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Awareness Regarding Ban on Plastic and Management Practices Among Homemakers of Dharwad City

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ABSTRACT

Plastic bags have become common in everywhere largely due to their desirable properties that are considered convenient by consumers. However, plastic bags turned out to be a big nuisance and threatening the environment due to their non-biodegradable nature, and improper disposal systems. The government banned the use of the bags in 2011 A study was conducted to determine households' perception towards plastic ban and management practices of plastic bags among the homemakers of Dharwad city during 2015-18. Total sample of households are 200. The study sample included households in urban areas of Dharwad city from whom information was collected using a self-structured questionnaire. It was noticed that a large proportion of the respondents were aware of the ban on and had positive attitudes towards the ban. The respondents herd the information of plastic ban through television and print media followed by friends. The homemakers of Dharwad city are practicing very good method of plastic bag usage and disposing method. Whereas after plastic ban they are facing problems while shopping such as non-availability of alternative material for carrying goods and high price for the alternative carry bag.

Key words: *Plastic bags, Plastic Ban, Practice, Disposing method.*

INTRODUCTION

Plastic bags are considered asone of the most extensively used shopping bags all over the world. Each year, an estimated 500 billion to one trillion bags are consumed worldwide. Plastic bags were first introduced in 1977"s in America[10] and gained an increasing popularity amongst consumers and retailers. It is because of their lightweight, easy availability, sturdiness and low-price. Until today most of the consumers use it regularly and wastefully as they get it free from the retail outlets[6]. There are two types of plastic bags used in the retail sector they are high-density polyethylene (HDPE) and low-density polyethylene (LPDE). The HDPE are thin, light and usually non-branded. They are commonly used for packing products of higher quality products.

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Used plastic carry bags are virtually found everywhere including in the streets, along the roads and pathways, dumpsites, drainages, ditches, open fields, roof tops, hanging from trees and overhead cables, floating on ponds, among others. This poses a threat to the quality of the environment. Improper disposal causes soil degradation and suffocate livestock or block their digestive tract when mistakenly eaten leading to death because they are impermeable to water The life span of a plastic bag is anywhere from 15 to 1,000 years to be broken down and reintroduced into the environment and they begun to litter beaches, parks, and even our oceans. The Environment impacts of plastic bags are devastating. About 1 percent of all trash in landfills is from plastics bags. Plastic bag do not biodegrade and it is expensive to recycle[4,2].

Considering the hazardous effects associated with production and use of polythene, In January 2002, the Government declared a banon the production and use of polythene carrier bags of less than 30 microns with effect from September 2007[11]. The objectives of the study were, therefore, to determine households' awareness regarding ban and management of plastic bags. Hence, the present investigation was therefore, initiated to study the awareness regarding ban on plastic and management practices among homemakers of Dharwad city.

MATERIAL AND METHODS

The study was conducted during the year 2015-18 in Dharwad city of Dharwad district, Karnataka state. The sample of 200 households from five areas of Dharwad city were selected randomly to study their awareness regarding ban on plastic and management practices. The self-structured questionnaire was used as a research tool to collect the required information regarding demographic characteristics of the households, awareness of the ban on plastic, pattern of usage and management of plastic bag in households Data was coded, categorised, tabulated by using descriptive statistics (Frequencies, and Percentages) to assesshouseholds' awareness on the ban on plastic.

RESULTS AND DISCUSSION

The perusal data at Table 1 indicates demographic profile of the selected respondents like age, education, size of family, occupation of head of the family and annual income of the family. The age of the respondents was grouped into three categories less than 30 years (younger) and 30-55 years (middle) and above 55 years (old). Higher percentage (63.50%) of the respondents ranged between 30-55 years while 24 per cent of the sample were in the age group of more than 55 years and remaining 12.50 per cent in the age group of less than 30 years.

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Regarding education, majority of the respondents were graduates (31.50%) followed by 24 per cent of the respondents completed pre-university education. While 19.50 per cent of the respondents were completed SSLC. Majority (62.00%) of the selected families belongs to medium family size of 3-6 members followed by 36.50 per cent belongs to large family having more than 6 members and remaining 1.50 percent belongs to small family size having less than three members.

Eighty nine per cent of the spouses of the respondents were self-employed followed by service in government/state government servants (6.00%). Only five percent of the respondent's was working in private sector.

Annual income of the family is an important factor influencing the standard of living. According to the findings 53.50 per cent of the selected families fall in low income (less than Rs.2, 57,484/-) group followed by 34.00 percent in high income (more than Rs. Rs. 3, 93,876/-) group. Only 12.50 per cent

were in medium income (Rs. 2, 57,484 - Rs. 3, 93,876) group.In a study conducted by Synthia and Kabir (2014) reported that, the majority (35.00%) of the respondents was homemakers belongs to the age group of 41-50 years and had a education up to undergraduate level. They have household income of less than Rs.80000 per month.

Table 1: Demographic profile of the selected respondents N=200

Sl.No.	Particulars	Categories	Frequency	Percentage
1	Age	Younger age (Less than 30)	25	12.50
		Middle age (30-55)	127	63.50
		Old age (More than 55)	48	24.00
2	Education	Profession	4	2.00
		Post-graduation	13	6.50
		Graduation	63	31.50
		PUC	48	24.00
		SSLC	39	19.50
		High school pass but not 10th class pass	33	16.50
3	Family Size	Small (Less than 3)	3	1.50
		Medium (3-6)	124	62.00
		Large (More than 6)	73	36.50
4	Occupation of head of the family	Service in central/state Govt	12	6.00
		Service in private sector	10	5.00
		Self employed (eg, shops , Rehdies or petty business)	178	89.00
5	Annual income	High income (More than Rs. 3,93,876)	68	34.00
		Middle income (Rs. 2,57,485-3,93,875)	25	12.50
		Low income (Less than Rs. 2,57,484)	107	53.50

The datain the Table 2 revealed the awareness regarding plastic ban by the selected respondents. More than 50 per cent of the respondents were aware of the plastic ban and could correctly recall the implementation of ban (2 years ago) followed by 23 percent were could not remember when the ban was implemented. Fifteen per cent of the respondents said that, it was implemented from 5 years ago. Synthia and Kabir[8] reported that a significant majority of the respondents were aware of the ban on plastic bags and could correctly recall that the ban was in place in Dhaka city over 10 years ago. They opined that most of the respondents felt the ban was because of environment pollution, blocking of pipes and lack of biodegradability. However, less than 23.00 percent felt that improperly disposed plastic bags makes neighborhood and the city visually unappealing. Dumping trash on the street side is a major problem.

More than 60 per cent of the respondents have source of information for plastic ban from television and through print media (Newspaper, books/ magazine/ pamphlets/folders) followed by more than 20 per cent herd through their friends (32%), awareness campaigns (27.50%), and radio (27%). Twelve percent of the respondents had information through Municipal Corporation and through internet (12%).Source of information on plastic ban revealed by Jincy *et al.*[3] that, 34.00 percent had information from newspaper, 28.00 percent TV/radio, 23.00 percent family members/friends and 15.00 percent from health professionals.

Table 2: Awareness regarding plastic banand source of information by the respondents N=200

Sl.No.	Particulars	Frequency	Percentage
I	**Plastic ban information**		
1	2 years ago	125	62.50
2	5 years ago	29	14.50
3	Don't remember	46	23.00
II	**Source of information**		
1	Television	143	71.50
2	Radio	54	27.00
3	Internet	24	12.00
4	Awareness campaigns	55	27.50
5	Municipal Corporation	25	12.50
6	Newspaper/Books/magazine/pamphlets/folder	129	64.50
7	Friends/Relatives	64	32.00

Problems faced by the respondents while shopping after plastic ban was presented in Table 3**.** It is clear from the table that, more than 50 per cent of the respondents had problem of non-availability of alternative bags (57%) and extra charge for the bag (56%). High price for cotton bags in malls was reported by 29 per cent and carrying own bag is difficult in some of the situation (23%). Sharma and Kanwar,[7] reported that, the use of the alternative shopping bags faces some challenges regarding materials, especially the paper bags are not waterproof and tear easily. The others are bulk and therefore not convenient to carry. For instance, it might be difficult for one to carry a basket to the workplace, for shopping on their way back home etc.

Table 3: Problems faced by the respondents while shopping after plastic ban. N=200

Sl.No.	Problems	Frequency	Percentage
1	Non-Availability of alternative bags	114	57.00
2	Extra charge for bag	112	56.00
3	High price for cotton bags in malls	58	29.00
4	Carrying own bag is difficult	46	23.00

Re-use of plastic bags by the respondents was indicated in Table 4. It is clearly indicated that, more than 40 per cent of the respondents always used to carry things/materials (52.00%) followed by used for shopping (41.50%) and to storage of materials at home (41.00%). About 37.50 per cent of the respondents were always used plastic bags for waste collection followed by 36 per cent of the respondents using plastic bags as bin liner in kitchen and bathroom and 33.50 per cent used for disposing of trash. Always plastic bags were used for packed lunches (21.50) and as a dishwashing scrub by 14 per cent. Sharma and Kanwar,[7] revealed that, the use of the alternative shopping bags faces some challenges regarding materials, especially the paper bags are not waterproof and tear easily. The others are bulk and therefore not convenient to carry. For instance, it might be difficult for one to carry a basket to the workplace, for shopping on their way back home etc.

Some times more than 50 per cent of the respondents using plastic bag to store food in freezer (73.50) followed by used for shopping (57.50%), used for dusting and cleaning (58%) and used for waste collection (54.50%). Forty-eight per cent of the respondents said that, sometimes-plastic bags has been used for carry things or materials followed by used for disposing trash (46%) ,and to store the things at home (45.50%).

Sixty-four percentage of respondents never using plastic bags as dishwashing scrub followed by for packed lunches (48.50%). More than 20.00 per cent of the respondents never used plastic bags as a bin liner in kitchen and bath –room. About 25.50 per cent never used for dust cleaning and disposing of trash (20.50%). Less percentage of respondents never used plastic bags for storage of things at home(13.50%) followed by storage of food in the freezer (8.00%), never used for shopping (3.00%) and never used for waste collection (8.00%).

Table 4: Re-use of plastic bags by the respondents N=200

Practices followed	Usage of plastic bag		
	Always	Sometimes	Never
Storage of food in freezer	37 (18.50)	147 (73.50)	16 (8.00)
Used for shopping	83 (41.50)	115 (57.50)	6 (3.00)
To carrying things/ materials	104 (52.00)	96 (48.00)	0 (0.00)
As a dishwashing scrub	28 (14.00)	45 (22.50)	127 (63.50)
For dusting and cleaning	33 (16.50)	116 (58.00)	51 (25.50)
Used for waste collection	75 (37.50)	109 (54.50)	16 (8.00)
As a bin liner in kitchen, and bathroom	72 (36.00)	65 (32.50)	63 (31.50)
To store things at home	82 (41.00)	91 (45.50)	27 (13.50)
Used for packed lunches	43 (21.50)	60 (30.00)	97 (48.50)
Used for disposing trash	67 (33.50)	92 (46.00)	41 (20.50)

The study carried out by the UK's WRAP[9] reported that, several different reuses that consumers give to plastic bags are described, such as bin liners, for pets excrements, garden refuse, reuse for supermarket or other shopping, to store things at home, for packed lunches, to carry other things at home, and to keep bottles and cans in for recycling among others. In such study the most common use among the respondents was as a bin liner in kitchen (53%).

Usage practices of plastic bags by the respondents were categorized into three groups based on the usage practice score and percentage distribution of respondents were presented in Table 5. From this table it was found that 55.50 percent of the respondents are fall under very good practices of plastic bag usage followed by good practice (37.00 %) and fair practice of plastic bag usage was 7.50 per cent.

Table 5: Distribution of respondents according to usage practice of plastic bags N=200

Usage practice	Score Range	Frequency	Percentage (%)
Fair	10-19	15	7.50
Good	20-25	74	37.00
Very Good	26-30	111	55.50

Table 6 shows disposing method of plastic bags. Sixty-seven percentage of respondents always hand over to the waste collectors followed by putting in the community bin (25%) and disposing at garbage corners on the road by 13 percent. Few respondents were always throwing away on the road and 1.50 percentages of respondents burning the plastic bags.

Some- times more than 50 percent of respondent's were disposing plastic bags at disposing at garbage corners on the road followed by community bin. Some- times plastic bags were handed over to the waste collectors by 24.50 percent followed by burning (32%) and throw on the road.

Table 6: Method of disposing for plastic bag N=200

Method of disposing	Always	Sometimes	Never
1. Throw away on the road	3 (1.50)	33 (16.50)	164 (82.00)
2. Disposing at garbage corners on the road	26 (13.00)	107 (53.50)	67 (33.50)
3. Community bins	50 (25.00)	137 (68.50)	13 (6.50)
4. Hand over to the waste collectors	134 (67.00)	49 (24.50)	17 (8.50)
5. Burning	3 (1.50)	64 (32.00)	133 (66.50)

Note: Figures in parentheses indicate percentage

Eighty two percent of respondents said that plastic bags never throw away on the road followed by burning (66.50%), disposing at garbage corners on the road (33.50%), hand over to the waste collectors (8.50%), and community bin (6.50%). Nitin Joseph *et al*.[5] revealed in their study that, 1.20 percent of participants were littering the plastic bags in open areas after usage and 78.80 percent were dispose plastic bags in bins.

Ayalon *et al.*[1], and Synthia and Kabir[8] in their study said that, 25 percent of the bags brought from the store are thrown into the trash immediately after the first use, 52 percent are used as trash bags, and 23 percent are reused for packing other products in or outside the homes. The empty plastic bags are widely reused for many domestic purposes, ranging from storage of food in freezer to using as a dishwashing scrub.

Disposing method of plastic bags by the respondents were categorized into three groups based on the method of disposing and percentage distribution of respondents were presented in Table 7. From this table it was found that 46.50 percent of the respondents are fall under very good method of plastic disposing followed by good method (39.50%) and poor method of disposing (14.00%).

Table 7: Distribution of respondents according todisposing method of plastic bags N=200

Method of disposing	Score Range	Frequency	Percentage (%)
Poor	5-8	28	14.00
Good	9-11	79	39.50
Very Good	12-15	93	46.50

CONCLUSION

Most of the respondents were aware of plastic ban and they have information regarding ban on plastic through television, print media and through friends. Regarding management of plastic bags, majority of the respondents are practicing very good method of usage of plastic bags and disposing method. Majority of the respondents never burn plastic bags.

The households of the urban dwellers are facing problems while shopping after banning of plastic bags such as non-availability of alternative bags and the cost of the other bags are costlier compare to plastic bag. Hence, they preferred substitutes included durable woven bag cloth bags, paper bags and paper bags.

REFERANCES

1. Ofira, A., Tal, G., Gad, R. and Michal, G., Reduction of plastic carrier bag use: An analysis of alternatives in Israel, *Waste Management*, **29:** 2025–2032 (2009).
2. Jackson, J., Plastic Bags and The Environment: How to Reduce, Reuse, and Recycle Plastic Shopping Bags. *http://www.suite101.com/content/plastic-bags-124126#ixzz19cqA6537* (2009).
3. Manuel, J., Varghese, J., Jose, J., Thomas, J. K., Joseph, J., & Shettigar, D., An

Educational Intervention Programme On Hazards Of Plastic Waste And Its Disposal Among Adults : A Rural Community Based Study, *Nitte* University *Journal of Health Science*, **5(2):** 16-18 (2015).

4. Jones, C., Why Choose Reusable Grocery Bags? Go Green with Durable Shopping Sacks to Reduce *Waste,http://www.suite 101.com/content/reusable-grocery-bagsa50772# ixzz19crkbarz*, (2008).
5. Joseph, N., Kumar, A., SumanthMallikarjuna, Majgi., Kumar, G. S., Babu, R. and Prahalad, Y., Usage of Plastic Bags and Health Hazards: A Study to Assess Awareness Level and Perception about Legislation Among a Small Population of Mangalore City, *Journal of Clinical and Diagnostic Research*, **10(4):** 1- 4 (2013).
6. Ruban, A., Life Cycle Assessment of Plastic Bag Production. *Uppsala University*, Retrieved on June 17, 2014, from *http://www.diva-portal.org/smash/get/diva2:546648/* FULLTEXT01. pdf (2012).
7. Sharma, N. and Kanwar, P., Perception of Rural and Urban Homemakers Regarding Ban on Polythene Use in the State of Himachal Pradesh. *Journal of Human Ecology*, **22(4):** 309-312 (2007).
8. Synthia J. I. and Kabir, S., Ban on plastic bags and the emergence of new varieties: A study of awareness on shopping bags and the possibility of behavior change towards eco-friendly consumption, *Proceedings of the Australian Academy of Business and Social Sciences Conference*: 1-16 (2014).
9. Waste and Resources Action Program (WRAP), Carrier Bag Usage and attitudes. *Benchmark and Target Market Study, Andrew Irving Associates Ltd, England* (2005).
10. Williamson, L. J., It‟s Not My Bag, Baby. *On Earth, Environmental Politics People*, **25 (2):** 32-34 (2003).
11. Xie, M., Aldenkortt, D., Wagner, J. and Rettenberger, G., Effect of plastic fragments on hydraulic characteristics of pre-treated municipal solid waste. *Canadian Geotechnical Journal*, **43(12):** 1333-1343(2006).