

AN ASSESSMENT OF POLYTHENE BAGS DISPOSAL IN JOS BUKURU AREA OF PLATEAU STATE NIGERIA

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Abstract

The non biodegradable waste polytene bags are concern over decades now; if the trend is to continue valuable parts of the environment will be rendered useless. For the purpose of this study two set of questionnaires were administered, using a stratified systematic random sampling to generate information from general public and government agencies concerning disposal of polythene bags. The result of the studied problem reveals indiscriminate disposal of polythene bags in existing site such as gutters, streams, roadside and backyard, but disposal by burning seems to be insignificant in this study. This is said to be caused by individual and government negligence to enforce law. 65.3% of the respondents do not have awareness of the negative effect of disposal of polythene bags. If only 34.7% have awareness then it implies that our environment is in need of urgent attention. Enhanced waste polythene bags management can be achieved through provision of adequate facilities, adequate man power, public enlightenment towards good sanitary habit and government involvement. Alternative approaches to waste disposal such as overcoming the better and control solution can also be option toward waste polythene materials management.

Keywords: Polythene bags, disposal, Waste, Recycling,

Introduction

Polythene bags have been introduced in 1970's (Williamson, 2003) and gained an increasing popularity amongst consumers and retailers. They are available in huge numbers and varieties across the world. It is estimated that around 500 billion polythene bags are used every year worldwide (Spokas, 2007; Geographical, 2005). This widespread utilization is attributed to their cheapness and convenience to use. The vast majority of these bags are discarded as wastes usually after a single use. It is also believed that after their entry into environment, polythene bags can persist up to 1000 years without being decomposed by sun light and/or microorganisms (Stevens, 2001; UNEP, 2005a). Accumulation of polythene bag wastes causes environmental pollution that can be manifested in number of ways. One of the problems is deterioration of natural beauty of an environment (Anthony, 2003). Another common problem associated with these wastes is death of domestic and wild animals. This necessitates for proactive measures in order to safeguard animal species against extinction (Verghese et al., 2009a).

Nigeria is inefficient and unsustainable largely due to the crude and unscientific methods employed. The current practice process and programme of waste management in Nigeria do not in any way conform to what is obtainable in other modern cities of the world. It is against this background that this study sought to find out the current state of assessing polythene bag disposal in Jos Bukuru area of Plateau state.

Methods and Procedures

The area under consideration (Jos Bukuru) was classified into strategic sanitation zones for easy administration of questionnaires. Systematic random sampling was used to distribute the questionnaires to the residents in each street, in each of the street, thirty household were sampled. Beginning with the first two opposite houses and omitting the next five houses before the sampling procedure. This was done at regular intervals.

Two sets of questionnaire were used, the first set of questionnaires were administered to solicit for information from resident in the study area. Such information ranges from problem associated with

collection and disposal of waste polythene bags, pattern and methods of dumping and personal opinion on waste polythene bags management.

Second set of questionnaire were administered randomly to authority (JMDB/PEPSA) concerned with management of waste polythene bags collection and disposal in the study area. The questionnaires seek to obtain information from authority (JMDB/PEPSA) regarding their responsibilities on waste polythene bags management, within the Jos bukuru areas. The information ranges from the facilities available for polythene bags waste disposal, staff strength, authorized refused dumps, annual expenditure on waste management and data on quality of waste polythene bags generated.

Aim and Objectives

The paper is aimed at assessing polythene bags disposal in Jos Bukuru Area of Plateau State and:

- i. To identify the existing disposal site for polythene bags.
- ii. To assess the level of awareness of the negative effect of polythene bags.
- iii. To identify the environmental problems associated with polythene bags

Results

Existing disposal methods of waste polythene bags

The outcome of this study revealed that there exist five (5) dumpsites of polythene bags disposal, within the Jos Bukuru area. These are

- i. Gutters
- ii. Streams
- iii. Road sides (dustbin and on the ground)
- iv. Burning
- v. Backyard

Table 1: Existing Disposal Site for Waste Polythene Bags

Methods of disposal	Gutter	Stream	Roadside	Backyard	Burning	Total
Number of respondents	35	89	51	125	-	300
Percentage (%)	11.6	29.7	17	41.7	-	100

Source: Field survey, 2011

As revealed in table 1, it is clear that 125 (41.7%) sampled population disposed their waste polythene bag at the backyard, 89 (29.7%) used stream, 51 (17%) road sides, gutter 35 (11.7%) respectively. It is reasonable to conclude that backyard, stream, road side (both dustbin and ground) are the most common dumpsites for disposing polythene bags, even though some few population attested to that of burning. It is obvious and also of common eye sore to see heaps of waste polythene bags amidst residential areas (backyard dumping) and streams. The implication as observed is that it is a common sight to see heaps of solid waste, littered along street and drain of small to medium open dumps at the backyard of many homes in the cities with associated health effects.

Main causes of waste polythene

The result (obtained as regard the main causes of waste polythene bags revealed that (see table 2) 144 (48%) find it convenient to package materials using polythene bags 67 (22.3%) of the sampler

population blame government for not enforcing strick law, 52 (17.3%) responded to the fact that it is very light to carry, (37(12.3%) find it very portable.

Notwithstanding after serving its purpose, the polythene bags are discarded as waste at the various existing disposal site (see table (1) one). With regard to public opinion (sampled population). It is justifiable that wide spread of littered polythene bags along street and surrounding environment can be attributed to carelessness.

Table 2: Opinion on the Main Causes of Waste Polythene Bags

Methods of disposal	Portable to carry	Convenience to carry	Government in ability to enforce law	Light to carry	Total
Number of respondents	37	144	67	52	300
Percentage (%)	12.3	48	22.3	17.3	100

Source: Field survey, 2011

Table 2 revealed that 67 (22.3%) of the respondents attested to the fact that government has not live up to its responsibility in enforcing laws related to sanitation, this agrees with (Fasina, 1992) who attributed the cause of persistent problem of solid waste to the fact that the federal and state government have essentially ignored solid waste disposal problems because there is lack of coordinated jurisdiction and there have been no national standard or specification established. On the other hand, FEPA was stated that thus "the persistent problem of municipal waste disposal is due to continued treatment of waste disposal by local government as social service". FEPA then proffered full commercial of waste collection and disposal on the polluter-pays-principles.

Table 3: Percentage distribution of awareness of the negative effect of waste polythene bags

Awareness	Number of Respondents	Percentage	Total
Have awareness	104	34.7	300
Do Not have awareness	196	65.3	100

Source: Field survey, 2011

Table three (3) revealed that 34.7% of the sampled populations are not ignorant of the effect of waste polythene bags. On the other hand (65.3%) of the respondents do not have awareness of the effects of waste polythene bags. This implies that sensitization and enlightenment of public on the negative effects of waste polythene bags is very vital, Trudgji (1990), observed that knowledge about the process and evidence concerning causes, effect and possible solutions are very crucial to solid waste management; he noted that agreement on barrier technology economic social and political factors are very paramount in waste management.

Identified environmental problems associated with waste polythene bags

It is obvious from the result obtained to say that waste polythene bags are not environmental friendly; this is because of the environmental negative effects of waste polythene bags. Polythene bags are popular with both retailers as well as consumers, because they are cheap, strong, light weight, functional as well as hygienic means of carrying food as well as other goods, even though they are one of the modern conveniences that we seem to be unable to do without, they are responsible for pollution, killing of animals and using up of the precious resources of the earth (field).

Polythene bags as observed littered the landscape, once they are used by consumers they go into rubbish tips of backyard, this make the environment unpleasant for human settlement. Heap of waste

polythene bags at the backyard as noted is a good breeding ground for mosquitoes and other related disease outbreak such as cholera.

Dumping of waste polythene bags along stream have yielded a negative blockage of drainage such that, if dumping is to continue without necessary measures taken, siltation and flooding will take most of the drainage system. There are reported cases of death of animals as a result of waste polythene bags ingestion: this in turn gives livestock farmers' economic loss. The concentration of waste polythene bags along drainage between resident hold water. This consequently posed problem of waster flow. On the other hand, the stagnant water, in some case get into foundation, causing cracks on the wall of houses. The burning of polythene bags infuses air with toxic fume, which directly affect human respiratory system.

Agencies concerned with waste polythene bag disposal

The Jos Metropolitan Development Board and Plateau Environmental Protection Agencies are with the sole responsibility of managing the waste polythene bags, within the Jos Bukuru metropolis.

When interviewed on the tax of collection and disposal of waste polythen bags, the response by the agencies (JMDB & PEPSA) was that the state government is solely responsible for ensuring environment quality in Jos Bukuru Metropolis through its agencies. The function of Jos Metropolitan Development Board includes:

House to house inspection, provision of dustbin in houses, prosecution of defaulters, ensure sick adherence to sanitation rules and personal hygiene, education of public on hazard associated with degraded environment and the supervision of scavengers for proper selection of waste materials. On the other hand, Plateau Environmental and Protection Agencies is saddled with the responsibilities of collection and disposal of solid waste (polythene waste), according to health regulation, it also inspects and enforces health laws.

The general staff strength for the environmental health unit of JMDB is 124, when in contact with labour force unit of Plateau State Environmental protection, the refuse collection consider only 22 refuse supervisors, 72 refuse collection labourers with over 3,000 men and women. Household collection vehicle are 12 in number, visually there are absent of refuse container in almost all the streets while at the reconnaissance survey this is in line with PEPSA response. There was polythene bags non according to PEPSA neither are nor recycled the only option is dumping at the damp site. The major challenges being faced by the two agencies include financial constraints, shortage of manpower, inadequate facilities, lack of proper planning, carelessness and lack of co-operation from the public.

Conclusion

Over the years, government, and private individual effort towards ensuring environmental quality within the Jos Bukuru Metropolis has not yield desired positive result. However, appropriate approaches need to be taken, these should include, the control solution which is related to sources and causes. This approach is generally a low waste preventive measure. The preventive measures are base on the recycling re-use and waste reduction. On the other hand, overcoming barrier approach which lay emphasis on agreement, adequate knowledge, and technology, economic, social and political consideration towards waste polythene material should be given attention. Heaps of polythene bags is not what we stand to gain or lose, having known of the associated negative effects of waste polythene bags to human and animal health.

Quality environment is very crucial to good health and ecological balance any attempt to destroy the environment can directly or indirectly affects man. There is need for monthly sanitation; this can be done by government through its agencies, to ensure that houses, streets and drainages are well supervised Facilities such as refuse container, vehicle and trucks need to be provided in various strategies area amidst residents and along streets with proper supervision to avoid collapse of dustbin. There is need for public to be properly enlightened on the problem associated with waste polythene bags. Since waste polythene bag can be recycle, then there is need for provision of machine, so that the waste polythen

bags can be recycle, either by government, privatization or commercialization of waste polythene bags. Government should live up to its responsibilities by providing financial and manpower needs to create enabling environment for effective disposal of waste polythene materials.

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