

## The roles of Environmental Sanitation in the Prevention of Diseases Outbreak in the Society

By

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### **Abstract**

*Environmental sanitation is the control of all those factors in man's physical environment, which exercise or may exercise a deleterious effects on his physical development, health and survival. In general, environmental sanitation covers arrangements for drainage of rainwater and effluents, collection and disposal of garbage and sanitary removal of human excreta. Nigeria is still lagging far behind many countries in the field of environmental sanitation; may be due to some factors including lack of awareness of benefits of the environmental sanitation practices. This paper review the roles of environmental sanitation in preventing disease out breaks in the society. The finding of this review revealed that environmental sanitation particularly in places where man lives and carryout daily activities such as toilets, kitchen, restaurants, school, hostels, water sources, and abattoir plays a significant role in the prevention of diseases outbreak such as cholera, typhoid, dysentery etc.; thereby promoting health in general. It was also found that poor environmental sanitation such as open defecation and indiscriminate waste disposal can leads to outbreak of various types of communicable diseases and other medical conditions in a society. Based on this findings, it was concluded that the best preventive medicine against disease outbreak in the society is the environmental sanitation practice. However, it was finally recommended among others that, Government should provide adequate sanitation facilities and equipment for the general public to encourage the sanitation practice, so as to prevents the outbreak of diseases such as cholera in the society.*

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**Key words:** Environmental sanitation, prevention, diseases outbreak, society.

### **Introduction**

According to Reeve (2020), Environmental sanitation deals with the provision of safe and adequate supply of water, proper and efficient disposal of wastes, safeguarding of food, provision of insect vectors and other pest control measures, control of animal reservoir or infection, air hygiene and prevention of atmospheric pollution, elimination of environmental hazards, pollution like water, radiation etc." Reciprocal relationship exists between man and his total environment i.e. physical, biological, social and economical. The aim of a good environmental sanitation is to modify human environment towards the maintenance and promotion of health and prevention of disease.

According to World Health Organization (WHO) Environmental sanitation is the control of all those factors in man's physical environment, which exercise or may exercise a deleterious effects on his physical development, health and survival (John, 2021). In general, environmental sanitation covers arrangements for drainage of rainwater and effluents, collection and disposal of garbage and sanitary removal of human excreta. Nwankwo (2014) define environmental sanitation as the control of all those factors in man's physical environment which exercise or may exercise deleterious effects on man's physical, mental and social wellbeing. According to Nwegbu (2016), sanitation is a way of life, it is a quality of living that is expressed in a clean home, business and industry, neighborhood and community. Being a way of life it must come from within the people living in the area. It is a nourished by knowledge and grows as an obligation and an ideal in human relation. Eawag says that environmental sanitation includes water supply, sanitation, storm water drainage and solid waste management. The activities are aimed at improving or maintaining the standard of basic environmental conditions affecting the well-being of the people.

However, Nigeria is still lagging far behind many countries in the field of environmental sanitation; may be due to some factors including lack of awareness of benefits of the environmental sanitation practices. It is against these problems that the researcher reviewed the roles of environmental sanitation in prevention of diseases outbreak in the community.

### **Importance of Environmental Sanitation**

According to Okeem, Health is wealth. It is important to keep the environment clean because a clean environment will keep disease outbreaks from occurring, because anything thrown into the environment will certainly come back to you, therefore it is good to minimize energy waste and it improves our quality of life. It is important to keep the environment clean so that no one

is breathing from the polluted air, and so the plants and animals don't breathe the polluted air, and don't forget that, it is important to keep environment clean so that it can prevent floods and less pollution.

Evans, (2017) says that scientist predict that within the next (50) years or so, global warming will cause the earth to increase in temperature which will in turn cause the earth to have experience more hurricanes, droughts and floods and many more climate changes. All of these though, could be avoided if we simply reduce the amount of air pollution, reuse and recycle everyday products in order to keep our environment clean.

According to Reeve (2019) sanitation is an important way of promoting good health and preventing disease. It is the hygienic means of promoting good health through prevention of contact with hazards such as waste. Sanitations is important because without, people would come in contact with hazardous waste that can cause chemical, microbial and biological disease. Environmental sanitation is very vital for any nation and in order to live a world free from disease, we must task ourselves in a more collaborative and more sustained ways to frequently embark on general cleaning exercise in our houses, homes and our communities.

### **Implications of Poor Environmental Sanitation**

The implications of poor environmental sanitation are always lots of disease. These turn out to start appearing in the community. According to Bucher and Ngeri (2019), there are lots of possible effects of poor environmental sanitation such as the spread of disease by direct and indirect contact diseases such as cholera, gastroenteritis, typhus, epidemic and pandemic outbreaks, environmental pollution, finally death. We have been carelessly throwing litter all over the place, these litters when decomposed releases poisonous gases which can lower the quality of the breathing air. This can leads to many diseases like asthma which lowers the quality of life. The environment cannot be learning environment for children and future generations. Also we have been rapidly destroying the ozone layer of the earth with the wanton emissions of fossil fuels and other pollutants. With the continuation of this destruction we will be exposed to deadly ultra-violet (UV) rays from the sun and solar flares which will lead to the death of the planet earth. Also waste creates toxic gases that can diminish air quality causing environmental damage and lowers human quality of life.

Habitats are destroyed or damaged, reducing biodiversity. Poor quality environments encourage social fragmentation and psychological problems among the population. Dirt habits in environment encourage harmful creatures such as snakes, scorpions as well as insects.

### **Solution to Problem of Poor Environmental Sanitation**

Reeve (2020), suggest that the Federal Government being aware of the important role environmental sanitation plays in the maintenance of sound public health, and agrees that a specific policy is required to address it, because environment is a resource to be valued in its own right.

Also the nation environmental sanitation policy shall therefore, have deriving from it, relevant legislation, national policy, guidelines, National Environmental Sanitation Action Plan, official statements and decisions, which shall establish specific or general limits to which various environmental sanitation activities must comply to assure safety of the populace. The national environmental sanitation policy as an integral part of the overall, National Development Strategy shall therefore, seek to stimulate, promote and strengthen all Government regulations concerned with Housing and Urban Development, food security, water supply sanitation, related endemic disease and illness, food and erosion control, Drought Control, School health services and environmental education.

Carr and Struss (2019), reported that, for a sanitation system to provide the greatest health protection to the individual, the community, and society at large it must isolate the user from their owned excreta, prevent nuisance animal (e.g. flies) from contacting the excreta and subsequently transmitting disease to human, and inactivate the pathogens before they enter the environment or prevent the excreta from entering the environment. It is important to understand that sanitation can act at different levels protecting the household, the community and society at large. In the case of latrines it is easy to see that this sanitation system acts at a household level.

It is very essential for a family to install a latrine, it is not only protect to them from their own excreta, it also help to protect their neighbours. Indeed, there is an impact on the health of the community as a whole from the overall level of sanitation for advocates of sanitation. This is good news as it means that sanitation is not only a private good, but also public good, and that there is therefore a case for public measure to promote it (John, 2021).

According to Nwegbu, community health is based on the view that all agencies and individuals have roles to play in promoting, maintaining and improving health and wellbeing of the people. Each person must cooperate with another to meet the problems of environmental sanitation in the community because no person by himself can do all the things that must be done to keep him healthy and safe.

One man's dysentery or measles is not only a threat to him and his family but also a threat to the whole community in which he lives. For example, when cholera was raging in Ghana in 1969, the people in Nigeria were not safe.

Godman (2018) said the basic of good hygiene in all communities is safe disposal of urine and human faeces, bad method of disposing will lead to the presence of flies which may causes the contamination of water supply. The disease may rise as a result of bad sanitary arrangement such as dysentery, cholera, typhoid and intestinal worms. It is most important that people should own proper latrines: the habit of defecating in open toilets should be discouraged. The types of latrines depend upon the nature of the soil and the availability of good water supply.

We can also further encourage the government to pass regulations to ensure factories and other industries not to pollute the air by releasing gas emissions into the air and turn them into positive fuels which can benefit us.

### **The roles of environmental sanitation in prevention of diseases**

Environmental sanitation can prevent diseases outbreak in the following areas where man lives:

#### **1. Compound**

It is not advisable to live or allow the rubbish around the compound, collected house hold refuse should be gathered in dustbin which should be removed regularly for burning. Other appropriate disposals stones, nail pieces, wood, tins or jars that may lie around the compound should be cleared away and placed in proper containers, water lying on the ground or vessels should be drained away so that it may not be a breeding place for mosquitoes that carry the malaria, germs, suitable brooms should be provided to facilitate sweeping (Nwankwo, 2014).

#### **Refuse disposal**

Every household produces a certain amount of waste or refuse daily, such as empty tins, paper, rags, skins of fruits vegetable peeling and many others. In many rural areas, each household is

responsible for disposing its own refuse. This is done by burning, burying or composting dry refuse such as paper and husks of food is usually burnt. Refuse which cannot be burnt such as glass and metal is usually buried in a piece of waste land to avoid wounds and subsequent contracting of tetanus infection (John, 2021).

## **2. Food Hygiene**

Food must be produced, stored, prepared and cooked in a hygienic way. Public health authorities have to ensure that the food people buy is in good condition and free of microbial contamination and adulteration that can lead to food poisoning and other related diseases (2017).

## **3. Restaurant**

Most food purchased in retail stores for home preparation has to meet federal, state and local standard of purity and sanitation. The intelligent know how to carry out any further safe guards that may be needed. The restaurant owner purchase the same protected food but his problem in preparation and service are complicated by many factors (Nwankwo, 2014).

## **4. Meat Sanitation**

Meat that is not to be consumed locally is inspected by the state or local health department. In larger abattoirs inspection is made both before and after the animal is killed. One of the reasons for inspection is to ensure that the animal is free from disease. Supervision of the processes of slaughter is also provided to ensure that the death of the animal is immediate and painless (Reeve, 2020),

## **5. Watersanitation**

Water that is fit for consumption is the colourless, odourless, and tasteless and germs free. Water should be boiled in a clean vessel before stored in the pot. Good drinking water prevent guinea worms. according to a statement by the World Health Organization, which has made this decade water, if a goal of providing safe drinking water for all has been achieved by the end of the International water supply and sanitation decade 9190), the guinea worm should no longer exist. Prevention of guinea worm can only occur when there is an improvement in water supply to

the communities and villages that have no access to safe drinking water; should be advice to boil their water before drinking (Wallace, 2022).

### **7. Kitchen Sanitation**

The kitchen should be properly constructed so that it will be easy to be kept clean. It should be space enough to collect adequate ventilation requirement. The cook herself must be clean, ashes should be removed every morning, the walls and ceilings should be clean. Many food related diseases may occur if cooking is not done under sanitary condition. The floor should be swept regularly and kept dried at all times, kitchen equipment and utensils should be washed immediately after use. Water for washing utensils should be used to rinsing utensils and if possible spoons, fork and knives should be dried with clean dry cloth after wash.

When food is exposed during cooking, it is important not to blow the fire in case some ashes and other rubbish can become airborne and settle on the food (Nwankwo, 2014)

### **8. Toilet Sanitation**

Toilets and bathrooms should be swept daily as the first routing of the morning. Antiseptic such as carbonic acid should be put into water and used in sprinkling the room, the floor should be well scrubbed and should not be allowed to become slippery, walls and ceiling should be kept clean. However, in the water system types of toilets where rough papers other than toilet tissues are used, a refuse bin should be provided for proper depositing into the bin, it should be ensure that refuse are collected and burnt daily to avoid food contamination and subsequent outbreak of diseases (Wallace, 2022).

### **9. Waste Disposal**

In refuse disposal, cooked garbage may be used in feeding dogs. Garbage may be buried if it is taken enough to prevent dogs and rats from digging it up. The disposal of excreta is best done in the pit privy, the pit privy is the simplest arrangement that meet the requirement of sanitation and privacy.

### **10. Dustbin**

This is the receptacle which holds the household refuse until it is carried away. It is made of iron and has fairly closed fitting lid. It is supposed to be small so as to be emptied frequently and should be cleaned out regularly and be used only for dry refuse (Wallace, 2022).

## **10. Incinerator**

The best method of dealing with rubbish as in the case of sewage is destruction by means of incinerators in the town otherwise the smell is a great nuisance; the remains which cannot be burnt are buried.

## **Conclusion**

Based on the findings of this review, it was concluded that environmental sanitation particularly in places where man lives and carryout daily activities such as toilets, kitchen, restaurants, school, hostels, water sources, and abattoir etc, plays a significant role in the prevention of diseases outbreak such as cholera, typhoid, dysentery etc, thereby promoting health in general. Moreover, poor environmental sanitation behavior on the other hand, such as open defecation and indiscriminate waste disposal can leads to outbreak of various types of diseases and medical condition in a society.

## **Recommendations**

Based on the finding of this review, the following recommendations were made:

1. Government should provide adequate sanitation facilities to the people to help stimulates environmental sanitation thereby prevention the outbreak of diseases.
2. Health care providers should always educate the public about danger of poor environmental sanitation and benefits of proper sanitation
3. House to houses sanitation exercise should be carried out regularly by environmental health officers to ensure that proper house premises sanitation is maintained
4. Government should enforced law and legislation that will banned indiscriminate waste disposal and open defecation behavior to promote environmental sanitation thereby prevention diseases outbreak.

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