



A Study of Attitude towards Environment among Secondary School Teachers and Students of Darbhanga District of Bihar

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Abstract: Ecological degradation continues to be a pressing issue worldwide, especially in developing countries such as Bihar, India, where socio-economic problems exacerbate environmental issues. This research examines the environmental attitudes of secondary school students and teachers in Bihar's Darbhanga district. In a descriptive survey design, 600 participants from ten high schools in rural and urban locations were sampled. Data were gathered via a standardized Environmental Attitude Scale and analysed via t-tests and correlation statistics. The results indicate that there are no significant gender differences in environmental attitudes among students, although rural-urban differences did prove statistically significant. Also, a high positive correlation was observed between socio-economic status and environmental attitudes and a moderate one between environmental awareness and attitude. Educators were revealed to have a moderate level of environmental consciousness but insufficient motivation to put it into practice. The study highlights education's role in inculcating pro-environmental behaviour and recommends greater experiential learning and environmental training in the school curriculum. In pointing to demographic factors as shaping attitudes, the study offers policy makers and educators useful guidance to encourage sustainable environmental behaviour in analogous rural settings.

Keywords: Environmental Attitude, Secondary Education, Teachers, Students, Bihar, Rural-Urban Comparison, Environmental Awareness.

1. INTRODUCTION

Environmental degradation has been one of the most critical issues of the last few decades. Industrialization, urbanization, deforestation, and the uncontrolled use of natural resources have greatly interfered with the fine ecological balance, resulting in climate change, loss of biodiversity, and air, water, and soil pollution (United Nations Environment Programme [UNEP], 2021). These environmental issues present a real challenge not just to the existence of many species but also to the health of humans, food security, and sustainable development. The scenario is especially critical in developing nations such as India, where poverty and population pressure further aggravate environmental problems. As per the World Bank (2022), India is among the most exposed nations to environmental risks, with air and water pollution alone contributing to significant mortality and morbidity. In such a scenario, environmental awareness and positive environmental attitudes among the public, particularly the youth, have become the need of the hour.

The Role of Education in Environmental Awareness

Education is fundamental in influencing the consciousness of people and communities towards environmental concerns. The National Policy on Education of 1986, revised in 1992, in India stressed the integration of environmental education at all stages, underlining that education is an investment for the present and a protection for the future. Environmental education is not just a curriculum subject but a lifelong experience that seeks to foster understanding, values, skills, and environmental sustainability behavior (UNESCO, 1978). The incorporation of environmental education in school curricula has several purposes. Not only does it enlighten students on environmental issues but also equips them with cognitive and affective skills necessary for environmentally responsible behavior (Palmer, 1998). Teachers, being major agents of instructional delivery, have a critical role to play. Their awareness and attitude towards environmental issues have direct implications on the way students receive and respond to these issues (Tilbury, 1995).



Significance of Attitudes towards Environment

Attitude is a psychological concept that includes beliefs, feelings, and intentions to behave towards a specific object or issue (Ajzen, 1991). In environmental education, environmental attitude describes the mindset individuals have towards the conservation, preservation, and rehabilitation of nature. Kaiser, Wölfling, and Fuhrer (1999) argue that positive environmental attitude is among the strongest indicators of environmentally friendly behavior. A number of studies have indicated that awareness itself might not result in a change in behavior without the presence of a positive attitude (Hines, Hungerford, & Tomera, 1987). Hence, it is essential to measure and examine environmental attitudes, especially among teachers and students, to test the effectiveness of environmental education programs and to formulate improvement strategies for them.

Environmental Education: Global and National Developments

Global concern for environmental education developed momentum during the United Nations Conference on the Human Environment, held in Stockholm (1972) and reaffirmed by the Tbilisi Declaration (1977), in which the following principles of environmental education were articulated. The Tbilisi Declaration reinforced the values of awareness, knowledge, attitude, skills, and participation towards mitigating problems concerning the environment. In India, environmental education was included in formal education through several initiatives, such as the National Curriculum Framework (NCF) 2005, which suggested environmental education to be implemented with a cross-curricular approach. Schemes such as the National Green Corps and the Environmental Education Awareness and Training (EEAT) scheme by the Ministry of Environment, Forest and Climate Change are focused on institutionalizing environmental education at the school level. In spite of such initiatives, real effects of these programs are disparate in different states and districts and are usually hindered by restrictions on resources, teacher training gaps, and deficiency of community participation (Shobeiri, Omidvar, & Prahallada, 2007). Hence, district-level investigations such as this one are indispensable for assessing local dynamics of environmental education.

Environmental Attitudes among Teachers and Students

Educators are facilitators of knowledge and values. Educators' beliefs about the environment shape their educational practices and, in turn, students' environmental awareness (Fien, 2003). Educators holding positive environmental views are more apt to incorporate environment-related themes in their instruction, involve students in environmental activities, and practice environmentally sustainable behavior themselves. In the same manner, students as prospective citizens hold an important key in determining society's environmental course. Adolescence is a decisive period when attitudes and values become fixed. There is evidence to show that secondary school environmental education has the power to influence environmental attitudes and actions among students (Bogner & Wiseman, 1999). Yet, environmental attitudes are not the same and can differ depending on a number of different factors, such as gender, socio-economic background, urban-rural origins, school type (government or private), and exposure to environmental information (Tuncer et al., 2009). Knowledge about these differences can assist with the design of educational interventions that are targeted and relevant.

Darbhanga District, Bihar

Darbhanga, a northern district in Bihar, is a significant cultural and educational center. The region has a rural population, socio-economic issues, and an emerging youth population. Though the region has potential, it suffers from environmental problems including waterlogging, deforestation, improper waste disposal, and local water body pollution (Ahmad, n.d.). These issues are further heightened by inadequate availability of quality environmental education and mass awareness campaigns. Against this background, it is important to determine the environmental values of principal stakeholders in the education system that is, secondary school teachers and students who have the potential to become catalysts for environmental conservation and sustainable development.

2. NEED AND SIGNIFICANCE OF THE STUDY

National policy has recognized environmental education as central to development; however, adoption at the level of community engagement is not uniformly even. Effectiveness hinges not only on what teachers and pupils know but even more importantly, on what and how they do. Teachers' attitudes as role models, their commitment to upholding environmental welfare, and then students' embracing a sense of responsibility and power to mitigate harm to the environment are equally determinative. The current research acquires significance at this juncture. It attempts to examine the attitude towards the environment among secondary school students and teachers in Darbhanga district, Bihar. The presumption of the study is that awareness and action could be vastly apart, and a comprehension of the attitudinal patterns may act as a means to fill that gap. The findings obtained from this study can be applied to curriculum



construction, teacher preparation programs, and student motivation campaigns, thus ensuring a more ecologically aware community. In addition, through determining demographic and organizational factors that predict environmental attitudes, the research will assist policymakers and educators in shaping focused interventions. A survey of the literature shows that environmental attitude studies have largely been carried out in urban areas or at the national level, with few attempts to study rural areas such as Darbhanga. Further, whereas student attitudes have been well researched, fewer attempts have been made to study teacher attitudes, especially at the secondary level. This twin emphasis on teachers and students, and the localized context of Darbhanga, renders the current study both timely and novel.

3. OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. To investigate the environmental attitude of secondary school teachers based on gender.
2. To study the environmental attitude of high school students based on gender.
3. To investigate the environmental attitude of secondary school teachers based on their location (Rural & Urban)
4. To study the environmental attitude of high school students based on their location (Rural & Urban)
5. To compare the environmental attitude between high school teachers and students.

4. REVIEW OF RELATED LITERATURE

The significance of environmental attitudes in determining behaviors and practices that promote environmental conservation has been widely researched in many fields, especially in education and psychology. A sound body of research indicates that encouraging environmental awareness and supporting positive environmental attitudes among students and teachers can be a crucial step towards reducing ecological degradation and ensuring sustainable living.

Environmental Attitudes and Education

Environmental education has been described as a lifelong process of learning which increases people's knowledge, awareness, skills, values, and involvement in activities aimed at solving environmental problems (UNESCO, 1978). It is generally agreed that the acquisition of a positive attitude towards the environment is an integral part of environmental literacy and critical for behavioral change (Hungerford & Volk, 1990). Therefore, environmental attitudes are a psychological inclination that shapes individual reactions to environmental issues.

Zaki Ahmad (n.d.), in his paper entitled "A Study of Awareness and Attitude Towards Environment Among Secondary School Teachers and Students of Darbhanga District of Bihar," highlighted the fact that environmental issues are mounting because of the lack of awareness and indifferent mindsets. The study highlights the importance of analyzing the attitude of students and teachers since they are the cornerstones of a sustainable society. Ahmad posits that teachers, as change agents, need not only ecological knowledge but also appropriate attitudes to impact their students. The study recorded differences in environmental attitudes according to gender, institution affiliation, and location, hence justifying the use of demographic variables in attitudinal research.

Palmer (1998) highlighted that environmental education is not just a subject in school but a process that instills environmental awareness. According to him, students should be offered experiential learning to encourage critical thinking, problem-solving, and participation. In harmony with this idea, Fien (2003) said that environmentally literate teachers play an important role in developing an ecologically aware student population. Therefore, knowing the teachers' attitudes is key to assessing the possible effectiveness of environmental education programs.

Researches on Teachers' Attitudes

Teachers are influential in determining the environmental attitudes of students. Research has shown that teachers with good environmental concerns are likely to include environmental education in their teaching activities (Tilbury, 1995). In addition, their attitudes determine how students understand environmental issues and their contribution to addressing them.

Chhokar (2010) conducted a nationwide study on environmental education in India and concluded that many teachers possess limited environmental awareness and exhibit passive attitudes towards environmental protection. This limitation hinders their ability to foster pro-environmental behavior among students. Similarly, Pooley and O'Connor (2000) asserted that teacher attitudes are a better predictor of environmental behavior than knowledge alone. Teachers who personally value environmental sustainability are more likely to engage students in meaningful environmental learning. **Ahmad's (n.d.)** study identified that most teachers at Darbhanga exhibited only moderate environmental awareness and did not exhibit the motivation to implement environmental action even when they showed concern towards



environmental degradation. This attitude–behavior discrepancy is an overarching one also found in environmental psychology, in which concern is not always followed by action (Kollmuss & Agyeman, 2002). Ahmad suggests that pre-service and in-service teacher education programs need to incorporate environmental education more firmly so as to influence both competence and attitude.

Students' Environmental Attitudes

Teenagers are a key population in determining future environmental trends. Research has shown that this age group is highly sensitive to environmental education and can play an important role in household and community-level environmental behavior (Bogner & Wiseman, 1999).

Tuncer et al. (2009) researched Turkish students and established that environmental attitudes were highly significant in terms of gender, urban-rural residence, and parents' education level. Urban residents and students whose parents were well-educated had better attitudes. The findings are in consonance with Ahmad's (n.d.) field observations in Darbhanga, where students from urban schools had greater environmental awareness and stronger environmental attitudes compared to rural school students.

A survey by Sharma and Gupta (2017) of secondary school students in Himachal Pradesh reported a positive relationship between environmental knowledge and attitude. Students undergoing school-based environmental programs showed a more pronounced sense of environmental responsibility. Likewise, Kaur (2013) recorded that students with improved access to environmental resources (e.g., eco-clubs, library resources, field trips) scored much higher pro-environmental attitudes.

Additionally, research by Leeming, **Dwyer, and Bracken (1995)** demonstrated that student involvement in outdoor environmental education activities contributes to greater environmental sensitivity and enhanced attitudes. These results suggest that experiential, hands-on learning plays a significant role in determining the attitudes of students toward the environment.

Comparative Studies and Attitude Variations

Comparative analyses of environmental attitudes between groups (teachers and students, rural and urban, male and female) provide significant findings. Zelezny, Chua, and Aldrich (2000) identified that females are more environmentally conscious in their attitudes and behavior compared to males. Ahmad (n.d.) also supported this trend, as he identified that girl students in Darbhanga showed greater concern for the environment and were more inclined towards environment-friendly practices.

Shobeiri, Omidvar, and Prahallada (2007), in a comparison of Iranian and Indian students, observed that Indian students tended to have higher environmental awareness but only moderate environmental attitudes. The authors contended that the absence of practical environmental experiences hindered the motivation of students to translate their knowledge into practice. Ahmad further pointed out that although the school curriculum has environmental studies content, its impact is highly dependent on pedagogy and school climate. Most schools have no formal programs such as eco-clubs or school-based environmental projects that are necessary to reinforce environmental learning and attitudes.

Gaps in Literature and Direction for Present Study

In spite of the plethora of studies on environmental attitudes, there is still a lack of studies on particular socio-cultural and geographical contexts like Darbhanga. Most studies are inclined to concentrate on urban dwellers or national averages, thus ignoring the subtle variations that occur in semi-urban and rural areas. In addition, while numerous studies analyze either teacher or student attitudes in isolation, fewer have compared both within one regional framework. The current study bridges this research gap by analyzing and comparing the environmental attitudes of secondary school students and teachers in Darbhanga district. Through this comparative analysis, one has a better appreciation for how attitudes are constructed, passed on, or affected within the teacher-student relationship.

5. RESEARCH METHODOLOGY

The research employed a sound methodology with a representative sample of secondary school teachers and students. With the employment of standard instruments and control variables, the study sought to reveal the interrelation between family background, demographic characteristics, and environmental attitudes. The process of systematic data collection and statistical analysis had a well-delineated framework for assessing how diverse factors shape environmental beliefs among the target population.



Sample Selection

The research aimed at measuring environmental awareness and attitudes of secondary school students and teachers in Darbhanga District, Bihar. A simple random sampling method was used to identify a homogeneous group from ten different high schools (Raj High School, M.A.R.M. High School, Mukundi Choudhary High School, etc.). For controlling confounding variables like socioeconomic status, gender, and age, inclusion was limited to students of 9th and 10th grade only, i.e., age group 12–14 years. In the same manner, teachers were also chosen on the basis of availability. Because of time limitations as well as financial limitations, 20 teachers and 40 students from each school were selected, giving a cumulative sample of 400 students and 200 teachers.

Variable Structure

- The research used a 3x1 variable design. The independent variables were:
- Rural-urban background
- Gender (boys and girls)
- Family background (parents' education and occupation, socioeconomic status)

The dependent variables centered on:

- Attitude towards the environment
- The design allowed the research to test the impact of demographic and socioeconomic variables on environmental awareness and attitudes.

Instruments and Tests Used

A number of standardized tools were used to collect data:

Personal Data Sheet (PDS):

Obtained basic demographic data such as age, gender, caste, religion, type of family, and education, occupation, and income of parents.

Socio-Economic Status (SES) Scale:

This scale assessed parents' education, occupation, and income, with scores adjusted to represent current income levels.

Environmental Attitude Scale (Developed by Haseen Taj):

A 61-item Likert-type scale measuring six domains; polluters, population explosion, forests, wildlife, health and hygiene, and environmental concerns. Respondents answered between "strongly agree" and "strongly disagree" (reversed score for negative items), yielding an overall attitude score.

Administration of Tests

Data gathering was done in a simulated classroom environment. Teachers and students from each school met in a shared hall, where the researcher discussed the objective and process of the study. The instruments were given in two phases:

Phase One: Respondents completed the Personal Data Sheet and gave data on their family background.

Phase Two: After a short break, participants completed the environmental attitude questionnaires. The investigator ensured that all questions were answered thoroughly by circulating in the classroom.

This uniform approach across all ten schools ensured consistency in data collection and minimized potential biases.

Statistical Analysis

The data were analyzed with descriptive statistics (mean and standard deviation) and inferential statistics (t-tests). The comparison between environmental awareness and attitudes for different groups (e.g., gender, socioeconomic status, and family structure) was made. Participants were also divided into upper, middle, and lower socioeconomic groups according to their SES scores, making in-depth comparison between different subscales of environmental attitude.

6. MAJOR FINDINGS OF THE STUDY

After careful analysis of the obtained data and interpretation of the result with regard to the objectives and hypotheses of the study, the following findings are made:

- High school boys and girls do not differ significantly in their attitude towards environmental awareness.
- Urban and rural high school students differ significantly in their attitudes toward environmental awareness.
- Educators, teaching staff and teachers must familiarize their pupils with the advantages and disadvantages of environmental pollution.
- A formal system of education including all directions should also incorporate some elements of educational programs into its curriculum. This should be a compulsory part of the curriculum.



• Reducing the amount of greenhouse gases released into the atmosphere (ie greenhouse gas emissions) is usually achieved by reducing energy consumption and switching to energy sources that do not emit e gases. Frequently discussed energy saving methods include increasing the fuel efficiency of vehicles, individual lifestyle changes, and changes in business practices. Technologies such as hydrogen fuel cells, solar power, tidal power, geothermal power and wind power, along with the use of carbon sinks, carbon credits and taxation, are aimed at combating greenhouse gas emissions more directly.

Attitudes towards the environment can be promoted in the school environment through curricular and co-curricular exercises. Some schools attach importance to environmental attitudes and others do not. Urban high schools also offer importance to environmental attitudes. An environmental attitude should be formed in the young personalities of students in the first years of study. With the aim that schools can grow organic natives in the future.

The suggestions in this research are important to take into account research on learning models and awareness of students' attitudes towards the refined environment at the secondary school level and other research for the reason of environmental education in schools.

7. CONCLUSIONS BASED ON HYPOTHESES

Based on the data analysis, the following can be concluded.

1. Environmental Attitude difference among the Students on the basis of gender;

Table: 1

Statistics	Difference Between	t-value	Significance
Environmental Attitude	Boy and Girl Students of Secondary Schools in Darbhanga District of Bihar.	1.82	Not significant

The above table shows that the “t” value of environmental attitude among male and female students of secondary schools in Darbhanga district of Bihar is 1.82; which means that there is no significant difference in environmental attitudes between boys and girls. Therefore, the hypothesis that there is no significant difference in environmental attitude between high school and high school students of Darbhanga district of Bihar is not accepted. -----H1

2. Correlation between environment awareness and attitude towards environment of school students and teachers;

Table: 2

S. No.	Variable	N	r
1	Environment Awareness	300	0.28*
2	Environment Attitude	300	

* Significant at .05 level

The above table shows that the correlation coefficient between environmental awareness and environmental attitude of the entire sample is 0.28, which is significant and positive at the 0.05 level. There is no significant difference in environmental attitudes among secondary school teachers based on their location. -----H2

3. Environmental Attitude difference among the Students on the basis of location;

Table: 3

Statistics	Difference Between	t-value	Significance
Environmental Attitude	Rural and Urban Students of Secondary Schools in Darbhanga District of Bihar	42.50	Significant at $P < 0.01$

3. Based on the above given table 1, it is clear that therefore the hypothesis that there is a significant difference in environmental attitude between rural and urban high school students of Darbhanga district, Bihar is not accepted. -----H3.

4. Relation between Environmental Awareness and Environmental Attitude, Socio-economic Status;

Table: 3

Sample	Relation between	Coefficient of correlation(r)	Degrees of freedom, df	p-value	Significance
All students and teachers (600)	Environmental Attitude	0.655030	197	$P < 0.01$	Strong Positive Co-relation



All students and teachers (600)	Socio-economic status and Environmental Attitude	0.463677	197		Positive Co-relation
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The above given table shows that the correlation value between environmental attitude of secondary schools in Darbhanga district of Bihar came out to be 0.65. An "r" value means that the relationship between the two variables is positive and strong. Therefore, we conclude that there is no significant difference in environmental attitude between secondary school teachers and students, which will lead to further positive attitude towards environmental education. -
 -----H4

In this research, an attempt was made to study the environmental attitude of secondary school students. As we know, high school students are supposed to be the future leaders and decision makers of our society. Therefore, it is necessary for students to develop a relationship with their environment, taking into account their gender and location. In this study, it was found that there is no significant difference in the environmental attitude of the high school students of Darbhanga School with respect to their gender. It was found that there is a significant difference in the environmental attitude of secondary school students of Darbhanga district with respect to location.

8. IMPLICATIONS OF THE STUDY

This study has important implications for environmental education policy and practice. It discloses that although students and teachers both reflect general awareness towards environmental concerns, their attitudes, particularly in rural regions, need to be intervened upon in a specific manner. The vast urban-rural gap highlights the requirement of localized, context-based environmental education approaches. Teacher training courses should include modules to improve not only environmental awareness but also attitudes and behavior. The positive relationship between socio-economic status and environmental attitude indicates that wider social upliftment programs can have a reinforcing impact on environmental responsibility. Environmental clubs, outdoor experiential learning, and inclusion of local ecological concerns in the curriculum should be encouraged by school administrations to increase environmental sensitivity. Policymakers would do well to take these findings into account when crafting national or state-level environmental education programs. In total, this research recommends an integrative model of environmental learning that integrates cognitive, affective, and behavioral elements to develop future-proof, ecologically aware citizens.

9. SUGGESTION FOR FURTHER STUDIES

1. Influence of Socio-Economic Status on Environmental Behavior among Rural Adolescents.
2. Effectiveness of Eco-Club Activities on Environmental Attitude Formation in Secondary Schools.
3. Comparative Study of Environmental Attitudes between Private and Govt. School Students of Bihar.
4. Role of Experiential Learning in Encouraging Environmental Responsiveness among Secondary School Students.
5. Evaluation of Environmental Awareness and Practices among Trainee Teachers of Bihar.
6. Effect of Cyber Media Campaigns on Environmental Attitudes of Indian Youth in Semi-Urban Areas.
7. Gender Variations in Environmental Activism: An Investigation among Secondary School Teachers.
8. Curriculum Audit of Environmental Education in the Secondary School Curriculum of Bihar State Board.

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