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Abstract

The research was done on the consumption of plastic bags and its possible impact on environment. We considered the consumption of plastic bags as recycling, alternatives and disposal, and to be specific we defined environment impact on drainage and street waste. The respondents' were the 20 years of age and older without any gender discrimination, and assumed to be users of plastic bags. The data was collected from the crowded shopping centers of city. Correlation and regression techniques were used to test the hypothesis. The objective of the research was, to know whether consumption of plastic has any impact on environment. Result showed that there was a positive relationship of consumption of plastic bags and its impact on environment, which supported the previous research in the literature review.

Keywords: Consumption, Environment, Plastic Bags.

Consumption of plastic bags and its impact on environment

The goal of this report was to gain an understanding of consumption of plastic bags, the issues concerning with the environment and their disposal and alternatives exists. As, the most widespread items in modern world is the plastic bags. Since, their introduction in 1977 plastic grocery bags have been a part of daily life in developed countries and their use has spread too many developing countries as well as in recent years. The key ingredients in plastic bags are petroleum and natural gas and 4 percent of the world's total oil use in production. Polyethylene is made from ethylene and its non-renewable resource; hundreds of the years take to break down. Polyethylene is pleasing to manufactures because it can be converted into any shape, size, form and color. There are two types of polyethylene one is HDPE (High-density polyethylene) and another one is LLDPE (linear low-density).Strong inexpensive and highly convenient plastic grocery bags are appealing to both customers and business as a reliable way to deliver goods from the store to home. Plastic bags so economical to produce, plentiful, easy to carry and store that. Since, they were introduced a quarter century ago they have captured at least 80 percent of the grocery and convenience store market. According to the Arlington,

Virginia-based American Plastics Council several issues associate with the production, use and disposal of plastic grocery bags which initially may not be apparent to most users, but which are nonetheless extremely important. Many different studies have been conducted regarding plastic bags consumption and its impact as well as on alternatives and recycling.

Consumption is all about how many plastic bags are consumed annually by different countries. According to EPA (Environment Protection Agency) Approximately 380 billion plastic bags in the U.S consumed, sacks and wraps are. Worldwide 500 billion and a trillion plastic bags are consumed each year. It is also studied that only 1 % of these bags are properly recycled. 1.4 billion People of china used an estimated 3 billion plastic bags per day and disposal of more than 3 million tones of them per year. Consumption facts each year, worldwide estimated 500 billion to 1 trillion plastic bags consumed, that comes out to over one million per minute. Millions of plastic bags end up in the litter stream outside of landfills-estimates range from less than one to three percent of the bags. Billion of plastic bags end up litter each year. According to EPA Environment protection Agency in (2000) American alone discarded more than 3.3 million tons of low-and high density polyethylene bags, sacks and wraps. U.S uses 100 billion plastic shopping bags annually.

Primarily and secondly the environmental impacts are a result from the use of plastic bags. Then littered plastic shopping bags ingested by wildlife in marine and terrestrial and become entangled. Bags which are light-weight and designed for single use are easily carried by wind, escaping from rubbish bins and landfills. The plastic bag litter issues resulting are common across continents and countries, waterways and oceans. Action to reduce plastic bag litter some countries have taken because of specific consequences of accumulating bags such as flooding and malaria.

Literature Review

Numerous studies have been conducted on polyethylene bags. In the study of Ellis, Kantner & Watson. (2005) the review found that Plastic bags have been a part of daily life in developed countries since their introduced 1977.In more recent years consumption of plastic bags is increasing in many developing countries. It is very prevalence of these bags result in several critical environmental and social impact associate with their use and immediate disposal. Plastic bags are widely used to transport small consumer goods, particularly in food.

Furthermore he concluded that plastic bags required significant quantities of both energy and raw material. Two bags required 990 KJ (kilojoules') of natural gas, 240 KJ of petroleum and 160 KJ of coal, additionally it required 4% of total oil in production. Components of oil and natural gas or heated in a cracking process which generate hydrocarbon monomers, Furthermore Literature review revealed that plastic bags are made from high density polyethylene also known as HDPE. Study showed that the impact of production of plastic bags on environment is that the plastic bags produce 1.1 kg of atmospheric pollution and it contributes in acid rain and smoke. Acid rain is recognized that, it is dangerous for natural gas and human made environment and smoke is the significant problem concerned with human health additionally, manufacturing of grocery bags produce 0.1g water born waste which has capability of disrupting ecosystem.

In Tough (2007) study it was found that plastic bags played a major role in consumption especially in shopping malls from the last 30 years. As the last stage Plastic bags provided in the packaging mix through this consumer can differentiate the multiple products and also it can be protecting in mix the food and goods. . He clearly defined the main problem of plastic bags in his study that, United States found 8 billion pound of plastic into waste stream in

every year they don't reach the landfill and his finding showed that and also found several environmental impacts associated with the plastic bags. Litter and pollution in environment create d by Plastic bags. Contamination of food created when plastic bags break down in small plastic particles and it creates threats to marine life.AS impact on environment come from bags and also its whole item, littered and raw plastic materials.

The main purpose of this study is to conducting the literature review on the impacts of plastic bags by using International and New Zealand research. The main focus of this research is to identify gap between actual environments and to find out how much pollution is contributing in environment because it was tested that Plastic bags take much time to break down in water. HDPE bag will take more than two years to break down into small particles, and for six months before sinking will float in water. Plastic bags are the major cause of increasing the visual pollution in the environment.

This study suggested that reusable bags are best suitable alternative for environment. It was tested that paper bags are less damaging to environment compare to the plastic bags over all reusable bags have a major benefit and it can be reduce the material and consumption of plastic bags. Reusable bags made from renewable resources such as jute, line and cotton and it is also made from cloths and sacking are has a longer life and it can be use for multiple purpose and that the reusable bags in many ways are more desirable alternative than plastic bags Both there both are too expensive in term of energy because lot of energy is required to produce it. Such as Ireland composed the tax on plastic bags. Boston and china had banned the plastic bags. Reusable bags are more environmental sustainability alternative than plastic bags. Plastic bags are a cause of numerous problems in the marine environment "Livestock have been known to consume plastic bags, causing illness and fatalities" and Marine pollution is not limited to near shore; plastic bags have been found more than 300 kilometers offshore. Furthermore, finding of this study showed that Plastic bags have played a major role in socio economic. The littered of plastic bags is a huge burden on society it damaging the property and infrastructure and Plastic bags impacts has seen like this it has enclosed streets clog drain and gutters. Million seabirds and 100,000 mammals and sea turtles die globally each year because of unhealthy environment the research of United Kingdom's Marine Conservation Society also suggested that more than a further more in United Kingdom the density of litter on beaches is increasing. . On the other hand, it is noted that while litter is negative impact on tourism, the act of tourism itself generates a large amount of waste and litter, which also has a considerable impact on Pacific nations. Because of negative impact of littered. Ireland and the government of Ireland introduced €0.15 on plastic bags, commonly known as the "Plas-Tax"

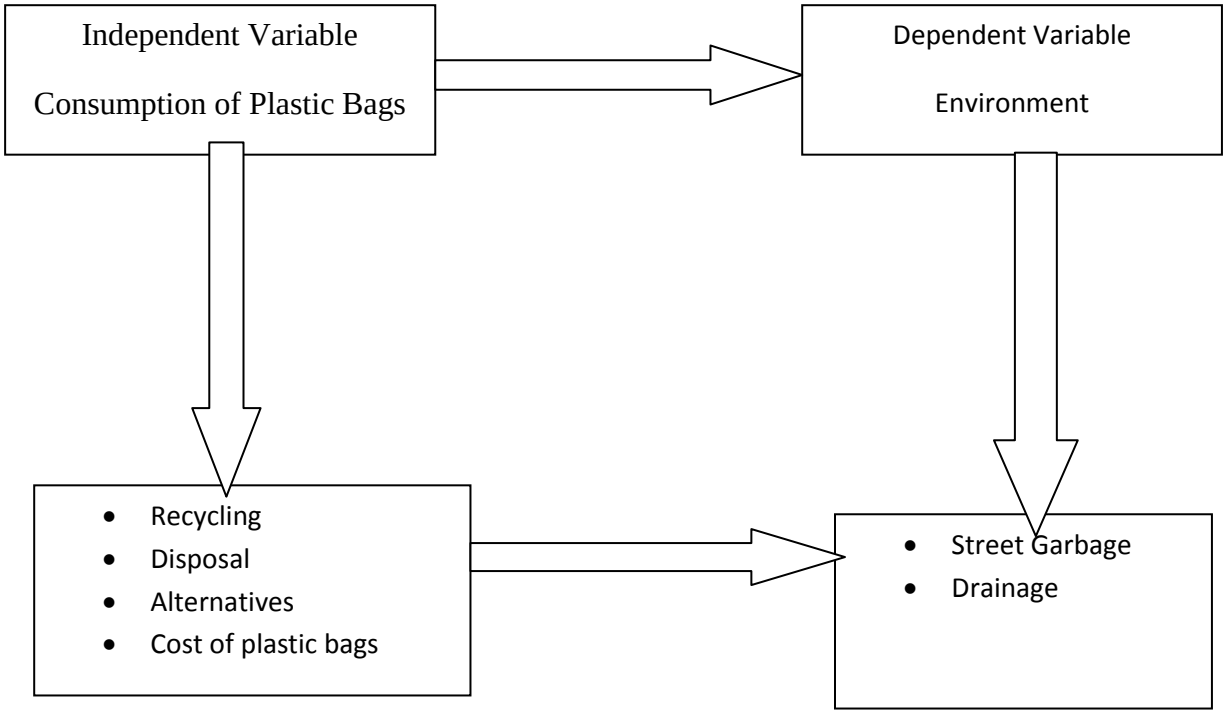
The primary lesson which got from the research paper of the most popular tax in Europe, Convery, McDonnell & Ferreira (2007) found out that there is only one way to reduce the consumption of plastic bags in the Europe firstly, the introduction of the price signals through the use of product and tax can influence consumer behavior. The government of Europe introduced a 15 Euro tax on plastic shopping bags. Through this way they reduced 90% consumption of plastic bags in the Europe. Furthermore he consequent from its literature review that this tax was designed to change consumer behavior to reduce the presence of plastic bags in the rural landscape and to increase public awareness of literacy.

Additionally he come to know that Ireland is not only first country who taken action against this plastic bags other countries such as Bangladesh or Rwanda have banned shopping plastic bags and Denmark applies a tax on producer and retailer.

According to the Camann et al. (2002) China consumes huge amount of plastic bags each year because it provide

convenience to consumer and it can be caused a series waste of energy and resources and environment pollution because of excessive usage inadequate recycling and other many reasons. After 10 month of study they have found that implementation of china plastic bags policy to be partial at best and they have reduced the country uses plastic bags. Furthermore he concluded that 380 billion approximately bags are used annually in United States alone. His goal was to understand the perception of public towards plastic bags and also he suggested possible alternative. His survey showed that 91% of the public believes that there are environmental problems associated with polyethylene bags and is willing to use alternative. According to his research reusable bags is the best alternative.

This research was conducted on main two variables one dependent other is independent and its dimensions.



In this model there are two variables one is independent and other dependent. As dependent is cause variable which affect the independent variable. Down arrows shows the dimensions of independent and dependent variables. These show the factors on which consumption of plastic bags is dependent on. Environment can be negatively affected by these ways shown in the box below Environment.

Methodology

Our research primary focus was to know the impact of consumption of plastic bags over environment for which we have selected the questionnaire as an instrument of our field survey which was conducted in crammed full areas of Larkana like resham gali, bakers, utility stores, Food market and grocery stores. The questionnaire was designed in a way which made easy for decisive the consumption of plastic bags and its impact on environment and scale that we have used for questionnaire was likert scale. Method of sampling was non probability

convenience sampling from which the sample size was 50, which includes 25 males and 25 females. Furthermore; the statistical techniques used for the analysis were linear regression model and the correlation. The variables under study were consumption of plastic bags (Independent variable) and environment (dependent variable).

Ho: higher the consumption of plastic bags has no impact on environment.

H1: higher the consumption of plastic bags higher the impact on environment.

Results

The result (in Table 1) showed the correlation value of 0.56, which meant there was a positive relationship between Environment and Consumption of plastic bags. So it can't be ignored to be of lesser importance and therefore suggested that increase in consumption leads to increase in impact on environment and vice versa. However, this didn't prove the significance of the relationship.

Table.1 **Correlations**

		Consumption	Environment
Consumption	Pearson Correlation	1	.568
	Sig. (2-tailed)		.000
	N	50	50
Environment	Pearson Correlation	.568	1
	Sig. (2-tailed)	.000	
	N	50	50

Table 2. **Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.568a	.322	.308	.50957

a. Predictors: (Constant), Consumption

In Table 2, the results of regression analysis are displayed. The model fit explained that the variance of environment can be explained by consumption is **32.2%,** which means that the remaining percentage was of unexplained variables, not considered in this study. Though, the model was not perfectly fit but still adequate for consideration. Furthermore, the more closeness of fit of the regression model was determined by using

the adjusted R^2 value (30.8%), which showed the slight variance in the goodness of fit as compared to R^2.

The regression equations formed by using the beta value (1.382) and the alpha value (.554) mentioned in exhibit 3.

Y = 1.382+0.554X

The equation predicted that even if there would be no consumption of plastic bags, the impact on environment will persist for 1.382, which would be intercepting of the regression model. Moreover, it supported the correlation of being positively association between variables under investigation, i.e. whenever there will be consumption of plastic bags there would be impact on environment.

Discussion

The purpose of the study was to investigate whether there is relationship between consumption and environment and any impact of consumption of plastic bags on environment. The findings clearly suggested that they do have positively relationship of a significant importance. They showed particular strengths in the impact on environment, suggesting that the even there is no consumption of plastic bags there would be impact on Environment, possibly because of recycling of the plastic bag. It did however look at a narrow range of the factors mainly the sample size, time constraints and other unexplained variables. The approach outlined in this study should be replicated with the greater sample size and other factors those were not considered.

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