

**A RESEARCH REPORT ON SINGLE USED PLASTIC CARRY BAGS AND ITS
IMPACT ON ENVIRONMENT IN CITY LIKE DELHI (INDIA)**

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Abstract

Plastic bags has been bring into market in 1970's decade and it gained a enormous recognition in the mid of consumers and retailers. The abundant use of disposable plastic bags causes a grave environmental concern. With increase in population, the numbers of shops, market, mall and so as to vegetable vendors in pavement areas in big cities are also increasing in a galloping speed. Thus on the way of returning home from offices, business places-people prefer to purchase daily requirement products and vegetable in single used plastic carry bags. Thus the consumption as well as the disposal of plastic related products are increasing day by day. A survey was conducted to know the use and reuse of plastic carry bags among the common people in North West Delhi and to know about their awareness level on the impact of plastic products upon environment. The objectives of this research paper are to find out the pattern of use and re-use of disposal plastics. At the same time to find out the awareness level of its negative impact on environment. The research will be based on both primary as well as secondary data. A survey method was adopted to collect primary data in different parts of North West Delhi. Tables and graphs will be used for descriptive data analysis purpose. The findings of the survey point out that irrespective of age, sex, qualification, profession, majority of the respondents are using plastic bags in their daily life and all of them are aware about the negative impact of plastic bags on environment. The study believed to contribute to the existing literature by addressing predictors of environment pollution. Additionally to control the environmental damages Government may takes strict action as well as can conduct awareness programmes against the abundance use of plastic bags.

Keywords: Plastics, Plastic Bags; Consumers; Disposal; Environment; Damage.

Introduction

In Delhi the quantity of solid waste generation has been increased over the last few years in a galloping speed. Over the years rapid growth in population, construction and development activities, mass migration of labour from rural areas to metro cities, and change in lifestyle of people contributed a lot towards environment pollution.

In Delhi, on an average over 10.000 tons per day (TPD) garbage is produced and all most 8000 TPD garbage is dumped in three major landfill ground at Bhalswa, Okhla and Ghazipur. But the actual waste generation of this city is much higher than the recorded one and a major chunk of it is managed by the rag pickers of the city who are more than 15000 in numbers. The picture become more gloomy when we find that these three landfill grounds are not prepared as per the norms and guidelines of solid waste management rules, 2016. According to the report of 'Master Plan for Delhi-2021', these sites have already exceeded their capacity way before 2008. Most of these sites are polluting the flora and fauna of surrounding areas.

According to Union Ministry of Urban Development's most recent draft manual on urban solid waste management, three million tons of waste can be accommodated on 40 hectors of land (remembering that a landfill exists 20 years). Delhi needs 800 hectors of land, which would cost Rs 80,000 crore if evaluation is done on existing circle rate!



Out of total garbage production per day in Delhi and all over India, on an average 40% of this garbage comprises plastic and near about 50% of this plastics garbage is remains uncollected, causing choking of drainage and river system, littering of marine eco-system, soil and water

pollution, ingestion by stray animals, and open air burning leading to adverse impact on human health, animals and environment. Despite its all negative impact, the uses of plastic bags are towering day by day.



Plastic is non biodegradable in nature and it takes more than 1000 years to decompose in soil. The key input to produce plastic are petroleum and natural gas, which are non renewable in nature. High Density (HD), Low Density (LD) and Linear Low Density (LLDPE) are the varieties of polyethylene that used as a major input to produce plastic bags.

All the cloth shops, supermarkets and malls generally used shopping bags that are produced with linear low density polyethylene (LLDPE) to get the desired thickness and glossy look. For regular use thin bags (Pnni) low density polyethylene (LDPE) is used. People generally preferred to used plastic bags just because of its easy and cheap availability and convenience to carry. Overused and careless disposal of plastics items are the main reasons of plastic pollution. Plastic don't decomposed naturally and when burn in air it will pollute the environment with toxic elements. When plastics is dumped in landfills it interacts with water and form hazardous chemicals. When these chemicals seep underground, they degrade the ground water quality. Wind carries and deposits carry bags from place to another resulting land litter and blockage of sewer system of the cities.

Now a day's managing plastic waste is a major problem for different civic authorities in Delhi and NCR areas due to lack of proper waste management system and adequate manpower. It has been observed that a major problem of plastic wastes are failed to reach into the recycle process or in the landfill grounds. The reasons behind are either the concerned authorities are not able to cover the whole city for garbage pickup or the transportation cost to dump it at landfill grounds is too high.

According to a recent study conducted by CSE (Centre for Science and Environment), for every ton of waste disposal would cost as much as Rs.14500/- to MCD which is highly impracticable.

Research Objectives

In this research major research objectives are as follows:

1. To identify the ways the people are using and reusing the single used plastic carry bags in their daily purchase.
2. To find out the level of awareness among common people about the negative impact of single used plastics on environment.

Research Methodology

The research is based on both primary as well as secondary data. Published works and Govt. web sites are the main source of secondary data. Primary data was collected from different areas of Rohini, Delhi with the help of questionnaire. The responses of nature of use of plastic carry bags basically driven from different age, qualification, professional back ground people. So the outcome of the study is important to get a perceptual difference amongst different groups of people. The respondents were selected randomly and one member from each household had been selected and questions were asked related to usage patten of plastic carry bags.

Results & Discussion

Data were collected randomly from 100 respondents consisted 45% males and 55% females. All most all respondents are well aware about the fact that plastic is not good for environment. The following Table-1 shows the demographic profile of respondents.

Table 1. Demographic Variables of Sampled Respondents

AGE	Numbers	Percentage
<20	18	18%
20-35	56	56%
35-50	24	24%
50>	2	2%

Educational qualification	Numbers	Percentage
Upto 5 th Passed	4	4%
Upto 12 th passed	52	52%
Graduate & Post graduate	44	44%
Profession		
Student	36	36%
Service	22	22%
Business	12	12%
Other	30	30%

From the Table 1, we can see that 74% of total respondents are within the age of below 35 years and 96% of total respondents have qualification from 12th standard to post graduates. The survey result indicates that regardless of age and qualification, sex and profession majority of respondents use plastics in their daily life either during purchasing commodities or carrying products. Light weight, free of cost, easy to carry, used by vegetable vendors and retailer are the major reasons of preference to use plastic carry bags.

Out of 100 respondents only 10 people said that they don't use plastic bag so far as possible, which means rest 90 respondents i.e. 90% of population taken for survey are using plastics either in a high frequency or in a moderate frequency in their daily life. The nature of usage frequency can be seen in **table -2**.

Table-2: Usage frequency of plastic carries bags.

	Number	Percentage
High	45	45%
Moderate	35	35%
Low	10	10%
Never use	10	10%

It is quite obvious that the end use of plastic bags become waste. Therefore when asked the respondents those who are using plastics bag about disposal habit of plastic bags 25% said they reuse the plastic bag but at the end they use it for household garbage disposal. Forty percent (40%) said that they even don't reuse plastic bag but simply through it as garbage. This practice is more common in most of the households in Delhi. Only 35% said that they store the plastic bags and sale it to hawker for recycle. This process can reduce to some extend the solid waste (see **table-3**).

Table 3. Disposal of Plastic Bags

Store	35	35%
Through away	40	40%
Reuse	25	25%

The following table-4 shows the habit of respondents to carry their own bags (thala) to the vegetable vendors, only 22% people said they have the habit to carry its own bag for purchasing vegetable, while the major chunk of people (78%) go for shopping without having their own bags and asked plastics bags from vendors.

Table 4. People carry own plastic bags or ask from Vendors

	Number	Percentage (%)
Carry own bag	22	22%
Don't carry own bag	78	78%

When these people were asked to be willing to pay extra 2-3 rupees for plastic carry bags charged by the vendors, the prompt answer was that they are not at all ready to pay extra for plastic carry bags. This survey helps to understand that if the retailers and vendors are compulsorily charge extra for plastic carry bags, people may develop the habit to carry their own bags and that would help to reduce environment pollution and the city as well.

Government Rules about the use of Plastic Carry Bags:

Pursuant to rule 10 of the Govt. of India Ministry of Environment and Forest, plastic waste rule, 2011, retailers and vendors shall not make carry bags available to consumers free of charge. The local authority concerned is empowered to determine the price of plastic carry bags, based on their quality and size, to cover the cost of their products and waste management.

Delhi Pollution Control Committee has been banned plastic measuring less than 50 microns in Delhi, but there is no immediate ban on single used plastics. Although there is no official definition of single used plastic, it largely refers to plastics bags, cups, water bottles, wrappers, sachets and straws that are said to contribute significantly rivers and soil pollution.

In 2016 Delhi High Court banned the use of disposable plastic glasses in all hotels, restaurants, parties in Delhi and Delhi NCR areas, but it is still to be implemented.

Plastic Carry Bags and its Impact on Environment:

Plastics bags are used for a short period of time but in the landfill it takes hundreds of years to break down. Tons and tons of plastic bags are ending up littering the environment every year. When contaminated, it pollutes the ground water and soil for agriculture. If plastics are burned, they infuse toxic fumes in the air. It is reported during the survey that many of the time cows eat plastics, resulting complication in digestive system and health of animals. The major issue that is usually overviewed during discussion of plastic's environmental impact is that plastic bags obstruct the drainage system of major cities resulting in flooding such as condition or flood in some major cities like Mumbai, Patna and all most all the major cities of Kerala.

The chart 6 presented the responses regarding the variable "delivery on time". From the chart it can be seen that 35.67% respondents are agreed and 28.03% respondents are strongly agreed that product received on time by online shopping, approximately 14% respondents are not agreed with the same.

Conclusion

The survey results indicate that irrespective of their demographic profile, most of the respondents are well aware about the undesirable environmental impact of plastic. When talking to them, it is known that most of them are willing to carry jute or cotton made bags with them to some extent or completely, if possible, in support of exclusion of plastic. Although the respondents want plastic free Delhi, it is still necessary to develop the habit of carrying their own bag while shopping and purchasing vegetables.

Now the question is who is to be blamed for uses of plastic carry bags in Delhi and other major cities?

From the survey it has been observed that people are not ready to pay extra amount for plastic bags, so if the retailers charge extra amount for every piece of plastic bag, it may help the customers to develop the habit of carrying their own bag.

More than 29.60 millions of people are living in Delhi. Consequently passing legislation and taking fine from consumers is not the only alternative and practical solution to limit the use and disposal of plastic carrying bags. It is therefore proposed that the Government of India and various State Governments in partnership with NGO's, educational Institution and the youth of the cities should encourage people to use environmentally friendly alternative material such as paper bags, cloth bags etc. to protect the cities from environmental damages and natural calamities.

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