

ECOLOGICAL RISK OF ENVIRONMENTAL WASTE IN TEXTILE INDUSTRIES AND ITS NEGATIVE IMPACT ON NATIONAL DEVELOPMENT

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Abstract

The textile industry is one of the most essential consumer goods industries in Nigeria. However, as matter of fact, environmental pollution has generated some misconceptions in the textile industry which courses unhealthy standards for households living around the area due to waste chemicals used in their production. Meanwhile, there have been long and investigation reveals that textile hazardous influenced during production of textile goods generated day by day which affect the health leaving both for living and non-living thing in the society. This paper will be taken some measures to the decrease in Ecological risk of environmental waste of textile industries and its negative impact on national development. It will also identify the main causes and provide a possible solution of future occurrences. The result of the data collected will also be presented.

Keyword: Ecological, Risk, Waste, Impacts, and National Development.

1.INTRODUCTION

One of the greatest problems facing the textile industry in Nigeria is environmental pollution which causes great damage to the earth. Environmental pollution takes place when the environment cannot process and neutralize harmful by products of human activities in due course without any structural or functional damage to its system. Pollution occurs when the natural environment is unable to decompose the generated elements and on the other hand, when man fail to decompose these pollutants artificially.

Often times, especially in the third world countries, reactive control measure are used adopted in response to disaster occurrences an aid to relieve the affected of their demoralizing and traumatic experience. Waste management could be harnessed as a panacea for this problem as short and long-term measures through sensitization, education, and skills acquisition e.t.c.

The aforementioned panacea is considered appropriate requisite for general to keep their mental discipline during and after the crises needed for recovery and rebuilding their affected communities. The relevance of waste management is appreciated by projection achievable through the creative projects which responds to the contemporary issues concerning community tradition such that encourage people to reflect on changes in their communities such activities can include photography, exhibition, activities within the community, and so on.

The challenge of addressing a complex range of problems that a waste management has left behind requires an interdisciplinary approach and the development of a better form of collaboration. Reason is that, the Communities that had been exposed to hazardous ways, natural calamities, and diseases; the expected agencies and authority can become a perfect tool in helping them deal with emotional inflictions left behind. It can also be used an education tool that can change behavior such as promoting health habits that come as a result of an encounters with various forms of disaster. In Nigeria for example, we are facing the majority of man-made disasters.

In the light of this, the negative impacts on crucial environmental services such as the provision of clean water, air and arable land without which life on earth as we know it would be

difficult. Environmental pollution is a problem to both in developed and developing countries. The human environment is made up of the following aspects: The physical, social, economic, political, and technological. Advanced production in technologies, which are used to meet increased consumer demands, have also made production activities important to the global environment. The developing technology brought about the problems like pollution of the environment, air, and water, thinning of the ozone layer, a decrease of green areas.

However, the public opinion has emerged, especially in developed countries, which are sensitive to these problems. New precautions have begun to be considered both to maintain industrialization and to protect the environment. It has been shown that cleaning up after the pollution is more costly than cleaning up before the pollution and it is not possible to restore the degraded ecological balance after pollution. This led to the discussion of "how can we industrialize by protecting environmental values" instead in "development or environment is more important".

Along with the technological developments in recent years, developments in the textile sector as well as in many sectors have played a major role in Nigeria due to the increase of environmental problems. The main environmental impact in the textile industry is manifested by the discharge of high amounts of chemical loads into the receiving community. Other important elements are high chemical and water use, energy consumption, air pollution, solid waste and odor formation.

Textile waste is produced in every phase of the textile manufacturing process like spinning, weaving, dyeing, finishing, and garment manufacturing and even at the consumer end. What are the various types and what is their effect on the ecosystem? Global production of clothing and its consumption has increased in the last fifty years.

Meanwhile, it is not possible to avoid wastage during production or usage of textiles materials. Besides, a sensitivity analysis of the shopping behavior, and life cycle of a product among the consumers is essential. The huge quantity of textile waste dumped in landfills and incinerated can be re-used to a great level by understanding the dimensions of a product and its compatibility with nature. Textile waste is produced in every phase of the textile manufacturing process like

spinning, weaving, dyeing, finishing, and garment manufacturing and even at the consumer end.

1.1. Significances of the Research

- I. To find out the causes of environmental waste and pollution in the region in Lagos state
- II. To expose the public to the hazards associated with a polluted environment as a result of textile wastage and other related activities
- III. To provide to the government an insight into the level of pollution prevalent in some selected Textile Companies and the need for a sustainable environment.
- IV. To equip waste managers in the state with the ideas on the prevailing forms and causes of environmental pollution in the area to maintain a healthy environment.
- V. To assist academia and future researchers will serve as a reference point to aid the existing stock of knowledge on environmental pollution.

2. LITERATURE REVIEW

According to (Imam et al, (2008) and Ogwueleka, (2009), Opined that solid waste management in Nigeria is characterized by inefficient collection methods, insufficient coverage of the collection system, and improper disposal. Lack of institutional arrangement, insufficient funds absence of standards and by-laws, insufficient information on waste composition and quantity, inflexible work schedule and inappropriate technology transfer are the common constraints faced by environmental agencies in solid waste management. 75-95% of the revenue of solid waste is spent on collection and disposal and only 40-70% is collected from the urban areas. Most the rural areas have no SWM facility.

Presently emphasis is been focused on better institutional arrangement through privatization and less on collection, and disposal due to the inadequate government service delivery. Privatization is been tested in cities like Abuja (Imam., 2008), Lagos (Ogwueleka, 2009) and Benin (Ogu., 2000) but have not improved the service delivery due to all the factors above including corruption, lack of planning of route service delivery, affordability and acceptability.

Bisson (2002), stated that since waste is a product of human behavior, to maintain a good waste management we need information on the behavior and attitude of people concerning waste and accurate data on waste generation

Finally, (Ogwueleka, 2009) argued that since Nigeria there is an abundance of cheap labour the use of a low capital cost and labour intensive solution that reduces poverty will be preferred. It should include low technology like handcarts and pickup trucks for collection, informal sector involvement (waste pickers), training, local waste recycling and reduction projects, transfer stations to reduce operating cost, community participation, and involvement.

Holdgate (1993), Sees Pollution as an introduction by man into the environment of substances or energy liable to cause hazards to human health, harm to the living resources as ecological damage; or interference with legitimate uses of the environment. According to Miller (1998), Environmental pollution is "any addition to air, water, soil or food that threatens the health, survival or activities of human or other living organisms". Such chemical or form of energy that causes harm is called a pollutant.

According to Nwosu (2003), stated that, air pollution has to do with the dangerous contamination of the atmosphere, which reduces the quality of the air we breathe. Pollutants can be solid, liquid, or gaseous products or wastes produced when a resource is extracted, processed, made into products or used. Equally, it can take the form of unwanted energy emissions, such as excessive heat or radiation.

In conclusion Adegoreyo, (1994) stated that, stable leadership and firm commitment of government in formative years to any enforcement program with set goals, objectives and responsibilities including capacity building should be uttermost to ensure the improvements.

2.1. Waste Composition in Nigeria

Nigeria is a nation that exemplifies chronic solid waste management problems in conjunction with population growth. It is the most populous country in Africa, with over 206.1 million residents (World Bank 2020), and over the past 60 years, has had the third largest urban growth rate in the world at 7.51% annually (UNDESA 2014).

In Nigeria though there have been some studies into the determination of waste composition and generation to enhance the provision of solid waste management services. This does not take into consideration the quantities of waste that are separated by the waste pickers and animals before collection. Ogwueleka, (2009) and Imam et. al. (2008), agree that indistinctive legislative policies and regulations, lack of data on the generated waste, inappropriate technology for collection, and disposal, no planned framework, and inadequate population characteristics are some of the factors affecting the knowledge of municipal solid waste composition in Nigeria to develop better disposal methods. Other factors include political, economic and social.

3.1. Harmful Effects for Internal and External Factors of Textile Waste

In summary, the following areas may adversely affect the sustainability of the textile industry:

- A. Use of toxic chemicals
- B. Water consumption
- C. Energy consumption
- D. Waste production and Air emissions
- E. Transportation
- F. Packaging materials.

Health-related effects are:

- A. Respiratory modification
- B. Gastrointestinal
- C. Endocrine stimulation
- D. Skin resistance alteration
- E. Permanent or temporary hearing loss
- F. Increased human annoyance

2.2. Tool to Avert Disaster in Waste Management

Waste management can be better prevented than managed based on the simple that "prevention is better than cure". If all the agencies responsible for disaster prevention and management are responsive in the handling of disaster management then the number of their occurrence would have been curtailed or their effect mitigated it adequate information on likely causes of human and natural disasters identified, and presented

to the general public in advance as it is commonly observed in the advance countries. In Nigeria, the relevant agencies are the Ministry of information (both State and Federal). (SEMA) State Emergency Agency, (NEMA) National Emergency Agency, local government information units, News Agency of Nigeria, Television stations and advertising agencies well-conceptualized visuals for billboards, Journals, Leaflet, Postal, and Stickers to disseminating information about various disasters and possible ways to preventing and managing their occurrence.

3. RESEARCH QUESTIONS

1. Does textile waste hazardously affect the production of textile goods?
2. Does environmental waste from textile industries affect ecological system in the society?

3.1. Research Methodology

This study employed a survey research design. The study was carried out in selected textile companies in Lagos

state. A- 6 items questionnaire split into two sections to cover the two research questions titled Ecological Risk of Environmental Waste (EREW) was used for the study and it was examined by the experts in textile industry before administration. Subsequently, the questionnaire was administered to 25 textile workers who are not part of the sample in order to test the reliability of the instrument and a Cronbach's Alpha reliability coefficient of 0.79 was obtained. It was then administered to the sample of randomly selected 100 textile workers across the sampled textile companies in Lagos State which include both male and female. The data collected was analyzed using descriptive statistics.

4. DATA PRESENTATION AND ANALYSIS

Data generated in the course of this research was presented in frequency distribution tables with raw figures and simple percentage analysis. The research used descriptive techniques which are based on quantitative analyses, taking into account the numerical values or the frequencies with which the various delineated items of the content analysis occurred.

Table: 1: Effect of textile waste on production of textile.

S/N	ITEM	SD	D	A	AS	MEAN	STD.D
1.	<i>Hazardous textile wastes affect the production of textile goods.</i>	15(15%)	6(6%)	51(51)	28(28%)	25.00	19.54
2.	<i>Risk from environmental pollution does have impact on textile workers.</i>	11(11%)	7(7%)	47(47%)	34(34%)	25.00	19.18
3.	<i>The Textile Companies do not take necessary precautions on environmental pollutions in their area.</i>	22(22%)	29(29%)	41(41%)	8(8%)	25.00	13.78
	Weighted Average	25.00					

On item 1 in table 1, 28% of the respondents strongly agreed, 51% answered to agreed, 6% responded to disagree while 15% of the respondents disagreed with the item. 34% and 47% of the respondents strongly agreed and agreed respectively to item 2, while 7% and 11% of the respondents disagreed and strongly disagreed to the item. Verifying if the textile companies

do take necessary precautions on environmental pollutions in item 3, only 8% of the respondents strongly agreed, 41% agreed, 29% disagreed while 22% strongly disagreed with the item. With the weighted average of 25.00, it was observed that textile waste hazardously affect the production of textile goods.

Table: 2: Environmental waste and ecological system

S/N	ITEM	SD	D	A	AS	MEAN	STD.D
4.	<i>The Chemicals used in textile industries affect both living and non-living things in the Area.</i>	18(18%)	31(31%)	11(11%)	40(40%)	25.00	16.39
5.	<i>The coverage of environmental waste affects the people living in textile industry region</i>	21(21%)	30(30%)	13(13%)	36(36%)	25.00	12.99
6.	<i>The government agencies responsible for environmental waste management don't respond to the complaints from the people living around textile industries.</i>	14(14%)	22(22%)	15(15%)	49(49%)	25.00	10.10
	Weighted Average	25.00					

Item 4 from table 4 shows that 40% of the respondents indicated strongly agreed, 11% answered to agreed, disagreed had 31% while strongly disagreed had 18% and by implication, chemical used in textile industries affect both living and non-living things in the area.. 36% and 13% of the respondents strongly agreed and agreed respectively to item 2, while 30% and 21% of the respondents disagreed and strongly disagreed to the item. On examining government agency responsible for waste management in item 6, 49% of the respondents strongly agreed, 15% answered to agreed, 22% responded to disagree while 14% of the respondents disagreed with the item. Based on the percentages in table 2 and the weighted average of 25.00, it was discovered that the environmental waste from textile industries affect ecological system in the society.

5.CONCLUSION

In Nigeria, the general public attitude towards waste management is poor. . A man may live in a neatly kept house but refuse to cooperate with his fellow residents in keeping the surroundings of the building clean. As long as the waste materials are not inside his house, he feels no concern. Government attitude towards solid waste management is the introduction of inappropriate

technology without the consultation of the people using the services.

Most Nigerians associate wealth with lavish spending, which generates much waste as a by-product. They perceive waste pickers/workers as poor and so make little or no effort to cooperate in waste management activities. Similarly, in homes waste removal to is classified as children's work. Since the bins were not designed with, their small stature wastes are dumped on the ground, creating more work for the waste workers and increasing collection time reducing efficiency. As from the waste workers, poor remuneration and stagnation in promotion has created a reduced interest in proper waste management. They go about doing their jobs haphazardly. The poor attitude to waste exhibited can be changed with proper enlightenment programs and patient extension efforts that are reinforced continuously even after project completion. This will negate ignorance, materialistic tendencies, and apathy and reinforce their responsibility toward the environment.

Nowadays recycling, redesigning, up-cycling, down-cycling, restoring, repairing, reusing and reducing are some of the techniques used by the industry. Consumers should be aware of the choices they have and also try to become part of the sustainable chain. The present situation has changed the face of the textile industry, which is now recognized for its efforts taken to reduce wastage and infuse eco-friendly practices.

6.RECOMMENDATIONS

No doubt, that this paper involves an investigation into the ecological risk of environmental waste in the textile industry in Lagos state. It will also put forward the following recommendations as to measures for combating poor environmental waste as well as environmental pollution itself in Lagos state.

The environmental officials should be stationed to monitor some the company wastage so that government will ensure that people working and living within the region will have adequate health facility All textile industries operating in the region should ensure regular maintenance of the equipment to avoid equipment failure and ruptures capable underwater ground. In case chemical spill, immediate clean-up the environment should be carried out while the processes of should commence without delay.

Government should ensure strict compliance with existing environmental laws and regulations by the operators in the textile industries.

Regulatory agencies should be established to monitor strict compliance such as State Emergency Agency (SEMA) and National Emergency Agency (NEMA).

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