

Method of Sewage Disposal as A Catalyst to Environmental Pollution in Damaturu Metropolis of Yobe State.

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ABSTRACT

This study investigated the sewage waste management in Damaturu, Yobe state. The methods employed in this study are critical observation, questionnaires and oral interviews. Analysis of the data reveal that all the functional elements of sewage waste management system in the Damaturu, Yobe state as practiced by existing institution of Damaturu sewage waste management are engulfed by fundamental problems which have been the main reason why institutions are unsuccessful in the efficient management of sewage wastes control and the reason for rapid outbreak of cholera, dysentery ,typhoid fever and vomiting with diarrhea occurring almost every year especially during raining season in the state, the various problems were identified, analyzed and discussed. Pragmatic means of solving problems such as the encouragement of sewage recycling and treatment. The provision of adequate fund and the active participation of the private sectors in sewage wastes management were recommended which if strictly adhered to and properly implemented would provide the much-needed solutions to the problems.

Keywords: sewage disposal, environmental pollution, Yobe State.

1.0 INTRODUCTION

There are changes throughout the urban centers in Yobe state over the years, especially demographic extension has brought about phenomenal increase in the volume and variation of sewage wastes generated daily particularly in Damaturu. 'The rapid declining in quality of the environment increase environmental pollution, the solution of environmental pollution lies not in attempting to eliminate all pollutant

but rather in minimizing the production of pollutants and managing their disposal in term of air, water, soil, food and noise pollution. The term environment, according to (Harvey, 1977) means surrounding in which organisms live, which consist of air, water, food etc. The term environment pollution is one of the most horrible ecological crises to which present civilization is subjected today. The disposal of certain kind of waste products as well as

by-products which when infected to an environment in quantities so large that they affect the normal functioning of ecosystem is known as environmental pollution. (Patrick, 2007) domestic sewage includes waste, water and solid waste that is characteristics of the flow from toilet, sinks, showers and tubs in house hold and domestic waste includes water-borne and other wastes by the human body and by flushing water, sewage water from kitchens, bathroom, and other water borne materials discarded as a result of regular house hold and human sanitary activities, as public sewage originates from houses, hotels, institutions, markets, streets and industries. Accumulation of sewage in the vicinity of dwelling and market places is responsible for most offensive odors in some streets. (Ishaku et al, 2021) reported traders in Damaturu Sunday markets expressed their dismay over the Yobe State Television (YTV) news that the unnecessary passing of sewage and dumping of refuse wastes in the vicinity of market areas and some words by some people is affecting their business. This is as a result of terrible odour experienced in the area. There are three (3) categories of sewage wastes which are municipal, Industrial and hazardous sewage wastes. Whatever the category, it is no use to public and it has no intrinsic value to the society, it is therefore discarded and if not disposed off properly will be a source of potential problems to the population that discarded it. However, the satisfactory disposal of sewage wastes requires highly integrated and sound operated system: such

a system will include three (3) processes; storage, collection and recycling or treatment

(Werner, 1995) reported that sewage pollution can lead to diseases like vomiting with diarrhea, typhoid fever, bacillary, cholera, paratyphoid fever and centric fever. he added that disposal of sewage into a river can give rise to a condition known as *eutrophication*, which is a situation where an algae that lives in the water multiply at a faster rate than normal. The algae form a thick green mat that prevents light from reaching plants living at the lower part of the river, the submerged plants die inhabitable for animals.

2.0 MATERIALS AND METHOD

The principal method employed in this study is critical observation, questionnaire and interview, and also organized field tour to major areas of focus in the town, a member of soak-away, gutters, and drainages in Damaturu and the environs particularly, the market place including the road sides and in some congested wards. For the collection of data first, the entire study was classified into residential, market, industries and institutions. secondly, the residential sample was obtained by grouping the areas to five (5) zones based on the criteria of proximity and accessibility, the zones are Nayi-nawa, Gwange, Pompomari, Nasarawa and Dikumari. More so, an average of twenty (20) houses were randomly selected from each zone making a total of hundred (100) houses. Thirdly, (30)

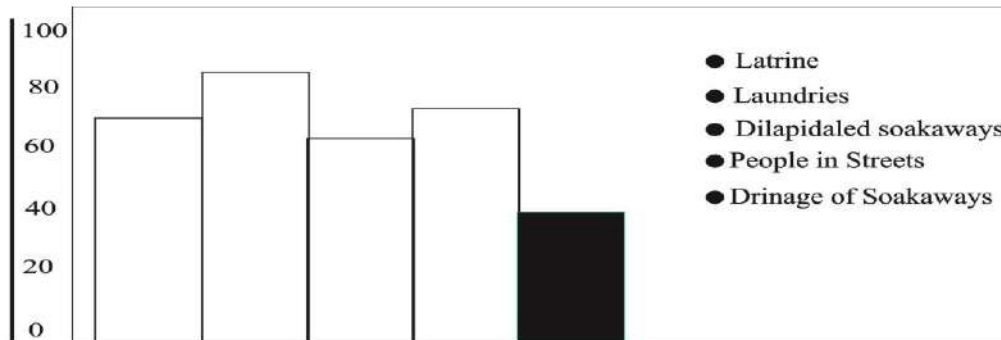
traders were randomly selected mostly from Sunday market. Ten (10) industries were also selected for sampling.

Consequently, questionnaires contrasting of both open and closed ended questions were prepared with sections for each respondent in the market and industries. The purposes of the questionnaires were to obtain information about sewage waste management, storage, collection and disposal as practiced by individual household and institutions, food sellers, traders, etc. Relevant questionnaires

were as well prepared for the Yobe State Environmental Protection Agency (YOSEPA) and the local government officials. they were also prepared to obtain information about the problems and ill effects of sewage pollution and also to obtain information about the problems of manpower, professional competence and adequate supervisory management roles in ensuring prompt and efficient collection, disposal and / or recycling and treatment of sewage waste.

3.0 RESULTS:

Fig.1: Sewage waste decomposition in Damaturu town. **Source:** Survey 2009



From the questionnaire returned the responses made in the various sections of the instruments were analyzed using simple percentage. Based on the findings on the method of sewage disposed as a catalyst to environmental problem in Damaturu, the traders, food sellers, households, YOSEPA officials and local government officials

agreed that sewage from laundries, sewage from latrines, sewage from dilapidated soak away, sewage from the street and sewage from drainage of soak drays are factors leading to environmental sewage pollution in Damaturu metropolis.

4.0 DISCUSSION

From the results obtained and analyzed on the methods of sewage disposal as a catalyst for environmental pollution in Damaturu, it has shown that indiscriminate passing of sewage from latrines, soak away, streets and laundries are vectors leading to sewage pollution in Damaturu town. On method of sewage disposed in Damaturu however, household sewage such as sewage from pit latrines constructed without soak ways is one of the common wastes generated, the sewage of such system flow directly into the street as there is no reservoir constructed for that purpose. One of the unfortunate attitudes practiced Some people of deliberately establishing food hotels and fast food in an unhealthy environment in Damaturu, this reflects devastated outbreak of diarrhea with vomiting in the state, poor environmental and personal hygiene are some of the possible factors.

5.0 RECOMMENDATION

(Bajah, 1998) sewage pollution can be solved by recycling and treatment whereby people will have the services of central sewage system (C.S.S) in those town however, the sewage from all households is carried through large pipes laid underground to central location where the sewage is treated before the water is

emptied into nearby lake, river, ocean, etc. (Ramalingam 2005) also stated that There is the need therefore, to involve an efficient sewage waste management based on the skill of engineering management taking into consideration the problems associated with poor sewage disposal. (Bhatia, 2005), had the view that government should pass an environmental legislative power that is the constitutional protection to environmental laws. These laws have to be made by the national assemblies against sanitation.

Public enlightenment campaign: The enlightenment of people at different levels/class to be aware of their responsibility for nurturing and wisely utilizing the environment and taking urgent steps toward restoring environmental balance where such is observed will also reduce the menace of pollution. People should be educated on issues like identification of sewage management in collaboration of Yobe State Environmental Protection Agency YOSEPA. They should sensitize the public about the ill effect of environmental pollution. The private sector should also be actively involved in the campaign.

According to (Muduegbuna, 2004) approach to environmental problem is to tax the value of negative externality which solution he referred to as internalizing

externality. It is strongly recommended that government should always provide an appropriate adequate funds in its annual budgets to cater for the construction of modern gutters and drainages through which the waste could be effectively and

efficiently disposed. In most cases, the problem of lack of adequate funding constitutes the cardinal problem of poorly disposed sewage wastes.

Table1: Waste sources and disposal. Sources: (Bhatia, 2005)

Sources	Method recently	Method of future consideration
Municipal	Landfill (80%) incineration	Compaction, composting, recycle and reclamation chemical processing
Industrial	Landfill incineration	Recycle and reclamation chemical processing
Demolition	Dump open burning	Incineration
Construction	Dump	Reclamation
Sewage	Landfill, dump	Incineration and composting
Agriculture	Landfill (plough back) incineration open burning dump	Compost and chemical processing

NB: Sanitary landfill is the most widely tested method of waste disposal, if perfectly operated. There are many unauthorized

dumps but unfortunately only few are considered to be truly sanitary, the remainders are unauthorized ones.

Table 2: Reported cases of cholera in Damaturu as a result of effect of sewage pollution.

Source: Yobe state statistical Year Book.

YEARS	Number of cases
2018	451
2021	883

Table 3: Yobe state cholera outbreak situation report

Source: Govt. Nigeria, Health Cluster WHO.

YEARS	Number of cases
2019	1762
2021	3750
2022	4016

CONCLUSION

The issue of environmental pollution should be tackled head on not only in Yobe state but national and international levels. Reduction of environmental pollution improve healthy condition of man and animal. This can lead to a desirable life expectancy because the food we eat, the water we drink, the fish we eat, the air we breathe, etc. will all be free from sewage pollution and other poisonous substance which works against development and decent living within our environment.

Pollution like many other today's big health problems is a community affair. It cannot be solved by individual but rather through team effort. There is however a great need for public understanding of the complex preambles created by the air water soil and food pollution in Damaturu particularly and Nigeria in general. Life on this planet depends upon the hazards of pollution, national and world action to minimize the hazards of pollution.

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