CHAPTER 1
INTRODUCTION

1. Introduction

Appreciation of, and concern for our environment is nothing new (NEEAC, 1996). Since the early writings of John Muir (Studies in the Sierra 1950, the Mountains of California 1894, Our National Parks 1901, and Steep Trails 1919), Aldo Leopold (Game Management 1933 and A Sand County Almanac 1949) and Henry David Thoreau (Aulus Persius Flaccus 1840, The Services 1840, The Landlord 1843 and Poems of Nature 1895), amongst others, concern over humankind’s impact on the environment has been well discussed and documented. In 1962, Rachel Carson’s release of Silent Spring, a seminal work documenting the effects of pesticides in the environment, brought about a new sense of urgency in how humankind interacted with their environment and paved the foundation for environmental literacy. In early 1970s, the emergence of environmental education movements had given a powerful boost by United Nations conference on the human environment held in Stockholm (1972) focusing the attention on environmental concerns. It was considered as a milestone, as it led to the creation and promotion of many NGOs working towards the conservation of the environment. It also recommended that environmental education (EE) should be recognised and promoted in all countries.

As Daniel Einstein (1995) notes, “a new educational movement was born” after the publication of the landmark book, the silent spring in 1962. Silent Spring quickly became a catalyst for the environmental movement. From this movement, a different emphasis began to emerge, one is that development of awareness of human complicity in environmental decline and the other on involvement of public values that stressed the quality of the human experience and hence of the human environment (NEEAC, 1996). Public concern over our effects on the world around us began to mount. Events that both celebrated the environment as well as called to attention the issues affecting environment became increasingly popular. Earth Day was born in 1970. Those who taught about the environment called for a new type of curriculum that included an examination on the values and attitudes people used to make decisions regarding the environment (Einstein, 1995). The environmental educators began to work towards a common definition for environmental education.

1.1 Definitions

Environmental education has been defined and redefined over the last twenty five years. Definitional issues are inherent in a field this broad and encompassing. It is generally agreed that environmental education is a process that creates awareness and understanding of the relationship between humans and their many environments - natural,
man-made, cultural and technology. Environmental education is concerned with knowledge, values, attitudes, application and has as its aim responsible environmental behaviour (NEEAC, 1996).

1.2 The emergence of Environmental education for sustainable development (EESD)

Sustainable development is defined as “Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (Kates et.al., 2005).

Sustainable development, as a concept, emerged in 1970s along with the development of industrialization. Especially in 1987, with the report entitled “Our Common Future” (Brundtland Report, 2002) published by World Commission on Environment and Development, sustainable development concept which has the principle of development without disregarding environment has received a great deal of attention throughout the world. (Ercoskun, 2005).

The concept of sustainable development is an important milestone in environmental theory because it posits how society itself should be organized, and not simply why certain environmental protections should be adopted or how they can be best implemented. This ambitious interpretation is widely shared by business leaders, policy activists, and academics alike. Of course, just how much social and economic change is necessary to achieve sustainability depends upon how “unsustainable” one believes the present to be. Many advocates of the idea clearly believe the present to be quite unsustainable and thus are prepared for radical change (Taylor, 2002).

The concept of SD gained worldwide momentum with the publication of Our Common Future by the World Commission on Environment and Development (WCED) in 1987. Among the plethora of definitions on SD, the most widely accepted definition is by WCED –“development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Thus, this definition is in wider agreement with several other international initiatives IUCN, the Tbilisi Declaration (1977), the International Education Program (IEEP), the UN Conference on Environment and Development in 1992, the Earth Summit, Agenda 21 (Chapter 36), Millennium Development Goals, the Education for All Dakar Framework for Action, Decade of Education for Sustainable Development (2005–2014) as a way of signalling that education and learning lie at the heart of approaches to sustainable development, the 2002 Johannesburg Summit Decade of Education for sustainable development UNESCO, and the Ahmadabad conference on education for sustainable development(2004).

EE deals with the environmental concepts such as the physical and biological environment and their inseparable linkages. Environmental Education for Sustainable
Development (EESD) is a dynamic concept that utilizes all aspects of public awareness, education and training to create or enhance an understanding of the linkages among the issues of sustainable development and to develop the knowledge, skills, perspectives, and values which will empower people of all ages to assume responsibility for creating and enjoying a sustainable future (UNESCO, 2004). Environmental education and sustainability are familiar concepts and introducing environmental education is often viewed as a key step toward sustainable development (UNESCO, 2004).

Several scholars have suggested that EE/EESD should encompass education about, in/through, and for the environment (1980; Tilbury; Gough, 1992; Fien, 1993; 1997; Lucas, 1995; Lee, 1997). It has been strongly argued that a combined approach adopting different research methods is advantageous in environmental education research, or even essential to our understanding of the world (Gerber, 1998; Lee, 2000; Lidstone; Hagenbuch 2009, Bas 2010, Kose et. al, 2011).

Education for Sustainable Development (ESD)/Environmental education for sustainable development (EESD) is a concept encompassing a vision of education that seeks to empower people of all ages to assume responsibility for creating a sustainable future. For many years environmental education has sought to develop knowledge about the environment and to establish an ethic of caring towards the natural world. It has also grown over time to recognize the need to engage with many different interests in society in order to address environmental issues. Environmental education for sustainability acknowledges what has always been true, ‘that how people perceive and interact with their environment (their worldviews) cannot be separated from the society and the culture they live in’. Importantly, recognition of the many values natural and cultural which the environment may encompass including the protection of places of National Heritage Significance, based on their natural, cultural and indigenous values. It is timely that this statement, Educating for a Sustainable Future, is released during the first year of the United Nations Decade of Education for Sustainable Development (UNDESD 2005–2014).

ESD implies a shift from viewing education as a delivery mechanism, to the recognition that we are all learners as well as teachers. ESD must happen in villages and cities, schools and universities, corporate offices and assembly lines, and in the offices of ministers and civil servants. All must struggle with how to live and work in a way that protects the environment, advances social justice, and promotes economic fairness for present and future generations. We must learn how to resolve conflicts, create a caring society, and live in peace. ESD must start with examining our own lifestyles and our willingness to model and advance sustainability in our communities. We pledge to share our diverse experiences and collective knowledge to refine the vision of sustainability while continually expanding its practice. Through our actions we will add substance to the UNDESD processes (Education for a Sustainable Future conference held at Centre for Environment Education, Ahmedabad, India 2004).
Though several publications are available on environmental education in India, there is no comprehensive attempt to assess the efficacy and impacts of EE/EESD strategies at school level. Hence, as a pioneering attempt, the present study was initiated. The primary focus of this study is to enhance knowledge, attitudes, behaviour and skills and concern for issues of environmental problems. This was done through active EESD teaching-learning approach in EESD at school level in Puducherry and Cuddalore regions.

The present study is restricted to urban/peri-urban schools, as they are more concerned with environmental deterioration than the rural areas. Schools can make considerable difference in motivating and mobilizing local communities through teachers/students, for improving environmental quality. Creation of understanding and knowledge on the environment among middle school students would change their behaviour and attitudes that could lead to action towards solving their local environmental problems. This will help in meeting the NCF-2005 guiding principles for curriculum development.

Research focusing on the relationship between different experiences and learning outcomes will add to the existing literature with important insights regarding how best to develop programs that promote pro-environmental behaviour. Therefore, the goal of this study is to investigate whether an active EESD intervention which uses cognitive and affective engagement strategies can increase student’s knowledge, attitude, behaviour and skills. In order to do this, the effectiveness of active EESD intervention based intervention is compared to a traditional intervention.

1.3 Objectives

The major Objectives of this action research are to foster the acquisition and transfer of knowledge, skills and attributes concerning the environment and sustainable development at the local level through the implementation of the specially prepared EESD modules and to monitor their efficacy in selected schools. The specific objectives are to:

- assess the student’s knowledge, behavioural attitudes, and actions towards environmental problems, issues, conservation and protection of biodiversity/vital natural resources-especially air and water, besides solid waste management

- investigate the changes in student’s knowledge, attitude, behaviour and skills before and after the EESD interventions among the school students

- investigate the environmental education awareness of school teachers as a function of school type, residential background, and gender.
• analyze the magnitude of environmental literacy presented in science and social science text books in Tamil Nadu and to compare them with national missions of environmental literacy prescribed by National council of Educational Research and Training (NCERT).
STRUCTURE OF THE THESIS

This thesis is organised into seven chapters. In the first chapter, a origination of environmental education (EE) and environmental education for sustainable development (EESD), the characteristic of EE and EESD, objectives of EE, the global and national perspectives of EE and EESD and international and national conferences on EE are presented in chapter one besides this the chapter included the major objectives of the study are also presented.

Second chapter included the background of the study this chapter consist of five subheadings. The first one deals with the global perspective on EE. The second subheading deals with the evolution of environmental education-An Indian perspective. The third subheading focused on characteristics of EE. Fourth subheading deals with Environmental Education for Sustainable Development (EESD)-A global perspective. The last subheading of this chapter covers the topic - EESD-An Indian perspective

In chapter three there are three part of review of literature were presented in the first part of review explores the relevant literature on the status of environmental education for sustainable development in the international and national context. This chapter also reveals the studies related to the role of active EESD teaching learning approach in Environmental Education for sustainable development in schools in India and other parts the world. In the second part of review of literature focusing on environmental knowledge, environmental attitudes, and environmental behaviours, primarily from environmental education literature, was considered. The information regarding demographic variable (such as age, education, income, gender, locality and management) and, environmental knowledge, attitudes and behaviours was highlighted. In the third part of review a defining on environmental literacy from national and international perspectives were presented.

Chapter four focuses on the study area description of Puducherry and Cuddalore were presented in which the demographical data, climatological data, the current environmental status were also presented both for Puducherry and Cuddalore.

Chapter five describes the methodology of the study most suited to undertake the research. This includes theoretical framework, sampling strategies, program implementation, program evaluation, tools and techniques, validation, and statistical analysis for active EESD, teacher’s perception on environmental education and content analysis

Chapter six presents the results and discussions. These results are organised based on the objectives set out in the research. Hence this chapter subdivided into three sections namely;
1. The effectiveness of active EESD teaching learning approach (Student part)
2. Teachers perception on environmental education (Teachers part)
3. Content analysis
In each of the sections results are presented and discussed in detail. The objectives were revisited to address major findings.

Chapter seven provides conclusions and recommendations emerging from the study. Outputs derived in the whole study were used to provide key recommendations for curriculum, updating the teacher’s knowledge, attitudes towards environmental education and policy related to environmental education for sustainable development