6.1 FINDINGS

DESCRIPTIVE ANALYSIS

PURCHASERS

- **Age group of purchasers:** Maximum purchasers are in the age group of 39-48 which is 43.4 percentage, 29-38 age group is 32.9 percentage, 18-28 age group is 15.7 percentage, 49-58 age group is 6.6 percentage and 59-65 age group is 1.4 percentage. 39-48 Age group is the maximum among purchasers. This is because they have children and concerned about their future because of environmental impact.

- **Gender of Purchasers:** Majority of purchasers of natural personal care and home care products are females that is 67.6 percentage. Male purchasers are 32.4 percentage only. Females are the majority as they are more concerned about personality and home. Female gender is more concerned about environment when compared to male. This confirms with study of Chitra, K (2007) that found that female tend to be more environmentally responsible and have more positive attitudes toward both the advertising and the products viewed as being “green.”. It could be confirmed female are more environmentally responsible when compared to male.

- **Education level of purchasers:** Among the respondents UG degree holders are 41.1 percentage, Diploma holders are 22.5 percentage, High School qualification is 21.5 percentage, PostGraduates comprise 13.4 percentage and finally Doctorates are 1 percent.

- **Income level of purchasers:** Maximum number of purchasers belong to the income group of Rs.15001-Rs.25,000, that is 48.6 percentage, Rs.25001-Rs.35,000 income group is 21.9 percentage, Rs.35,001-Rs.45,000 income group is 12.4 percentage , Upto Rs.15,000 Income group is 12.4 percentage and above Rs.45,000 income group is only 4.8 percentage. Around 70 percentage of purchasers are in the income range of Rs.15001-Rs.35,000 in both cities.

- **Market segment purchasing natural products identified by the study in both cities based on descriptive analysis:** Purchasers market segment in both cities is age group of 39-48 as it is 43.4 percent of total samples surveyed, Income level is Rs.15001-25000 it is 48.6 percentage, Education Qualification is UnderGraduation as its percentage is 41.1,
Gender is female which comprises 67.6 percentage and family type is nuclear family which comprises 78.1 percentage of total samples surveyed.

- **Most purchased Product category among natural product:** Natural bath soap is the most purchased product category among purchasers that comprises 55.8 percent of purchasers, Natural toothpaste purchasers is 52.7 percent, Natural face wash purchasers is 49 percent, Natural shampoo purchasers is 43.4 percent, Natural detergent purchasers is 32.9 percent and Natural surface cleaner purchasers are least among purchasers that is 28.3 percent. Natural bath soap is the most purchased product category among the purchasers when compared to other product categories.

**NON-PURCHASERS:**

- **Age group of non-purchasers:** Maximum of non-purchasers belong to the age group of 39-48 that is 34.7 percentage, 29-38 age group is 30.9 percentage, 18-28 age group is 22.9 percentage, 49-58 age group is 11.5 percentage. Maximum number of non-purchasers surveyed belong to 39-48 age group.

- **Gender of Non-purchasers:** Maximum number of non-purchasers of natural personal care and home care products are male that is 52.6%. Female is 47.4% only. Majority of non-purchasers of natural products is male.

- **Education level of Non-purchasers:** Maximum number of non-purchasers are UG degree holders that is 39.4%, High School qualification is 28.2%, Post Graduates compromise 15.5%, Diploma holders is 15.0%, Doctorates are 1.5% and finally others are 0.5%. It could be concluded maximum number of non-purchasers are Under graduates.

- **Income level of Non-purchasers:** Maximum of the non-purchasers belong to income group of Rs.15001-Rs.25,000 which is 42.6%, Upto Rs.15,000 Income group is 20.9%. Rs.25001-Rs.35,000 income group is 16.7%, Rs.35,001-Rs.45,000 income group is 12.7% and above Rs.45,000 income group is only 7%. Maximum number of non-purchasers belong to the income group of Rs.15,001-Rs.25,000.
OBJECTIVE 1: To assess the knowledge level and performance level of natural products among purchasers.

- Purchasers of natural products are aware of more than one product category. Highest awareness is for natural bath soap 19.7 percent, followed by natural tooth paste 19.2 percent, natural face wash 18.5 percent, natural shampoo 18.1 percent, natural detergent 12.8 percent and natural surface cleaner 11.7 percent. Maximum awareness is for natural bath soap and tooth paste. This is because these product categories are introduced in the market early when compared to other product categories.

- City-wise analysis of awareness of natural products shows that in Chennai city the awareness level of natural bath soap is 19.1 percent followed by natural toothpaste 18 percent, natural face wash 16.9 percent, natural shampoo 16.1 percent, natural detergent 15.9 percent and natural surface cleaner 14 percent. In Trichy city it was natural tooth paste 20.5 percent followed by natural bath soap 20.4 percent, natural shampoo 20.3 percent, natural face wash 20.1 percent, natural detergent 9.5 percent and natural surface cleaner 9.2 percent. Thus there is a slight difference in first four places among six product categories when awareness level is compared in both Chennai and Trichy cities.

- Purchasers of both Chennai and Trichy cities have knowledge regarding natural products. Both in Chennai city and Trichy city purchasers had given a high score for gaining knowledge by natural product manufacturer’s brand name. In Chennai city purchasers had given a mean score of 3.3882. In Trichy city the purchasers had given a mean score of 4.2667 for gaining knowledge by manufacturer’s brand name.

Johri, Lalit M; Kanokthip Sahasakmontri(1998) in their study of Thailand green personal care product customers stated that consumers have favourable attitude towards reputed manufacturer brands and have loyalty because of reputation and the above finding consumer gaining knowledge by believing in manufacturer’s brand name implies Trichy city and Chennai city consumers have favourable attitude to reputed manufacturer brands. The finding also confirms with studies of Josephine Pickett-Baker and Ritsuko
Ozaki (2008) that states consumers trust well known brands among green products and Elham Rahbar and Nabsiah Abdul Wahid (2011) study found that trust in eco-brand and eco-labels have a positive effect in purchase behaviour. The trust helps them in purchase decision-making regarding environmentally friendly products.

- City-wise analysis of performance of natural products when compared to normal product shows that majority of purchasers in both cities that is 85.2 percent in Chennai city and 92.8 percent in Trichy city are of the opinion that performance is better than normal brands. This finding of most of purchasers who purchased natural products is of opinion performance better that normal brand matches with findings of Johri, Lalit M; Kanokthip Sahasakmontri (1998) study that says natural personal care consumers purchase decision is based on product performance. It could be confirmed that natural product performance plays a key role in purchase decision.

- There is a significant relationship between age demographic variables and factors contributing to the knowledge of purchasers regarding natural products as significance is less than 0.05. It was found that the age group of 39-48 ranks high (mean rank 270.45) for depending highly on ingredient composition of product (A2) for their knowledge regarding natural products. 29-38 age group ranks low (mean rank 210.57) for depending on A2 regarding natural products.

- There is a significant relationship between income demographic variable and factors contributing to knowledge of purchasers regarding natural products as significance is less than 0.05. Above Rs.45,000 income group ranks high (mean rank 334.35) for depending on Chemical/Ingredient composition(A2) for product knowledge. Upto Rs.15000 income group ranks low (mean rank 182.21) for depending on A2.
• There is no significant relationship between education and various factors contributing to knowledge of purchasers regarding natural products on majority of knowledge factors as significance is above 0.05.

• The Hypothesis 1 *there is no significant relationship between purchaser’s willingness to contribute to reduce global warming and awareness of various natural products* is rejected as significance is less than 0.05 for five product categories. There is significant relationship between purchaser’s willingness to contribute to global warming and awareness of natural bath soap, natural toothpaste, natural shampoo, natural face wash and natural surface cleaner. There is no significant relationship only in the case of natural detergent. *Josephine Pickett-Baker, Ritsuko Ozaki*(2008) in their study found that pro-environmental values and beliefs will result in pro-environmental behaviour if values and beliefs are specific, product attributes will be positively perceived. *D’souza, Taghian & Kolsa (2007)* found that people who knew well about environmental issues such as global warming, climate change, ozone layer penetration, green houses gases and toxic chemicals will be more likely to purchase green products. The finding of purchasers’ willingness to contribute to reduce global warming has a significant relationship with awareness of five product categories that confirms with the above studies that environmental knowledge or concern leads to positive perception about products and ultimately end in the purchase of products.

**OBJECTIVE 2A: To determine the buying intention of natural products by non-purchasers if eco-friendly variant of present products is introduced.**

• There is a significant difference between buying intention of various product categories by non-purchasers if the present products used are introduced as eco-friendly variant as significance is less than .05. Arithmetic mean is above average of 3 for all product categories. There is highly positive buying intention among non-purchasers. Among product categories toothpaste is ranked first(mean rank 4.16), Detergent is ranked second(3.51), Bath soap is ranked third(3.47), shampoo is ranked fourth(3.35), surface cleaner is ranked fifth(3.29) and face wash is ranked sixth(mean rank 3.21) for buying intention if present products used are introduced as eco-friendly variant. This finding try
to give further research knowledge for the study finding of Clare D’ Souza, Mehdi Taghian, Rajiv Khosla (2007) that states green marketers should find ways to motivate non-purchasers of green product to buy green products. Non-purchasers have positive buying intention if natural product is introduced as eco-friendly variant of the brand that they are using now by same manufacturing company. This finding is one of possible solutions for the area explored by Laroche, M., Bergeron, J. and Barbaro-Forleo, G. (2001) which states that there is a large group of undecided consumer segment that may be moved to willing to buy segment by adopting suitable marketing strategies by green marketers. This segment provides market opportunity for green marketers.

- There is no significant relationship between importance of changing buying habit, trying eco-friendly variant by non-purchasers and buying intention of various product categories for all product categories expect in the case of natural toothpaste. Face wash is having the highest positive correlation value(0.496), and it was followed by shampoo(0.478) and surface cleaner(0.450). Face wash is the product category for which the non-purchasers are highly used to regular non-eco-friendly variety and they want to try face-wash by changing their regular buying habit if eco-friendly variant is introduced. Shampoo is having the second highest positive correlation value and surface cleaner stands third. Bath soap and Detergent are the having least correlation value and have high buying intention so these products can be easily sold if eco-friendly variant is introduced. For face-wash, shampoo and surface cleaner persuasion of Non-purchasers is needed to change the buying habit and try eco-friendly variant.

- There is no significant relationship between non-purchasers’ age and buying intention of various products if the present products used are introduced as eco-friendly variant as significance is above 0.05.

- There is no significant relationship between non-purchasers’ gender and buying intention of various products if present products used are introduced as eco-friendly variant as significance is above 0.05.
• There is significant relationship between non-purchasers’ Income and buying intention as significance is less than 0.05 for four products out of six products if the present products used are introduced as eco-friendly variant. Above Rs.45,000 income group has high buying intention of bath soap, shampoo, surface cleaner and face-wash if introduced as eco-friendly variant. Among the four product categories mentioned above Rs.45,000 age group has the highest buying intention for face wash (mean rank 267.77). Rs.35,001 to Rs.45,000 ranks second for buying intention of face wash (mean rank 216.88). Rs.15,001 – Rs.25,000 had scored low for all four product categories, and the lowest rank is for buying intention of shampoo (187.28). This matches with Roberts (1996) study of demographic variables on green behaviour on income criteria which reveals higher and middle income were pro-environmental.

• There is a significant relationship between non-purchasers’ product expectations and buying intention of toothpaste if eco-friendly variant of toothpaste is introduced. Multiple regression analysis shows that Reasons of Eco-friendly saves earth and conserves water (I1), natural product should solve health problems better than normal brand (I3), Information on how much pollution or global warming is reduced by my purchase of eco-friendly variant (I8), product expectations have a significant relationship with non-purchasers’ buying intention regarding toothpaste. This could be used as a unique selling proposition (USP) for eco-friendly variant by toothpaste manufacturers to target non-purchasers. Multiple regression shows $R^2 = 0.456$ overall contribution of above expectation towards buying intention is 45.6%.

• There is a significant relationship between product expectations of non-purchasers and buying intention of bath soap if eco-friendly variant of bath soap is introduced. Product expectations of Eco-friendly saves earth and conserves water (I1), Should yield quick results when compared to normal brand (I2), Should solve health problems better than normal brand (I3), should be packed in eco-friendly way that is bio-degradable and offer discount for recycling of package (I4), Price charged for eco-friendly product should not
offer value for money(I5) and Displaying in retail stores how purchase of these brands is beneficial to society and saves mother earth(I7) have significant relationship with buying intention of bath soap if introduced as eco-friendly variant as significance is less than 0.05. Bath soap manufacturers can include above product characteristics while manufacturing eco-friendly variant of bath soap and try display in retail store as mentioned above for successful marketing of eco-friendly variant. *Multiple regression shows \( R^2 = 0.339 \) overall contribution of above expectation towards buying intention is 33.9%.

- There is a significant relationship between product expectations of non-purchasers and buying intention of detergent if eco-friendly variant of detergent is introduced. Product expectations of Eco-friendly saves earth and conserves water(I1), Should solve health problems better than normal brand(I3), should be packed in eco-friendly way that is biodegradable and offer discount for recycling of package(I4), Price charged for eco-friendly product should not offer value for money(I5) and should be promoted with brand ambassadors using sports stars or movie stars or eminent leaders(I6) have significant relationship with buying intention of detergent if introduced as eco-friendly variant as significance is less than 0.05. Detergent manufacturers can include the above product characteristics while manufacturing eco-friendly variant. *Multiple regression shows \( R^2 = 0.290 \) overall contribution of above expectation towards buying intention is 29%.

- There is a significant relationship between product expectations of non-purchasers and buying intention of surface cleaner if eco-friendly variant of surface cleaner is introduced. Product expectation of I1, I2, I3, I4 and I5 have a significant relationship with buying intention of surface cleaner if introduced as eco-friendly variant as significance is less than 0.05. *Multiple regression shows \( R^2 = 0.364 \) overall contribution of above expectation towards buying intention is 36.4%. Surface cleaner manufacturers can include the above product characteristics while manufacturing eco-friendly variant.
• There is a significant relationship between product expectations of non-purchasers and buying intention of shampoo if eco-friendly variant of shampoo is introduced. Product expectation of $I_1, I_2, I_3, I_4, I_5$ and $I_7$ have a significant relationship with buying intention of shampoo if introduced as eco-friendly variant as significance is less than 0.05. *Multiple regression shows $R^2 = 0.377$ overall contribution of above expectation towards buying intention is 37.7%.* Shampoo manufacturers can include the above product characteristics while manufacturing eco-friendly variant.

• There is a significant relationship between product expectations of non-purchasers and buying intention of face-wash if eco-friendly variant of face-wash is introduced. Product expectation of $I_1, I_3, I_4, I_5$, and $I_7$ have a significant relationship with buying intention of face-wash if introduced as eco-friendly variant as significance is less than 0.05. *Multiple regression shows $R^2 = 0.327$ overall contribution of above expectation towards buying intention is 32.7%.* Face wash manufacturers can include the above product characteristics while manufacturing eco-friendly variant.

The above findings for six product categories using multiple regression show slight modification to the study of Sanjay K. Jain * & Gurmeet Kaur* (Dec 2004) study that gives the Indian scenario in green marketing. Indian consumers have been engaging in environment friendly behaviour mostly on account of their own self interest rather than any sincere concern for the environment as such. Safeguarding personal health is a bigger motivating factor than the general environmental concern behind the purchases of environment-friendly products. Product expectation with buying intention analysis shows that non-purchasers are willing to buy for environmental concern along with other self-interest requirements rather purely on their self own interest.
OBJECTIVE 2B: To determine the Buying Intention Of Non-Purchasers towards Existing Natural Product.

- There is a significant difference between various reasons for not purchasing existing natural products by Non-purchasers as significance is less than 0.05. The main reason for Non-purchasers not purchasing existing Natural bath soap, detergent, surface cleaner, shampoo, face wash and toothpaste is that they are not aware and know about the natural product and have not purchased it till now. It could be concluded that giving more awareness and providing free samples of various natural product categories to non-purchasers can be tried to motivate non-purchasers to try existing natural product categories in market. Among the product categories natural surface cleaner (mean rank 5.06) and natural detergent (mean rank 5.00) are ranked high for not aware, did not know the product category and not purchased it.

- There is a significant difference between various reasons that motivate non-purchasers to buy existing natural products in the market as significance is less than 0.05. Non-purchasers had given rank one for reduction in global warming as the reason that will motivate them to purchase existing natural products available in market (mean rank 3.42). Non-purchasers had given rank two for reduction in global warming and gives health benefits as the reason that will motivate them to purchase existing natural products available in market(mean rank 3.05). Non-purchasers had given rank three for giving only health benefits as the reason that will motivate them to purchase existing natural products available in market(mean rank 3.02). Non-purchasers had given rank four if existing natural products reduce global warming and last longer than normal product as the reason that will motivate them to purchase existing natural products available in market(2.78). Non-purchasers had given rank five if existing natural products reduce global warming and perform as same as existing product as the reason that motivates them to purchase existing natural products available in market(mean rank 2.73). Non-purchasers will buy existing natural products in the market if eco-friendly attribute is used by existing natural marketers to promote such products as they had given reduction in global warming as rank one that will motivate them to buy existing natural products.
The above finding can be related to the study of Hartmann and Ibanez (2006) that views that green marketing generally focuses on the efficiency of cognitive persuasion strategies, and believes that the consumer’s high involvement concerning environmental issues is an effect of growing environmental knowledge. As knowledge increases it will lead to purchase of natural products. It could be confirmed that knowledge regarding global warming and their concern to reduce it is motivating non-purchasers to buy existing natural product.

**Objective 3:** To assess the reasons behind purchase of natural products by purchasers and reasons behind positive buying intention by non-purchasers if eco-friendly variant of present products is introduced.

**PURCHASERS:**

- There is a significant difference between various purchase reasons of natural products by purchasers as significance is less than 0.05. It was found social reason of gives feeling of good citizen that preserves and enhances heredity of our country (B6) ranks first (mean rank 4.55) in purchase reason by purchasers. Performance reason of costly it yields desired results quickly without harming health (B3) ranks second (mean rank 4.40). Health reason of solves my health problem better than normal products with no side effects (B4) ranks third (mean rank 4.29). Belief reason of not strongly believe in natural product and its performance and purchase natural products (B7) ranks fourth (mean rank 4.05). Social reason of purchased as it was purchased by friends, relatives and colleagues (B5) ranks fifth (mean rank 4.03). Eco-reason of eco-friendly saves earth reduces global warming (B1) is ranked sixth (mean rank 3.49). Eco-reason of better than purchasing an inexpensive product that harms the environment (B2) is ranked seventh (mean rank 3.20) among purchase reasons. It was concluded purchasers had given high rank for purchasing natural products for social reason of gives feeling of good citizen that preserves and enhances heredity of our country followed by other reasons such as performance reasons, health reasons. Purchasers purchasing natural products purely for
eco-friendly reasons are given least priority when compared with health, social, and performance reasons.

This partially matches with the study of Kaman Lee (2008) on Hongkong adolescent consumers in Green marketing that found social influence as a major predictor of adolescent green purchasing behaviour. The age group for this study includes all age groups. This finding also substantiates the finding of Josephine Pickett-Baker, Ritsuko Ozaki (2008) which states consumers who are environmentally concerned are more willing to buy from manufacturers whose product and process are environment-friendly as this enhances desired self-concept results in feel good factor for consumers. But an important qualification is green products should function as equally as non-green products and evade quality/cost trade-off.

- There is significant relationship between purchaser’s age, gender, income and social purchase reason of gives feeling of good citizen that preserves and enhances heredity of our country as significance is less than 0.05. From age group analysis 39-48 age group is ranked first (mean rank 261.52) for social purchase reason of gives feeling of good citizen that preserves and enhances heredity of our country. Gender relationship analysis shows male gender is ranked first (mean rank 282.38) for social purchase reason of gives feeling of good citizen that preserves and enhances heredity of our country. Income group relationship analysis shows that above Rs.45,000 income group is ranked first (mean rank 326.17) for social purchase reason of gives feeling of good citizen that preserves and enhances heredity of our country. This was followed by Rs.35001 – Rs.45,000 Income group (mean rank 272.27). There is more inclination towards social purchase reason mentioned above with increase in income. Income is dominating variable that influences when compared to age and gender for social purchase reason of gives feeling of good citizen that preserves and enhances heredity of our country.

Green marketers can target higher income group of purchasers by providing social benefits of gives feeling of good citizen that preserves and enhances heredity of our country as this is the major reason for purchase among other reasons such as health, performance and eco-reasons. Age and gender can be ignored if income of target market
is above Rs.25,000/-, as Income is dominating demographic variable when compared to other demographic variables such as age and gender. For targeting income group below Rs.25,000/- age and gender can be taken into consideration for arriving at market segment.

- There is a significant relationship between purchasers’ age group and price purchase reason of natural products for high price but gives desired results without harming health as significance is less than 0.05. 18-28 Age group ranks first in purchase reason of purchasing natural products at high price for getting health benefits (mean rank 268.42).49-58 Age group ranks second in purchase reason of purchasing natural products at high price for getting health benefits (mean rank 264.28).

- There is no significant relationship between purchaser’s age group and price purchase reason of natural products for better than purchasing an inexpensive product that harms the environment as significance is above 0.05.

- There is a significant relationship between purchaser’s gender and price purchase reason of natural products for high price but gives desired results without harming health as significance value is less than 0.05. Male gender is ranked first in price purchase reason of purchasing natural products at high price for getting health benefits (mean rank 310.44).

- There is no significant relationship between purchaser’s gender and price purchase reason of natural products better than purchasing an inexpensive product that harms the environment as significance is above 0.05.

- The above two findings regarding gender and price purchase reason among purchasers differ from the study results of Laroche, M., Bergeron, J. and Barbaro-Forleo, G. (2001) which concluded women segment is more eco-friendly and willing to pay premium for green products, in the study male gender is ranked first for paying high price for getting health benefits, for paying high price for eco-friendliness both male gender and female gender are ranked more or less similarly as there is no significant relationship.
• There is significant relationship between purchaser’s income and price purchase reason of natural products for high price but gives desired results without harming health. There is significant relationship between purchaser’s income and price purchase reason of natural products for better than purchasing an inexpensive product that harms the environment as significance is less than 0.05. Above Rs.45,000 Income group is ranked first in purchase reason of purchasing natural products at high price for getting both health benefits (mean rank 319.67) and eco-benefits (mean rank 317.07). Upto Rs.15,000 Income group is ranked low in purchase reason of purchasing natural products at high price for getting both health benefits (mean rank 224.38) and Rs.25 001- Rs.35,000 ranks low for eco-benefits (mean rank 225.51).

• Hypothesis 2 is accepted as significance is above .05 for five natural products. There is no significant relationship between satisfaction of doing good to society and purchase of various natural products by purchasers. Significance is less than .05 only in the case of natural toothpaste. It could be concluded that purchaser’s having a feeling of satisfaction of doing good to society has relationship with purchase of natural toothpaste and do not have influence on other product categories. Natural toothpaste manufactures can attract purchasers to buy natural toothpaste by positioning the product as satisfaction of doing good to society.

• Hypothesis 3 is rejected as significance is less than 0.05 for natural bath soap, natural detergent and natural face wash categories. There is a significant relationship between feeling of satisfaction of developing good health without chemicals and purchase of natural bath soap, natural detergent and natural face wash categories. Significance is above 0.5 for natural shampoo, natural surface cleaner and natural toothpaste. There is no significant relationship between feeling of satisfaction of developing good health without chemicals and purchase of natural shampoo, natural surface cleaner and natural toothpaste. This finding is in line with the study of Darrin C Duber smith (2002) for 3 products. Consumers demand products free from chemical impurities, that are biodegradable consistent with personal health and environment wellness.
NON-PURCHASERS

- Arithmetic Mean implies all reasons for purchase of eco-friendly variant to be introduced along with eco-friendliness scores above the average of 3.0. Friedman test reveals the hierarchy of ranking. There is a significant difference between various reasons for purchase of eco-friendly variant along with eco-friendliness of the product by non-purchasers as significance is less than .05. Non-purchasers ranked first the reason willingness to buy eco-friendly variant of present product if it is eco-friendly and performs as normal product (mean rank 3.46). Non-purchasers ranked second the reason willingness to buy eco-friendly variant if it is eco-friendly and improves health aspect (mean rank 3.16). Third rank is given for eco-friendly and performs better than normal product (mean rank 2.91). Fourth rank is given if it is eco-friendly and improves social image when purchased (mean rank 2.82). Non-purchasers had given fifth rank to the reason if it is eco-friendly and last longer than normal product (mean rank 2.66). It can be concluded that non-purchasers give high priority for purchasing eco-friendly variant for its eco-friendliness along with it should perform as normal product. Non-purchasers’ buying intention is consistent with study of Josephine Pickett-Baker, Ritsuko Ozaki (2008) that found green products should function as equally as non-green products and evade quality/cost trade-off. This confirms that non-purchasers will buy natural products if they are eco-friendly and function as same as normal brands.

- Hypothesis 4 is accepted as significance is above 0.05. There is no significant relationship between non-purchaser’s age and purchase reason of eco-friendly variant of present products.

- Hypothesis 5 is rejected. There is a significant relationship between non-purchaser’s gender and purchase reason of various products if the present products used are introduced as eco-friendly variant as significance is less than 0.05. Female gender ranks high for purchase reason of will buy if eco-friendly and performs as normal product (mean rank 218.12). Male gender ranks high for purchase reason of will buy if it is eco-friendly and performs better than normal product (mean rank 214.50).
Hypothesis 6 is rejected as significance is less than 0.05. There is a significant relationship between non-purchaser’s income and purchase reason of various products if the present products used are introduced as eco-friendly variant. Rs.15,001-Rs.25,000 income group gives high rank to eco-friendliness and performance as normal product for purchase reason (mean rank 220.30). Above Rs.45,000/- income group gives high rank for eco-friendly variant to be introduced if eco-friendly and improve health aspect (265.52).

There is no significant relationship between non-purchasers’ age and price expectation of various products if the present products used are introduced as eco-friendly variant as significance is above 0.05.

There is a significant relationship between non-purchasers’ gender and price expectation of various products if the present products used are introduced as eco-friendly variant as significance is below 0.05. Female gender ranks high for the reason will buy if it is eco-friendly with little higher price (G1) (mean rank 215.79). Male gender rank high for will buy if it is eco-friendly and same price as normal brand G2 (mean rank 219.32). This finding among non-purchasers confirms with study results of Laroche, M., Bergeron, J. and Barbaro-Forleo, G. (2001) which concluded women segment is more eco-friendly and willing to pay premium for green products.

There is a significant relationship between non-purchasers’ income and price expectation of various products if the present products used are introduced as eco-friendly variant as significance is less than 0.05. Rs.15,001 –Rs.25,000 income group ranks high for G1 (mean rank 219.07). Above Rs.45,000 income group rank high for G4 (mean rank 274.23). It could be concluded that above Rs.45,000 income group ranks high in expecting additional benefit apart from eco-friendliness to pay higher price for eco-friendly variant when compared to other income group.
Objective 4: To formulate marketing strategies and suggest policy measures to augment consumption of natural products among purchasers and non-purchasers for adopting green marketing based on the study.

PURCHASERS

• There is significant difference between various sources of information that leads to first time choosing of natural product by purchasers as significance is less than 0.05. Purchasers’ looking at ingredients in package is ranked first for source of communication for first time choosing of natural product by purchasers (mean rank 4.97). Word of Mouth by friends and relatives is ranked second for source of communication for first time choosing of natural product by purchasers (mean rank 4.55). First time choosing of natural product based on explanation given by shopkeeper in stores is ranked third for source of communication (mean rank 4.11). First time choosing of natural product based on doctor’s advice is ranked fourth for source of communication (mean rank 4.10). First time choosing of natural product based on display in shop is ranked fifth for source of communication (mean rank 3.62). First time choosing of natural product based on Ad in media is ranked sixth for source of communication (mean rank 3.53). First time choosing of natural product based on influence of environmental groups is ranked seventh for source of communication (mean rank 3.11).

• There is a significant difference between various reasons that leads to increasing of consumption of natural products by purchasers as significance is less than 0.05. Distribution reason exclusive super market/retail stores to sell natural products should be increased in numbers is ranked first by purchasers for increasing the consumption of natural products (mean rank 3.80). Sales promotion reason is ranked second for increasing consumption of natural products (mean rank 3.62). Product reason of if natural product has a unique natural ingredient that yields better results and eco-friendly is ranked third for increasing consumption (mean rank 3.53). Public relations marketing mix reason is ranked fourth for increasing consumption of natural products (mean rank 3.49). Promotion marketing mix is ranked fifth for increasing consumption of natural products (mean rank 3.39). Packaging marketing mix is ranked sixth for increasing consumption of natural products.
products (mean rank 3.17). It was found that for increasing the consumption of natural products among purchasers natural product marketers should increase the number of exclusive super markets/retail stores that sell natural products.

- The most preferred medium by purchasers for creating awareness about natural products to increase consumption is newspaper that comprises 33.97% followed by TV 21.03%, Education in school and colleges 16.32%, Internet 15.29%, Awareness through rallies, conference, exhibition and seminars 5.29%, eco-club formulation 4.41% and mobile phone 3.68%. It could be concluded maximum number of purchasers prefer traditional medium of NewsPaper and TV for creating awareness about natural products. This matches with finding of Shrum, L J; McCarty, John A; Lowrey and Tina M (1995) that states Ads through print media is more preferred by green consumers than television because there is a relationship between green buyers and magazine reading.

- Purchasers’ purchase reason of natural product due to social reason of gives a feeling of a good citizen that preserves and enhances the heredity of our country is highly positively correlated with purchasers’ willing to increase consumption of natural products if the products has a unique natural ingredient that yields better result and eco-friendly the correlation co-efficient is 0.365. It could be concluded that natural product marketers can increase the consumption among purchasers of natural products by producing products that has unique natural ingredients that yield better results and eco-friendly, by giving purchasers feeling of good citizen and preserving and enhancing heredity of our country when purchasing this products, as high rank is given by purchasers for purchasing natural products for social reason of gives feeling of good citizen that preserves and enhances heredity of our country.

- Performance purchase reason along with health reason of costly and yields desired results quickly without harming health has maximum positive correlation to recommendation of natural products to friends and relatives when compared to other reasons. The correlation co-efficient is .401. This can be considered as major purchase reason that will influence purchasers to recommend natural products to friends and relatives. It could be concluded that though purchase reason of gives a feeling of good citizen that preserves and enhances the heredity of our country is ranked first by
purchasers for purchase reason, it is the purchase reason costly and yield desired results without harming health that ranked second will lead to recommendation of natural products to friends and relatives to a higher level.

- **Natural detergent** is purchased for marketing mix reason of *it is available in many retail shops* (D3). Market segment that prefers for this reason is Age group of 39-48 that is 32%, female gender 38.2%, Income group of Rs.15,001- Rs.25,000 (39.2%) and education level is UG(32.3%). Maximum number of purchasers purchased for D3 marketing mix reason belong to this demographic segment.

- **Natural tooth paste** is purchased for marketing mix reason of *composition of product* (D2). Market segment that prefers for this reason is Age group of 39-48(44%), female gender(36%), Income group of Rs.15,001- Rs.25,000(36.5%) and education level is UG(37.9%). Maximum number of purchasers purchased for D2 belong to this demographic segment.

- **Natural bath soap** is purchased for marketing mix reason of D2. Market segment that prefers for this reason is Age group of 39-48(36.9%), female gender(30.1%), Income group of Rs.15,001- Rs.25,000(31.9%) and graduation is UG(34.9%). Maximum number of purchasers purchased for D2 belong to this demographic segment.

- **Natural surface cleaner** is purchased for marketing mix reason of *composition of product* (D2) and *Advertisements with discounts and offers* influence to purchase product (D4). Market segment that prefers for D2 is Age group of 39-48(33.3%), female gender(26.1%). For promotion reason D4 maximum numbers belonging to Income group of Rs.15,001 –Rs.25,000 (26.3%) and education level of UG(23.6%) prefer this product. 23.6% of Education level of UG also prefers the natural surface cleaner for D5.

- **Natural shampoo** is purchased for marketing mix reason of D2 and positioning reason of eco-friendly and healthy product image (D5). Market segment that prefers for product reason is Age group of 39-48(30.4%), female gender(24.2%), and graduation level is UG(30.3%). Maximum number of purchasers belonging to Income group of Rs.15,001 – 25,000(21.4%)prefer for positioning reason.
• Natural face wash is purchased for marketing mix reason of D1, D2, D4 and D5. Market segment that prefers for D2 is Age group of 39-48 (22%). For promotion reason of D4 Income group of Rs.15,001–Rs.25,000 (23.5%) and for D1 education level of UG (21.9%) prefers this product. Female gender (21.6%) that is maximum numbers among purchasers prefers for positioning reason of D5.

Sanjay K. Jain * & Gurmeet Kaur (Dec 2004) in their study stated that Green marketing success needs effective marketing through green product, green pricing, green promotion and green distribution with proper market segmentation targeting and positioning this is lacking in India emphasize is on environmental legislations based on punishments. Above finding of market segment identification based on marketing mix reason for preferring each product category such as natural bath soap, natural tooth paste, natural surface cleaner, natural detergent, natural shampoo and natural face wash aids green marketers to effectively target green personal care product purchasers and adds further knowledge to above finding.

• Maximum numbers of purchasers want to participate in eco-care programmes by planting sapling that is 34.13%, followed by awareness rallies 16.67%, seminar, conference and exhibition 15.87%, web-based programmes 14.28%, circulating brochures, pamphlets and newsletters 6.35%, eco-club activities 5.82%, giving innovative eco-friendly ideas for company 5.29% and street play 1.59%. It could be concluded that maximum number of purchasers want to participate in eco-care programmes by planting saplings.

• There is a significant relationship between gender and willingness to participate in eco-care programmes as significance is less than .05. Maximum number of male gender about 40.8% is willing to participate if eco-care programme is organized by the employer. Maximum number of female gender about 44.6% is willing to participate in eco-care programmes if organized by the company. It could be concluded that male gender want eco-care programmes to be part of their work and female gender is willing to participate in eco-care programmes if organized by natural product manufacturing company.

• There is a significant relationship between income and purchasers’ willingness to participate in eco-care programmes as significance is less than .05. Maximum number of
about 55% in Upto Rs.15,000 income group, 46.4% in Rs.15,001-Rs.25,000 income group is willing to participate in eco-care programmes if organized by the company. Maximum number of about 43.4% of Rs.25,001-Rs.35,000 income group is not willing to participate in eco-care programmes. Maximum number of about 43.3% of Rs 35,001-45,000 income group, 47.8% of above Rs.45,000 income group is willing to participate in eco-care programmes if organized by employer.

NON-PURCHASERS

- There is a significant difference between Non-purchasers’ sales promotion reasons for first time purchase if the present products used are introduced as eco-friendly variant as significance is less than 0.05. *Sales promotion reason of Discount in price of eco-friendly variant to be introduced is ranked first by non-purchasers for first time purchase* (mean rank 3.47). Combo brand with normal brand at reduced price is ranked second for first time purchase by non-purchasers(mean rank 3.01). Planting a sapling for purchase of eco-friendly variant to be introduced is ranked third for first time purchase by non-purchasers(mean rank 2.89). Free sample of eco-friendly variant along with normal product is ranked fourth for first time purchase by non-purchasers if present products used are introduced as eco-friendly variant. (mean 2.85). Free gifts along with eco-friendly variety is ranked fifth for first time purchase of eco-friendly variant to be introduced(mean rank 2.79).

- There is a significant difference between non-purchaser’s marketing mix expectation for purchase of eco-friendly variant to be introduced. Among Marketing mix variables *product expectation* is ranked first by non-purchasers for purchase of eco-friendly variant to be introduced(Mean Rank 2.22). Under product *eco-friendly saves earth and conserves water* is ranked first(Mean rank 2.29) for purchase of eco-friendly variant of present products used to be introduced . Price expectation is ranked second (mean rank 1.91)for purchase of eco-friendly variant to be introduced. Promotion expectation is ranked third(mean rank 1.87) for purchase of eco-friendly variant to be introduced.
• There is significant relationship between green aspect expected by non-purchasers in toothpaste and non-purchasers’ likely compromise in eco-friendly variant of present product to be introduced as significance is less than 0.05. Toothpaste category should save water in usage is the major green expectation in tooth paste product category and likely compromise that is possible by Non-purchasers is time taken for getting results is not important but health and environmental benefits are important (H3).

• There is a significant relationship between green aspect expected by consumer in bath soap category and non-purchasers’ likely compromise in eco-friendly variant of present product to be introduced as significance is less than 0.05. Quantity used should be less when compared to normal brand for desired results is the major green expectation in bath soap product category and likely compromise that is possible by non-purchasers is Packing must be eco-friendly than attractive (H1).

• There is a significant relationship between green aspect expected by consumers in detergent and non-purchasers’ likely compromise in eco-friendly variant of present product to be introduced as significance is less than 0.05. Quantity used should be less when compared to normal brand for desired results is the major green expectation in detergent soap product category and likely compromise that is possible by Non-purchasers is H1.

• There is a significant relationship between green aspect expected in face wash and non-purchasers’ likely compromise in eco-friendly variant of present product to be introduced as significance is less than 0.05. Quantity used should be less when compared to normal brand for desired results is the major green expectation in face wash product category and likely compromise that is possible by non-purchasers is H1.

The above four findings regarding green aspect expected and likely compromise by non-purchasers in each product category substantiates Green Purchase Perception Matrix developed by Ken Peattie (2001). The matrix focuses on why the green products are purchased, green consumer segment should be nurtured and grown by boosting their confidence on reducing compromise for consuming green products.

• There is no significant relationship between green aspect expected in shampoo and non-purchasers’ likely compromise in eco friendly variant of present to be introduced in
shampoo as significance is above .05. Percentage analysis of green aspect expected in shampoo by non-purchasers reveals quantity used should be less when compared to normal brand for desired results is 32.4%. It was followed by it should save water in usage of the product which is 23.9%.

- There is no significant relationship between green aspect expected in surface cleaner and non-purchasers’ likely compromise in eco friendly variant of present product to be introduced in surface cleaner as significance is above .05. Percentage analysis reveals green aspect expected by non-purchasers in surface cleaner for eco-friendly variant of present product is quantity used should be less when compared to normal brand for desired results is 38.2%. It was followed by it should save water in usage that is 22.9%.

- City-wise buying intention of eco-friendly variant of present product reveals that there is a significant difference between rankings of products in both cities as significance is less than 0.05. In Chennai city higher rank is given for buying intention of toothpaste(mean rank 5.44) if eco-friendly variant of present product used is introduced, it was followed by detergent(mean rank 3.65), bath soap(mean rank 3.29), surface cleaner(mean rank 3.01), shampoo(mean rank 2.83) and face wash(mean rank 2.79). In Trichy city higher rank is given for buying intention of shampoo (mean rank 3.62), it was followed by bath soap(mean rank 3.56), tooth paste(mean rank 3.51), detergent(mean rank 3.45), surface cleaner (mean rank 3.44) and face wash(mean rank 3.42). It could be concluded that there is a difference in buying intention of eco-friendly variant among products when both cities are compared. In Chennai first rank is given for toothpaste whereas in Trichy city it is for shampoo if eco-friendly variant of present product used is introduced.

- There is a significant relationship between non-purchasers’ buying intention of toothpaste and green aspect expected in Chennai city as significance is less than 0.05. There is no significant relationship in the case of Trichy city because there is lesser buying intention for toothpaste in Trichy when compared to Chennai city. Non-purchasers’ green
aspect expected in the case of tooth paste for eco-friendly variant of present product to be introduced is *it should save water in usage* for Chennai city as it scored the highest rank (mean rank 74.41).

- There is a significant relationship between non-purchasers’ buying intention of bath soap and green aspect expected in Trichy city as significance is less than 0.05. There is no significance in the case of Chennai city because there is lesser buying intention for bath soap in Chennai city when compared to Trichy city. Green aspect expected in the case of bath soap for eco-friendly variant of present product to be introduced is *it should be made of natural herbs without polluting environment* in Trichy city as this aspect scored highest rank (mean rank 152.32).

This finding is in line with the finding of Johri, Lalit M; Kanokthip Sahasakmontri (1998) study of Thailand natural personal care product consumer which states that green aspect expected is ingredient used should be natural and eco-friendly and product not tested on animals. This confirms that ingredient used while manufacturing natural product is an important aspect considered in natural product purchase.

- There is no significant relationship between non-purchasers’ buying intention and green aspect expected in eco-friendly variant of present product to be introduced in detergent, surface cleaner, shampoo and face wash in both Trichy and Chennai cities as significance is above .05.

- Newspaper is the most preferred medium for creating awareness about natural products among non-purchasers, that is 28 %. Education in schools and colleges is the next most preferred medium for creating awareness, that is 27 %, it was followed by television 20 %, Internet 14 %, mobile phone 4 %, eco-club formulation 4 %, awareness through seminar conference and exhibition 3 %. It could be concluded that the most preferred medium for creating awareness of natural products among non-purchasers is newspaper and education in schools and colleges.
• Maximum numbers of non-purchasers want to participate in eco-care programmes by participating in seminar, conferences and exhibition that is 24.5%, followed by web based programmes 21.9%, planting saplings 20.57%, seminar, circulating brochures, pamphlets and newsletters 11.72%, Giving innovative eco-friendly ideas for company 10.25%, Awareness Rallies 5.9%, eco-club activities 3.66% and street play 1.5%. It could be concluded that maximum number of non-purchasers want to participate in seminar, conference and exhibition.

• There is a significant relationship between non-purchasers’ gender and willingness to participate in eco-care programmes as significance is less than 0.05. Maximum number of male gender about 44.1% are not willing to participate in eco-care programmes. Maximum number of female gender about 56.8% are not willing to participate in eco-care programmes. It could be concluded that maximum numbers of both male and female gender is not willing to participate in eco-care programmes.

• There is a significant relationship between non-purchaser’s income and willingness to participate in eco-care programmes. Maximum number of about 63.1% in Upto Rs.15,000 income group, 53.8% in Rs.15,001-Rs.25,000 income group and 49.3% of Rs.25,001-Rs.35,000 income group are not willing to participate in eco-care programmes. Maximum number of about 39.2% in Rs 35,001-45,000 income group, 53.6% of above Rs.45,000 income group are willing to participate in eco-care programmes if organized by employer.

• Standardized canonical discriminant function coefficients between willingness to contribute to reduce global warming and city reveals if discriminant score is very low probably the person will be a purchaser, if the discriminant score is high probably the person become non-purchaser. Discriminant model proposes that Trichy has more non-purchasers than Chennai city whereas Chennai city has more purchasers of Natural products. The people who are willing to contribute to for reduction of global-warming
have more chance to become ‘purchasers’ of natural product. This discriminant analysis result matches with the study of Clare D’ Souza, Mehdi Taghian and Rajiv Khosla (2007) finds that consumers of green products who have positive environmental beliefs will exert consistent response format and commonality of intention to purchase natural products and Josephine Pickett-Baker, Ritsuko Ozaki (2008) found that Pro-environmental values and beliefs will result in pro-environmental behaviour if values and beliefs are specific, product attributes will be positively perceived. They also found that consumers who are environmentally concerned are more willing to buy from manufacturers whose product and process are environment friendly as this enhances desired self-concept results in feel good factor for consumers. It could be confirmed that if consumers have environment concern and pro-environmental values and beliefs they will buy natural products.
6.2 SUGGESTION

PURCHASERS

Natural personal care products of natural tooth paste, natural bath soap, natural face wash and natural shampoo have high awareness among purchasers when compared to natural home care products of natural detergent and natural surface cleaner in both cities. Marketers should take efforts to improve the awareness of home care product categories of natural detergent and natural surface cleaner.

Purchasers have knowledge about natural products. Knowledge is gained by looking at manufacturer brand name and ingredient composition of products. All natural products should have ‘ingredients used’ in package and advertisements should be given for familiarizing manufacturer brand name to enhance knowledge about natural products.

Purchasers of natural product of all six product categories had stated that composition of product as marketing mix reason for purchase of product. Marketers should give importance to composition of product for successfully marketing natural products.

Female gender is major purchasers of natural products. But male gender rank high for price purchase reason of high price but gives desired results without harming health. Male gender ranks more or less similar to female for paying high price but product is eco-friendly, this implies natural product marketers can target male segment to expand market as majority of non-purchasers are males. But in order to increase consumption among males and convert non-purchasers into purchasers marketers have to use marketing mix tools such as home delivery, quantity discount, proper recognition and luck draw prices, public relations programme, brand ambassadors in ad, eco-labels and exclusive retail stores, health benefits apart from eco-friendliness which is not needed or needed to a lesser extent for female gender.

When comparison is done between eco-friendly, health, social, belief and performance reason for purchase of natural products the social reason gives a feeling of good citizen that preserves and enhances the heredity of our country is ranked first by purchasers. Environmental reason is ranked last. Natural products marketers can enhance marketing of natural products by giving
feeling of good citizen that preserve and enhance heredity of our country when they purchase natural products. Additional benefit such as social reason mentioned above, product performance benefit or health benefit along with environmental benefit of eco-friendliness enhances marketing of natural products. Major benefit identified by this study is social benefit mentioned above.

Product-wise analysis shows that natural toothpaste purchasers give importance to feeling of satisfaction of doing good to society and natural bath soap, natural detergent, natural face wash purchasers give importance to feeling of satisfaction of developing good health without chemicals. These can be used in promotion of these products. No feeling could be associated with natural surface cleaner and natural face wash categories.

Eco-label should be developed by the government by enacting appropriate laws as this will lead to trust in natural products and increase consumption of the same among purchasers who do not believe in natural product and its performance but purchase it at present.

Natural product marketers should give importance to distribution of natural products as purchasers give importance to retail stores at which the product is sold. If products are made available in exclusive retail stores or super markets purchasers will increase the consumption of natural products. Newspapers and TV are the most preferred media among the purchasers to receive ads regarding natural products.

**NON-PURCHASERS**

Existing natural product manufacturers can use eco-friendly attributes such as ‘save earth’ ‘reduce global warming’ ‘reduce climate change effects’ to promote and position their products to non-purchasers. This will be well received as non-purchasers had given reduction in global warming as rank one that will motivate them to buy existing natural products. Efforts should be taken to increase awareness of existing natural products among non-purchasers and provide them with free samples to try the product for first time.
Personal care and home care product manufacturers can introduce eco-friendly variant of present products purchased by the consumers. This line extension strategy will be well received by the consumers in both cities as non-purchasers have positive buying intention if present products are introduced as eco-friendly variant. This strategy can be first tried for toothpaste, bath soap and detergent product categories as these have the highest buying intention followed by other categories.

Marketers can first target female gender for introducing natural products as eco-friendly variant of their regular buying brands among the non-purchasers as they are willing to pay a little higher price for eco-friendliness of natural product and do not expect some additional benefits such as health benefits, eco-label or price should be equal to normal product when compared to male gender. For targeting Income wise Rs.15,001-25,000 income group is willing to pay a little higher price for eco-friendliness of natural product and do not expect some additional benefits.

Awareness about global-warming and its impact should be created among the non-purchasers as concern toward it and willing to reduce it will positively influence their buying intention towards existing natural products.

Personal care and home care product manufacturers can introduce eco-friendly variant of present products as non-purchasers have positive buying intention, but the key criterion is eco-friendly variant should be eco-friendly, saves earth, conserves water and performs as normal product to attract the non-purchasers to buy the product.

Product category-wise analysis shows that to attract non-purchasers in toothpaste category marketers should focus on save water in usage and consumers are willing to compromise in time taken for getting results if product is healthy and eco-friendly. For bath soap, detergent, face wash marketers focus should be on quantity used should be less when compared to normal product for desired results compromise that is possible by non-purchasers is package must be eco-friendly than attractive. In shampoo and surface cleaner green aspect expected by non-purchasers is quantity used should be less when compared to normal product for desired results.
6.3 CONCLUSION

The study reveals that total purchasers of natural products is 55%, in Chennai city purchasers are more, and Trichy city has more non-purchasers. Green marketing is possible in both cities as non-purchasers have positive buying intention if natural products are introduced as eco-friendly variant of present products used and they are willing to buy existing natural products if eco-friendly attribute is to promote such products. Awareness about environmental issues should be created to influence non-purchaser’s buying intention. Among purchasers consumption of natural products can be increased by providing additional benefit such as social benefit, product performance benefit or health benefit along with environmental benefit. Composition of product and ingredients used in natural products is imperative for the success of natural products.
6.4 SCOPE FOR FURTHER STUDY

1. The Green Marketing study can be extended to other industry sectors such as automobiles, textiles, real estate, and electronics for possibility of adaptation.

2. The study can be extended to other cities, towns in Tamil Nadu and other states.

3. The role of green product marketers and government can be explored as research area for successful adaptation of green marketing.