

**A STUDY ON PURCHASERS OF NATURAL PRODUCTS
FOR POSSIBILITY OF GREEN MARKETING IN TRICHY
AND CHENNAI CITY**

C.SENTHIL NATHAN*

Dr.K.Malar Mathi**

ABSTRACT

Indian metrological department data reveals global warming is happening in India. Green marketing involves satisfying needs and wants of customers for facilitating exchange by producing product with less power consumption or using renewable sources of energy, less water consumption, evading harmful ingredients in manufacturing, reducing emission in distribution and linking reforestation schemes in sales promotion or public relation strategy of the firm. In totality green marketing is marketing with minimal detrimental impact on environment. Thus by adopting green marketing strategy firm can contribute to reduce global warming. Review of literature reveals research information is needed on consumer knowledge, performance regarding natural products. It is essential to identify appropriate marketing mix augmenting purchase of natural products among purchasers to find out the possibility of green marketing. The research study is carried out in two cities Chennai and Trichy in Tamil nadu for finding out the possibility of green marketing adaptation.

Key words: Global warming, Green marketing, Natural product knowledge, Natural product performance, Marketing Mix.

* ¹ ASISSTANT PROFESSOR, S.R.M SCHOOL OF BUSINESS MANAGEMENT,
KATANGULATHUR

² RESEARCH SCHOLAR, BHARATHIAR UNIVERSITY, COIMBATORE

** ASSOCIATE PROFESSOR, BHARATHIAR SCHOOL OF MANAGEMENT &
ENTREPRENEURSHIP DEVELOPMENT, BHARATHIAR UNIVERSITY, COIMBATORE

Introduction:**GREEN MARKETING: DEFINITION**

Ottman 1993 Davis 1993 and Kangun 1994 defines “Green marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs with minimal detrimental impact on the natural environment”

Green Marketing includes product modification with eco-friendly ingredients as raw materials, changes in production process, packaging changes, distribution with less emission promotion and usage changes to minimize detrimental impact on the natural environment.

CLIMATE CHANGE INDIA SCENARIO:

- The India Meteorological Department (IMD) announced in 2010 that 2009 was the warmest year in India since 1901 (Attri and Tyagi, 2010). Once again in 2011 confirmation was done that 2010 was the warmest since 1901. (IMD, 2011). The annual mean temperature for the country as a whole is estimated to have risen by 0.56°C over the period. All this confirms with widespread perception that global warming is reality.

REASONS FOR INCREASE IN TEMPERATURE:

- Over the period of more than a century many changes in land usage have evidently taken place all over the country. The changes in urban areas may be in the form of new structures development that can contribute to radiation or alter wind circulation. In other areas there can be changes such as development of irrigated lands into constructions, change in farming practices, drying up or filling up of water bodies and removal of vegetation. These changes affect the radiation balance, evaporation, soil moisture and wind flow. The observed increase in temperature can have a component due to land use change and a component due to changes in atmospheric composition caused by emission and usage of products that are not eco-friendly.

A BIRD'S EYE VIEW ON LATEST CLIMATE CHANGE TALKS:

In latest climate change talks on Doha Summit 2013, Kyoto protocol on climate change that is due to expire on December 2012 was extended for 7 years from 2013 to 2020. This period is called “Second Commitment Period” Of Kyoto protocol which is the only legal binding treaty on climate change till date. The 27 members of European Union, Australia, Switzerland and

eight other industrialized nations had agreed to 20% carbon emission cuts from 1990 levels. These countries represent about 15 percent of global emissions. Four developed nations Japan, NewZeland, Canada and Russia have already backed out of the 1997 Kyoto protocol. This extension of protocol locks in only developed nations and excludes major developing polluters such as china and India as well as US which refuses to ratify it. Since this agreement is for only 15% of global emissions and every country has its own target any way this will make little difference to global pollution levels. India had committed for voluntary reduction in emission intensity of 20% -25% by 2020.

How to combat climate change effects?

- (1) Cleaning up coal for which technology exists. This can lead to lesser pollution. Also, conversion of coal to gas is possible. This would further reduce pollution. More use of natural gas than coal because natural gas contains only half the carbon of coal and no sulphur.
- (2) Renewable sources of energy would ultimately tackle the problem of CO₂ emission and pollution. Wind power and solar energy are obvious choices. But there are other renewable sources like photo voltaic (photo voltaics convert sunlight directly into electricity). These sources produce little or no pollution and involve no safety risks. This power should be used in manufacturing various products.
- (3) Manufacturing fuel efficient vehicles is another step. Using this vehicle in distribution of various products.
- (4) Deforestation Reversal. This is a major step to reduce CO₂ concentration. It is possible to reclaim more land to plant more trees but requires help from social, political and financial institutions. Reforestation schemes can be linked with sales promotion schemes for promoting various products.
- (5) Modifying the ingredients used in manufacturing to replace toxic ingredients with natural and eco-friendly ingredients in various industries such as electronics, personal care, home care and food industries.

GREEN MARKETING ROLE FOR MODERATING GLOBAL WARMING AND CLIMATE CHANGE EFFECTS

All the above steps can be integrated in Green Marketing. Green marketing involves satisfying needs and wants of customers for facilitating exchange by producing product with less power consumption or using renewable sources of energy, less water consumption, evading harmful ingredients in manufacturing, reducing emission in distribution and linking reforestation schemes in sales promotion or public relation strategy of the firm. In totality green marketing is marketing with minimal detrimental impact on environment. Thus by adopting green marketing strategy firm can contribute to reduce global warming.

REVIEW OF LITERATURE:

Ken Peattie(2001) -Green Purchase Perception Matrix has 2 factors: PCE, Trade Offs

PCE- Perceived consumer effectiveness- An individuals belief in their ability to exert an influence in their role as customer. Trade-off- refers to extra time and effort involved in recycling or sacrifice quality or cost in purchasing and if perceived cost exceeds perceived benefits consumer will not act to conserve the environment despite a favorable attitude towards it. Matrix brings 4 universal green consumer needs: Need for information, Need for control, Need to make a difference, Need to maintain current life styles. Green companies should not act as hunters aggressively trying to benefit from emergence of green consumers they should nurture and facilitate growth in population of green consumers.

This review emphasise understanding the performance of green products when compared to normal products to enhance purchase of green products. This also emphasize marketing mix required by consumers for purchase of natural products.

Darrin C Duber smith(2002) There is great debate on definition of term 'natural'. Natural products simply put contains natural ingredients wherever possible. At least 90% of natural ingredients should be used. Natural does not mean 'organic'. The term organic indicates the method of growing and processing natural ingredients ensuring stringent purity standards are met. So natural products are not always organic but organic products are always natural. Natural products claims safety, efficacy and batch to batch consistency, Now branded products are available using natural ingredients. Consumer demand products free from chemical impurities, that are bio-degradable consistent with personal health and environment wellness.

This review implies understanding respondents knowledge regarding natural products.

Laroche, M., Bergeron, J. and Barbaro-Forleo, G. (2001) conclude that the segment of consumers that are willing to pay a premium for environmentally friendly products is of sufficient size to warrant the attention of marketers. The segment that is willing to offer premium is large enough to be targeted by marketers.

This review emphasize the price expectation in marketing mix by respondents.

Forest L.Reinhardt(2000):

Regarding climate change the book indicates there is now an effective consensus that there is a discernible human influence on the climate and a link between concentration of carbon-di-oxide and increase in temperature. Even though there is no certainty in science it is clear that climate change is a serious concern which merits precautionary action.

To make environmental product differentiation succeed, a business must satisfy following 3 requirements:

1. It must find or create a willingness among customers to pay for environmental quality.
2. It must establish credible information about the environmental and other attributes of its products.
3. Its innovation must be defensible against imitation by competitors.

This review again implies importance of knowledge of purchasers of natural products in order to differentiate the products based on information provided by green marketers.

Sanjay K. Jain * & Gurmeet Kaur(Dec 2004)

GREEN MARKETING:

It is a much broader term that encompasses all those marketing activities that are needed to develop and sustain consumers' eco-friendly attitudes and behaviours (including identification, building and satisfaction of consumers' demand for green products) in a way that helps in creating minimum detrimental impact on the environment (Jain and Kaur, 2003a). Various activities that make up green marketing include undertaking market analysis to identify the market for green products and ideas, studying consumers' green attitudes and behaviours, stratifying the green market into different segments based on the consumers' greenness, developing green positioning strategy and evolving a green marketing mix programme. The

above review indicates the marketing mix requirement by consumers for successful green marketing.

All the above reviews indicate there is need for research information on consumer knowledge, performance regarding natural products. It is essential to identify appropriate marketing mix augmenting purchase of natural products among purchasers in both the cities.

RESEARCH OBJECTIVE:

- **To understand the knowledge level and performance level of natural products among purchasers.**
- **To identify marketing mix that is required by existing purchasers of natural personal care, home care products and non-purchasers to augment consumption of the natural product.**

RESEARCH DESIGN ADOPTED BY THE STUDY:

This study had adopted **descriptive research design**. It started with a pilot study in south Chennai area for assessment of purchasers of natural products based on results the questionnaire was improved and actual study was taken in Trichy and Chennai region. Majority of objectives of the study are quantitative objectives. Pilot study was done to assess the number of purchasers of green products in market, reasons behind purchase, Non-purchasers reasons for not purchasing with this results questionnaire was refined and main study was conducted. With objectives clearly set for the study, it used large sample size and survey method to gather information from respondents thus descriptive research was adopted for the study.

The main study has quantitative objectives such as proportion of consumers who are aware about green products, demographic details of green product purchasers, marketing mix requirements, green market adaptation possibility in trichy and Chennai market. It also has qualitative objectives such as reason behind purchasers purchasing green products. But major objectives are quantitative in nature hence the research design adopted is **descriptive** research design based on research objectives. Under **descriptive research design** this study has **cross-sectional design method** as sample of respondents is drawn from the target population from trichy and south Chennai market and information is obtained from this sample only once.

UNIVERSE: The sample was chosen from Trichy city range and in Chennai from south Chennai range. The entire population in Trichy city region and population in south Chennai region from which samples are chosen for this study is considered as universe for this study.

SAMPLING METHOD:

Sampling Method adopted for this Study:

Purposive Sampling:

This is a non-probability sampling method which serves an objective or purpose.

The sample is chosen so that a particular research purpose or objective is served and is adequate for it. The sample is typical rather than representative. Purposive sampling is similar to judgement sampling.

The sample for this study is chosen in such a way it should have purchasers of Natural personal care and home care products among the respondents to serve the research objectives. The retailers of Natural personal care products and Green Peace organization experts are interviewed and based on their information residences in and around 10 kms range of Natural product retailer is chosen for the study, so the respondents will include purchasers of Natural personal care products to satisfy the research purpose. Thus sampling uses judgment of natural product retailer, green peace organization expertise, researcher's own observation in the market and then samples are chosen so particular research objective or research purpose is served. Thus sampling method adopted is **Purposive sampling**.

SAMPLE SIZE:

Chennai City: The sample size surveyed in South Chennai region of Chennai city is 440. Population of Chennai city as per census of 2011 is 46,81,087. Using sample size calculator (www.surveysystem.com) at confidence level of 95%, confidence interval of 5 for the population of 46,81,087 the sample size to be surveyed that will adequately reflect the population is 384. **The sample size surveyed for the study is 440 in south Chennai region.** Thus the sample size will reflect the population in the region. Out of 440 respondents **304 respondents are purchasers** and 136 respondents are non-purchasers of green personal care and home care products.

Trichy city: According to government of India 2011 census trichy city population is 8,46,915. Using sample size calculator (<http://www.surveysystem.com/sscalc.htm#two>) sample size is calculated with 95% confidence level and confidence interval of 5. The sample size arrived at 384. For this **survey a total of 445 respondents including purchasers and non-purchasers were surveyed in trichy city.** Thus sample size adequately reflect the population of trichy

city. Out of this 445 respondents, 265 respondents are non-purchasers of natural personal care and home care products and **180 are purchasers.**

Thus a total of **885 respondents had been surveyed for this study. The total purchasers 484 respondents of both trichy and Chennai city is focused in this study.**

ANALYSIS AND INTERPRETATION:

City wise awareness level of various natural personal care and home care product categories among purchasers using percentage method.

TABLE 1

CITY			Responses		Percent of Cases
			N	Percent	
Chennai	NATURAL BATH SOAP AWARENESS	161	19.1%	53.0%	
	NATURAL DETERGENT AWARENESS	134	15.9%	44.1%	
	NATURAL SURFACE CLEANER AWARENESS	118	14.0%	38.8%	
	NATURAL SHAMPOO AWARENESS	136	16.1%	44.7%	
	NATURAL FACE WASH AWARENESS	143	16.9%	47.0%	
	NATURAL TOOTH PASTE AWARENESS	152	18.0%	50.0%	
	Total	844	100.0%	277.6%	
Trichy	NATURAL BATH SOAP AWARENESS	155	20.4%	86.6%	

	NATURAL DETERGENT AWARENESS	72	9.5%	40.2%
	NATURAL SURFACE CLEANER AWARENESS	70	9.2%	39.1%
	NATURAL SHAMPOO AWARENESS	154	20.3%	86.0%
	NATURAL FACE WASH AWARENESS	153	20.1%	85.5%
	NATURAL TOOTH PASTE AWARENESS	156	20.5%	87.2%
	Total	760	100.0%	424.6%

City wise analysis shows in Chennai Natural bath soap(19.1%) is having maximum awareness followed by Natural tooth paste(18%). In trichy natural tooth paste(20.5%) is having more awareness closely followed by natural bath soap(20.4%). In .Chennai natural face wash(16.9%) takes third place and shampoo(16.1%) takes fourth place. Where as in trichy natural shampoo(20.3%) takes third place and face wash(20.1%) takes fourth place. Thus there is mild change is awareness when compared city wise.

City wise assessment of knowledge level of various natural personal care and home care products among purchasers using arithmetic mean

TABLE-2

	Mean		Std. Deviation	
	CITY		CITY	
	Chennai	Trichy	Chennai	Trichy
Belief aspect for Natural product Manufacturer Brand Name	3.3882	4.2667	1.13480	.63069

Belief aspect for Chemical/Ingredient composition	2.9803	3.9833	.88977	.82878
Belief aspect for eco-friendly label or symbol	3.0132	4.0056	1.11980	.85546
Belief aspect for Product information in website	2.8355	3.8111	1.06516	1.00161
Method of first time choosing product- By looking at ingredients in package	3.9638	4.1667	.84939	.78747

Respondents knowledge regarding natural products is known by their belief in Manufacturer brand name, Chemical/Ingredient composition, eco-friendly label and product information in website. Without knowledge they could not believe in above aspects. Knowledge is also known by how respondents choose or purchase products for first time if they look at ingredients in package. These aspects are measured in five point likert scale using Arithmetic mean results are arrived. Since all aspects that are used for measuring knowledge **scores near or above average of 3 (in scale 1-5)**, it can be concluded that purchasers of both cities Chennai and Trichy have knowledge regarding natural personal care and home care products.

City wise comparison gives, in Chennai Looking at ingredients in package for first time choosing the product(3.96) have higher average for knowledge followed by Manufacturer's brand name(3.38) where as in trichy city Manufacturer's brand name(4.26) has higher average followed by Looking at ingredients(4.16) in package for first time choosing the product. Thus basis for arriving at knowledge regarding personal care and home care products varies between 2 cities in these two criteria alone and remains same in all other criteria.

Purchaser’s opinion on performance level of natural products when compared to normal products using percentage method:

TABLE-3

CITY			Frequency	Percent	Valid Percent	Cumulative Percent
Chennai		Performance is equal as normal brand	19	6.3	6.3	6.3
		Performance is better than normal brand	240	78.9	78.9	85.2
		Performance is poor than normal brand	45	14.8	14.8	100.0
		Total	304	100.0	100.0	
Trichy		Performance is equal as normal brand	8	4.4	4.4	4.4
		Performance is better than normal brand	167	92.8	92.8	97.2
		Performance is poor than normal brand	4	2.2	2.2	99.4
		Others specify	1	.6	.6	100.0
		Total	180	100.0	100.0	

City wise analysis shows in both cities majority of purchasers(above 75%) are of opinion performance is better than normal brand, in next level in Chennai purchasers opined that performance is poor than normal brand (14.8%) in Trichy purchasers opinion is performance is equal to normal brand(6.3%) . In trichy city purchasers opinion on natural products performance is very positive when compared to normal products than Chennai city.

RELATIONSHIP BETWEEN MARKETING MIX VARIABLES AND INCREASE THE CONSUMPTION OF NATURAL PRODUCTS- Kruskal wallis test

Hypothesis: There is no significant difference between various marketing mix variables that leads to increasing of consumption of natural products by purchasers.

TABLE-4

SALES PROMOTION	MEAN RANK
Increase consumption-Home delivery option is available	3.13
Increase consumption-Quantity Discount is not available	
Increase consumption- Free gifts are not available	
Increase consumption-Proper recognition and lucky draw prize rewards given for higher purchase	
PUBLIC RELTATIONS	
Increase consumption-Social responsible programs like planting saplings awareness rallies is organised by retailer or manufacturing company	2.99
PROMOTION	
If promotion is not done with brand ambassadors sport stars, movie stars or eminent leaders	2.9
If information is available on how much pollution or global warming is reduced by my purchase of natural products	
If Manufacturer name is not popular and not well known in market	
DISTRIBUTION	

If exclusive super market/retail stores to sell eco-friendly natural herbal product are increased in numbers	3.26
PACKAGING	
If packages or containers of herbal product are not recycled by retailers or manufacturers and discount are not given for recycling	2.72

N	484
Chi-Square	37.647
Df	4
Asymp. Sig.	.000

SALES PROMOTION	Mean Rank	PROMOTION	Mean Rank
Increase consumption-Home delivery option is available	2.19	If promotion is not done with brand ambassdors sport stars, movie stars or eminent leaders	2.04
Increase consumption-Quantity Discount is not available	2.66	If information is available on how much pollution or global warming is reduced by my purchase of natural products	2.23
Increase consumption- Free gifts are not available	2.57	If Manufacturer name is not popular and not well known in market	1.73
Increase consumption-Proper recognition and lucky draw prize rewards given for higher purchase	2.58		
Test Statistics^a			
N	484	N	484
Chi-Square	49.718	Chi-Square	78.838
Df	3	Df	2
Asymp. Sig.	.000	Asymp. Sig.	.000

INTERPRETATION:

Hypothesis is rejected as significance is less than .05. There is significant difference between various marketing mix variables that leads to increasing of consumption of natural products by purchasers

Distribution reason of if exclusive super market/retail stores to sell eco-friendly natural herbal product are increased in numbers is ranked first by purchasers for increasing the consumption of natural products.

Sales promotion reason is ranked second for increasing consumption of natural products. Under sales promotion reason Quantity discount and free gifts availability is not attracting the purchasers much but proper recognition and lucky draw prize rewards attract purchasers to increase the consumption.

PR marketing mix reason of is ranked third for increasing consumption of natural products

Promotion marketing mix is ranked fourth for increasing consumption of natural products. Under promotion if information is available on how much pollution or global warming is reduced by the purchase of natural products is ranked high for increasing consumption of natural products.

Packaging marketing mix is ranked fifth for increasing consumption of natural products.

Green marketing mix analysis reveals natural/green product marketers should focus on distribution aspect increasing number of retail stores and exclusive retailers of natural product to increase the consumption of natural products.

SUMMARY OF FINDINGS:

- (1) City wise analysis shows there is more awareness for natural bath soap and natural tooth paste in both cities when compared to other product categories.
- (2) City wise comparison gives, in Chennai Looking at ingredients in package for first time choosing the product(3.96) have higher average for knowledge followed by Manufacturer's brand name(3.38) where as in trichy city Manufacturer's brand name(4.26) has higher average followed by Looking at ingredients(4.16) in package for first time choosing the product. Thus basis for arriving at knowledge regarding personal care and home care products varies between 2 cities in these two criteria alone and remains same in all other criteria. Manufacturer's brand name and Looking at ingredients in package for first time choosing the product are key aspect for purchasers knowledge regarding natural products.

- (3) Analysis of performance on natural product reveals majority of purchasers in both the cities believe performance is better than normal brand. In trichy city response is more positive than Chennai city.
- (4) Among marketing mix variables purchasers are in need of more distribution outlets for increasing the consumption of natural products. The next reason is sales promotion proper recognition and lucky draw prize rewards attract purchasers to increase the consumption. In advertising if information is available on how much pollution or global warming is reduced by the purchase of natural products is ranked high for increasing consumption of natural products.

CONCLUSION:

Purchasers of both the cities have adequate knowledge regarding natural products, on performance aspect majority of respondents believe performance of natural products is better than normal products. Analysis of marketing mix requirements of purchasers reveals more distribution outlets are needed for increasing the purchase of natural products. Purchasers knowledge and performance of natural products reveals positive outcome for adaptation of green marketing in both cities but marketing mix analysis reveals improvements are imperative for successful adaptation of green marketing in both cities.

References:

1. Sanjay K. Jain * & Gurmeet Kaur, Green Marketing : An Indian Perspective
Decision, July-December 2004 Vol. 31, No. 2, Pg 168
2. (Annick, G.- Boutonnat., (2004): “Can the Environment Help Boost Your Marketing”,*Australian Journal of Dairy Technology*; Aug 2004; Vol-59, Issue- 2; ABI/INFORM Trade & Industry, p. 85.)
3. ¹Darrin C Duber-Smith-Being green- Global Cosmetic Industry; Sep 2002; 170, 9;
ABI/INFORM Global pg. 46
4. Ken Peattie,Golden goose or wild goose? The hunt for the green consumer,
Business Strategy and the Environment; Jul/Aug 2001; Vol- 10, Iss- 4; ABI/INFORM Global pg. 187
5. Laroche, M., Bergeron, J. and Barbaro-Forleo, G. (2001), “Targeting consumers who are willing to pay more for environmentally friendly products”, *Journal of Consumer Marketing*, Vol. 18, Issue No. 6, pp. 503-20
6. Forest L.Reinhardt-“ Environmental Product Differentiation”- Down To Earth-2000- Havard Business School Press
7. Kenn Peattie and Andrew Crane”Green GREEN MARKETING: LEGEND, MYTH, FARCE OR PROPHECY”- *Qualitative Market Research; An International Journal* 2005; vol-8, Issue-4; ABI/INFORM Global pg. 357
8. Jacquelyn A.ottman “Green Marketing: Opportunity for Innovation”-NTC Business Book 1998
9. K.Peattie ”Green Marketing”-Pitman Publishing 1992
10. Michael Kuhn “Greening of Markets”-Edward Elgar Publishing 2005
11. Sourabh Bhattacharya ‘ Consumer Attitude towards Green Marketing in India’ *IUP Journal of Marketing Management*,Vol 10, No.4, 2011
12. Clare D Souza, Mehdi Taghian, Rajiv Kholsa(2007)- “Examination of environmental beliefsand its impact on the infl uence of price, quality and demographic characteristics with respect to green purchase intention”-*Journal of Targeting Measurement and Analysis for Marketing*-Vol 15, Pg 65-78
13. Forest L.Reinhardt “Down To Earth” Havard Business School press 2000

14. Richard Welford “ Corporate Environmental Management towards sustainable Development”- Earth Scan Publication Ltd London 2000
15. Philip kotler, Kevin lane keller, Abraham Koshy and Mithileshwar Jha:Marketing Management 13th Edition, South Asian Perspective
16. Lamb, Hair, Sharma,McDaniel Marketing-South Asian perspective-Cengage Learning 2012
17. K.Suresh “Green Marketing Concepts and Cases” First Edition-ICFAI University Press 2006
18. NK Uberoi “Environmental Management” second edition: excel books: New Delhi()

WEBSITES:

http://www.cpcb.nic.in/scheme_eco.php

<http://www.irishtimes.com/newspaper/world/2012/1210/1224327683475.html>

<http://www.hindustantimes.com/world-news/RestOfAsia/UN-climate-agreement-reached-in-Doha/Article1-970349.aspx>

<http://india.blogs.nytimes.com/2012/11/30/at-the-doha-summit-india-pushes-developed-nations-to-cut-emissions-to-fight-climate-change/>