
Environmental Pollution Concerning to the Production of Plastic Goods

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Pollution in the environment is one of the most horrible ecological crises. Environmental pollution is the un favourable alteration of our surroundings which occurs mainly because of man's action. Our new generation affected severely due to environmental pollution. One of the environment pollutants is caused due to the usage of non-recyclable use and throws plastic goods; the usage of plastic is an avoidable one, if the human being has alertness and awareness about the danger of using plastic things. In modern days, plastic becomes part and parcel of human life and it becomes a raw material for several articles use in different field. The production of plastic carry bag, water bottles and any single use disposable plastic products accumulate as waste and create bad effect to our society. Environment refers to everything remaining around human being. This paper concentrates about the environmental pollution concerning to the production of plastic goods.

Keywords: Environmental Pollution, Production, Recyclable, Plastic goods, Human life.

Introduction

Environmental pollution is the result of urban-industrial technological revolution and speedy exploitation of every bit of natural resources. Environment pollution affects the health of man, animals and other living organisms. Rapid industrialization has left with us polluted rivers. For the healthy living of a human being, there is need of good contaminated soil, depleted wildlife and exhausted natural resources. Plastic is one of the pollutants it affects our environment severely. Plastics are inexpensive, less weight and durable materials, use in a wide range of applications. On average of 300 million tons of plastic are produced around the globe each year, of this 50 percent is for disposable application. However current levels of their usage and disposal generate several environmental problems. A major portion of plastics produced each year is used to make disposable item of packaging or other short-lived products that are discarded within a year of manufacture. It creates an environmental pollution.

Objectives of the Study

- To study the production and usage of plastic goods.
- To analyze the harmful effect of plastic pollution to the society.
- To make SWOT Analysis.
- To make suggestions based on the findings of this study.

Statement of the Problem

In the last few decades, the environmental pollution due to the plastics wastage is severely affecting the life of human being. Plastic consumption in India has to rise much more. It is to be noted that the plastic waste estimation is based on an assumption that 70 percent of the plastic consumed is wasted. The usages of plastic disposable water bottles, plastic carry bag, many uses and throw plastic article pollute our soil. It blocks the natural supply of air and water to the soil and restricts the growth of plants. In 2010, around 8 million tons of plastic waste made its way into the ocean nearly the total amount of plastic produced across the world in 1961. Even though the people know the ill-effect of plastics, they are not recovered from the usage of plastics, because of easy handling. Now I feel that the study about the plastic pollution is very important. It is a need of an hour to study about the environmental pollution due to plastic and create awareness about the ill-effects of plastics.

Production and Usage of Plastic Articles

Indian plastic industries give lot of employment opportunities to large number of people. The precipitate consumption of plastic products in India is growing and is moving towards 8 percent GDP growth. Plastic plays a significant role in the key sectors of the economy including agriculture, water management, automobiles, transportation, construction, telecommunication and electronics, besides it is used in defense, aerospace, computers and power transmissions. The scope for the use of plastics is bound to increase manifold and make the production double in the coming years. Today in India there are about 30000 plastic processing units and 150 plastic processing machinery manufactures. The machinery units supply over 2500 machineries per annum. The contribution of the plastic industry in the economic growth of countries in the world has been great. On the basis of value-added share, the Indian plastic industry is about 0.5 percent of India's GDP.

The export of plastic products also yields about one percent of the country's exports. The sector has a large presence of small-scale companies in the industry, which account for more than 50 percent turnover of the industry and provide employment to an estimated 0.4 million people in the country. Now a day's plastic articles become an inevitable item and it plays an important role in human life. Plastics are very popular because of its durability. Some of the article made in plastics are pen, comb, bucket, jug, milk packet cover, soap box, biscuit cover, chocolate cover, bangles, hairpins, polyester cloths, water bottles, pencil box, remote, TV cabinet, computer cabinet, note cover, nylon wire, telephone cables, chairs bags, toys, surgical instruments, drip irrigation items, carry bag, rain coat, telephone, switches, wire insulation, chapels, packing material of food items, shoes, cell phone etc. Plastic pipes can carry water over long distances for more than 50 years and also prevent bacterial contamination.

III Effects of plastic pollution

Millions of mammals, birds, reptiles and fish are killed every year by the ingestion of plastic bags. A caretaker of cows in Lock now reported that there were 4 deaths every day because of the ingestion of plastics. About 30 kg of plastics bags were recovered from the intestine of a cow. When animals consume plastic bags, alimentary canals get blocked and the stomach becomes bloated. The animal stops eating and dies of starvation. Plastics dumped into the sea

kills millions of marine animals and birds. Turtles often mistake plastic bags as jelly fish and consume them. The plastic bags block the alimentary canal, the turtles starve and die. One turtle of Hawaii had more than 1000 pieces of plastic in its stomach. The plastic pieces include carry bags, comb, toy, truck wheel, nylon rope, etc. The cape fur seal (marine mammal) gets entangled in the plastic and die. Several species of birds are known to swallow plastic. About 5 kg of plastic wastes are recovered from the intestine of an elephant in Sabarimalai in Kerala.

Analysis No.1

A simple random survey was conducted from 60 respondents of different age group towards their opinion regarding environmental pollution through plastics.

Null Hypothesis

There is no significant difference of opinion between the age group of respondents towards plastic pollution.

Table No.1 Classification of Respondent on the basis of Age Limit

Plastic Pollution	Age limit of Respondents					Total
	15-25	25-35	35-45	45-55	Above 55	
Yes	8	10	17	12	5	52
No	3	2	1	1	1	8
Total	11	12	18	13	6	60

Source: Primary Data

Chi-square test is used to verify the null hypothesis

$(O-E)^2/E=3.3087$ O= Observed Frequencies E= Expected Frequencies

$$\chi^2 = \epsilon \frac{(O-E)^2}{E} = 3.3087 \quad v=(r-1)(c-1)=4 \quad \text{For } v=4 \quad \chi^2_{0.05}=9.47$$

Inference: The calculated value (3.3087) of χ^2 is less than the table value (9.47). Hence the null hypothesis is accepted at 5% level of significance and it is concluded that there is no significant difference of opinion between the age group of respondents towards plastic pollution. All age group of respondents were felt that they were affected from plastic pollution Analysis No. 2

Findings of the Study

- By applying chi-square test, all age group of people were affected from plastic pollution.
- Plastic industry gives more employment opportunities.
- There is a danger of extinction of all living organism due to plastic pollution.
- When plastics are burned, they release toxic fumes containing fluoro-carbons. They induce carcinoma (cancer) and when plastics are buried, they block the natural supply of

air and water to the soil affects plant life. It affected a chain of life is affected and landslide occurs.

- Plastic bags clog the sewage pipes and cause stagnation of sewage. This breeds disease producing germs. Plastic carry bags remain scattered on the land and given awkward look.
- Plastics prevent the percolation of water in the soil and this lowers the water table.

The Production of Plastic Goods Cause Environmental Pollution– A SWOT Analysis

Strength	Weakness
<ul style="list-style-type: none"> • Plastic industries give employment opportunity to both skilled and unskilled labours. • It increases our GDP. • Increase in the usage of plastic goods lead to the introduction of more small and medium sized industries. • Quality plastic goods are exported to foreign countries also. • It increases our foreign exchange. • Plastic goods are very easy to handle. • It is possible to produce all types of needed goods at low cost. • It is very comfortable because of its less weight • Plastic goods are handled by both poor and rich and also by the rural and urban people. 	<ul style="list-style-type: none"> • It causes soil pollution, air pollution and water pollution. • It creates unnecessary storage of garbage. • Cause stagnation of sewage. • Affect our plant life. • Its lower underground water level. • Kills millions of marine animals. • The government refused to prohibit the production of plastics even though it creates more harmful effect. • All species of turtles are threatened by plastic pollution. • When plastics are burned, they release toxic fumes containing fluoro-carbon. They induce carcinoma (cancer)

Opportunity	Threat
<ul style="list-style-type: none"> • Opportunity to give employment to a greater number of people. • Scope of this industry expanded to all over India. • Usage of plastic is more because of its less weight. • Most of the medical instruments used in the hospital are made of plastics. • Plastics are needed for all types of business for several purposes like packing material for all products. Opportunity to increase the standard of living of the people 	<ul style="list-style-type: none"> • The usage of plastic will affect the health of human being and danger of extinction to all living things. • Millions of mammals, birds, reptiles and fish are killed every year by the ingestion of plastic bags. • One of the dangerous pollutants, it causes crop. • Losses, lowers our water table, cause severe disease like respiratory disorders, cancer, jaundice, cardiac diseases etc. • Plastics never decompose. They remain for a long time in the environment. This leads to ecological degradation and ill effects.

Suggestion to Control Plastic Pollution

- Departmental Stores charging extra money for plastic carry bags in order to encourage customers to bring their own shopping bags.
- Use plastics at minimal level. Used plastics should not be thrown in the garbage. It should be stored separately for disposal. The used plastics should be collected and reused by making some modifications.
- Use paper carry bags instead of plastic carry bags. Eco-friendly items should be used.
- Proper awareness should be created among the public about the ill-effects of plastics
- Some unavoidable circumstances, photodegradable items should be encouraged. (Photodegradable are used to hold fruits, vegetables, etc.)
- The real change can only be brought about when consumers are made aware of the amount of plastic entering the environment every day and they refuse to buy or use plastic products is the ultimate solution.
- Now the wisdom lies on the part of Government to stop the production or restricted only for a specific use.
- The 5 'R's (Reduce, Recycle, Reuse, Recover and Residual Management) have been considered to be a base of waste management and should be strictly followed, in order to promote ecological balance through conscious human behavior and choices.
- It is a need of an hour; the Government take necessary steps to take over all plastic waste and it is used for the construction of road and bridges.
- The Government should take necessary steps to prohibit the production of plastic goods and encourage the industries those who produce a substitute product instead of plastics.

The Government should give proper incentives, subsidy, concession and loan facilities to those substitute eco-friendly industries.

- The central Government should take necessary steps to restrict the import of plastic goods from foreign countries.

Conclusion

In the year 2013, Central Pollution Control Board (CPCB), estimated that Indians throw out 15,342 tons of plastic waste every day, of which about 60 percent recycles, most of it in the informal sector. In 2014, one kg of plastic in the ocean for every 5 kg fish and by 2050 there will be more plastics than fish. The Government has notified the Plastic Management Rules in 18th March 2016, in suppression of the earlier Plastic Waste (Management and Handling) Rule 2011. The Minister of State for Environment, Shri Prakash Javadekar said that the minimum thickness of plastic carry bags has been increased from 40 microns to 50 microns.

Use of carry bags made of plastic has been banned in states of Himachal Pradesh, Haryana and recently in Maharashtra. Sabarimala is the sacred place in Kerala where the use of carry bags was banned in 1998. But Tamil Nadu government is not strictly prohibiting the use of plastics carry bags. The Government of India enacted the law of Recycled Plastics Usage Rules (1998) to ban the use of carry bags and plastic containers to store, carry and pack food items and the Government also banned plastic carry bag below 50 microns. It was successfully implemented in Kerala, Delhi Zoo, Jammu and Kashmir, Meghalaya, Rajasthan, Goa and Rameswaram Island in Tamil Nadu. Proper take-back mechanism should be followed by the plastic producers and it will reduce the waste considerably. We give pollution less earth to our next generation, because the plastic pollution affects the life of human being to a great extent.

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