



# A Systematic Review on Environmental Awareness and Related Practices Among the Secondary School Students

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**Abstract:** Environmental concerns are a huge worldwide problem that need serious consideration. Due to an increasing human population and technological advancements in every sector, environmental issues have multiplied in recent years, resulting in a wide range of problems that have brought the ultimate need for alternative sustainable technologies to protect our mother nature to the forefront of our minds. The need for contemporary technology and the changing patterns of human existence represents a severe danger to the environment, and as a result, pollution levels are increasing at an alarming rate on a daily basis. As a first step toward achieving sustainable and equitable development, it is critical to adopt policies and programmes that promote resource efficiency and deploy technologies that demonstrate how to prevent environmental harm, which will ultimately lead to sustainable development. Schools are the places where a large number of young minds are instilled with educational principles and associated practises in order to grow into responsible citizens in the future. In India, it is one of the most significant cultural heritage sites as well as a popular tourist destination in the southern region of the country. The city is undergoing multiple changes as a result of its high population density, but on the other hand, there is a general lack of understanding about environmental issues.

**Key Word:** Environmental Issues, Environmental Awareness, Environmental Education in School

## I. Introduction

The consequences of environmental difficulties are felt not just on a local level, but also on a worldwide scale, as is the case with many major occurrences. In recent decades, numerous industrial and infrastructure developments, human population growth and urbanisation, plastic usage, electronic waste, vehicular emissions, depletion of biodiversity, contamination of pollutant in water bodies, soil, and atmospheric pollution have all wreaked havoc on the natural environment, resulting in serious adverse health consequences for humans. Many industrialised nations are steadily discovering a variety of alternative and new methods to reduce the negative consequences of pollution while also making the most use of available natural resources. Natural catastrophes, huge floods, and the catastrophic consequences of climate change have wreaked havoc on numerous parts of the globe in recent years, claiming the lives of thousands of people. Students should be taught how to make the most efficient and effective use of our natural resources and energy in order to protect our mother nature, as well as how to review historic traditions in resource conservation in order to achieve sustainability on all levels and a healthy feature. In order to generate socially responsible citizens of the future, there is an urgent need for environmental awareness on every element of the environment, as well as the protection and preservation of natural resources and biodiversity.

### 1.1 Need For Environmental Education in School

Today, school is the only institution that has the ability to have a larger impact on us and our families. The organisation of schools is an important aspect of the educational process in the nation. A well-organized school is the cradle of all

educational opportunities. Because they are referred to be small societies, their primary goal is to promote education across the community. We spend a significant amount of time at school, not only studying and collecting knowledge, but also helping us to shape our character and learn the fundamental concepts of life and society. During our school years, the fundamental characteristics of our personalities are developed. The term education is readily comprehended before being defined. Education is defined as the art of instructing or educating, and it is derived from the Latin word "educatum," which meaning "to educate." Education is a process of discovering one's own voice.

Education prepares the human mind to make the best choice possible, opens the mind to the outside world, aids in the solution of many worldly issues, and contributes to the economic, political, and social growth of a nation in many ways. There is a purpose to environmental education. It attempts to achieve this aim by cultivating a populace that is conscious of the environment around the globe. Environmental education may prepare individuals to discover solutions to present issues and to avoid the occurrence of new ones in the future.

The effects of industrialization and scientific ingenuity have had a devastating impact on the environment. Man has been blind to the reality that these developments have had a negative impact on the ecology. The principal outcomes of modern civilization include industrial growth, technical innovation, changing modes of transportation, urbanisation, changes in eating preferences, deforestation, and a reduction in the amount of agricultural land available. The widespread use of insecticides and pesticides, as well as the incorrect application of fertilisers and chemicals in the environment, are all elements that have posed a threat to the lives of humans, animals, particularly birds, and other species. Industries are a major source of risk to human life, creating air pollution that is hazardous to humankind. Similar to this, several other types of pollution, such as soil contamination, noise contamination, water contamination, marine pollution, global warming, and the consequences of nuclear dangers, among other things, are big issues that need public education and understanding of.

Everybody is concerned about over-exploitation of natural resources, and this is a universal worry. As a result of population increase, soil degradation, and nutrient depletion, food shortages are occurring at a quicker pace. In the process of burning fossil fuels and chlorinated compounds such as chlorofluorocarbons, which are used in refrigerators and air conditioners, carbon dioxide and other gases are released into the atmosphere, contributing to global warming and ozone depletion, which may result in sea level rise and catastrophic climate change. In the exhaust of a diesel car, small particles are released that may be readily breathed, and these particles are hazardous to one's health. A variety of physical and chemical issues are caused by mine waste and effluents from the mining and metallurgical sectors, which are released into the environment. A number of other industries, such as the paper and pulp industries, fertiliser and explosive industries, soap and detergent industries, chemical industries, food processing industries, textile, tannery and leather industries, and petroleum industries, release/dispose undesirable and harmful constituents that contribute to air and water pollution, causing widespread public concern.

As sewage begins to smell and get stale, it becomes a source of concern. It is necessary to adopt proper disposal and treatment procedures in order to avoid the development of chronic illnesses. It is impossible for air to circulate freely through the soil when sewage is applied continually to a portion of it. This is because the pores or voids of the soil get blocked and the pores or voids become clogged with sewage. Consequently, anaerobic conditions develop in lieu of aerobic ones, and the ground becomes incapable of supporting any more sewage load. The degradation of sewage occurs at this stage, resulting in the production of unpleasant gases. This is referred to as "sewage illness of the land." Noise pollution occurs as a result of population growth, fast industrialisation, and urbanisation, which has negative effects on human health, comfort, and efficiency. It causes blood vessels to constrict, which results in high blood pressure, mental discomfort, high cholesterol, heart attacks, neurological difficulties, birth abnormalities, and abortion, amongst other consequences. The environment is a topic that everyone is talking about these days, but how many of us are taking it seriously? How many of us have a clear understanding of what the environment is? It is necessary to prepare for the consequences of environmental contamination and the steps that will be taken to mitigate those consequences. Government should launch and develop environmental awareness initiatives that are free of political propaganda in order to conserve the environment. It is recommended that we choose some applications that are related to it. It is only conceivable if the general population is aware of the ecological and environmental challenges that exist. It will be impossible to enforce a polythene littering ban unless the general population knows the environmental consequences of this practise, to provide one example. Those that pollute our environment should comprehend that they are injuring themselves as a result of their actions. When the "Earth Summit" on environment and development was held in Rio de Janeiro in 1992, it was the first time that the general public's attention was drawn to a global level for the first time. Later on, a series of international summits and conferences were established in order to combat the threat of environmental contamination.

When it comes to environmental challenges, active collaboration between social groups, scientists, educators, social workers, legislators, administrators, and the general public is required. Movements should start at the grass-roots level, not the top. Only commemorating "World Environment Day" will not be sufficient to tackle the situation. There is little that the government can do on its own until and until every person understands their environmental responsibilities. As a result, it is an excellent moment to educate and inspire each and every people to become more environmentally conscious and responsible. As a result, the development of a population that is knowledgeable about the environment and the problems related with it is essential today. This is only possible if environmental education is brought into the educational system. Environmental education aims to influence and change people's attitudes toward the environment, as well as to instil a greater sense of responsibility for protecting the environment in children and adults. The importance of school in this process cannot be overstated. If society believes that we must work together to create a future free of environmental difficulties, then it is their responsibility to ensure that people are informed about the environment and the problems it causes. As a result, it is the moral obligation of every educator to ensure that pupils are knowledgeable about environmental challenges and acquire traits that promote long-term sustainability.

## II. Literature Review

**Noordin, T. A., & Sulaiman, S. (2010)**, It is the purpose of this study to ascertain the current state of environmental consciousness among secondary school pupils as it pertains to the notion of sustainable development. Survey participants were Form Four and Form Five students from urban and suburban areas in Hulu Langat, Selangor. A total of 340 kids participated in the survey (n = 340). (Bandar Baru Bangi and Mukim Hulu Langat). The degree of environmental consciousness in relation to the notion of sustainable development, as well as behaviours, attitudes, and moral values for sustainability, were the dependent variables in this study, and they were all measured. Gender, subject streaming types, and school location were all independent variables in the study of demographic parameters. It was a questionnaire with a Likert scale that was employed in this study as the research instrument. The descriptive, t-test, and Pearson correlation tests were used to analyse the data, which was done using SPSS version 11.5. Environmental awareness was found to be "strong" in the notion of sustainable development among secondary school pupils, according to research findings. Using the t-test, it was discovered that there were statistically significant differences at the 95% confidence level (p 0.05). It revealed that I female students had a "higher" level of environmental awareness than male students,

- (i) It revealed that I female students had a "higher" level of environmental awareness than male students.
- (ii) Science stream students had a "higher" level of environmental awareness than arts stream students, and
- (iii) Students in the arts stream had a "lower" level of environmental awareness than science stream students.

In terms of academic achievement, children in urban schools scored "higher" than those in suburbs. The Pearson correlation revealed that there was a positive but weak association between the amount of environmental consciousness in the idea of sustainable development and the activities, attitudes, and moral values associated with sustainability, as determined by the Pearson correlation. It was discovered in the study that the ideas for environmental awareness were classified into three categories: emotionally charged concepts, environmental attitudes concepts, and environmental practises concepts of sustainability awareness

**El Batri, B., Alami, A., Zaki, M., Nafidi, Y., & Chenfour, D. (2019)**, The purpose of this study article is to enhance environmental knowledge and behaviour in Moroccan schools by including environmental education into the science curriculum at the middle school level. A comparative multi-case research was done as a first stage in this process. Student participants will come from four middle schools representing four distinct socio-economic backgrounds and four different socio-environmental environments. It was performed using questionnaires that were divided into four sections: learning techniques, teaching aids, environmental knowledge, and the application of environmental information in appropriate eco-responsible behaviours. The results of the survey were published in a report. The findings of the analysis of the results obtained at the level of the four schools were used to design a teaching intervention that lasted for four weeks (2 hours each week). A different version of the same software was taught throughout this procedure. In order to achieve the aims of this study, we have included certain local environmental concerns into the curriculum using active learning techniques and instructional aids that are generally acceptable for the students. Within the scope of our intervention, we have established the required relationship between ecological knowledge and proper pro-environmental conduct. This, on the other hand, may be attributable to the fact that it has never been utilised previously in this manner. Overall, the findings indicate that there has been a considerable increase in both environmental information learned and intentions to engage in environmentally friendly behaviours in the study population.

**Esa, N. (2010)**, In order to prepare their students for a sustainable future during this decade of Education for Sustainable Development (ESD), educational institutions must step up their efforts to do so. Teaching children and teens to be environmental leaders of tomorrow begins with teaching them as children and teenagers in their communities. As a result, prospective teachers should exhibit pro-environmental behaviour and attitudes if they are to successfully incorporate ESD into their classrooms after graduation. Furthermore, they should have thorough awareness of the surroundings in order to assure successful delivery. Previous research, on the other hand, have shown that many students and instructors lack appropriate environmental knowledge, while having good views about the environment. It is claimed that this lack of information is a contributing factor to the absence of pro-environmental behaviours among them. The purpose of this project is to conduct a survey of pre-service secondary teachers participating in an undergraduate Biology Teaching Methods course on their environmental knowledge, attitudes, and behaviours. The findings indicate that these instructors are prepared to achieve the objective of incorporating environmental sustainability into the teaching of biology in schools. The findings also point to the need for a more concentrated effort in teacher education to prepare them for their role in teaching students about and for the environment, according to the researchers.

**Nagra, V. (2010)**, Environmental education awareness among school teachers is examined in connection to their educational level, residential background, gender and topic specialty, according to the findings of the research. A self-designed questionnaire to assess environmental education awareness was delivered to a stratified sample of 3,600 school teachers who answered the questions. The findings of the analysis of variance indicated that there was a substantial difference in the degree of environmental education awareness among school instructors depending on their level of education, residential background, and topic specialty. The gender of school instructors, on the other hand, did not show any statistically significant differences.

**Aliman, M., & Astina, I. K. (2019)**, The purpose of this research was to assess if the earthcomm learning paradigm had any impact on developing environmental consciousness among high school pupils. Increasing students' environmental awareness is a representation of their knowledge, attitudes, actions, and abilities in the context of environmental issue solving. Additionally, this research was carried out to see if there were any changes in student activities between courses that used the earthcomm learning model and classes that used traditional learning models. The research used a quasi-experimental approach. High school students in Malang, Indonesia, were divided into two groups for the purpose of collecting data using an environmental awareness instrument at the start and end of the experiment and at the end of the control group's study. The ANCOVA test was used to examine the data, which was performed using the SPSS version 23 programme for Windows. In this research, the findings demonstrate that the earthcomm learning model has a considerable impact on high school students' changes in knowledge, attitudes, behaviours, and abilities in the area of environmental issue solving. The experimental class had more active students than the control class, which was a positive trend.

**Sánchez-Llorens, S., Agulló-Torres, A., Del Campo-Gomis, F. J., & Martínez-Poveda, A. (2019)**, The first "Earth Day" was observed in 1970, marking the beginning of a worldwide environmental awareness. Increased understanding of environmental issues has been achieved via environmental education, while other extra-curricular avenues have also been advocated. The overall goal of this article is to compare environmental consciousness in two compulsory school training levels (primary education and secondary education) in the town of Elche (Spain), using a School Ecobarometer that analyses four dimensions: affective, cognitive, conative, and active. The School Ecobarometer is comprised of four dimensions: affective, cognitive, conative, and active. We find that elementary school students exhibit more environmental awareness than secondary education students, and we agree with the authors' conclusions that interventions in extra-curricular contexts are important to increase environmental consciousness.

**Said, A. M., Yahaya, N., & Ahmadun, F. L. R. (2007)**, Malaysian schools were the first in the world to legally adopt environmental education in 1986. Due to different restrictions faced by instructors, its implementation has been restricted since then, and its efficacy in attaining the stated environmental education goals remains in doubt. In light of this, an empirical, exploratory, and descriptive study was conducted to determine the levels of environmental understanding, awareness, and knowledge, as well as the involvement of secondary school students in sustainable consumption practises. The findings were published in the journal *Environmental Education*. A study was done with 306 students from four secondary schools in the Malaysian state of Johor, using a self-administered questionnaire. The students were chosen at random from four different secondary schools. The instrument was divided into parts that addressed topics such as demographics, sources of environmental information, the notion of environment, environmental knowledge, environmental awareness and concern, sustainable consumption behaviours, and activities connected to nature. Students were aware of environmental concerns, but only to a modest extent worried about them, according to the findings. Only 10% of the students were able to characterise environment in terms of a relational notion, according to the results (as opposed to an object). They were just a minor amount more successful in incorporating Janikowski's four sustainable consumption principles (selection, reduction, maximising, and segregation) into their everyday lives. Respondents were found to have

little interest in environmental education that takes place "in" or "with" natural encounters. Also looked at was the link between the different factors. The results revealed that environmental education had increased students' awareness of the environment, but that it had been ineffectual in altering their actions and behaviour patterns. A number of recommendations are made for improving the awareness and engagement of Malaysian school children in environmental education and sustainable development programmes.

**Mónus, F. (2019)**, Decades ago, it was recognised that education is essential for sustainable development and environmental sustainability (ESD). However, the bulk of the research that have looked at pupils' environmental awareness have been straightforward descriptive investigations. Rarely are studies conducted to determine the effectiveness of ESD in schools and the underlying causes that influence students' environmental knowledge and responsibility. 845 pupils from 13 secondary schools in Hungary were asked to complete questionnaires to assess their environmental awareness and socio-economic background. It was decided to do a pragmatic analysis in order to determine which elements, whether connected to the student's history or to the school's background, were the most important in explaining the wide range of environmental awareness seen among the kids. The researchers looked at a variety of facets of environmental awareness, such as self-declared behaviours (consumer behaviours, healthy dietary behaviours, frugal habits, waste management), as well as environmental views. Teacher responses to detailed questions on environmental education principles and the relevant infrastructural backdrop in the schools were gathered for preliminary research. Students' socio-economic backgrounds have a significant influence on elements of environmental consciousness, according to the findings. To determine the impact of ESD on students' attitudes and behaviours, greater research into environmental education concepts taught in schools (including the eco-school label and practise) is required.

**Punzalan, C. H. (2020)**, Environmental education has been implemented into a variety of course curricula in the Philippines, including life and physical sciences, social studies, geography, civics, and moral education, to name a few subjects. During the academic year 2019, the purpose of this research was to evaluate the link between environmental awareness and behaviours among Filipino senior high school students in order to serve as a foundation for an environmental education programme in the country. The Environmental Awareness and Practice Questionnaires were used in this correlation quantitative research, which included SHS students from a private educational institution in the Philippines who were recruited by a total population sampling method. Participants had a "excellent" degree of environmental awareness ( $x = 3.89$ ), but a "poor" level of environmental practise ( $x = 3.47$ ), according to the findings of the study. The coefficient of 0.663, which indicates that there is a "positive correlation" between the two variables, was derived via the use of nonparametric correlation analysis. In other words, the amount of environmental awareness of senior high school students is strongly and substantially connected to the extent to which they engage in environmental activity. In light of the results, the researcher suggests that environmental education programmes be developed that would both attempt to preserve and expand students' awareness and capabilities in regard to environmental concerns as well as concepts of environmental sustainability (see Appendix A).

**Shobeyri, S. M., Omidvar, B., & Prahallada, N. N. (2007)**, Secondary school pupils' environmental awareness in India and Iran was explored as part of this research. Nine hundred and ninety-one students were recruited by the stratified random sampling approach from 103 secondary schools in the cities of Mysore (India) and Tehran (Iran) to participate in the research (Iran). There were 476 males and 515 girls among the subjects. The Environment Awareness Ability Measure was used to evaluate their abilities (EAAM). The findings reveal that there are statistically significant disparities in environmental awareness between Indian and Iranian pupils. In addition, there are statistically significant variations in environmental awareness between and within two groups based on gender, both across and between two groups. In addition, the style of school administration (public vs private) might have an impact on students' environmental awareness in both the United States and the United Kingdom.

**Ari, E., & Yilmaz, V. (2017)**, It is proposed and tested in this study that middle school students in Eskişehir have higher environmental literacy than their counterparts in terms of environmental awareness, environmental attitudes, and environmental behaviour, and that this has an impact on their purchasing decisions for environmentally friendly products. The suggested structural model included exogenous latent variables such as environmental illiteracy and environmental awareness, whereas endogenous latent variables such as pro-environmental attitude, pro-environmental conduct, and the purchasing of environmentally friendly items were included. Although environmental illiteracy was a latent variable, it did not have a statistically significant impact on environmental attitudes or the purchase of environmentally friendly products. On the other hand, environmental awareness had a positive impact on pro-environmental attitudes and the purchase of environmentally friendly products. It appears that students who are environmentally conscious develop positive attitudes

toward the environment, and that having a positive attitude toward the environment leads to them exhibiting pro-environmental behaviours and adopting a positive attitude toward environmentally friendly products, according to these findings.

**Singh, S. (2011)**, Generally speaking, the objective of environmental education in schools is to educate and sensitise young minds to environmental issues and concerns while also ingraining in them a positive personal, social, and environmental attitude and behaviour. It is vital to investigate the extent to which school children are aware of the environment and the difficulties associated with it. Male and female students from secondary schools from various backgrounds, including the general category, other backward c classes, and scheduled castes, participated in this research in an attempt to compare their environmental awareness. To conduct the research, a random sample of 109 students from two schools connected with the Central Board of Secondary Education and two schools affiliated with the Uttar Pradesh Board of Secondary Education were recruited, with 50 female students and 59 male students participating. In this study, Dr. Praveen Kumar Jha developed an environmental awareness ability measurement instrument consisting of 51 questions based on environmental awareness. This tool was utilised to conduct the analysis. The mean, standard deviation, and t-value were used to analyse the data that had been obtained. The findings demonstrated that there was no statistically significant difference in environmental awareness between male and female students from general castes, other backward cs classes, and scheduled castes when comparing their levels of awareness.

### III. Conclusion

Person environmental awareness may be defined as the knowledge, consciousness, or interest that an individual has about something. Environmental awareness, then, refers to the knowledge of the current state of the environment, as well as the consciousness, interest, and concern that people have about environmental degradation, its conservation, and their participation in various social activities that contribute to the prevention of environmental degradation. Environmental issues cannot be handled effectively unless and until the general public is made aware of them and actively participates in their solution. Environmental education, which transmits information, understanding, skills, values, and attitudes, and encourages people to be environmentally conscious, may serve to raise awareness and promote environmental care. Recognizing the significance of environmental protection, preservation, and improvement, the Indian government has included environmental protection, preservation, and improvement in its constitution. Following this, the Indian Supreme Court ruled that environmental education should be included in all school curricula, effective immediately. Societies and clubs, population programming, and initiatives, such as tree planting, Earth Day, and the commemoration of World Population Day, may all help to raise awareness about these issues. The need for and significance of environmental awareness has grown enormously in the current setting, when the lifestyle of the average person has emerged as the most significant cause of environmental pollution and degradation. It is sometimes argued that the challenge of resolving environmental concerns is inextricably tied to the level of environmental education provided to the public. This is certainly true. While environmental education raises awareness among the general public about the importance of making proper use of environmental resources in order to preserve and conserve them for future generations, the impact of environmental awareness raised through environmental education has also served as a source for expanding the scope of environmental education. Environmental education is a multi-faceted field that encompasses a variety of disciplines.

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