

Demographic Factors influencing the Buying Behaviour of Consumers toward the Green Products in Kerala

¹Rahul Ramesh, ²Dr. B. Ramesh

¹Research Scholar, Department of Management Studies, Kannur University, Thalassery Campus, Palayad, Kannur-670661, Kerala, India, ²Professor, Rajagiri School of Social Sciences, Kalamassery, Ernakulam, Kerala, India.

Abstract: The state of Kerala well known for its rich flora and fauna, high literacy and high health standards, have also made spectacular strides towards the green movement and has become a topic of discussions and debates in several circles. In this context, it becomes quite imperative to analyse the changing consumers' perceptions towards Green Products. It will also help the policy makers, entrepreneurs and traders in formulating various strategies to better strive towards 'Green Living'. A sample of 260 consumers, 52 each from 5 major Shopping Malls in the district of Ernakulam in Kerala was taken for the study. This paper tries to analyse the extent influence of certain demographic factors which influence the buying behaviour of the Green Product consumers in Kerala.

Index Terms - Green Products, Demographic Factors, Buying Behaviour, Purchasing Behaviour.

I. INTRODUCTION

Green products have been assuming more prominence during recent years due to the growing concern all over the world about the rising number of environmental issues consequent upon the dumping of plastic and other non-degradable materials resulting from the consumption of various products. The ever increasing population and shrinkage of cultivable areas due to the conversion for construction works and other developmental projects have aggravated these issues. The unscientific processing and removal of many of the non-degradable materials have led to the pollution of air, water and soil, causing threat to all living organisms on earth. These sort of catastrophic situations have made scientists, environmentalists and policy makers across the globe to rethink and to make a paradigm shift from the synthetic materials to organic produced and bio-degradable substitutes of many of the products which we people today.

Many policy formulations such as TIWARI COMMITTEE (1980), FOREST POLICY (1988), INDIAN ENVIRONMENTAL POLICY (1992), NATIONAL CONSERVATION STRATEGY (1992) etc., in India and MONTREAL PROTOCOL (1987), KYOTO PROTOCOL (1997), CARTAGENA PROTOCOL (2000), NAGOYA PROTOCOL (2010), etc., on an international level were implemented with such a view to protect the environment.

Similarly, Enactment of several legislations in India during the Post-Independence period such as The Wildlife (Protection) Act, 1972, Water (Prevention and Control of Pollution) Act, 1974, The Forest (Conservation) Act, 1980, Air (Prevention and Control of Pollution) Act, 1981, Environment (Protection) Act, 1986 (EPA) and environmental movements like Bishnoi Movement (1700's), Chipko Movement(1973), Save Silent Valley Movement(1978), Jungle Bachao Andholan(1982), Appiko Movement(1983), Save the Western Ghats march(1988), Narmada Bachao Andholan (NBA) (1990's), Tehri Dam Conflict(1991), etc., are some glaring examples of the concern of the policy makers and the people in India.

Formation of several international collectives such as Greenpeace, World Wildlife Fund(WWF), 350.org, Conservational International, Fauna and Flora International, Green Cross International, NatureServe, CESOSACO, EMS Canada, etc., national collectives like CHINTAN, The Wildlife Protection Society Of India, NAVDANYA, GreenPeace India, DelhiGreens, Vindhyan Ecology and Natural History Foundation. Pasumai Thaayagam, Poovulagin Nanbargal (Tamilnadu), and NGOs in Kerala like Society for Economic and Environmental Development [SEED] (Alappuzha), Bodhi Kala Samskarika Samithy Karayad (Kozhikkode), Uravu Indigenous Science Technology Study Centre(Wayanad), Centre For Environmental Efficiency(Kochi), C-DART (Ernakulam) and Thanal (Trivandrum), of environmentally conscious people have emerged, having more concern about the environment and other issues that cost to the very mother earth that provides us with everything that we have. Policies restricting the usage of many synthetic/non-degradable materials and the promotional efforts taken up by the policy makers in many countries including India have led even to the blossoming of a unique class of entrepreneurs termed as Green Entrepreneurs and many people around the world have also been gradually switching over to a sort of green living by ((selectively using)) items which will in no way be harmful to the human health also to the environment. The switching over from the earlier lifestyles to 'green living' and the resultant increased demand have led to the mushrooming of malls and outlets providing exclusive supply of green products.

The state of Kerala well known for its rich flora and fauna, high literacy and high health standards, have also made spectacular strides towards the green movement and has become a topic of discussions and debates in several circles. Many green entrepreneurs with their environmental friendly products and services have given rise to an eco-friendly wave in the state of Kerala which is well known all over the world as God's own country. It is in this context that it becomes quite imperative to analyse the changing consumers' perceptions towards Green Products. It will also help the policy makers, entrepreneurs and traders in formulating various strategies to better strive towards 'Green Living'.

II. STATEMENT OF THE PROBLEM

The State of Kerala is well known for its health standards all over the world. It is quite evident from the facts that the average life expectancy of a Keralite is 74.9 years whereas it comes to 68.56 years at the National level and 78.69, 83.98, 76.25, 80.64 and 80.96 in USA, Japan, China, Germany and UK respectively. Kerala's high literacy rate(93.91%) and the highest HDI value in the country(0.784), while the All-India average is comparatively lesser(0.640), has also created greater awareness among the people of the State about the need for consumption of various green products in the State. Many green products manufacturers including the internationally reputed green products' manufacturers such as WORLDCENTRIC, PAPELYCO, BE GREEN PACKAGING, ECOWARE, TIPPA, etc., are the major players in the International market and the leading green product manufacturers in the country, bringing out an array of biodegradable products, such as BIOGREEN, COSMOS ECO FRIENDS, GUNJAN INTERNATIONAL, GREENPLAST etc., have found the state of Kerala as one of their prospective and high potential markets, due to the increased health concern and environmental awareness among Keralites.. Presently, MRT Organic Green Products, Deepam Palm Dish, Leetha Group of Industries, Envigreen Biotech India, etc., are the green product manufacturers in Kerala, catering to the requirements of environmentally conscious people of the State. Since the economy of the State is a consumerist one, many green product manufacturers have found lucrative trading activities for their products. Hence a study analysing the various factors influencing the buying behaviour of consumers toward Green Products in Kerala becomes quite relevant in the present day context.

III. OBJECTIVES

- To analyse the extent of influence of various factors on Consumers buying behaviour green products in Kerala.
- To know what kind of green products are consumers currently buying and will prefer to buy in the future.
- To identify the problems faced by the consumers of green products in the State.
- To assess the future prospects of green products in the State.

HYPOTHESES:

- H₁₀: Gender of consumers have no significant influence on the consumption pattern of green products.
- H₂₀: Age has no significant influence on their green products' consumption.
- H₃₀: Level of education has no significant influence on the buying behaviour of green products by consumers
- H₄₀: Income of consumers has no significant relationship with their purchasing of green products.
- H₅₀: Marital status has no significant difference with the behaviour of purchasing of green products.
- H₆₀: There is no significant difference between the buying behaviour of green products by the consumers and the number of children they have.
- H₇₀: There is no significant difference between the buying behaviour of green products by the consumers and the Size of their family.

IV. RESEARCH METHODOLOGY

4.1 Population and Sample

An attempt is made to know the role of the demographic factors of consumers in their green product purchasing by selecting a total of 260 consumers, 52 each from 5 major Shopping Malls namely, Gold Souk Grande Mall, Centre Square Mall, Oberon Mall, Lulu Mall and ABAD Nucleus Mall in the district of Ernakulam in Kerala. The district of Ernakulam is taken as a representative district for the whole of Kerala due to several reasons. The first and foremost thing is that the district of Ernakulam is the industrial capital of Kerala. It's a main hub where a large number of people from all the districts of Kerala come to visit and purchase many green consumer durables and non-durables. It's also a main centre of tourist attractions which enables the possibility of a highly heterogeneous population.

Among the 260 completed schedules, 7 were found to be erroneous with contradicting details, whose data were avoided, making the final sample consisting of 253 consumers.

4.2 Data and Sources of Data

The study is based on the primary as well as secondary data. Judgement Sampling method is adopted for this purpose of administering schedules among the sample respondents.

IV. RESULTS AND DISCUSSION

Classifications on the basis of demographic variables are given as follows:

Gender-wise classification of respondents are exhibited in Table No. I and II.

Table I: Gender-wise Classification of the respondents.

Gender	Male	Female	Total
Number	156	97	253
Percentage(%)	61.67	38.33	100

Source: Field Survey

It is observed from Table I that 61.67 per cent of the respondents are Males while Females constitute 38.33 per cent of the total.

Table II: Gender-wise Classification of the respondents who buy and who do not buy Green Products

Gender	Do you buy Green Products?					% to Grand Total
	Yes	% to Grand Total	No	% to Grand Total	Total	
Male	100	39.53	56	22.13	156	61.66
Female	71	28.06	26	10.28	97	38.34
	171	67.59	82	32.41	253	100.00

Source: Computed from Field Survey Data

Table II reveals that among the total respondents, 39.53 per cent of the males and 28.06 per cent of the females purchases green products.

An Age -wise classification of respondents who buy and who do not buy Green Products is shown in Table III.

Table III: Age-wise Classification of respondents who buy and who do not buy Green Products.

Age Group	Do you buy Green Products?					Total	% to Grand Total
	Yes	% to Grand Total	No	% to Grand Total			
20-30 years	64	25.30	57	22.53	121	47.83	
30-40 years	37	14.62	20	7.91	57	22.53	
40-50 years	40	15.81	14	5.53	54	21.34	
50 years and above	15	5.93	6	2.37	21	8.3	
Total	156	61.66	97	38.34	253	100	

Source: Field Survey

An Age-wise analysis of the respondents who buy and who do not buy green products shows that 25.30 per cent of the respondents belongs to the age group of 20-30 years, while respondents who come under the age group of 40-50 years represent 15.81 per cent of the total. Those who come under the Age-group of 50 years and above constitute a miniscule share of the total.

Education -wise classification of the respondents who buy and who do not buy Green Products is exhibited in Table IV

Table IV: Education-wise Classification of respondents who buy and who do not buy Green Products

Educational Qualification	Do you buy Green Products?				Total	% to Grand Total
	Yes	% to Grand Total	No	% to Grand Total		
Below Graduation	27	10.67	36	14.23	63	24.90
Graduation	64	25.30	57	22.53	121	47.83
Post Graduation & above	47	18.58	22	8.70	69	27.27
Total	138	54.55	115	45.45	253	100.00

Source: Field Survey

Education-wise classification of the respondents reveals that 25.30 per cent of the total number of respondents who buy Green Products are Graduates, while 18.52 per cent are Post Graduates and those who have Below Graduation represent a relatively small share (10.67 per cent) of the total.

An Income-wise classification of respondents who buy and who do not buy Green Products is shown in Table V.

Table V: Income-wise Classification of the respondents who buy and who do not buy Green Products.

Level of Income	Do you buy Green Products?				Total	% to Grand Total
	Yes	% to Grand Total	No	% to Grand Total		
Low	31	12.25	35	13.83	66	26.09
Middle	82	32.41	51	20.16	133	52.57
High	40	15.81	14	5.53	54	21.34
Total	153	60.47	100	39.53	253	100.00

Source: Field Survey

From Table V, it is observed that the Middle Income class occupies the majority (31.41 per cent) of the total respondents, followed by the High Income group (15.81 per cent). Low Income group represent a relatively small share of the total (12.25 per cent).

A Marital Status-wise classification of the respondents who buy and who do not buy Green Products is presented in Table VI

Table VI: Marital Status-wise Classification of the respondents who buy and who do not buy Green Products

Marital Status	Do you buy Green Products?				Total	% to Grand Total
	Yes	% to Grand Total	No	% to Grand Total		
Married	97	38.34	74	29.25	171	67.59
Unmarried	58	22.92	24	9.49	82	32.41
Total	155	61.26	98	38.74	253	100.00

Source: Field Survey

A Marital Status-wise analysis of the respondents reveals that among the Married respondents only 38.34 per cent of the respondents buy Green Products while only 29.25 per cent of them do not buy Green Products. Similarly, among the Unmarried respondents those who buy Green Products 22.92 per cent and those who do not buy Green products constitutes 9.49 per cent of the total.

Buying behaviour of the respondents who have and do not have Children is shown in Table VII.

Table VII: Classification of the Respondents buying Green Products, Having and Not Having Children

Respondents having Children	Do you buy Green Products?				Total	% to Grand Total
	Yes	% to Grand Total	No	% to Grand Total		
Yes	89	35.18	62	24.51	151	59.68
No	70	27.67	32	12.65	102	40.32
Total	159	62.85	94	37.15	253	100.00

Source: Field Survey

Table VII indicates that majority (62.85 per cent) of the buyers of Green Products in the area under study buy Green Products while 37.15 per cent of them do not buy Green Products. Among the respondents who purchase Green Products, the respondents having children represent 35.18 per cent and those who do not have children among this category represent 27.67 per cent of the total number of respondents surveyed.

Purchasing behaviour of the respondents on the basis of the Size of their Family is shown in Table VIII.

Table VIII: Classification of the Respondents buying Green Products, on the basis of their Family Size.

Family Size	Do you buy Green Products?				Total	% to Grand Total
	Yes	% to Grand Total	No	% to Grand Total		
Nuclear	89	35.18	34	13.44	123	48.62
Micro	73	28.85	42	16.60	115	45.45
Joint	5	1.98	10	3.95	15	5.93
Total	167	66.01	86	33.99	253	100.00

Source: Field Survey

Family Size-wise classification of the respondents reveals that 35.18 per cent of the total number of respondents who buy Green Products come from Nuclear Family, while those who come from Micro Family represent 28.85 per cent of the total number of respondents. Only a tiny share of respondents who purchase Green products hails from Joint Families.

Analysis of the Influence of Demographic Factors on the Buying Behaviour of the Consumers of Green products

Results of the analysis of the Influence of Demographic Factors on the Buying Behaviour of the Consumers of Green products are shown in Table Nos.IX to XIV.

Table IX: Influence of Gender on the Buying Behaviour of Green products

O	E	(O-E) ²	(O-E) ² /E
100	105.44	29.58	0.28
56	65.56	91.42	1.39
71	50.56	417.74	8.26
26	31.44	29.58	0.94
χ^2 Value			10.88

Source: Computed from Field Survey Data

Results of the analysis in case of the Influence of Gender on the Purchasing Behaviour of the respondents indicates that the calculated Chi-square value is 10.88, while the Table value at 5% level of significance and 1 Degree of Freedom (D.F.) is 3.841. As the Calculated value 10.888 is greater than the Table value, the formulated null hypothesis gets rejected, which implies that Gender has a significant influence on the purchasing behaviour of the consumers of Green Products in the study area.

Table X: Influence of Age on the buying Behaviour of Green products

O	E	(O-E) ²	(O-E) ² /E
64	74.61	112.54	1.51
37	35.15	3.44	0.10
40	33.30	44.94	1.35
15	12.95	4.21	0.32
57	46.39	112.54	2.43
20	21.85	3.44	0.16
14	20.70	44.94	2.17
6	8.05	4.21	0.52
χ^2Value			8.56

Source: Computed from Field Survey Data

Table X reveals that the calculated Chi-square value is 8.56, while the Table value at 5% level of significance (3 D.F) is 7.82. Here the Calculated value 8.56 exceeds the Table value, and as such the null hypothesis gets rejected implying that Age has a positive significant influence on the purchasing behaviour of the consumers of Green Products.

Table XI: Educational Qualification and Purchasing of Green products

O	E	(O-E) ²	(O-E) ² /E
27	34.36	54.22	1.58
64	66.00	4.00	0.06
47	37.64	87.68	2.33
36	28.64	54.22	1.89
57	55.00	4.00	0.07
22	31.36	87.68	2.80
χ^2Value			8.73

Source: Computed from Field Survey Data

From Table XI, it is observed that the calculated Chi-Square value is 8.73, while the Table value at 5% level of significance (2 D.F) is 5.991. Since the Calculated Chi-Square value 8.73 is greater than its corresponding Table value, the proposed null hypothesis gets rejected, which leads to the inference that the Level of Education has a significant influence on the buying behaviour of the consumers of Green Products in the area under study.

Table XII: Level of Income and Buying behaviour of Consumers of Green products

O	E	(O-E) ²	(O-E) ² /E
31	39.91	79.44	1.99
82	80.43	2.46	0.03
40	32.66	53.93	1.65
35	26.09	79.44	3.05
51	52.57	2.46	0.05
14	21.34	53.93	2.53
χ^2Value			9.29

Source: Computed from Field Survey Data

From Table XII, it is discernible that the calculated Chi-Square value is 9.29, while the Table value at 5% level of significance(2 D.F.) is 5.991. Here the Calculated value is higher than the Table value, the null hypothesis gets rejected. It implies that the Level of Income of consumers of Green Products has a profound positive influence on their purchasing behaviour.

Table XIII: Marital Status and Buying Behaviour of Consumers of Green products

O	E	(O-E) ²	(O-E) ² /E
97	104.76	60.26	0.58
58	50.24	60.26	1.20
74	66.24	60.26	0.91
24	31.76	60.26	1.90
χ^2Value			4.58

Source: Computed from Field Survey Data

Table XIII reveals that the Calculated Chi-Square value is 4.58, while the Table value at 5% level of significance (1 D.F.) is 3.841. As the calculated value 4.58 is greater than the Table value, the null hypothesis stands rejected. It leads to the inference that the Marital Status of consumers of Green Products has a significant influence on their buying behaviour.

Table XIV: Buying Behaviour of Consumers having Children on Green products.

O	E	(O-E) ²	(O-E) ² /E
89	94.90	34.78	0.37
70	64.10	34.78	0.54
62	56.10	34.78	0.62
32	37.90	34.78	0.92
χ^2Value			2.45

Source: Computed from Field Survey Data

From Table XIV it is observed that the Calculated Chi-Square value is 2.45, while the Table value at 5% level of significance (1D.F.) is 3.841. Here the calculated value is lesser than the Table value, which implies that the null hypothesis is accepted. It confirms that the consumers having children have no significant influence on their purchasing behaviour of Green Products.

Table XV: Influence of Gender on the Buying Behaviour of Green products

O	E	(O-E) ²	(O-E) ² /E
89	81.19	61.00	0.75
73	75.91	8.46	0.11
5	9.90	24.02	2.43
34	41.81	61.00	1.46
42	39.09	8.46	0.22
10	5.10	24.02	4.71
χ^2Value			9.68

Source: Computed from Field Survey Data

Results of the analysis in case of the Influence of Family Size on the Purchasing Behaviour of the respondents indicates that the calculated Chi-square value is 9.68, while the Table value at 5% level of significance (2 D.F.) is 5.991. As the Calculated value 9.68 is greater than the Table value, the formulated null hypothesis gets rejected, which implies that Family Size has a significant influence on the purchasing behaviour of the consumers of Green Products in the study area.

V. Findings

The present study is carried out by analyzing the data collected from 253 consumers from 5 major malls in the district of Ernakulam in Kerala. Following are the findings and inferences of the study:

- Majority (61.67 per cent) of the respondents are Males while Females constitute a relatively less share (38.33 per cent) of the total.
- Among the respondents who purchase green products, 39.53 per cent were males and 28.06 per cent were females.
- A relatively large number of the respondents (25.30 per cent) belong to the age group of 20-30 years, while respondents who come under the age group of 40-50 years represent 15.81 per cent of the total.
- Middle Income class constitutes the majority (31.41 per cent) of the total respondents, followed by the High Income group (15.81 per cent).

- Married respondents constitute only 38.34 per cent of the respondents buy Green Products while only 29.25 per cent of them do not buy Green Products.
- Among the respondents who purchase Green Products, the respondents having children represent 35.18 per cent and those who do not have children among this category represent 27.67 per cent of the total number of respondents surveyed.
- 35.18 per cent of the total number of respondents who buy Green Products come from Nuclear Family, while those who come from Micro Family represent 28.85 per cent of the total number of respondents. Only a tiny share of respondents who purchase Green products hails from Joint Families.
- Gender has a significant influence on the purchasing behaviour of the consumers of Green Products in the study area.
- Age has a positive significant influence on the purchasing behaviour of the consumers of Green Products.
- Level of Education has a significant influence on the buying behaviour of the consumers of Green Products in the area under study.
- Level of Income of consumers of Green Products has a profound positive influence on their purchasing behaviour.
- the Marital Status of consumers of Green Products has a significant influence on their buying behaviour.
- consumers having children have no significant influence on their purchasing behaviour of Green Products.
- Family Size has a significant influence on the purchasing behaviour of the consumers of Green Products in the study area.

VI. Acknowledgement

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