily in the Custodial Centres

S/N	Parameter	Frequency	Percent	Valid Percent
1.	Waste			
	Kitchen waste water		4	1.1
	Bath waste water		18	4.8
	Toilet Sludge		113	30.3
	All of the above		238	63.8
2.	Volume			
	1 – 20 litres	1	0.3	0.3
	21 – 30 litres	24	6.4	6.5
	31 – 40 litres	25	6.7	6.8
	41 – 50 litres	298	79.9	80.5
	Above 50 Litres	22	5.9	5.9
	Total	370	99.2	100.0
Missing	System	3	.8	
Total		373	100.0	

The result of focus group discussion and interviews also validated this majority position in Figure 3 shows that blocked drains, water over use, inappropriate waste water discharge are responsible for flooding and environmental pollution in and around the Custodial Centres. Over 52.5% of those surveyed are of the view that inappropriate and effluent discharge is the major reason that is responsible for flooding of wastewater. This finding is inconsistent with that of Vivan (2019) which attributed over 60.6% of causes of flooding of waste water on the environment to blocked drains and water over use. While 13.1% of respondents are saying that water over use is the cause and another 13.1% said all these poor environmental behaviours are

consequential to flooding of the areas.

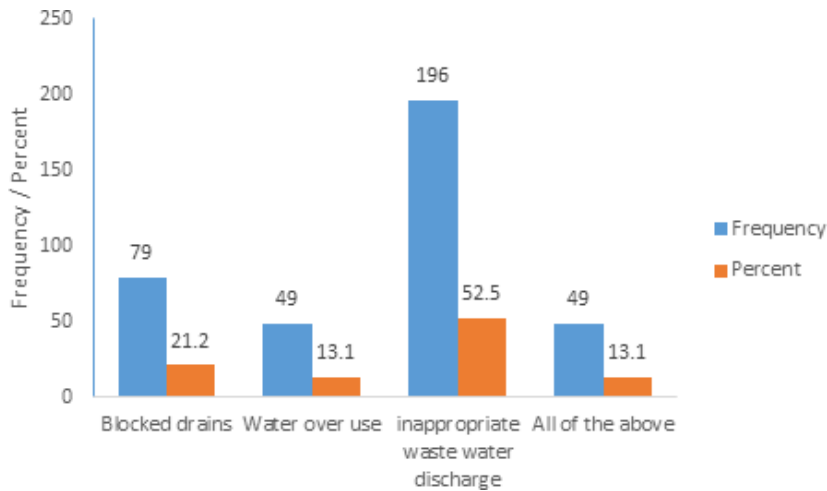


Figure 3: Causes of flooding of waste water in the correctional centres and environs

Figure 4 depicts the environmental effects of inappropriate and poor sewage management in the correctional centres in Nigeria. Out of all the negative issues associated with poor sewage management, 55.8% of the respondents are of the view that air pollution is more prevalent, though 11.8% of the respondents said all these effects are noticed in the centres. Issues of alteration of environmental dynamics and components (4%) soil pollution (23.6%) and water contamination (4.8%), though available are not immediately felt by the respondents unlike air pollution which does not need laboratory investigations to determine which also are felt directly and immediately by the people.

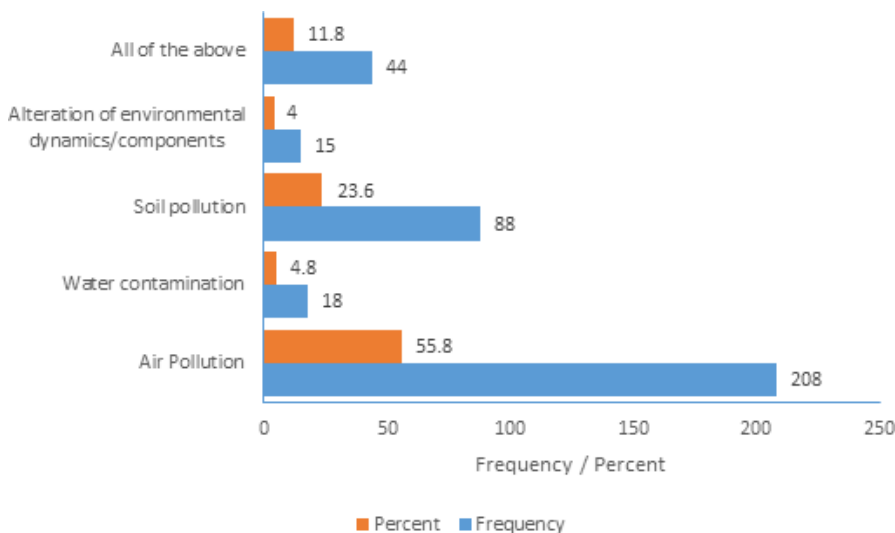


Figure 4: Environmental Effects of Poor Sewage Management in the Correctional Centres

Heavy medical bills paid by the Custodian of inmates and members of immediate communities constitute social burden on family in areas of care giving and very negative effects on labour force and affect productivity of the sick. They have been identified by majority of respondents (60.3%) as the socio economic effects of inappropriate sewage management in the Custodial centres. 20.4% of the respondents (Table 3) are of the opinion that labour force is affected as sick people are not productive. The minority respondents view (9.4%) show that sickness and diseases outbreaks has constituted serious social burden on family and inmate Custodians in the correctional service centres. One of the people residing at the custodial centre community said that: “The poor and inappropriate sewage management affects the air, soil and water and constitute health, environmental and socioeconomic issues to the inmates, prison personnel and the members of communities neighbouring the custodial centres. This if not checked would lead to serious ailments, environmental

pollution and also bring about heavy medical burden on families and also affect the prolific labour force”.

Table 3: Socioeconomic Effects of Poor Wastewater Management in and around the Custodial Centres

		Frequency	Percent	Valid Percent	Cumulative Percent
Effects Component	Heavy medical bill	37	9.9	9.9	9.9
	Social burden on family	35	9.4	9.4	19.3
	Adverse effects on labour force	76	20.4	20.4	39.7
	All of the above	225	60.3	60.3	100.0
	Germs	29	7.8	7.8	7.8
	Oxygen demanding wastes	10	2.7	2.7	10.5
	Water soluble inorganic chemicals	261	70.0	70.0	80.4
	Organic chemicals	27	7.2	7.2	87.7
	Total	373	100.0	100.0	

Figure 4 now shows the nature of major health issues associated with poor sewage management as malaria, dysentery/diarrhea, typhoid fever and cholera. Cholera based on majority responses (29.2%) is more prevalent and followed by typhoid fever (23.6%) and dysentery/diarrhea according to only 10.7% of the respondents exist among the members of Custodial communities. Abdullahi, Humuani & Aliyu (2013) also found that the common ailments that afflict the inhabitants in most households in Minna Nigeria include malaria, typhoid and cholera in conformity with the result presented in Figure 4.

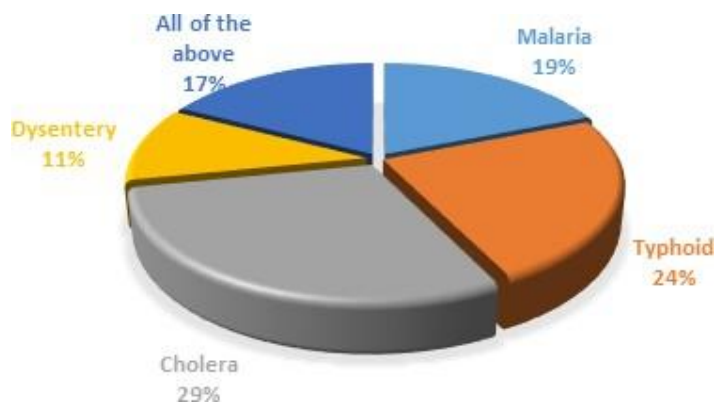


Figure 5: Nature of Disease Associated with Poor Sewage Management in the Custodial Centres

Offensive odour is identified by 60.6% of the respondents in Table 4 as posing serious environmental challenge in the Custodial Centres. Though there are other issues as noted by the respondents like contamination of ground and surface water resources and water spillage of the environment, the most noticeable effect is that of offensive odour released into the environment from polluted pool of water. Very few (8.6%) of the respondents actually view these challenges to be in existence in the Custodial Centre environments. These challenges to the environment have in many instances led to outbreak of water and airborne diseases in different places at different time in humans and animals. The results of Nyiva (2019) showed that overall prevalence was 63.5% with diarrhea, skin and respiratory diseases at 40.4%, 34.6% and 24.2% respectively in Kenyan prisons. Over 69.7% of respondents in Table 8 attested to the fact poor wastewater management could alter water and air qualities which have led to the alteration water and air qualities that had in turn led to outbreak of water borne diseases in the custodial centres and environs. These pollutants can also result to stuntedness in growth of aquatic animals (10.5%), diseases and even death of other animals (11.8%) and only 8.0% of the respondents hold the view that all these health effects are linked to facilities, unhygienic and dirty toilets and poor water supply.

Table 4: Environmental Challenges and Nature of Illnesses in the Custodial Centres and Immediate Surrounding

Description	Frequency	Percentage
spillage of waste water	101	27.1
Offensive odour	226	60.6
Contamination of ground and surface water resources	14	3.8
All of the above	32	8.6
Outbreak water borne disease	260	69.7
Stuntness in aquatic animal growth	39	10.5
Causes disease in other animals	44	11.8
All of the above	30	8.0
Total	373	100.0

In figure 6 respondents perceived the effects of inappropriate sewage management differently in the custodial centres. 39.1% of the respondents agreed that the effects of poor sewage management on environment, health, economy and society at large exist in the custodial centres. Which 34.3% of the respondents strongly agreed to this assertion while 21.7% of the respondents are of the view that these effects are not seen in the environment and do not adversely affect the health and the social and economic activities of the inmates and inhabitants of the immediate environment, only a few (4.9%) strongly disagreed with this view of existence of these adverse effects in the custodial centres

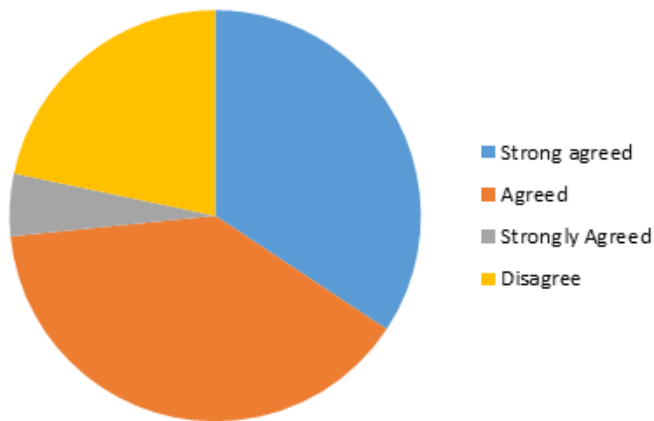


Figure 6: Effects of Poor WWM on Environment, Health, Society and Economy, 2021

The hypothesis on the significant effects of wastewater pollution in the custodial centres and the immediate surrounding communities was tested using chi-square test as seen on table 7 below.

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4439.102 ^a	48	.000
Likelihood Ratio	4097.677	148	.000
Linear-by-Linear Association	70.957	1	.000
N of Valid Cases	1492		

From the table 7, the Chi Square value was 4439.102 with a degree of freedom of 48 and a P Value of

Since the P Value 0.000 is less than 0.05, the hypothesis shows there is significant effects of effluent wastewater pollution and conclude that there is a significant effect of wastewater pollution in the custodial centres and the immediate surrounding communities the area.

CONCLUSION

Effluent waste as an inevitable by-product of human activities is increasing in the quantum measure that has potential impact on the environment, socio-economic and human health. It enormous effects as revealed in the study conducted in Nigerian Correctional Centres found out the nature of generating wastewater from hygiene and sanitation of inmate using restroom and flushing toilet which is about 41-50 litres per day can cause flooding, air and soil pollution as a result of inappropriate and effluent discharge. These challenges to the environment have in many instances led to outbreak of water and airborne diseases in different places at different time in humans and animals with high outbreak of cholera on the inmates and families at surround environment, aside, typhoid, malaria and dysentery that constituted serious social burden for the management, even though blame those custodians centres for poor sewage management. The effluent wastewater is responsible for the degradation of the receiving water bodies with the impacts of such degradation resulting in the spread of various waterborne diseases, decreased air and soil quality. And the hypothesis test significant at 0.05% of the effect of wastewater pollution in the custodial centres and the immediate surrounding communities the area. To therefore safeguard the impacts, guidelines and policies designed at treating wastewater before discharging to the environment should be adopted to all bodies managing wastewater in the national as well as the international organizations.

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