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## A Study of Environmental Ethics and Attitude towards Sustainable Development among Pupil-teachers

ORIGINAL ARTICLE



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### Abstract

*Environmental ethics can bring attitudinal change among the students as well as teachers about the environment and development of Environmental awareness. Environmental ethics can also help to transforming and building a human philosophy. Environmental ethics can help to generate an attitude towards sustainable development. Base on the opinions presented here, it can be concluded that environmental ethics can develop an attitude towards sustainable development because environmental ethics enable students to develop the knowledge, skills, understanding and attitude to participate in decisions about the way we do things individually as well as collectively both at the national level and international level that will improve the quality of daily life without damaging the natural environment for the future. This study has been conducted to compare environmental ethics and*

*attitude towards sustainable development among pupil-teachers. The present study is also an attempt to explore how environmental ethics are related to attitude towards sustainable development among pupil-teachers. The aim of this study is also to find out whether Pupil-teachers have positive or negative attitudes towards sustainability and how levels of environmental ethics affect student's attitudes. Major findings of the present study revealed that: 1. The majority of Pupil-teachers in Murshidabad district, West Bengal have an average level of environmental ethics. 2. There is a statistically significant difference between male and female Pupil-teachers regarding their level of Environmental Ethics. 3. There is a statistically significant difference between urban and rural Pupil-teachers regarding their level of Environmental Ethics. 4. There is a statistically significant difference in Environmental Ethics of Pupil-teachers with respect to their stream of study. 5. There is a statistically significant difference in Attitude towards sustainable development of male and female Pupil-teachers. 6. There is no statistically significant difference in Attitude towards sustainable development of rural and urban Pupil-teachers. 7. There is a statistically significant difference in Attitude towards sustainable development of Pupil-teachers belonging to arts and science streams. 8. There exists a statistically relationship between Environmental ethics and attitude toward sustainable development among Pupil-teachers.*

### Key Words

*Environmental Ethics, Attitude, Sustainable Development, Pupil-teachers.*

## Introduction

The natural environment is the greatest gift of God on the earth. Human beings, as well as all the animals and plants, are an inseparable part of the environment since their very existence on the earth. It can provide man with everything that he needs, not only for self-sustenance but also for making his life fully comfortable. Human interaction with the environment started from the moment he appeared on the earth. The early man was afraid of lightning, thunder, dense forest, inundation, and darkness, and started worshipping of different elements of nature. Gradually, they started making essential changes to the environment to meet their needs. However, after the industrial revolution in the 18th century, the man-environment relational dynamics suddenly changed. In course of time and the advancement of science and technology, men started to use and consume precious natural resources recklessly for fulfilling their lavish modern-day life without thinking about any consequences which further resulted in huge damage to nature or the environment. The civilization is looking ahead towards growth & advancement but on account of excursive human activities, we have degraded our natural environment. Today, our natural environment is on the brink of destruction & if we do not take care of our natural environment, we would be committing global suicide.

Publication of World Commission on Environment and Development (WCED, 1987) report “Our Common Future” which reflected that the current trend of economic development and the accompanying environmental degradation are unsustainable and there is an urgent need to investigate the health of the global environment for the future of mankind, educational dimension in sustainable development has been, highlighted (Satapathy,2007).

United Nations Conference on Environment and Development, (UNCED, 1992) popularly known as “Earth Summit” has called for reorienting education towards sustainable development (Khoshoo, 1998). In its, agenda 21 (chapter 36), it considered “Education awareness and training as the critical factor for public understanding fundamental, to any progress to be made”. Considering Education as the key to environmental sustainability, United Nation in December, 2002 in its General Assembly has proclaimed (Bong Adams, 2006), 2005-14 as the Decade of Education for Sustainable Development (DESD) in order to, held every one considers and realizes value, behavior and life style required for a sustainable future.

With an increased magnitude of human influence on the environment and its consequent deterioration, World Commission on Environment and Development (WCED) set up by the United Nations General Assembly in its report “Our Common Future” drew the linkage between environmental problems and socio-economic issues with emphasis in the improvement of quality of life interestingly WCED (1987) suggested that human survival and well-being depend on success in elevating sustainable development of global ethics, UNCED (1992) or Earth Summit stressed on reorienting education, towards sustainable development. The Millennium Declaration (2000) by heads of states of 189 countries in its goal stressed on environmental sustainability and called for countries to integrate the principles of sustainable development of the country policies and programmes in order to protect the environmental resource (Sweetman, 2005).

On the review of various reports, studies, and present environmental problems, we can say that it is the needs to make the whole society conscious about the environment, ecosystem and ecological balance. To understand the concept of sustainable development, it is necessary to have environmental ethics. Although late, gradually men realised the importance of saving the nature or environment which may help in the sustainable development of the human civilisation by sustaining for the future generation without compromising the need of the present time. That is why modern-day education needs Environmental Ethics from both the teachers and student’s points of view and from an individualistic as well as from a societal perspective.

Environmental ethics deals specifically with human conduct towards the natural environment. It refers to the responsibility to understand the environmental consequences of our consumption and to protect natural resources and save the earth for future generations. Therefore, environmental ethics is basically human ethics

based on social justice for all towards its environment. The present-day environmental crisis demands a change in attitude in order to salvage the environment from destruction. Environmental Ethics is essential because it helps the students to distinguish between actions that are harmful and those that are beneficial to the environment. McDonough and Brongart, (2002) define environmental ethics as “Environmental ethics relates to the relationship between humans and the environment and is defined as a system of ethical values, human reasoning and knowledge of nature which endeavours to forge patterns of right conduct towards the environment. These patterns are necessary so that the needs of living beings of the present generation are fulfilled without compromising the ability of the future generation to meet their own needs.”

Sustainability was defined by the World Commission on Environment and Development in 1987, as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”, which is influenced by the economic and social perspective (Langhelle, 1999, p.132; UNEP, 2011, p. 16). In 1991 the World-Wide Fund for Nature, the International Union for Conservation of Nature and the United Nations Environment Program (UNEP) defined Sustainability as “improving the quality of human life within the carrying capacity of supporting ecosystems”, which is influenced by the social and environmental perspective (UNEP, 2011, p.17). Sustainability has also been described as involving “Planet, People, Profit” known as the 3 Ps, which is influenced by the economic and financial perspective (Sheth et al. 2011, p. 24; Financial Times, 2011).

## **Justification of the Study**

Environmental ethics can bring attitudinal change among the pupil-teachers as well as teachers about the environment and development of Environmental awareness. Environmental ethics can also help to transforming and building a human philosophy. Environmental ethics can help to generate attitude towards sustainable development. On the basis of the opinions presented here, it can be concluded that environmental ethics can develop attitude towards sustainable development because environmental ethics enable pupil-teachers to develop the knowledge, skills, understanding and attitude to participate in decisions about the way we do-things individually as well as collectively both at national level and international level that will improve the quality of daily life without damaging the natural environment for the future. This study has been conducted to compare environmental ethics and attitude towards sustainable development among Pupil-teachers. The present study is also an attempt to explore how environmental ethics are related to attitude towards sustainable development among Pupil-teachers. The aim of this study is also to find out whether Pupil-teachers have positive or negative attitudes towards sustainability and how levels of environmental ethics affect Pupil-teachers’ attitudes.

## **Statement of the Problem**

“A Study of Environmental Ethics and Attitude towards Sustainable Development among Pupil-teachers.”

## **Operational Definitions of Key Terms**

**Environmental Ethics:** Environmental ethics deals specifically with human conduct towards the natural environment. It refers to the accountability to understand the environmental consequences of our consumption and to protect natural resources and save the earth for future generations.

**Sustainable Development:** Sustainable development is the idea that human societies must live and meet their needs without compromising the ability of future generations to meet their own needs (Brundtland Report, 1987).

## **Objectives of the Study**

1. To find out the level of environmental ethics among the pupil-teachers in relation to their attitude towards sustainable development.
2. To compare the environmental ethics of male and female pupil-teachers.

3. To compare the environmental ethics of rural and urban pupil-teachers.
4. To compare the environmental ethics of pupil-teachers belonging to arts and science streams.
5. To compare the attitude towards sustainable development of male and female pupil-teachers.
6. To compare the attitude towards sustainable development of rural and urban pupil-teachers.
7. To compare the attitude towards sustainable development of pupil-teachers belonging to arts and science streams.
8. To find out the relationship between environmental ethics and attitude toward sustainable development among pupil-teachers.

### **Hypotheses of the Study**

- H<sub>1</sub>** The level of environmental ethics among the pupil-teachers in relation to their attitude towards sustainable development will vary.
- H<sub>01</sub>** There is no significant difference in environmental ethics between male and female pupil-teachers.
- H<sub>02</sub>** There is no significant difference in environmental ethics between rural and urban pupil-teachers.
- H<sub>03</sub>** There is no significant difference in environmental ethics of pupil-teachers belonging to arts and science streams.
- H<sub>04</sub>** There is no significant difference in attitude towards sustainable development of male and female pupil-teachers.
- H<sub>05</sub>** There is no significant difference in attitude towards sustainable development of rural and urban pupil-teachers.
- H<sub>06</sub>** There is no significant difference in attitude towards sustainable development of pupil-teachers belonging to arts and science streams.
- H<sub>07</sub>** There is no significant relationship between environmental ethics and attitude toward sustainable development among pupil-teachers.

### **Methods and Procedure**

1. **Method of the study:** In the light of the nature of the study, the descriptive survey method is adopted for the completion of the present study.
2. **Population:** The population of the study covers all the Pupil-teachers of Murshidabad district, West Bengal.
3. **Sample:** For the present study, a sample of 277 Pupil-teachers were selected. Out of which 152 were male pupil-teachers and 125 were female pupil-teachers.
4. **Tools for data collection:** The data were collected with the help following data collection tools.
  - 4.1. Environmental Ethics Scale which is constructed and validated by investigators themselves. The scale base on Anthropocentrism, Bio-centrism, and Eco-centrism dimensions as a whole and consisted of 44 items.
  - 4.2. Attitudes toward Sustainable Development scale was developed by Michele Biasutti and Sara Frate in 2017.
5. **Statistical Techniques:** The data were analysed with the help of suitable statistical techniques on the basis of research objectives.

### **Limitations of the Study**

There are some limitations for the study. The very nature of the research implies certain limitation about the variables, sample, and nature of the area:

- I. The study is limited to few variables namely Gender, Location, Environmental Ethics and Attitude towards sustainable development.

- II. The investigation is carried out only at pupil-teachers.
- III. The study is conducted only on 277 numbers of pupil-teachers.
- IV. By considering the constraint of time, money and geographical places, the investigators have taken Murshidabad district only.

**Results and Interpretation**

- 1. To find out the level of environmental ethics among the pupil-teachers in relation to their attitude towards sustainable development.

**Table 1:** Showing the level of environmental ethics among the pupil-teachers in relation to their attitude towards sustainable development.

Environmental Ethics Level	Frequency	Percentage
High	76	27.437
Average	152	54.874
Low	49	17.689
Total	277	100.000

(Source: Primary Data)

The above table 1 reveals that out of all 277 respondents, majority 152 (54.874%) of the Pupil-teachers have average environmental ethics, while 76 (27.437%) of the Pupil-teachers have high environmental ethics and 49 (17.698%) of the Pupil-teachers have low ethics. Therefore, we can conclude that majority of Pupil-teachers in Murshidabad district, West Bengal have an average level of environmental ethics in relation to their Attitude towards Sustainable Development.

- 2. To compare the Environmental ethics of male and female Pupil-teachers.

**Table 2:** Showing the significant difference in Environmental ethics between male and female Pupil-teachers.

Source of Variation	Number of Students	Mean	S.D.	df	t-value	p-value
Male pupil-teachers	152	129.23	15.52	275	2.88**	0.0044
Female pupil-teachers	125	134.33	13.63			

\*\*Significant at .01 level

From the above table 2, it is found that the “t” value for the significance of difference between male and female pupil-teachers is 2.88. Since the calculated “t” value is greater than the criterion “t” value at .01 level, it can be concluded that there is a significant difference between male and female pupil-teachers regarding their level of environmental ethics. Therefore, null hypothesis of the study no.2 saying that “There is no significant difference in Environmental ethics between male and female Pupil-teachers” is rejected, since the two groups differed significantly at .01 level of confidence. A comparison of their mean scores shows that female pupil-teachers have higher mean score (134.33) than the male pupil-teachers (129.23), therefore it can be concluded that female pupil-teachers have higher level of environmental ethics than the male pupil-teachers. This indicates that female pupil-teachers possess better environmental ethics than their counterparts the male pupil-teachers. The reasons for this difference may be that the female pupil-teachers gets a direct link with the natural environment which facilitates them to imbibe environmental ethics.

3. To compare the Environmental ethics of rural and urban pupil-teachers

**Table 3:** Showing the significant difference in environmental ethics between rural and urban pupil-teachers.

Source of Variation	Number of Students	Mean	S.D.	df	t-value	p-value
Urban pupil-teachers	96	129.104	16.22	275	11.63**	0.0001
Rural pupil-teachers	181	151.201	14.43			

\*\*Significant at .01 level

From the above table 3, it is found that the “t” value for the significance of difference between rural and urban Pupil-teachers is 11.63. Since the calculated “t” value is greater than the criterion “t” value at .01 level, it can be concluded that there is a significant difference between rural and urban Pupil-teachers regarding their level of Environmental Ethics. Hence, null hypothesis of the study no.3 saying that “there is no significant difference in Environmental ethics between rural and urban pupil-teachers” is rejected. A comparison of their mean scores shows that rural pupil-teachers have higher mean score (151.201) than the urban pupil-teachers (129.104), therefore it can be concluded that rural pupil-teachers have higher level of environmental ethics than the urban pupil-teachers. This indicates that rural pupil-teachers possess better environmental ethics than their counterpart’s urban pupil-teachers. The reasons for this difference may be that the rural pupil-teachers gets direct experiences and good exposure related to environmental ethics which facilitates them to imbibe environmental ethics. The rural pupil-teachers can understand the value and impact of environment on mankind. As the rural pupil-teachers learn so many things about the environment by getting direct contact and involvement with nature. But urban pupil-teachers will learn the concepts of environment only by getting indirect experiences. Their learning about the environment is confined only to class room and text book but outside class room in natural environment is not possible. Learning about environment by urban pupil-teachers is limited more to cognitive domain than to affective and psychomotor domains. Because of all this reason, the development of environmental ethics among urban pupil-teachers will not as much as their rural counterparts.

4. To compare the Environmental ethics of Pupil-teachers belonging to arts and science streams.

**Table 4:** Showing the significant difference in Environmental ethics of Pupil-teachers belonging to arts and science streams.

Source of Variation	Number of Students	Mean	S.D.	df	t-value	p-value
Arts stream	180	89.713	16.87	275	9.61	0.0001**
Science stream	97	107.925	10.76			

\*\*Significant at .01 level

From the above table 4, it is found that the “t” value for the significance of difference between Arts and Science Streams pupil-teachers is 9.61. Since the calculated “t” value is greater than the criterion “t” value at .01 level, it can be concluded that there is a significant difference between Arts and Science Streams pupil-teachers regarding their level of Environmental Ethics. Therefore, null hypothesis of the study no.4 saying that “there is no significant difference in Environmental ethics of Pupil-teachers belonging to arts and science streams.” is rejected. A comparison of their mean scores shows that Science stream pupil-teachers have higher mean score (107.925) than the Arts Stream pupil-teachers (89.713), therefore it can be concluded that Science stream pupil-teachers have higher level of environmental ethics than the Arts stream pupil-teachers. The reason may be the influence of their subject’s contents which always tries to lay much more emphasis on environmental issues like pollution, causes of pollution, source, and use of solar energy, conservation of natural resources, biodiversity, remedial measures etc.

5. To compare the Attitude towards sustainable development of male and female pupil-teachers.

**Table 5:** Showing the significant difference in Attitude towards sustainable development of male and female pupil-teachers.

Source of Variation	Number of Students	Mean	S.D.	df	t-value	p-value
Male pupil-teachers	152	141.531	11.19	275	2.79**	0.0056
Female pupil-teachers	125	145.101	09.93			

\*\*Significant at .01 level

From the above table 5, it is found that the “t” value for the significance of difference between male and female Pupil-teachers is 2.79. Since the calculated “t” value is greater than the criterion “t” value at .05 level, it can be concluded that there is a significant difference between male and female Pupil-teachers regarding their Attitude towards sustainable development. Therefore, null hypothesis of the study no.5 saying that “there is no significant difference in attitude towards sustainable development of male and female pupil-teachers” is rejected, since the two groups differed significantly at .05 level of confidence. A comparison of their mean scores shows that female pupil-teachers have higher mean score (145.101) than the male pupil-teachers (141.531), therefore it can be concluded that female pupil-teachers possessed more positive attitude towards sustainable development than the male pupil-teachers. This could be due to the reason that female pupil-teachers have more care for the conservation of the environment and have high feeling of responsibility towards environment and sustainable development than their male counter parts.

6. To compare the Attitude towards sustainable development of rural and urban pupil-teachers.

**Table 6:** Showing the significant difference in Attitude towards sustainable development of rural and urban pupil-teachers.

Source of Variation	Number of Students	Mean	S.D.	df	t-value	p-value
Urban pupil-teachers	096	123.210	11.95	275	0.132	0.8944
Rural pupil-teachers	181	123.382	11.91			

Not Significant at .05 level

From the above table 6, it is found that the “t” value for the significance of difference between rural and urban Pupil-teachers is 0.132. Since the calculated “t” value is lower than the criterion “t” value at .05 level, it can be concluded that there is no significant difference between rural and urban Pupil-teachers regarding their attitude towards sustainable development. Hence, null hypothesis of the study no.6 saying that “there is no significant difference in attitude towards sustainable development of rural and urban pupil-teachers” is accepted. It means that rural and urban Pupil-teachers do not differ from one another in their attitude towards sustainable development. It means that rural and urban Pupil-teachers have an equal attitude towards sustainable development. This could be due to the reason that both rural and urban Pupil-teachers have similar care for the conservation of natural resources and have an equal feeling of responsibility towards sustainable development.

7. To compare the Attitude towards sustainable development of Pupil-teachers belonging to arts and science streams.

**Table 7:** Showing the significant difference in Attitude towards sustainable development of Pupil-teachers belonging to arts and science streams.

Source of Variation	Number of Students	Mean	S.D.	Df	t-value	p-value
Arts stream	180	77.173	14.31	275	12.62**	0.0001
Science stream	097	97.295	08.48			

\*\*Significant at .05 level

From the above table 7, it is found that the “t” value for the significance of difference between Arts and Science Streams pupil-teachers is 12.62. Since the calculated “t” value is greater than the criterion “t” value at .01 level, it can be concluded that there is a significant difference between Arts and Science Streams pupil-teachers regarding their Attitude towards sustainable development. Therefore, null hypothesis of the study no.7 saying that “there is no significant difference in Attitude towards sustainable development of Pupil-teachers belonging to arts and science streams” is rejected. A comparison of their mean scores shows that Science stream pupil-teachers have higher mean score (97.295) than the Arts Stream pupil-teachers (77.173), therefore it can be concluded that Science stream pupil-teachers have higher level of attitude towards sustainable development than the Arts stream pupil-teachers. The reason may be the influence of their subject’s contents which always tries to lay much more emphasis on environmental issues like pollution, causes of pollution, source, and use of solar energy, conservation of natural resources, biodiversity, remedial measures etc.

8. To find out the relationship between Environmental ethics and attitude toward sustainable development among pupil-teachers.

**Table 8:** Showing the relationship between Environmental ethics and attitude toward sustainable development among pupil-teachers.

Variables	Number of students	Mean	S.D.	r- Value for total sample	P – value
Environmental ethics	277	49.351	14.951	0.267	0.113*
Attitude toward sustainable development.		56.143	12.183		

\*Correlation is significant at the 0.05 level.

To study, the relationship between Environmental ethics and attitude toward sustainable development among Pupil-teachers for the total sample, Pearson’s Coefficient of Correlation has employed. In the above table 8, the Pearson’s coefficient correlation “r” is found 0.267 (p=0.113) which shows a good significant correlation between Environmental ethics and attitude toward sustainable development among Pupil-teachers for the total sample. Hence, null hypothesis of the study no.8 saying that “there is no significant relationship between Environmental ethics and attitude toward sustainable development attitude toward sustainable development among pupil-teachers” is rejected. The results indicate that the attitude toward sustainable development has a significant relation with environmental ethics of the pupil-teachers. Thus, the higher the attitude toward sustainable development, the greater will be the environmental ethics among pupil-teachers.

## Major Findings

- I. The results indicate that majority of Pupil-teachers in Murshidabad district, West Bengal have an average level of environmental ethics.
- II. There is a statistically significant difference between male and female pupil-teachers regarding their level of Environmental Ethics.
- III. There is a statistically significant difference between urban and rural pupil-teachers regarding their level of Environmental Ethics.
- IV. There is a statistically significant difference in Environmental Ethics of pupil-teachers with respect to their stream of study.
- V. There is a statistically significant difference in Attitude towards sustainable development of male and female pupil-teachers.
- VI. There is no statistically significant difference in Attitude towards sustainable development of rural and urban pupil-teachers.
- VII. There is a statistically significant difference in Attitude towards sustainable development of Pupil-teachers belonging to arts and science streams.



VIII. There exists a statistically relationship between Environmental ethics and attitude toward sustainable development among pupil-teachers.

### **Educational Implication**

- I. The results of the present study will help to develop environmental education programs.
- II. It will give feedback to the pupil-teachers about environmental ethics and attitude toward sustainable development.
- III. It will also give feedback to parents and teachers about student environmental ethics and attitude toward sustainable development.
- IV. It will be an eye-opener to the administrators regarding the environmental ethics and attitude towards sustainable development among the Pupil-teachers of Murshidabad district.
- V. The findings of the study will help the policy makers, curriculum framers to make education programs environmentally friend.
- VI. The findings of the study could be utilized for bringing changes in the pupil-teachers curriculum in the subject of environmental studies.
- VII. The result will also help NGOs and other organizations working in the area of environmental related issues.

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