

Consumer Demographics and Environmental Responsibility: An Empirical Investigation of the Consumers in Tripura

* *Manish Das*

Abstract

This research paper aimed to explore the environmental responsibility of the consumers of Tripura and its significance with various demographic variables. The total sample size selected for the study were 224 respondents, and the sampling method was simple random sampling. ECOSCALE (Stone et al. 1995) was used to collect data from the samples. The reliability of the scale was measured to find out the appropriateness of the scale to measure environmental responsibility of the consumers of Tripura. The collected data were analyzed by using statistical software SPSS v17.0. Factor Analysis for all the seven components of the ECOSCALE was carried out to obtain the factor scores, which were used for measuring the significance of the ECOSCALE dimensions among the various demographic groups. Independent sample 't' test and one-way ANOVA were used to measure the significance. The data analysis revealed that the older consumers exhibited greater responsibility towards the environment than the younger people ; married consumers were more environmentally responsible than the unmarried consumers ; consumers engaged with private organizations were more responsible towards the environment rather than people engaged in other occupations ; and consumers with moderate earnings were more responsible towards the environment than consumers with more earnings. Education had a partial significance, while gender of the consumers did not have any significant relation with environmental responsibility of the consumers of Tripura.

Keywords : environmental responsibility, ECOSCALE, sustainability, consumers, green products

JEL Classification : C000, C120, M00, M190

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Environment literally means “surroundings” and may be defined as the sum total of all external conditions and influences that affect living organisms. With the advent of globalization and industrialization, the concern for the environment has risen significantly all over the world, irrespective of developed and developing nature of the state. Numerous studies all over the world have confirmed that with the advent of civilization, environmental degradation is also on the rise. Emission of greenhouse gases, deforestation, land-use change, energy usage change, and irresponsible consumerism are some of the factors attributed towards rapidly declining environmental situations. The outcome of environmental degradation has been observed in the form of temperature rise, rainfall, mountain glaciers melting, sea level rise, health hazards, coastal erosion, biodiversity loss, storm and earth quake incidents, and sea face temperature rise all over the world. These unprecedented affects are more visible in the present decades as compared to the past decades. Countries all over the world have recognized this fact and have started showing concerns and are taking action to prevent environmental degradation and to create a balance among economic growth and environmental consequences.

The address by Dr. K.C. Chakraborty, Deputy Governor, Reserve Bank of India (RBI) also raised this concern at the Yes Bank-GIZ-UNEP sustainability series on Environment and Social Risk Management (April 23, 2013). According to him, some of the twenty first century pressing issues and challenges for the world’s economies are

* *Assistant Professor*, Department of Business Management, Tripura University (A Central University), Surjyamaninagar, Tripura (W), -799 022. E-mail: manishdas@tripurauniv.in

environmental sustainability, global cooperation and efforts, reducing global wastage, implementing sustainable use of natural resources, implementing sustainable industrial/business practices, and implementing sustainable agricultural practices. Environmental sustainability is a collective responsibility of all the stakeholders. Thus, the responsibility towards environmental sustainability lies with all stakeholders affecting the environment directly or indirectly, whether located in the developed nations or the developing nations. Consumers are also one of the vital stakeholder groups towards environmental sustainability. Consumers can show their responsibility by purchasing green products, optimizing their consumption limits, and reducing impulsive purchases, etc. The present paper is an attempt to measure the attitude of the rural consumers of Tripura, a small state of North-East India, towards environmental responsibility.

Literature Review

Environmental responsibility of the consumers can be formally defined as “a state in which a person expresses an intention to take action directed toward remediation of environmental problems, acting not as an individual customer with his/her own economic interests, but as a citizen consumer who cares for the societal-environmental wellbeing. Furthermore, this action can be characterized by awareness of environmental problems, skill of pursuing his/her own chosen action, and possession of a genuine desire to act after having weighed his/her own locus of control, and determining that these actions can be meaningful in alienation of the problem” (Stone, James, & Cameron, 1995). The study also posited five dimensions of consumers' environmental responsibility: (a) consumers' knowledge and awareness, (b) consumers' desire and willingness to act, (c) consumers' ability to act, (d) consumers' opinions and attitudes concerning the environment, and e) consumers' behaviour toward the environment.

Research commissioned by SC Johnson and executed by GSK Roper consulting Green Gauge with a sample of 2000 (Two Thousand) adults aged 18+ between June 9 and July 5, 2011 on consumers' environmental attitudes and behaviours in the United States since 1992 revealed that there was a positive behavioural change among American consumers for positive environmental impact. In spite of rising economic concerns, American consumers still wanted companies to “Go Green”. This study also highlighted that there was an increased knowledge and decreased confusion among American consumers regarding what is good or bad for the environment. Again, an online survey, which saw the participation of 2000 Australian consumers for one of the four product categories (television, digital camera, air conditioner, and washing machine) regarding pro-environmental purchase behaviour carried out by Panasonic (Emerging Consumer Attitudes 2011) revealed that, overall 75.6% of the respondents were aware of and were concerned about environmental issues, and 91.2% believed that their own pre-environmental behaviours could make a difference. Though protecting the environment is a collective responsibility for all the stakeholders, with reference to the moral responsibility for environmental problems Fahlquist (2008) argued that, it is not fair to ascribe responsibility in the backward-looking sense, that is, to blame individuals for environmentally destructive actions, unless they have responsible alternatives and resources to act in environmentally friendly ways. The governments and corporations have larger responsibility to create an environmentally friendly society.

A careful analysis of product launch by business houses in the past three decades revealed that a large and increased number of “green” products have been introduced in almost all product areas. Business houses are gradually concentrating more on environmental outcomes of their product development and business strategy development. Products with improved environmental and/or ethical characteristics are referred to as green products (Clark, Kotchen, & Moore, 2003; Ginsberg & Bloom, 2004). Analyses of previous three decades give us an indication of some of the areas that witnessed more green products. These areas are food products (Theøgersen, 2010), personal care products (Landolfi, 1997), and clothing (Mayer, 2001) to name a few. One of the interesting and encouraging signs witnessed during twenty-first century is that, the introduction of green products is not only limited to the developed nations; emerging markets like China and India have also (Chan,

2001) joined this band wagon at a rapid speed, and gradually, green products and green strategy of the organizations are getting more favourable impression from the consumers across the globe. Though, studies (de Ferren, & Grunert, 2007 ; Vermeir & Verbeke, 2006) have confirmed that a large segment of consumers are highly involved in protecting the environment and environmental/ethical issues related to consumption skills, there are also studies that have confirmed that there is a gap between consumers' environmental concerns and their choice of products (Padel & Foster, 2005).

Some studies across the world were also carried out by various researchers regarding the relationship of various demographic variables and consumers' environmental responsibility. These studies attempted to conclude whether there is any relationship between consumers' demographic variables and their attitude towards environmental responsibility. One such study (Pedrini & Ferri, 2014) titled "Socio-Demographical Antecedents of Responsible Consumerism Propensity" concluded that most environmentally responsible consumers are older, well-educated, and wealthy. Their study also concluded that the gender of the consumer did not have any significant influence on responsible consumerism propensity. This study opined that the propensity to buy responsible products was not related to the level of sensitiveness of men and women. It also confirmed that age of the consumer, educational level of the consumer, and wealth has a positive relationship with responsible consumerism propensity. Several other studies have also been conducted with reference to the relationship between demographic characteristics and environmental responsibility. Roberts (1995) confirmed that demographic characteristics like age, gender, and level of education played a significant role in identifying responsible consumers.

Some other studies (Ferrell & Skinner, 1988; Ford & Richardson, 1994; Whipple & Swords, 1992) also concluded that women consumers had higher consideration for social and environmental attributes than men consumers. Again, with reference to the influence of age over environmental responsibility, Kohlberg (1984) concluded that people of legal age attribute more importance to social and environmental awareness. Regarding the level of education and attitude towards environmental responsibility, Stevens et al. (2005) confirmed that consumers with higher level of education are more sensitive to social and environmental dimensions as compared to consumers with lower levels of education. Again, with regard to income and while highlighting ethics in consumption, the study conducted by Maignan and Ferrell (2001) concluded that individuals with an above average level of income are more attentive than individuals with lower levels of income.

For measuring environmental responsibility of the consumers in this study, ECOSCALE (Stone et al., 1995) was used. The ECOSCALE (Stone et al., 1995) has seven dimensions comprising of 31 items. All the items were scored on a 5- point likert scale, ranging from strongly disagree to strongly agree, or ranging from never to always. Item scores summed within each dimension indices or all 31 item scores can be summed to form an overall ECOSCALE composite. Regarding development of the ECOSCALE, after a significant number of literature review and construct definition, 50 items were generated to reflect the domain of the construct. A group of university professors further examined the items for content validity. Exploratory factor analysis and item analysis was used to derive the final form of the scale, and a confirmatory factor analysis was used to assess the dimension of each of the seven ECOSCALE dimensions. A sample of 238 undergraduate students was used to develop the scale, and a sample of 215 college students were used to examine dimensionality and validity. All the seven dimensions of ECOSCALE collectively accounted 86.3% of the variance in the data. The coefficient alpha for the entire 31 item ECOSCALE was .93, and all the seven ECOSCALE dimension correlations were reported to be significant. The Appendix -1 portrays the ECOSCALE (Stone et al., 1995) used for the purpose of measuring environmental responsibility of the consumers in Tripura.

Objective of the Study

The objective of this research paper is to investigate the effect of various demographic factors on environmental responsibility of the consumers in Tripura.

Hypotheses of the Study

The formulated hypotheses for this study are as follows:

- ➔ **H1:** ECOSCALE is a reliable instrument for measuring consumers' Environmental Responsibility in the context of the consumers' of Tripura.
- ➔ **H2:** There is no significant difference based on various demographic variables in the expression of consumers' intension across various dimensions of ECOSCALE in the context of Tripura.
- ➔ **H2a:** There is no significant difference in consumers' attitude regarding environmental responsibility based on Age.
- ➔ **H2b:** There is no significant difference in consumers' attitude regarding environmental responsibility based on Gender.
- ➔ **H2c:** There is no significant difference in consumers' attitude regarding environmental responsibility based on Education.
- ➔ **H2d:** There is no significant difference in consumers' attitude regarding environmental responsibility based on Occupation.
- ➔ **H2e:** There is no significant difference in consumers' attitude regarding environmental responsibility based on Marital Status.
- ➔ **H2f:** Income wise there is no significant difference in consumers' attitude regarding environmental responsibility based on Income.

Research Methodology

This research tries to explore the possible relationship between various demographic variables and consumers' environmental responsibility for the consumers of Tripura, a small north-east Indian State. Data were collected for the study by using ECOSCALE (Stone, James, & Cameron, 1995) for measuring consumers' environmental

Table 1. Demographic Profile of the Respondents for ECOSCALE

Gender		Male		Female		Total
		82		142		224
Education	Up to 10th	Higher Secondary		Graduate		Total
	44	96		52		224
Marital Status	Married	Unmarried		Total		
	96	128		224		
Occupation	Govt. employee.	Pvt. employee.		Self-employed		Total
	76	56		48		224
Age	Up to 19	20-29		30-39		Total
	28	52		40		224
Income	Up to 10k per month	10k-20k per month		20k-30k per month		Total
	30	64		68		224

responsibility. The reliability of the ECOSCALE was measured to find out the appropriateness of the scale for collecting data. After that, the collected data were coded, tabulated and analyzed by using various statistical techniques for fulfilling the objective of the study.

➤ **Sample Size and Sample Profile:** The size of sample for measuring environmental responsibility by ECOSCALE is 224. The samples were selected by simple random sampling method while standing in front of shopping malls for collecting data. Table 1 highlights the demographic profiles of the sample selected for the study.

➤ **Data Collection Tools:**

Data Type: Primary Data

Data Collection Method: Sample Survey

Data Collection Tool: ECOSCALE (Stone et al., 1995).

Table 2. Reliability Analysis of Opinion & Belief Dimension of ECOSCALE

Statements of Opinion & Belief Dimension	Corrected Item-Total Correlation	Cronbach's Alpha
Statement Number One	.802	.783
Statement Number Two	.645	.820
Statement Number Three	.418	.858
Statement Number Four	.620	.823
Statement Number Five	.661	.815
Statement Number Six	.639	.820
Overall Cronbach's Alpha	.847	

Table 3. Reliability Analysis of Awareness Dimension of ECOSCALE

Statements of Awareness Dimension	Corrected Item-Total Correlation	Cronbach's Alpha
Statement Number Seven	0.825	0.793
Statement Number Eight	0.714	0.840
Statement Number Nine	0.635	0.875
Statement Number Ten	0.764	0.830
Overall Cronbach's Alpha	.871	

Source: Authors own calculation.

Table 4. Reliability Analysis of Willingness to Act Dimension of ECOSCALE

Statements of Opinion & Belief Dimension	Corrected Item-Total Correlation	Cronbach's Alpha
Statement Number Eleven	0.519	0.331
Statement Number Twelve	0.249	0.536
Statement Number Thirteen	0.532	0.287
Statement Number Fourteen	0.117	0.675
Overall Cronbach's Alpha	.545	

Table 5. Reliability Analysis of Attitude Dimension of ECOSCALE

Statements of Attitude Dimension	Corrected Item-Total Correlation	Cronbach's Alpha
Statement Number Fifteen	0.696	0.682
Statement Number Sixteen	0.669	0.707
Statement Number Seventeen	0.480	0.788
Statement Number Eighteen	0.569	0.748
Overall Cronbach's Alpha	.787	

Table 6. Reliability Analysis of Action Taken Dimension of ECOSCALE

Statements of Action Taken Dimension	Corrected Item-Total Correlation	Cronbach's Alpha
Statement Number Nineteen	0.780	0.755
Statement Number Twenty	0.668	0.795
Statement Number Twenty One	0.451	0.846
Statement Number Twenty Two	0.617	0.806
Statement Number Twenty Three	0.681	0.787
Overall Cronbach's Alpha	.834	

Table 7. Reliability Analysis of Ability to Act Dimension of ECOSCALE

Statements of Ability to Act Dimension	Corrected Item-Total Correlation	Cronbach's Alpha
Statement Number Twenty Four	0.696	0.682
Statement Number Twenty Five	0.669	0.707
Statement Number Twenty Six	0.480	0.788
Statement Number Twenty Seven	0.569	0.748
Overall Cronbach's Alpha	.787	

Table 8. Reliability Analysis of Knowledge Dimension of ECOSCALE

Statements of Knowledge Dimension	Corrected Item-Total Correlation	Cronbach's Alpha
Statement Number Twenty Eight	0.319	0.798
Statement Number Twenty Nine	0.596	0.658
Statement Number Thirty	0.655	0.62
Statement Number Thirty One	0.617	0.647
Overall Cronbach's Alpha	.748	

🔗 **Data Analysis Tools and Techniques:** Data were analyzed by using statistical tools such as independent sample *t* - test, one-way ANOVA, Cronbach's alpha, and Factor Analysis.

Interpretation and Discussion

Reliability analysis (Cronbach's alpha) for all the seven dimensions of ECOSCALE was carried out to find the reliability statistics of all the dimensions of the scale. Cronbach's Alpha score for all the seven dimensions were

satisfactory. Tables 2-8 shown below highlights the Reliability Analysis for various dimensions of ECOSCALE. Thus, reliability analysis ensures that ECOSCALE is a highly reliable instrument for measuring environmental responsibility of the consumers of Tripura.

➤ **For Hypothesis Two:** Factor Analysis was done for all the seven (7) dimensions of ECOSCALE to extract factor score for all the components. KMO test of sampling adequacy score for all the dimensions were more than .7 (.788, .815, .755, .733, .758, .733, .743) indicating that the sample size is adequate to run factor analysis based on the selected samples. Factor analysis extract one factor for each dimension of ECOSCALE based on Eigen value (>1). The variance explained by these factors were 57.13%, 73.341%, 67.002%, 61.779%, 60.614%, 61.729% and 57.618% respectively. These factor scores were used for finding out whether there is any significant difference among the responses based on various demographic variables.

Independent sample 't' test was run to find out whether there is any significant difference based on gender and marital status of the consumers. Score reveals that, gender (male/female) of the consumer do not have any effect on any of the dimensions of ECOSCALE meaning consumers' attitude towards environmental responsibility do not have any relation with gender of the consumer. This finding contradicts the findings that women consumers have higher consideration of social and environmental attributes than male consumers (Ferrell, & Skinner, 1988; Ford & Richardson, 1994; Whipple, & Swords, 1992). In case of marital status (married/unmarried), married consumers are more positive than unmarried consumers in attitude dimension, action-taken dimension, ability to act dimension and knowledge dimension of ECOSCALE whereas in other dimensions there are no significant difference (at .05 significance level).

For demographic variables education, age, occupation and income, one-way ANOVA was run. Test result reveals that, in case of education, except awareness dimension of ECOSCALE there is no significance based on education level of the respondents regarding attitude towards environmental responsibility. This study results contradicts with the result obtained in some other studies (Kidwell, Stevens, & Bechke, 1987 ; Stevens, Steensma, Harrison, & Cochran, 2005) which confirmed that consumers with higher level of education are more sensitive to social and environmental dimensions compared to lower level of education. Infact, the interesting result that is obtained from this study is in case of awareness dimension of environmental responsibility of the consumers measured by 'ECOSCALE' while purchase decision is taken, consumer with less education (up to 10) exhibit high awareness (at .05 significance level) regarding environmental responsibility than consumers with more education (H.S (+2), Graduate) in the context of the area of study Tripura.

Age group does not have any significance with willingness to act dimension of ECOSCALE, but for all other dimensions it was observed that older consumers exhibit greater environmental responsibility than younger consumers accepting the result of the study (Kohlberg, 1984) on influence of age over environmental responsibility that people of legal age attribute more importance to social and environmental awareness. An in depth analysis of the result also highlights that this phenomenon is not true for 'willingness to act' dimension of ECOSCALE and for that dimension age group do not have any significance which accepts the results of the study that there is a gap between consumers environmental concerns and their choice of products i.e. willingness to act (Barn, 2006; Padel & Foster, 2005).

Consumers in the age group of 50-59 are most favourable to all the dimensions of the scale. In case of income level, a mixed result was obtained for the consumers of Tripura. Consumers in the income group of INR 30,000/- to INR 50,000/- per month exhibit more favourableness in attitude dimension, action taken dimension, ability to act dimension accepting the findings of the study (Maignan, & Ferrell, 2001) whereas income group INR 10,000/- to INR 20,000/- per month exhibit more positive attitude towards knowledge dimension of ECOSCALE contradicting the results (Maignan & Ferrell, 2001). For other dimensions of ECOSCALE, income does not have any significance. In case of employment status, privately employed people exhibit more favourableness than other employment groups taken for this study in all the dimensions of ECOSCALE.

Thus, overall we can conclude that :

- ✍ There is no significant difference regarding attitude towards environmental responsibility by the consumers of Tripura based on Gender.
- ✍ In their attitude towards environmental responsibility, married consumers are more environmentally responsible than unmarried consumers in Tripura.
- ✍ Attitude of the senior citizens (in the age group of 50-59 years) towards environmental responsibility is comparatively more than younger people in the context of Tripura.
- ✍ People employed in private organizations exhibit greater environmental responsibility in their attitude compared to other occupational groups studied in this research in the context of Tripura.
- ✍ Middle and Upper middle class consumers with moderate earnings (INR 30,000/- to INR 50,000/- per month) are more environmentally responsible in their attitude compared to the consumers with higher income class (INR 50,000/- and above) in the context of Tripura.
- ✍ There is no significant difference regarding environmental responsibility of the consumers of Tripura based on Education (except awareness dimension).

Thus, testing of the formulated hypotheses reveals that, H1 (ECOSCALE is a reliable instrument for measuring consumers' Environmental Responsibility in the context of the consumers' of Tripura) is accepted. Hypothesis H2b (There is no significant difference in consumers' attitude regarding environmental responsibility based on Gender) is also accepted. H2c (There is no significant difference in consumers' attitude regarding environmental responsibility based on Education) is partially accepted as awareness dimension of ECOSCALE reveals that there is a significant difference in attitude of various consumer groups regarding environmental awareness based on educational qualification they possess. Hypotheses H2a (There is no significant difference in consumers' attitude regarding environmental responsibility based on Age), H2d (There is no significant difference in consumers' attitude regarding environmental responsibility based on Occupation), H2e (There is no significant difference in consumers' attitude regarding environmental responsibility based on Marital Status) and H2f (Income wise there is no significant difference in consumers' attitude regarding environmental responsibility based on Income) were rejected.

Conclusion, Limitations of the Study, and Scope for Further Research

Thus, we can conclude that, ECOSCALE is a reliable instrument in measuring consumers' attitude towards environmental responsibility in the context of the consumers of Tripura. A mixed result regarding the environmental responsibility of the consumers of Tripura based on various demographic variable groups were observed as measured by ECOSCALE. Gender does not have any significant impact on the attitude of the consumers in Tripura regarding their responsibility towards environment; education also does not have (except awareness dimension) any significant impact on attitude towards environmental responsibility; whereas Marital status, Occupation type, Income and Age group of the respondents have significance in measuring environmental responsibility of the consumers of Tripura.

The size of the sample for this study was 224, which is comparatively small with other similar kinds of study carried out. This study may be replicated with a large size of sample to examine whether the obtained result stands in Tripura as well as other parts India also. One of the interesting observation resulted from the study is people with lower education level are more aware regarding their environmental responsibility compared to the people with higher educational qualification. An exploratory study can be carried out to find out whether this phenomenon is due to comparatively small sample size (chance variance) or this observation stands with larger size of sample also. If, this result prevails, what are the possible reasons behind such observation? Another area of future study in this regard can be to explore whether the attitude reflected by the people surveyed in this study are

implemented in actual or not. This study may be further extended to observe whether there is any significant correlation of consumers' environmental responsibility with other areas of consumer purchase behaviour like Consumption Habits (Attention to Social Comparison Information (ATSCI), Status Consumption (SC), Role Relaxed Consumption (RRC), Consumer Need for Uniqueness (CNFU), Consumer Susceptibility to Reference Group Influence (CSRGI), and Consumer Susceptibility to Interpersonal Influence (CSII). Possible relationship between Acculturation to the Global Consumer Culture (AGCC) and Environmental Responsibility of the consumers may be measured.

Though total sample size selected for this study and the sampling method employed for this study ensures universality principle of sampling, still segmental representation is comparatively small which may pose some limitation for this study. A more detailed research can be done in the next phase while selecting one individual segment based on certain demographic variable and carrying out a detailed research. Though all steps are ensured to obtain the real response of the respondents selected for this study, still survey through questionnaire always have certain drawbacks in bringing the real answer which may be another associated as limitation of this study. Rural market in India is a complex and heterogeneous composition, posing the challenge of generalization of the findings in other parts of Rural India. Irrespective of all these limitations, this study will help in highlighting the trends regarding attitude towards environmentally responsible consumption of the rural consumers in India.

Managerial Implications

This study reflects that market of Tripura is still not mature enough as a possible destination for producers and marketers of eco-friendly products. Market of Tripura is still pre mature for products and brands trying to position themselves based on 'Go Green' as a marketing strategy. Though, a small segment of 'middle income, married, senior citizens' having positive attitude towards environmental responsibility exists in Tripura, a large section of consumers are still not evaluating their purchase decisions based on 'green' as a prime consideration. The segment showing some favourable attitude towards 'green' is not sizeable, distinctive enough to fetch a profit for the marketers of green products as a targeted 'niche' segment. Manufacturers and Marketers need to undertake extensive awareness creation campaign to develop a market for 'green' products for rural India in general and Tripura in particular. Some categories and products that may take a chance by creating a customized communication strategy based on 'green' are two-wheelers, entry level cars and private level brands of organized retail outlets (staples, ready to eat, garments) operating in Tripura. It is advisable for Premium priced 'green' products and brands not to consider rural market in general and market of Tripura in particular as a possible destination for their produces at this point of time.

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Appendix 1: Ecoscale (Stone et al., 1995).

Please kindly tick the best suited option according to you for the following statements.

Opinions and Beliefs Dimension Items:

(1) The burning of the oilfields in Kuwaut, the meltdown in Chernobyl, and the oil spill in Alsaka are examples of environmental accidents whose impact is only short-term.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(2) The United States is the biggest producer of fluorocarbons, a major source of air pollution.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(3) The earth's population is now approaching 2 billion.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(4) Excess packaging is one source of pollution that could be avoided if manufacturers were more environmentally aware.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(5) Economic growth should take precedence over environmental considerations.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(6) The earth's resources are infinite and should be used to the fullest to increase the human standard of living.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

Awareness Dimension Items:

(7) The amount of energy I use does not affect the environment to any significant degree.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(8) This country needs more restrictions on residential development (construction of a new mall on farmland, new subdivisions, etc.).

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(9) If I were a hunter or fisherman, I would kill or catch more if there were no limits (Male Only).

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(10) In order to save energy, this university should not heat the pool during the winter.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

Willing to Act Dimension Item:

(11) I attend environmental/conversation group meetings (Greenpeace, Ducks Unlimited, etc.)

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

(12) I have started/joined consumer boycott programs aimed at companies that produce excess pollution.

a) Never b) Sometimes c) Frequently d) More Frequently e) Always

(13) Whenever no one is looking, I litter.

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

(14) Wearing exotic furs and leather is not offensive. (Female Only).

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

Attitude Dimension Items:

(15) One of the primary reasons for concern in destruction of the ozone layer is its ability to screen ultraviolet radiation.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(16) There is nothing the average citizen can do to help stop environment pollution.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(17) My involvement in environmental activities today will help save the environment for future generations.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(18) I would not car pool unless I was forced to. It is too inconvenient.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

Action Taken Dimension Items:

(19) I turn in polluters when I see them dumping toxic liquids.

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

(20) I have my engine tuned to help stop unwanted air pollution.

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

(21) I have my oil changed at installations which recycle oil.

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

(22) The earth is so large that people have little effect on the overall environment.

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

(23) People who litter should be fined \$500 and be forced to work on road crews and pick up garbage.

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

Ability to Act Dimension Items:

(24) The EPA stands for "Environmental Planning Association" and it is responsible for matters dealing with protection of the environment.

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

(25) I do not purchase products that are known to cause pollution.

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

(26) I vote for pro-environmental politicians.

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

(27) I cut up plastic rings around six-packs of soft drinks.

a) Never b) Sometimes c) Frequently d) More Frequently e) Always.

Knowledge Dimension Items:

(28) Ivory is a hard white stone that when polished can be used in making piano keys.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(29) Acid rain affects only Canada.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(30) It is no use worrying about environmental issues: I can't do anything about them anyway.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

(31) I would describe myself as environmentally responsible.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree