# CHAPTER 1

## INTRODUCTION

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INTRODUCTION

“Man’s attitude towards nature today is critically important simply because we have now acquired a fateful power to alter and destroy nature, but man is a part of nature and his war against nature is inevitably a war against himself”.

Rachel Carson

1.1 BACKGROUND OF THE STUDY

Environment is the aggregate of all non-living and living variables that encompass and conceivably impact a creature. Man is an indispensable segment of the earth and he impacts and is impacted by the nature. From psychological viewpoint, environment is the singular's life space, the totality of stimuli influencing an individual structure the purpose of origination to the point of death (Satapathy, 2007). Nature is equipped for furnishing man with everything that he needs for self-sustenance as well as for making his life completely agreeable. It was liberality of Mother Nature to permit man free get to her important assets. On the other hand, man's craving for happiness and solaces has headed him to endeavor nature's free products to the degree of decreasing its regular limits for modification toward oneself. Since, the beginning of progress man has attempted to exceed expectations itself by prevailing over nature. He has done so either for his improvement or for the purpose of pleasure. In this procedure he has influenced his surroundings gravely. We have misused the common habitat to our will. Today we are confronting serious natural emergency. The issues of natural debasement is not constrained to any specific nation or area, it is worldwide. Of the 24 ecosystems vital for life on earth,
15 have been seriously degraded or used unsustainably, raising questions (Ehrlich and Ehrlich, 2013) about the chances of environmental collapse. Once, Mahatma Gandhi said, “The Earth provides enough to satisfy everyman’s need but not for everyman’s greed”.

Realising the environmental concerns, large number of scientists, environmentalists, politicians, educationalists, and social workers have come to a single conclusion: “We are consuming natural resources at a rate much faster than that at which nature can regenerate them. We are polluting the environment at a rate greater than its ability to absorb the pollution. This is an unsustainable way of living and it can only lead to an environmental and social catastrophe”. (Rajagopalan, 2005)

Carson's Silent Spring (1962) set the tone for a natural development. Prior to her demise in 1964, she commented: “Man’s attitude towards nature today is critically important simply because we have now acquired a fateful power to alter and destroy nature, but man is a part of nature and his war against nature is inevitably a war against himself”.

Pollution is making the Earth unsuited to life. Streams and lakes are kicking the bucket. Deserts are on the walk. Natural resources are being depleted. We are at the cross streets. The peril is plainly obvious. Unless united exertions are made now, tomorrow may be past the point of no return. Plainly, the time is right to participate in an element methodology to educate children and all citizens about the environmental realities of today’s world.
Our attitudes towards the use of environmental resources must change. We must re-educate ourselves to treat the environment with greater caution and control. It is this realization that gives environmental education a place of prime importance.

An individual is the starting points of environmental degradation. If an individual believes in need and not in greed, and in comfort and not in luxury and ponders about what is enough for a comfortable lifestyle, most of the problems can be solved. Thus, sustainable lifestyle, and responsible environmental behaviour can lead to sustainable communities to sustainable nations and then to sustainable world.

Individuals are receiving a strategy of aggregate demolition of the earth, regularly for the sake of improvement. Unscientific misuse of the nature's domain was drilled by all social orders in some structure or the other. The vast scale devastation of the blessings of nature by human social orders was focused around the wrong suspicion that these endowments are boundless and that Nature is supplied, with the ability to restore the aggravated balance. Corrupt abuse of nature will inevitably bring about the aggregate destruction of living things from the substance of the earth. The harmful and often irreversible side effects of unplanned, exploitation of the natural environment have now been realized by all human communities with the result that they are now looking for alternative approaches to correct the errors of the past.

It is high time that we figure out answers for right the natural awkward nature. Any disappointment to do this will doubtlessly prompt an aggregate devastation of human life on the planet. We need to make an era, which will be aware of the disasters of unscientific ecological abuse. We need to see that this is
carried out in the best way inside a brief time of time. One must be careful in ones methodology to natural issues. Environmentalism must be tempered with a scientific outlook, attitude and responsible behaviour.

Modern man does not believe that he has any responsibility towards his habitat. The responsibility is not merely a moral one but basically it is a biological necessity. Without people’s involvement no amount of effort can help sustain the environment. Responsible environmental behaviour has become a serious theme for discussion and deliberation. Effective and meaningful environmental education is a challenge to be taken seriously if we and our future generations are to enjoy the benefits of our natural heritage about the environment.

According to Juraite (2002), environmental behaviour refers to a socially-conscious behaviour which is based on social responsibility and involves individual and social aims that a person wants to achieve by behaving in a particular way. Environmentally friendly behaviour can be rather complex due to several actions / stages / levels that it comprises (Barr 2007).

Environmental psychology science has been from the earliest starting point, an amalgam, or hybrid sub field, with in psychology on the grounds that both its topic and hypothetical underpinnings have been to a great extent affected by other sub fields, including recognition, Gestalt psychology, learning and perception and social psychology. These zones of examination and hypothesis had been decently created amid the early many years of twentieth century and the majority of them managed, in one way or an alternate, with the complex connections between people and the nature's turf.
In environmental relevant behaviour, the role of psychological factors became more important. Environmentally relevant behaviours are linked to sociological as well as psychological aspects of personality. To understand how to encourage environmentally responsible behaviour, one must identify at least some of the factors that affect behaviour. Attitude is considered as one of the most important influences in determining environmentally responsible behaviour. Often it is assumed that knowledge and awareness will influence attitudes, which in turn will determine behaviour.

Education is one of the important factors to achieve cultural awareness on environmental protection. Awareness, internal locus of control and the intention to act are all variables associated with responsible environmental behaviour (Chawla, 1998). It is very important to assess the awareness and knowledge of individuals on the environment. The environmental concept that the individuals attain through education is the most important factor that explains their attitude towards environment and environment protection (Banergee, 2001).

Evolving a rational programme of environmental education is important. We have to change the minds (behaviour) of a whole group; we have to convince them intellectually. Environmental education should equip students to integrate learning from different disciplines. Such an education will help people function as responsible citizens-responsible in decision making and problem solving.
1.2 NEED AND IMPORTANCE OF THE STUDY

In the course of the most recent decades assorted educationalists, psychologists and sociologists have situated their endeavors in investigating the variables which impact ecologically agreeable activity to enhance ecological training and correspondence (Kollmuss & Agyeman, 2002). In any case, changing conduct through ecological training affirmed itself as a difficult task. In attempting to answer the question ‘why do some people act environmentally and others not?’ environmental researchers have been confronted with the complexity of behaviour change.

Specialists have created an exhibit of hypothetical skeletons to clarify the variables and associations basic ecological conduct change for the most part concentrating on the individual (Kurtycz, 2005; Kollmuss & Agyeman, 2002). The expected straight relationship between learning, disposition and conduct portrayed by Ramsey & Rickson (1977) neglects to consider the bunch of psychosocial variables that impact behaviour. However, many environmental organizations continue to develop education and communication campaigns and strategies based on such simplistic assumption (Kollmuss & Agyeman, 2002).

The need for interdisciplinary approaches to solving environmental problems has been increasingly recognized. This trend encourages an emphasis of social-psychological perspectives given to research on improving the understanding of human-environment dynamics. The requirement for interdisciplinary methodologies to taking care of ecological issues has been progressively perceived. This pattern empowers an accentuation of social-mental viewpoints given to research on enhancing the understanding of human-environment motion.
It is regularly contended that the advancement of responsible environmental behaviour, which has been to a great extent approached through natural instruction procedures and approaches, inconsistent at best in its research and practice. With the recognition that human behaviour is inalienably unpredictable, quality laden, and especially circumstance particular, a wide range of mental and social investigations for its understanding is needed.

To increase effectiveness and efficiency of environmental education and communications, a degree of uncertainty existing in the determination of individuals’ responses toward the environment based on a multitude of cultural, social, psychological factors, should be estimated. So, the purpose of this study was to identify a series of significant components in the educational, social and psychological contexts, and to test the relationships associated with responsible environmental behaviour of secondary school students of Kerala.

1.3 STATEMENT OF THE PROBLEM

The broader objective of the present study is to find out the factors affecting responsible environmental behaviour of secondary school students of Kerala. Hence the study is entitled as “FACTORS AFFECTING RESPONSIBLE ENVIRONMENTAL BEHAVIOUR OF SECONDARY SCHOOL STUDENTS OF KERALA”.

1.4 DEFINITION OF KEY TERMS

Factors

Factors are defined as one of the elements contributing to a particular result. In this study factors means the independent variables and socio-demographic characteristics taken for the study.
Environment Related Personality Variables

Constuitive Definition

Environment related personality variables refer to “the complex organization of cognitions, affects, and behaviours that gives direction and pattern (coherence) to the person’s life. Personality consists of both structures and processes and reflects both nature (genes) and nurture (experience). In addition, personality includes the effects of the past, including memories of the past, as well as constructions of the present and future” (Pervin, 1996: as cited in Mischel, 1999).

Personality Variable scales were designed to measure the subjects’ differences about their environmental dispositions, which describe the ways the subjects think about and relate to the everyday physical environment.

In this study four dispositions of environmental related personality variables are taken in to account. The definitions of selected four dispositions viz; Pastoralism Urbanism, Environmental Adaptation and Environmental Trust were taken from McKechnie’s Environmental Response Inventory (1977).

Pastoralism

Pastoralism is described as encompassing many aspects of environmental conservation. These include the protection of natural land and resources, resistance to development of land, and the ability to be self-reliant in natural surroundings among other things. (McKechnie, G. E., 1977)
Urbanism

Urbanism refers to the enjoyment of not open spaces, but the densely populated, fast-paced, unstable, and culture filled life found in many metropolitan areas. (McKechnie, G. E., 1977)

Environmental Adaptation

Environmental Adaptation subscale refers to those people who change their environment to suit their needs. These people oppose government control of private land and look to technology to rectify environmental issues. (McKechnie, G. E., 1977)

Environmental Trust

Environmental Trust subscale refers to those individuals who are generally open, and trusting of the environment, but who have a fear of being alone and vulnerable. (McKechnie, G. E., 1977)

Operational Definition

In this study, environmental related personality variables was defined as the scores of the items in the survey instrument designed to measure the extent of Pastoralism, Urbanism, Environmental Adaptation and Environmental Trust.

Situational Factors

Constitutive Definition

Situational factors refers to those factors outside an individual as an external reality in which the person perceives and codes with prior knowledge, experiences, and beliefs, which would serve to counteract or to strengthen the incidence of the particular behaviour. (Hines, Hungerford, Tomera, 1987).
Operational Definition

In this study, the scale of situational factors was defined as the scores of the 28 Likert-type items in the survey instrument designed to measure the extent of environmental beliefs to which the subjects self-report with respect to the specific societal situations of Kerala. The aspects taken are cultural factor, economic factor, social factor, technological factor, and educational factor.

Environmental Awareness

Constitutive Definition

It is defined as the understanding of the total physical circumstances around an organism. (McGrawHill Encyclopedia of Environmental Sciences, 2005)

Operational Definition

In this study, the Environmental Awareness was defined as the scores of the 25 items in the survey instrument designed to understand the circumstances around the subject.

Environmental Attitude

Constitutive Definition

Environmental attitude refers to a mental state comprising complex constructs of the individual’s beliefs (cognition), feelings (affect), and behavioural tendencies (conation) toward some particular objects concerning the environment (Hines, Hungerford, Tomera, 1987; Ajzen & Fishbein, 1980).
Operational Definition

In this study, the attitude scale was defined as the scores of the 33 items in the survey instrument designed to measure the extent of the subjects’ consciousness, beliefs, and feelings toward concern about the environment.

**Intention to Act**

Constitutive Definition

Intention to act has been interchangeably used with verbal commitment. Intention has been viewed as the conative component of attitude and it has usually been assumed that this conative component is related to attitude’s affective component. This conceptualization has led to the assumption of a strong relation between attitudes and intentions (Fishbein & Ajzen 1975).

Operational Definition

In this study, the Intention to act scale was defined as the scores of the items in the survey instrument designed to measure the extent of the subjects’ verbal commitment.

**Self- efficacy**

Constitutive Definition

Self- efficacy refers to the individual’s belief that he or she is capable of carrying out the particular behaviour or achieving the desired goal required by a specific situation. (Bandura, 1977; Mischel, 1999; Ajzen, 1988).

Operational Definition

In this study, the scale of self-efficacy was defined as the scores of the items in the survey instrument designed to assess the extent of the beliefs to which the
subjects self-report with respect to their own ability for carrying out the given behaviours.

**Barriers to Action**

**Constitutive Definition**

External barriers refer to those limits, obstacles, and constraints existing outside an individual, such as economic forces, social/political institutions, or inconvenience, perceived to interfere one’s attitudes toward environmental behaviour. Internal barriers refer to those limits, obstacles, and constraints existing within an individual, such as absence of information, knowledge, or commitment, perceived to interfere one’s attitudes toward environmental behaviour (as cited in Hsu, 2003)

**Operational Definition**

In this study, the scale of barriers was defined as the combined scores of the 25 items in the survey instrument designed to assess the extent of the subjects’ reluctance to action for the environment.

**Affecting**

**Operational Definition**

In this study affecting means the effect of select socio-demographic characteristics on responsible environmental behaviour, the influence of select independent variables on responsible environmental behaviour and the relationship between independent variables and responsible environmental behaviour of secondary school students of Kerala.
Responsible Environmental Behaviour

Constitutive Definition

Responsible environmental behaviour refers to a category of conscious actions or manifestation of action, derived from decision-making based on the underlying structures of personal responsibility and value, which is individually or collectively directed toward prevention and/or resolution of the environmental issues/problems (Hines, Hungerford, Tomera, 1987)

As defined by Sivek and Hungerford (1990), “the behaviour is considered environmentally responsible when the actions of an individual or group advocate the sustainable or diminished use of natural resources” (as cited in Vaske & Kobrin, 2001).

Operational Definition

In this study, responsible environmental behaviour is defined as the combined scores of 76 items in the survey instrument designed to assess the extent of the subjects’ actions and concernment.

Secondary School Students

In the present study the term ‘secondary school students’ denotes those students studying in high school classes (VIII, IX, X) of government, aided and unaided schools in Kerala state.
1.5 OBJECTIVES OF THE STUDY

1. To find out the level of responsible environmental behaviour of secondary school students of Kerala.

2. To find out the level of each of the select independent variables (environment related personality variables, situational factors, environmental awareness, environmental attitude, intention to act, self-efficacy and barriers to action) of secondary school students of Kerala.

3. To find out the effect of select socio-demographic characteristics (gender, locale, type of school, mother’s education level, father’s education level, monthly income of the family, type of family and enrolment in nature clubs) on responsible environmental behaviour of secondary school students of Kerala.

4. To find out the influence of each of the select independent variables on responsible environmental behaviour of secondary school students of Kerala.

5. To find out the relationship between each of the select independent variables and responsible environmental behaviour of secondary school students of Kerala for the total sample and relevant socio demographic characteristics.

6. To determine the relative contributions of factors (select independent variables and select socio-demographic characteristics) to the prediction of responsible environmental behaviour of secondary school students of Kerala.
1.6 HYPOTHESES OF THE STUDY

1. There exists significant effect of select socio-demographic characteristics on responsible environmental behaviour of secondary school students of Kerala.

2. There exists significant influence of each of the select independent variables on responsible environmental behaviour of secondary school students of Kerala.

3. There is significant relationship between each of the select independent variables and responsible environmental behaviour of secondary school students of Kerala for the total sample and relevant socio-demographic characteristics.

1.7 METHODOLOGY IN BRIEF

Normative survey method was used to conduct the present study. The present study is to find out the factors (select independent variables and select socio-demographic characteristics) affecting responsible environmental behaviour of secondary school students of Kerala. The study enquires the effect of socio-demographic characters on responsible environmental behaviour, the influence of independent variables on responsible environmental behaviour and the relationship between independent variables and responsible environmental behaviour of secondary school students of Kerala. The study also determines the relative contributions of factors (select independent variables and select socio-demographic characteristics) to the prediction of responsible environmental behaviour of secondary school students of Kerala.
1.7.1 Variables of the Study

Variables may be defined as those attributes of objects, events, things and beings which can be measured. It has the characteristics that are manipulated, controlled or observed by the researcher. In this study the investigator has been designed responsible environmental behaviour as the dependent variable and environmental related personality variables (pastoralism, urbanism, environmental trust, and environmental adaptation), situational factors, environmental awareness, environmental attitude, intention to act, self-efficacy and barriers to action has been designed as the independent variables.

1.7.2 Sample Selected for the Study

The final sample consists of 1806 secondary school students of Kerala. The sample was taken from six districts of Kerala. For the selection of the sample stratified random sampling technique was used giving due representation to gender, type of family, family income, mother’s education level, father’s education level, locale, type of school management and enrolment in nature clubs.

1.7.3 Tools Used for the Study

The following tools were used for collecting data for the present study

1. Responsible Environmental Behaviour Scale (REBS)
2. Environment Related Personality Variables Scale (ERPVS)
3. Situational Factors Scale (SFS)
4. Environmental Awareness Inventory (EAI)
5. Environmental Attitude Scale (EAS)
6. Self-efficacy and Intention to Act Scale (SIAS)
7. Barriers to Action Scale (BAS)
All tools were administered to the selected sample and the data was collected and analysed using appropriate statistical methods. The major statistical methods used were Computation of Percentage, Significance of Difference between Means using Critical Ratio (CR), Analysis of Variance –ANOVA (F), Scheffe’s Test of Multiple Comparison, Karl Pearson’s Product Moment Correlation(r), Test of Significance of r (t) and Stepwise Multiple Regression.

1.8 SCOPE OF THE STUDY

The present study is intended to find out the factors affecting responsible environmental behaviour of secondary school students of Kerala.

It is expected that the findings of the study may help in developing packages to empower secondary school student’s responsible environmental behaviour.

It is expected that the findings of the study may help the curriculum planners, teachers and administrators and all those who are concerned with education to realize the importance of the factors affecting responsible environmental behaviour of the secondary students. The investigator further believes that the results of the study will be useful to have a better understanding among the educators for the formulation, execution and evaluation of different environment education strategies at secondary level.

It is expected that the findings of the study may be helpful in restructuring the environmental education curriculum.

The findings of the study will be helpful in increasing the efficient organization and conduct of nature clubs in schools.
In today’s contemporary society, it is crucial to take responsible action for preventing and solving environmental problems. Before integrating environmental related concepts into curriculum and developing environmental education program for formal and non-formal education, it would be practical and meaningful to investigate the factors that are likely to affect responsible environmental behaviour of the students.

For these reasons, the investigator hopes that the results of the study will be valid and fruitful. It is further hoped that the results of the study would pave the way for further research in the area which can perhaps yield more generalizable results.

1.9 LIMITATIONS OF THE STUDY

Despite the sincere efforts made by the investigator to make the present study as objective as possible, a number of limitations and delimitation can be listed as given below:

The present study is delimited to secondary school students only. The pupils of Standard VIII, IX, and X was considered for the present study. The sample for the study consisted of 1806 pupils from six districts of Kerala. More samples from all districts can produce more generalisable results.

While quantifying the variables, each of them has its own inherent limitations. As the tools given were self-report devices, the investigator could not have control over the accuracy of the responses. The sample may have certain underlying unidentified characteristics which may influence their responses.

In spite of the aforesaid limitations of the study, all attempts have been made by the investigator to obtain reliable findings.
1.10 ORGANIZATION OF THE REPORT

The report has been organized under six chapters.

Chapter I contains a brief discussion of the background of the study, need and significance of the study, statement of the problem, definition of key terms, objectives of the study, hypotheses of the study, a brief description of methodology and scope and limitations of the study.

Chapter II presents a theoretical overview of factors affecting responsible environmental behaviour.

Chapter III contains a brief survey of review of related literature relating either directly or indirectly to the present area of study.

Chapter IV covers the methodology in detail, including a description of the method adopted, sample for the study, tools and techniques used for collection of data, preparation and description of various tools, and the procedure adopted for the collection of data.

In chapter V the analysis of data is given in detail followed by interpretation and discussion.

Chapter VI deals with the summary of the study together with conclusions arrived at, suggestions for improving environmental education, and suggestions for further research.

The conclusion is followed by bibliography and appendices.