Chapter - 2

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Environmental degradation is not something very new, but man has realized it too late. Environmental Education emerged as a result of Man's consciousness about environment protection and conservation. Various studies have been conducted in the area of environmental education since the time education has been realized to be a strong means for bringing about change in behaviour and attitude of Man. Stockholm Conference which held in 1972 was the first sign of awareness among the people throughout the world with regard to conservation of environment. After this Conference scholars started conducting research in this area. But now almost every aspect of Environmental Education including objectives, methods, curriculum, teaching material and evaluation has been touched. United Nations', concern over environmental problem was the beginning in the area of Environmental Education which provided impetus to works in this field of study.

Baris Yalabik, Richard J. Fairchild, (2008), presented a paper on environment, which is facing increasing threat of irreparable damage, academics, practitioners, and policy-makers are becoming more focused
on the incentives of individuals, corporations, and governments to act in the interests of the environment. Since the environment is a public good, private incentives may be misaligned. Hence, game theory provides an ideal tool to examine environmental problems. In this paper, we review the existing game-theoretic approach to the environmental behaviour of corporations and governments. The literature reveals that, at the corporate level, environmental incentives are driven by market forces (the existence of 'green' consumers and investors), and regulation. Hence, game-theoretic approaches within the industrial organisation field are particularly appropriate. At the global level, where governments make international environmental agreements (IEAs), the situation resembles a prisoner's dilemma, where each nation is tempted to break the IEA, and 'free-ride' on the other nations' abatement efforts. After reviewing the literature, we make our own contributions, at both the corporate and global levels. At the corporate level, we develop a benchmark monopoly model of corporate environmental behaviour. We then compare our results with those of Fairchild's (2008) duopoly model, and Bagnoli and Watts (2003) oligopoly model. This provides an insight into the inter-relationship between market structure, consumers' environmental preferences, and corporate environmental behaviour. Next, we develop a behavioural
game theoretic approach to global environmental agreements, in order to determine whether psychological factors, such as empathy, guilt and anger, can mitigate governmental free-riding, and sustain IEAs. Finally, we discuss future research, specifically noting that a gap in the literature should be filled by developing a model that combines corporate and global environmental incentives.

Yadav, P.S., Bharti, Anita (2007), carried an investigation to study the environmental awareness among higher secondary students of Varanasi district of Utter Pradesh. The findings of the study indicated that environmental awareness has positive relationship with scientific attitude among students and science students were found more aware about their environment as compared to arts students. The researcher selected random sample from the population. The sample of the present study consisted of 360 science and art student of higher secondary schools of Varanasi city.

Suresh, S., Kadheravan, S. (2007), studied on a sample of 400 college students to find out the relationship between environmental awareness ability and personality. The findings of this study reveal that environmental awareness ability is affected by demographic variables such as subject of specialization, residential area, parental income and parents' level of education. Further, it is found that gender does not
affect the personality of students whereas subject specialization, residential area, parental income and parents' level of education significantly influence certain dimension of personality. It is observed that the sensing and feeling of an individual have significant influence upon their environmental awareness ability. The result and implications are present in this paper.

Sachdeva, Rahul (2007)⁴ and his team from the Indian Institute of Ecology and Environmental studies conducted a survey through questionnaire. The study includes 250 students aged between 18 and 24 of Delhi University Colleges; IIT Delhi, Jawaharlal Nehru University, indraprastha University and the All India Institute of Medical Science. It was found that environmental issues like global warming extinction of plants and animals and pollution of rivers were found to be lower on the agenda of most of the student. More than 50% of the respondents were found to be largely aware of environmental issues but were found wanting on issues concerning the cause. The study concluded that today's youth should be made aware of the hazards of environmental loss and recommended making environmental studies a must in educational institution.

Peer, Sara, Goldman, Daphne, Yavetz, Bela, (2007)⁵, The authors report the environmental attitudes and knowledge of 765 1st-year
students in 3 teacher-training colleges in Israel and examine the relationship between these variables and background factors and their relationship to environmental behavior. Although the students' environmental knowledge was limited, their overall attitudes toward the environment were positive. The authors found a positive relationship between the environmental knowledge and environmental attitudes of the students and the level of their mothers' education. Students majoring in fields related to the environment were more knowledgeable and had more environment-oriented attitudes.

A. Sahay, (2006), presented a paper on sustainability to be a major concern, and India is no exception. The Indian environmental management system today clearly reflects this global concern. Global economic forces have impacted environmental management in India on many fronts, such as pollution control, preservation and promotion of ecology, environmental legislation, multilateral environmental agreements, social pressures and legal actions. Based on the personal and professional experiences of the author in business, government, academia and NGOs, this article traces the path taken by the government in developing environmental policy in India in the process of the country's development and traces how the corporate entities responded to the challenge. It is important to approach these
interdependent dimensions of sustainable development with a balanced view of domestic as well as of global aspects. The broad objective of the author is to initiate debate on public environmental policy and corporate environmental management as 'Sustainable Development in India' is the main theme of the 14th Annual International Sustainable Development Research Conference, which is planned in New Delhi in 2008.

Mercy Abraham and Arjunan, N.K. (2004)\textsuperscript{7}, carried on an investigation which was undertaken to study the pro-environmental behaviour of secondary school children in relation to their environmental knowledge. The data were collected from a sample of 624 secondary school students by using the pro-environmental behaviour scale and the environmental knowledge test. The two tailed test of significance for difference between means and pearson's product-moment correlations were the statistical techniques used in addition to computation of vital statistical indices. The results showed that only a smaller proportion of the secondary school students possess high environmentally responsible behaviour. However, no differential effect of gender and locale were noticed in their pro-environmental behaviour. A low positive and significant correlation was found to exist between pro-environmental behaviour and environmental knowledge.
Boys and girls differ significantly in the degree of relationship between pro-environmental behaviour and environmental knowledge whereas; no such difference was noticed in the case of rural and urban students.

Zafar, Saba. (2002), made an attempt to see the effect of academic discipline, Gender, Intelligence and Socio-Economic status on environmental awareness of pupils. The research study was conducted on 400 students out of which 200 were girls and 200 were boys. It is evident from the result that academic discipline has a long effect on environmental awareness if pupils. The girl students of science stream exhibited highest degree of environmental awareness than the boys in the same stream. Thus we see that study of science has a direct influence on Pupils awareness towards their environment. It has been noticed that intelligence does not contribute significantly to the environmental awareness in all the discipline accept social science girls. It has also been noticed that economic status of students too has no significant effect on their environmental awareness.

P.K. Sahoo, (2000) conducted a study on measuring the effects of different components of environmental awareness (viz air pollution, water pollution, health and nutrition, growth and total ecosystem) and to establish a relationship between scientific attitude and environmental awareness of +2 students of Rajasthan. Environment Awareness Test
(EAT). and Scientific. After applying mean, S.D. the findings of the study were the following:

1. Scientific attitude had significant and positive effect on most of the components of Environmental awareness although attrition famst and agriculture, population and growth.

2. Systematic way of living played a major role to influence most of the components of environmental awareness of students significantly.

3. Academically sound students were found more conscious of environmental problems than the weaker ones.

Jennifer Campbell Bradley, T. M. Waliczek, and J. M. Zajicek (1999), conducted a study on high school students, Environmental knowledge and attitudes were assessed from a questionnaire administered before and after exposure to a 10-day environmental science course. Results indicated significant differences in both knowledge gain and attitudes of students after exposure. Students' environmental knowledge scores increased by 22% after they completed the environmental science course. In addition, students' environmental attitudes became more environmentally favorable. A statistically significant correlation was found between pretest knowledge scores and
pretest attitude scores and between posttest knowledge scores and posttest attitude scores. In both cases, students having higher knowledge scores had more favourable environmental attitudes compared with students with lower knowledge scores.

M. Prateek and AL Sidana (1998) investigated interest towards Environmental Education among Senior Secondary students. They compared the interest of urban and rural as well as boys versus girls student towards environmental education. An inventory of environmental awareness developed by the investigator was administered among the sample of 1000 students which include 500 boys from rural and 500 girls from urban areas. The findings showed significant difference between urban and rural students. Rural students possessed more interest than urban students and the boys and girls showed equal interests towards environmental education.

D.S. Walter, Leal Filho. (1998), published a paper on the usefulness of multimedia for environmental learning. This paper discussed the relationship between multimedia materials and environmental learning in European Context. Their usefulness for environmental education was also studied. It outlined the advantages of the use of multimedia materials, as well as the, limitations seen in the utilisation for environmental education, purposes, providing
examples of some initiatives being undertaken in this field, which might also be of interest in developing countries.

Shaista Jabeen, G.C. (1997), attempted to study the environmental awareness among higher secondary students of science and non science streams. He tried to find out the difference between the students in relation to their environmental responsibility and gender. The sample consisted of 200 students of science and non science subjects. The investigator used the tool to measure developed by Singh and Rao. The result showed that there was no significant difference between the students in their environmental awareness and environmental attitude but students differed in their environmental orientation and the environmental responsibility. It also revealed that female students were comparatively more aware than male towards environmental issue.

Michael A. Tarrant, H. Ken Cordell (1997), conducted five different environmental attitude scales were regressed on an 11-item self-reported general environmental behavior index derived from a confirmatory factor analysis. Correlations between each of the 5 attitude scales and the behavioral index were computed and a Fisher's Z-transformation was used to test for the effect of six respondent characteristics (gender, residence, education, income, age, and political
orientation) on the attitude-behavior correlations. Although all of the five scales were significantly correlated with the behavioral index (p<.001), correlations for some attitude scales were highly affected by respondent characteristics. Of the 5 scales examined, the Environmental Concern (EC), New Environmental Paradigm (NEP), and Awareness of Consequences (AC) scales were associated most strongly with behavior, but the EC and NEP also were significantly affected by respondent characteristics. Implications for future studies and use of the scales are discussed.

Butler, S. M. & Francis, S. (1997), employed a theoretical framework that focuses on endogenous and exogenous conditions that affect attitudes and behavior. The final sample of 402 women resulted from a national random sample of 1,000. A survey measuring general environmental and clothing environmental attitudes, and environmental consideration when making clothing purchases was developed. Factor analysis reduced the attitude items to 3 general environmental factors and 2 clothing environmental factors. Path analysis was employed to examine the relationships among variables. Results revealed that demographic characteristics influenced general environmental attitudes which in turn influenced clothing environmental attitudes which ultimately impacts clothing purchasing
behavior. Results further explicated the existing theoretical framework and provided support for a sequential approach.

Aleem Zeba (1997) conducted a research to find environmental awareness of male undergraduates in AMU. She measured and compared the environmental awareness of male undergraduates of Arts versus Science, Arts versus Social Science, Arts versus Commerce, Science versus Social Science and Science versus Commerce. A sample of 140 male undergraduates was taken. The result confirmed that there was a significant difference in environmental awareness of Arts versus Science, Arts versus Social Science, Arts versus Commerce, Science Versus Social Science but there was no significant difference in environmental awareness of Science and Commerce.

Raj Kumar Singh (1996), attempted to study the environmental awareness in school children of Aligarh. The investigator developed a tool to measure the awareness of school children in Aligarh towards environment. He tried to find out the difference in environmental awareness if any in relation to gender, standard and area (rural/urban). Questionnaire was distributed among a sample of 350 children which include 128 male and 222 female and after t-test analysis it was confirmed that there was no significant difference between boys and girls regarding environmental awareness, no difference was observed
between students of IV and IX standard regarding their environmental awareness. Moreover, it revealed that rural and urban children did not differ in their awareness about environment.

Gunavant, M. Oza, (1996)\textsuperscript{18}, presented a paper on foundation of environmental awareness. This paper actively supported environmental conservation endeavours, campaigns and crusades, initially in his individual capacity and later on, on behalf of the international society of naturalist (INSONA). Conclusion is drawn after above 3 studies that now days students are more concerned about their environment, they are equally aware of the prevailing environmental problems and are in favour of finding suitable solutions to overcome these problems. Generally all students feel that environmental education should be included in the curriculum.

Elsevier B.V., (1996)\textsuperscript{19}, conducted a study an individual environmental, where attitudes are largely responsible for the citizens' protective and participatory behavior on environmental issues. The intensity of environmental protective attitudes reflects in the individual responses to their surroundings. Insight into environmental behavioral attitudes is invaluable in environmental policymaking. Women exhibit a greater intensity of environmental protective behavior as compared to men. Problems in environmental attitudes and behaviors need to be
addressed in order to evolve socially desirable responses to the environment.

Singh, Ummed. (1995) developed a Video-instructional package to assess environmental awareness in secondary schools children and tried out the developed video-instructional package in, creating environmental awareness among school going children of Gujarat, Rajasthan and U.P. A sample of 180 Hindi medium students studying in Classes VII and VIII were administered a questionnaire and analysis was done- by applying Mean, SD and t-test. Results indicated that the developed video instructional package was found effective for the students of Classes VII and VIII of Kendriya Vidyalaya Surat, Rajasthan, Bareilly and three other states and the majority of students liked and enjoyed learning through video-instructional package. They also found it knowledgeable, innovative, systematic and interesting.

Ndijiyako, Albert. (1995), studied assessment and comparison of environmental knowledge and attitudes held by thirteenth grade general and technical education students in the Republic of Burundi, to produce base line data about 13th grade student's environmental knowledge and attitude towards the environment for the general and technical education in Burundi and to study the relationships of attitudes and knowledge to selected independent variables. Results
indicated that significant differences existed between respondents in environmental knowledge and attitudes towards the environment with regard to human population, natural resources, water quality, ecological principles and global environmental concerns. Significant differences were also found between environmental knowledge and attitudes towards the environment based on student's socio-demographic variables employed in this study. The issue of pollution has also been dealt by various researchers throughout the world.

Crichton, W., (1995) conducted a study an alarms about the environment have brought about superficial changes of environmental attitudes, but deep attitudes will remain the same unless our conception of reality changes. Ontology determines how one pursues one's needs and welfare. The crucial element is the conception of an actuating factor (AF) in nature: whether personal or impersonal, one or many, in material things or separate. One's point of view is that of an agent with a body, and therefore involves identifying with the AFs and using the AFs in the world to obtain desired results. The major ontologies are: (i) animism (AF=personal, many, in things): one identifies with the spirits and tries to get them on one's side; (ii) polytheism (AF=personal, many, separate): one identifies with gods and makes deals with them for exploiting the environment; (iii) monotheism (AF=personal, one,
separate): one "obeys" and prays to God for an exploitable environment and help in exploiting it; and (iv) the ambiguous ontology of modern science: (1) it is matter-active (AF=impersonal, many, in things), yet (2) laws underlie nature, so it is implicitly monotheistic (AF=personal, one, separate): one identifies with matter and with separate agents and uses laws to manipulate the AF in things to exploit the environment for material indulgence. An alternative ontology (AF=impersonal, one, not material) actuates events in accordance with the total state of matter. One identifies with the AF and belongs to the material world, since the AF is devoid of separate interests. Therefore, one tries to make the world a good place to belong to

Usmani, Q. (1994)23, conducted a research on Environmental awareness in primary school children. This study revealed that there was no difference in environmental awareness of boys and girls at primary level. She noticed further-that there was a significant difference between Class V and Class III students regarding their awareness about the environment. Having an overview of the literature available on Environmental Education, the present investigator intended to conduct the study on environmental awareness of school children in Aligarh. The study of related literature is necessary and beneficial, as it would provide a factual base for the study underway and be helpful in
understanding the present problem in it right perspective. The purpose of the collection of this information is to shed more light on what is known up to date in this area. Furthermore, the findings of the present investigation can be evaluated keeping in view the conclusions arrived at in the earlier studies relating to the present problem.

Swain, B.C., Das R. (1994) in their article Environmental Education at the school level published in the Educational Review (1994 Nov., Vol. NO.11) stated that there was a need to increase awareness and understanding of the environment and man's impact upon it to find out effective ways to manage them. To achieve this goal Environmental Education is the need of the day.

Aziz, Rafat (1994), in her analytical study of environmental education curriculum at primary school level, developed a questionnaire to measure the opinion of teachers about the curriculum and contents. She tried to find out the difference in opinion of teachers about the environmental education curriculum. The effect of gender and teaching experience on teachers opinion about the environmental education was analysed. 50 primary school teachers were administered an opinionnaire, which indicated that there was no significant difference between male and female teachers regarding their opinion about the objectives of Environmental Education whereas professional
experience (it teachers significantly influenced their opinion on the objectives of Environmental Education. There was a significant difference between male and female teachers regarding their opinion about the agencies of Environmental Education. The male teachers significantly differed from the female teachers regarding their opinion about the method of imparting environmental education. The attitude of teachers towards Environmental Education is another very important aspect in the field of environmental education.

Walter D.S. Leal (1993)\textsuperscript{26}, in the same year published another paper on the use of media as a source of information and environmental awareness in formal teaching. The paper discussed that increasingly communication vehicles were giving a considerable amount of time to environmental topics. This was justified in view of the high receptivity of the public to environmental themes. Alcumo. and Rooney. (1980), and Fabri. (1981), found that the opportunity offered by communication vehicles for approaching environmental topics was very positive and useful in the stimulation of public concerns. Further many teachers agree that through some programmes on environmental theme, the media offers a valuable opportunity to stimulate environmental awareness among students. Attempt made by UNESCO in developing curriculum Environmental Education have influenced different
countries to design their own curriculum systematically which have been started in countries like U. K., Japan, U.S.A., India and other underdeveloped as well as in the developing countries.

Nasreen, Nakhat. (1993)²⁷, studied attitude of college and university teachers towards environmental education. The results revealed that gender and experience in their direct effect significantly influenced the attitude of teachers towards environmental education. Male teachers and high experienced group teachers exhibited more favourable attitude towards environmental education than female and low experienced teachers. A significant difference was observed between the attitude of teachers from science discipline and teachers from Humanities. As evident from such studies, environmental awareness greatly influences the attitude towards environmental education. Those who are more aware of environmental problems have a strong feeling about environmental protection, conservation and they are in favour of granting a significant place to environmental education in the curriculum at various stages of education.

Malik, A. (1993)²⁸, conducted a research on attitude towards environmental education of A.M.U. students and found that though gender was not a matter of great influence on the attitude of students in general, but the subject discipline influenced their attitude towards
Environmental Education. The study concluded that the students from Science discipline were more aware of environmental problems and therefore, they were strongly in favour of Environmental Education. Aziz, R. in her analytical study of Environmental Education curriculum at primary school level, came to the conclusion that the existing curriculum of Environmental Education at primary school stage is not suitable because of its discrepancies in various aspects of Environmental Education curriculum.

**Shahnawaz (1990)**, studied the awareness and attitude of teachers and students towards the environment. The objectives of the study are as follows.

1. To determine the extent of awareness about the environment among students, and teachers.
2. To find out the attitude of teachers and students towards the environment.
3. To find out the difference between teachers and students and male and female group concerning the environment.

The study was conducted mainly through a survey and the application of a tool developed by the investigator to test attitudes and awareness. Major findings of the study are:
1. It was found that 95% teachers and 94% students possessed positive environmental attitudes.

2. The environmental trained teachers and untrained teachers did not differ in this attitude.

3. Teachers had more awareness of the environment than students.

4. Trained and untrained teachers did not differ on environmental awareness.

5. Girls possessed significantly more awareness of the environment than boys.

Atchia, M., (1990) presented the paper, argues that in order to achieve environmentally sound and sustainable development, environmental education (EE) for the 1990s must become sustainable development education (SDE), of which there are four major components, including the teaching and learning of the theory and practice of: environmental monitoring; environmental protection; environmental resources development and management; and environmental enhancement. The basic concepts for EE in order to achieve a positive environmental attitude are outlined, and the areas of concentration and the work of UNEP is described. These include: climate change and atmospheric pollution, pollution and shortage of
freshwater resources, deterioration of coastal areas and oceans, land degradation (including desertification), biological diversity, hazardous wastes and toxic chemicals, environmentally sound management of biotechnology, and protection of human health conditions and quality of life. A concluding section outlines the key aspects of SDE in practice.

Nora, Jose Angel. (1989)\(^3\), studied environmental activism and attitude towards waste water pollution in Puerto Rico. The study examines the effects of community activism on the environmental attitude of residents affected by waste water pollution in Puerto Rico. Perceptions and attitudes were derived from a 1987 survey of residents at three sites in the La Plata River Basin affected by waste water pollution. Results revealed that residents of the site characterized as highly active, gave the poorest rating of stream water quality and perceived a greater impact from waste water Pollution on the community. Attitudes towards Government were negative among all affected residents, but were less negative among those aware of community actions carried out in their communities and both government agencies and community organisations benefit from greater resident involvement in environmental community actions.

Cornwell, Martha L. (1989)\(^3\), conducted a study to examine male/ female differences in environmental concerns.
1. Over the urgency of pollution problems,

2. Concern over resources and energy issue.

3. Concern over whether science and technology can solve environmental problems and

4. Concern over nuclear power.

The conclusion derived is that male/ female differences in concern vary by dimension of concerned, country and group. The greatest difference were found on the science and technology dimension and the least differences on the resource dimension. Gender differences were in general as great among the general public groups and were generally somewhat more likely among American groups than European ones.

Angel, (1989), examined the effects of community activism on the environmental attitudes of residents affected by waste-water pollution in Puerto-Rico. This study revealed that residents of the site gave the poorest rating of stream water quality and perceived a greater impact from waste water pollution on the community. The result showed that both Govt. agencies and community organisations were benefited from greater resident involvement in environmental community actions. Martha, C. (1989), in his study examined
male/female differences in environmental concern. The findings of this study indicated that male/female concern vary by dimension of concern, country and groups. The greatest difference was found in Science and technology dimensions and least on the resource. A gender difference among various group members was also found. While a pattern of gender difference seems to exist, the differences were small and vary from group to group.

Srichai, Naiyana, K. (1988)\(^{34}\), conducted a study environmental perceptions and attitudes of selected university students in Thailand, in order to investigate environmental perceptions and attitudes of Thai University students and factors influencing them. A total of 2,257 students in the faculties of Agriculture, Education and Engineering responded to the Likert type questionnaire and final results revealed that students considered environmental problems less important than problems related to economics, social issues, education and politics. Students perceived deforestation depletion of natural resources and species extinction as the most serious while overcrowding and air pollution placed last. Students indicated that the major causes of environmental problems were irresponsible business men and officers who failed to enforce the laws, the mass media such as T.V., newspapers etc. were ranked as their major sources of information.
followed by lessons in school, and in general students exhibited a moderately positive attitude towards environmental issues.

Saudabeh, A. (1987)\textsuperscript{35}, studied on a sample of 314 sixth grade students including both male and females. A ten-item questionnaire was administered to them. Results indicated a significant change in students' attitude particularly those of boys following outdoor experiences. Students of both sexes showed positive attitude towards teachers in a regular school day three weeks following the outdoor experience and finally it concluded that outdoor environmental education was an appropriate way of instruction to motivate students' perception of their school teachers as well as themselves in a positive direction.

David, H.L. (1986)\textsuperscript{36}, worked out a comparative study on interests in Science and Environmental Education, and their implication for instruction. This study identified that middle school grades showed average interests in health and human welfare, where as higher grades showed uniformity good interests, in higher school grades the boys showed interest in earth Science but girls were found disinterested. All age groups showed interest in experimental education. Diane, Z.L. (1986) studied an assessment of level use in planning and environmental awareness in rural New York. This study conducted that
natural environmental factors played an important role in rural planning. A number of studies have been conducted on perception, awareness and attitude of people toward environmental problems. Some of these studies reveal difference in opinion on various dimensions like, sex, region, background etc. Soudabeh, A. in (1986, examined the relationship between male and female sixth grades attitude and a multidisciplinary outdoor Environmental Education experiences. It was concluded that outdoor Environmental Education was an appropriate way of instruction.

Nancy, S.W. (1985) developed a short, valid and reliable instrument with which to measure the attitude of environmental concern. This short scale of environmental concern has the necessary psychometric characteristics to become a useful tool for investigating the attitude of environmental concern. With repeated use, the short scale of environmental concern could become a standardized instrument for measuring environmental concern (attitude) among US adult populations.

Masan, J. (1985), investigated on science and global environmental pollution issue. He wanted to investigate scientific understanding enlightened to political understanding. Each phase of science is linked to political perspective. He concluded that the effort of
UNEP to address ozone depletion is assessed by the difficulties of international organizations faced in developing political solutions to global environmental pollution problem.

**Maghenda, Wughanga, Marianne (1985)**[^39], studied education about environmental issues, conservation and management. A study from four secondary school students concerned about environmental issues in Kenya, develop and administer a questionnaire designed to determine Kenyan students concern about environmental factors facing the country and utilize the findings of the study to develop a conceptual frame work for environmental education in Kenya. Results revealed that there are regional differences in Kenyan students concern about environmental issues, gender differences, residential differences, district gender differences in concern within geographical regions, differences in concern according to socioeconomic status, and finally all students in general were concerned about socio-cultural elements.

**Hassan, Arafah Ahmad (1984)**[^40], conducted the study to assess environmental education in Egyptian Secondary Schools. Keeping in view the perspective of science teachers, Ministry of Education personnel and school principal. Interview and questionnaire techniques were used, The study showed that the science and social science curricula in the Egyptian Secondary School were effective in the
development of students' awareness and knowledge of environmental issues and problems. These curricula were ineffective in several areas like; opportunities for students to develop their attitude towards environmental issues and problems, the development of student's skill needed to solve environmental problems and the development of the student in environmental activities and planning. It was also found that a multidisciplinary-approach was perceived by teachers sampled to be the most appropriate means of "incorporating environmental" education in the Egyptian Secondary Schools.

Daniel, D.R. (1984)\textsuperscript{41}, in his study described the teachers opinions of Environmental Education in Pennsylvania. The result of this study indicated that there was a need to continue the thrust and development of Environmental Education in the state.

Ahmad (1982)\textsuperscript{42}, found out that the data of teachers towards science and social science curricula in the Egyptian Secondary Schools was moderately effective in the development of the science, awareness and knowledge of environmental issues and problems. He further observed that curricula were ineffective or of limited effectiveness in several areas such as opportunities for students to develop their attitudes towards environmental issues and problems, the development of skill to solve environmental problems and finally the participation in
environmental activities and Planning. The study suggested that multidisciplinary approach was perceived by the teachers sampled to be the most. Appropriate means of incorporating Environmental Education into the Egyptian Secondary Schools.

Rajput, J.S, Dr. Saxena, A.B, and Dr. Jadhao, V.G. (1980), conducted experiment in implementation of Environment Approach at Primary level for developing positive attitude towards environment, relating the concept with the local environment and resources, attempting to develop empathetic relationship with different members of community and understanding their role and importance and finally making use of easily available material from the local environment for conducting experiments, demonstrations, discussions etc. Results indicated that teaching through environmental approach does increase the environmental awareness of the children, provided that the curriculum is interesting, relevant to the children rather than writing down question answers and the mean achievement scores of experimental and control group in the traditional type of examination are not significantly different.

Mohanty A.K. (1977), studied communication behaviour of rural school children on environmental awareness. This was undertaken in the Varanasi, A District of U.P. A sample of rural school
children was taken and the results indicated that the respondents were well acquainted with electronics and printed media, and with reference to their environmental exposure, majority were dependent on newspapers. They got exposure to environmental information through governmental sources as well as from electronics and printed media, educational literature and NGOs.

Althoff, and Gerg, (1977)\(^45\), through their work revealed that the people showed great deal of concern about the environmental issue, a relatively low level of need in governmental industrial efforts to solve the pollution problem. With the increasing need of environmental awareness researches in the area of developing courses and formulating new curricula were initiated in different countries.

Sandman (1974)\(^46\), investigated Mass Environmental Education. He tried to answer the question, can the Media do “the Job?” His study discussed the role of Mass Media in relation to Public education (impacting knowledge skills and motivation). He pointed out that the effectiveness of Mass Media on Environmental Education is greatly affected by their attention to environmental skills, and their delivery of persuasiveness content.

Daine, Z.L. (1968)\(^47\), carried out a study on the environmental awareness in students of rural New York. The study revealed that
natural environmental factors played an important role in the rural planning.

From the above two studies it is concluded that students of urban have a general tendency to show concern over environmental problem.
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