



PLASTIC MENACE – A STEP TOWARDS SUSTAINABLE DEVELOPMENT IN ELURU

V. Naga Lakshmi*¹, G. Srinivasa Rao² and G. Jyothi³

^{1,3}Associate Professors, Ch.S.D.St. Theresa's College for Women(A), Eluru.

²Assistant Professor, Ch.S.D.St. Theresa's College for Women(A), Eluru.

***Corresponding Author: V. Naga Lakshmi**

Associate Professors, Ch.S.D.St. Theresa's College for Women(A), Eluru.

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ABSTRACT

The non-degradable nature of plastic bags is posing a wide range of serious environmental and health deteriorations and hence are considered to be a big problem in waste management. This study was carried out to determine the popularity, usage, disposal and environmental impacts of plastic bags in Eluru city West Godavari district, Andhra Pradesh. A semi-structured questionnaire was used to collect the data from 500 randomly selected respondents. The results indicated that despite of age, gender and occupation most of the respondents 72% were using plastic bags for their groceries. About 26% of the respondents were using 20-30 bags per week and this is why 28% of the solid waste was composed of plastic waste. The study further revealed that the easily available 40% and low price 55% are responsible for such an extensive use of plastic bags in the study area. The most common impacts of plastic bags in Eluru identified in this study were blockage of sewage and drainage system leading to less durable road pavements 40%, human health problems 35% and animal deaths 11%. Use of plastic bags in the country and the existing burden of plastic should be managed in effective ways like these plastic waste may be recycled.

KEYWORDS: Plastic waste management, sustainable development, plastic waste.

INTRODUCTION

In simple words plastic waste does not get decomposed easily, settles down in the earth that leads to increase in the mass of waste in the earth. It affects the water cycle by disturbing the rainwater to enter into the land as the water and air cannot pass through it. Initially it shows decrease in ground water level and it leads to so many environmental issues. Even it sometimes causes death of animals due to the intake of plastic. The half-life period for plastic is too long that it takes some millions of years to decay. The production of plastic with lower number of microns is very cheap; unfortunately lower the microns in the plastic lower the chance to get decompose. Plastics are accustomed in the people's daily life for use. It becomes very popular all over the world for its durability, low cost and its ease availability. Because of cheap cost plastics are made with very low number of microns. Those plastics with low number of microns are non-recyclable. So the researcher planned to do a study on KAP (Knowledge Attitude and Practice) of plastic usage among the residents of Eluru Municipal Corporation(EMC). As a material, plastic existed for just over a century and mass production began in earnest in the 1950s. By 1988, 30 million tons of plastic products were produced annually, reaching 265 million tons by 2010 and accounting for 8% of global oil production. Most plastic products are lightweight, inexpensive, and

durable. These defining characteristics make plastics a convenient material for the manufacture of everyday products. However, these same attributes make plastics a threat to ecosystems. It affects the environment, eco systems, bio diversity, cause to global warming, etc. Awareness should be created to the people about the adverse impact of plastic usage to the nature and the plastic should be avoided from daily use. The people's Knowledge, Attitude and their Practice on plastic usage should be measured which would be helpful. Hence the researcher has chosen the topic for the present research study.

METHODOLOGY

Secondary Research

Secondary research comprises of collecting documents relating to the plastic waste generation, regulations, etc. from the varied sources in the public domain. The following aspects were covered in the secondary research: Regulatory framework in the chosen areas in particular plastic bags, Current status of plastic waste generation in Eluru.

Primary Research

The study included both qualitative and quantitative research. Survey was conducted to collect information from the target audience- regulatory agencies, vendors

and consumers. On the basis of the secondary research, a survey questionnaire was designed for vendors and consumers to get information on consumption of plastic bags in the city. Market areas and some residential areas in Eluru were visited to collect information using this questionnaire.

Sample

Sample size was designed for the consumer and vendor survey in the market and residential area, depending on the usage of plastic carry bags.

LIMITATION OF THE STUDY

Due to resource constraints and limited access to information, it was difficult to have a large sample size. Also, some residents were reluctant in sharing information. We did not have any means to verify plastic carry bag quality during the survey. Hence we had to rely on our observation and information provided by the local vendors. It is important to check that and assess the current scenario to understand measurement required to improve the current compliance levels.

Market and Residential areas

In order to understand whether usage of plastic bag was effective or not, a survey was conducted in Eluru. During the survey, famous market places in Eluru and some residential areas were visited. The survey targeted two most important stakeholders – Vendor and Consumer.

SAMPLE

A total of 500 respondents were approached during the survey. The sample size of shopkeepers and consumers were 100 and 400 respectively. 8 types of vendors were included in the survey with 26% belonging to clothing and shoe shops followed by 24%, 16% and 13% from vegetable/fruit shops, small food joints and groceries respectively.

USAGE

During the survey, various famous market places of Eluru such as shops nearer to RR Pet, Old market and Gadiyara sthambam were visited. Approximately 54% of the vendors and 68% of the consumers interviewed during the survey were using plastic bags to sell or carry products. Milk booth and small food joints were the largest users of the plastic carry bags with 100% and 82% of the vendors interviewed found using it. Usage was also high among fish and poultry, vegetable and fruit and chemist shops contributing to 69%, 67% and 65% respectively. The clothing & shoe and branded shops, included in the study, were a step ahead and had completely phased out plastic carry bags voluntarily. While interviewing vendors different opinions regarding the plastic bags usage came forth. According to few vendors, they had no idea about the usage of plastic bags. Also, most of the vendors believed that if there were any restriction on using such bags, the supply would decline but that is not the case and plastic carry bags are freely available to them. Most vendors opinion was that plastic

bags are part and parcel of their life and they would lose customers if they stop using them.

REASON FOR WIDE USAGE OF PLASTIC CARRY BAGS

Since during the survey, it was found that plastic carry bags are being used very widely across vendors and consumers. So it became quite important to find out the reasons which were driving the usage of these non-biodegradable bags. Among the vendors, almost 30% preferred plastic carry bags due to its easy availability and cost effective nature. Whereas among consumers, 50% of them felt easy availability is driving the usage. It was shocking to see that a large section of the respondents continued to use plastic as they were not concerned about plastic bag problems. Besides these, few other reasons that came out during the survey were: Alternatives available like paper bags are not durable, Other alternatives are expensive, losing out on consumers if vendors either don't provide or charge for plastic carry bags.

DISPOSAL AND RECYCLING

Disposal

Plastics are an environmental menace mainly because it takes millions of years for them to degrade. Hence plastics stay in our environment for long time creating various environmental issues. It is not only because of this property but also due to complete lack of proper disposal mechanism in place that the issue is so serious in the current times. One of the important components of the survey was to find out the disposal practices followed by the consumers for the plastic carry bags. Approximately 56% of the consumers responded saying that they throw it in the bins. Very few consumers which are around 35% and 10% either reuse it or give it separately to waste collectors respectively. In the survey, consumers mentioned that they do not throw plastic bags on roads or other open areas. Though consumers denied littering of plastic bags on roads, drains or open spaces, yet the scenario was very different in Eluru. The plastic bags were found to be choking many drains and were littered on the road sides. Plastic bags were found in landfills also.

Recycling

During the study, an area named Patha bazar was visited which was a large plastic trading hub. While interviewing few of the traders in this area, it was found that they received plastic carry bags of various qualities from the ragpickers and they usually avoid buying the extremely low quality ones. During interview with the traders, it was found that they receive waste from various parts of Eluru and dealt with around 2-5 tonnes of plastic carry bag in a week after segregating the carry bags on the basis of its thickness, colour and material. Plastic recycling is the process of recovering scrap or waste plastic and reprocessing the material into useful products. Since the vast majority of

plastic is non-biodegradable, recycling is a part of global efforts to reduce plastic in the waste stream.

CONCLUSION

The result of the present study indicated that most of the respondents, regardless of their demographic background, are (1) in favor of banning of production, distribution and use of these plastic products, and (2) unaware of the adverse effects of plastic bag wastes on environment, animal and human health. However, plastic bags are still widely used by the community more than any other plastic products mainly due to their cheapness. The survey results and field observations indicated that Eluru was seriously polluted by plastic wastes particularly plastic bag wastes. By and large, it can be recommended that various campaigns need to be organized in order to mobilize the public and other stakeholders (Government agencies, business associations, retailers, research institutions, nongovernmental organizations (NGOs), youth associations, women associations, religious institutions, donors a media) against indiscriminate use and disposal of plastic bags in order to minimize the excessive accumulation of plastic bag wastes in the environment. Moreover, passing legislations alone is not sufficient condition to curb the problem of plastic bag wastes. Therefore, the central government in collaboration with other concerned authorities of Eluru should encourage people to use environment-friendly alternative materials such as cloth bags, paper bags and natural fiber bags.

In the perspective of environment, health and resource sustainability, plastic waste collection and recycling will remain the area of focus. Green house gas emissions at the recycling units can be regulated to minimum by using the advanced state of art recycling methods and equipments. As strong technical and economical substitute to petroleum based plastic is not yet available, it is advised to implement the forward and reverse supply chain very effectively to attain maximum recycling targets. Product redesigning is also one of the solutions to reduce plastic waste at the source.

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