

# Environmental Awareness among Elementary School Students

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## Abstract

The present study is set out to inquiry the environmental awareness among the elementary school students. The study was conducted through descriptive survey method. The researcher used environmental awareness test developed by D.Bhoi (2005) to study the environmental awareness among elementary school students. The sample of the study consists of 120 elementary school students reading in class 8<sup>th</sup> of Jharsuguda sadar block including both rural and urban area. The data collected were analyzed using percentage and t-test. The major findings reveal that in the rural areas 48.33% of students have average as well as below average level of environmental awareness. Near about 66.7% urban area students have average level of environmental awareness. There is significant difference between urban and rural students of class 8<sup>th</sup> in relation to environmental awareness and urban students have better environmental awareness than rural students.

**Keywords:** Environmental awareness, elementary school, learning ability

## INTRODUCTION

Nature is capable of providing man with everything that he needs not only for self-sustenance but also for making his life fully comfortable. Since from Vedic times nature and human kind (i.e. - Prakruti & Purusha) from an inspirable part of the life support system. This System has five elements-fires, air, land, water, flora and fauna which are inter connected and interrelated. If there is any one affects the another four elements and natural environment at large.it was generosity of mother nature to allow man free access to her valuable resources .However, man's desire for joy and comforts has led him to exploit nature's free goods to the extent of reducing its natural capacities for self-stabilization.

Since the dawn of civilization man has tied to excel it by conquering capture. He has to do so either for his development or for the sake of enjoyment. In this process he has affected his surrounding very badly. It is an established fact that economic stability provides the basis for development in other walks of life. Economic development is secured through increase in agricultural and industrial production. While doing so, man causes disturbance in the biosphere, affects its constitution without having regard to its replenishment. There are certain substances in the nature e.g. coal, petroleum, minerals, etc. which are exploited by the man but he has not found their substitute. To maintain the natural equilibrium, with the result the composition of environment is badly affected. In the process of development, man has done much damage to the forest, wild life, land surface, water resources and to atmosphere. Man has developed in fact, but only at the cost of his environment, the effect of which is looming large his head.

We have exploited the natural environment in our will. Today we are racing severe environmental crisis. The problem of environmental degradation is not limited to any particular country or region. It is global. In fact, the concern for environmental problem has never been as it is now. Pollution is making the earth unsuited to life. Rivers and lakes are drying. Deserts are on the march. Natural resources are being depleted. We are at the cross roads. The danger is clearly apparent and united efforts are made now, tomorrow may be too late. The Government of India recognizing the severity of these problem has adopted a comprehensive policy to address the environment. The 42<sup>nd</sup> amendment was adopted in 1976, in the constitution for the protection of natural environment. It is worthy to note that even after more than three decades of famous Stockholm Conference on the Human Environment the situation has worsened in many ways. All is not yet lost, despite the dents and damages to the mother earth that has already been inflicted.

John F. Kennedy has rightly observed that, “It is our task in our time and in our generation to hand down undiminished to those who come after us as was handed down to us by those who went before the natural wealth and beauty which is ours.”

Time has come to ensure that the concept of education for sustainability in the broadest sense are discussed and woven into a framework upon which current and future educational policy will be based. Agenda 21, the document produced by the 192 United Nations Conference on the Environment and Development, says, Education is critical for promoting sustainable development. Clearly, the time is right to engage in a dynamic process to educate children and all citizens about the economic and environmental realities of today’s world our attitude towards the use of environmental resources must change. We must re-educate ourselves to treat the environment with greater caution and control. It is this realization that gives environmental education a place of prime importance.

Environment includes the living and nonliving things that an organism interacts with, or has an effect on it. Living elements that an organism interacts with are known as biotic elements: animals, plants, etc., abiotic elements are non-living things which include air, water, sunlight etc. Studying the environment means studying the relationships among these various things. An example of interactions between non-living and living things is plants getting their minerals from the soil and making food using sunlight. Predation, an organism eating another, is an example of interaction between living things.

## **RATIONALE OF THE STUDY**

Day by day human is consuming the natural resources in an unsustainable way. The main reason behind this is the non-cooperative thinking with nature. Awareness and involvement of the civil society is a precondition of checking environmental degradation. So for that we should create environmental awareness in among the people for the sake of our green planet.

Odisha is enriched with minerals/ores like coal, iron ores, chromite, lime stone, dolomite, manganese, vanadium, uranium etc. A number of industries have been set up in this state due to availability of ores as well as other requirements for the establishment of industries. Various pollutants discharged from these industries and due to mining activities of ores are polluting the environment. Industrialization increases urbanization and both industrialization and urbanization increase vehicular pollution, which in turn arises the level of air pollution. The number of industries and mines are more in Jharsuguda district in comparison to other parts of the state.

Hence, this part is more mostly affected by environmental pollution. The drinking sources of water are getting polluted. The main joint river of Mahanadi, IB is polluted by the west product and water of the

industries. Agricultural land has lost its fertility due to pollutants of various industries like Vedanta aluminum and steel, national thermal power project, Mahanadi coalfields ltd, Tata reef factory and many other industries situated in Jharsuguda district.

So in the present study an effort has been made by the investigator to know how far the viii class students of Odia medium elementary school have environmental awareness being the residents Jharsuguda district.

On the basis of above reasons the investigator puts the following research questions:-

1. Is there exists significant difference among students studying in both rural and urban elementary schools?
2. Is there exists significant difference between boys and girls students studying in urban elementary schools on environmental awareness?
3. Is there exists significant difference between boys and girls students studying in rural elementary schools on environmental awareness? Is there exists significant difference between boys students studying in urban elementary schools and rural elementary schools on environmental awareness?
4. Is there exists significant difference between girls students studying in urban elementary schools and rural elementary schools on environmental awareness?

### **OBJECTIVE OF THE STUDY**

1. To study the environmental awareness among students studying in class 8<sup>th</sup> both rural and urban area.
2. To study the environmental awareness between boys and girls students studying in class 8<sup>th</sup> urban elementary schools.
3. To study the environmental awareness between boys and girls students studying in class 8<sup>th</sup> rural elementary schools.
4. To study the environmental awareness between boys students of class 8<sup>th</sup> studying in urban elementary schools and rural elementary school.
5. To study the environmental awareness between girls students of class 8<sup>th</sup> studying in urban elementary schools and rural elementary schools.

### **HYPOTHESIS**

1. There exists significant difference between rural and urban students of class 8<sup>th</sup> in relation to environmental awareness.
2. There exists significant difference between boys and girls students of class 8<sup>th</sup> studying in urban elementary schools on environmental awareness.
3. There exists significant difference between boys and girls students of class 8<sup>th</sup> studying in rural elementary schools on environmental awareness.
4. There exists significant difference between urban and rural Boys students of class 8<sup>th</sup> in relation to environmental awareness.
5. There exists significant difference between urban and rural Girls students of class 8<sup>th</sup> in relation to environmental awareness.

### **METHODOLOGY**

The analysis and interpretation of the present research has been done by using descriptive statistics i.e. simple percentage, mean, standard deviation and inferential statistics i.e. ‘t’ test to find out the

significant difference between boys and girl, urban and rural students of elementary school on environmental awareness.

The scores of students studying in class 8<sup>th</sup> located in both urban and rural area relating to different dimensions of environmental awareness were given in table 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 and graphically have been presented in Figure 1, 2, 3, 4 and 5 .

The details of interpretation and analysis are given below:

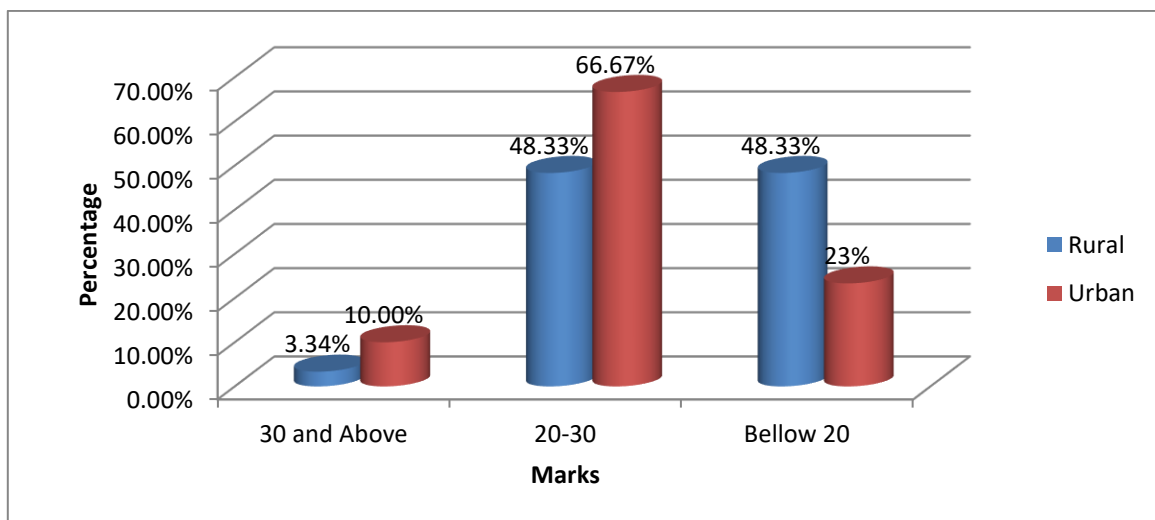
**1. Environmental awareness among 8<sup>th</sup> class students studying in elementary schools in relation to urban and rural area.**

On perusal of the table 1 and figure 1, It was observed that out of total sample of 120 students (60 urban and 60 rural) from class 8<sup>th</sup> Odia medium schools, 3.34% rural and 10% urban students have above average level of environmental awareness, 48.33% rural and 66.67% urban students have average level of environmental awareness and 48.33% rural and 23.33% urban students have under below average level of environmental awareness, related to personal and environmental cleanliness, health and hygiene, food and food habit, pollution (water, air, soil), disposal of garbage and conservation of natural resources.

**Table no.1 Level of environmental awareness among rural and urban students**

MARKS	RURAL	PERCENT	URBAN	PERCENT
30 and above (Above Average)	02	3.34%	06	10%
20-30 (Average)	29	48.33%	40	66.67%
Below 20 (Below Average)	29	48.33%	14	23.33%
<b>TOTAL</b>	<b>60</b>	<b>100%</b>	<b>60</b>	<b>100%</b>

Source: Primary Data, 2019



Source: Primary Data, 2019

**Figure- 1 Multiple Bar diagram showing percentage of Environmental awareness of rural students and urban students studying in class 8<sup>th</sup> government elementary school.**

**Table- 2 Significance of difference between mean scores of urban and rural 8<sup>th</sup> class students on environmental awareness**

variable	Group	N	Mean	SD	SED	df	't' value
Environmental Awareness	Urban students	60	25	4.58	1	118	4.66
	Rural Students	60	20.34	6.25			

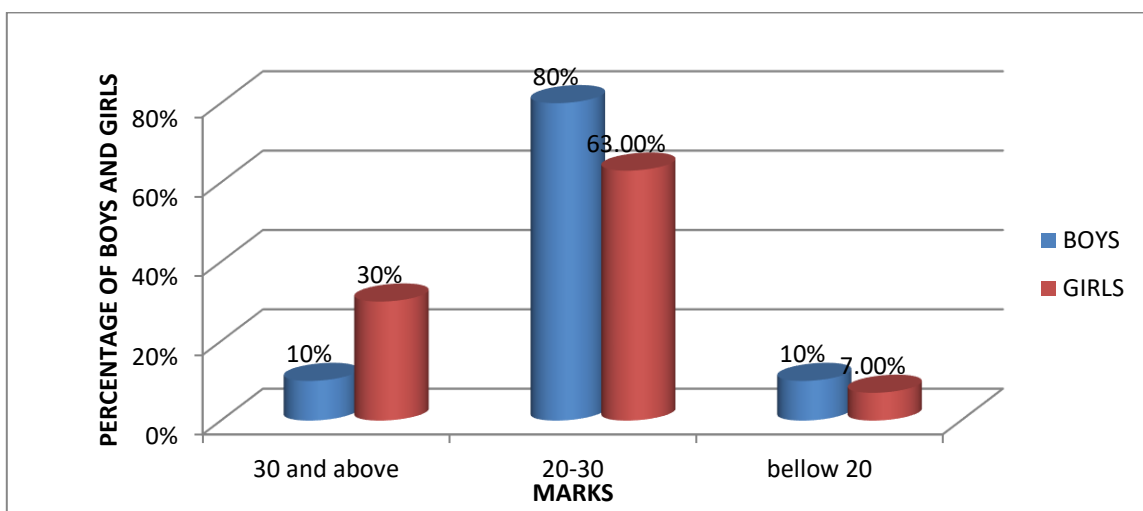
The table no 2 indicates that the mean value of urban and rural 8<sup>th</sup> class students of Odia medium school are 25 and 20.34 respectively. The critical ratio is 4.66 which are significant at 0.05 level of significance. Thus it can be interpreted that there is significant difference between rural and urban students of class 8<sup>th</sup> Odia medium schools, in relation to their environmental awareness and urban students have better environmental awareness than the rural students when their mean value are taken into consideration. Hence, the H<sub>1</sub> of existing significant difference between rural and urban 8<sup>th</sup> class students in relation to environmental awareness is accepted.

**2. Environmental awareness between boys and girls students of class 8<sup>th</sup> studying in urban elementary schools.**

**Table-3 Level of environmental awareness among urban boys and girls**

MARKS	BOYS	PERCENT	GIRLS	PERCENT
30 AND ABOVE (Above Average)	03	10%	09	30%
20-30 (Average)	24	80%	19	63%
Below 20 (Below Average)	03	10%	02	7%
TOTAL	30	100%	30	100%

Source: primary data, 2019



Source: primary data, 2019

**Figure-2 Multiple Bar diagram showing percentage of environmental awareness of boys and girls studying class 8<sup>th</sup> in elementary school located in urban area.**

On perusal of the Table 3 and figure 2, It was observed that out of the sample of 60 urban area students (30 boys and 30 girls) from class 8<sup>th</sup> Odia medium schools, 10% boys and 7% girls students have below average level of environmental awareness, 80% boys and 63% girls students have average level of environmental awareness and 10% boys and 30% girls students have under above average level of environmental awareness, related to personal and environmental cleanliness, health and hygiene, food and food habit, pollution (water, air, soil), disposal of garbage and conservation of natural resources.

**Table-4 Significance of difference between mean scores of boys and girls students of urban area on environmental awareness**

Variable	Group	N	Mean	SD	SED	df	't' value
Environmental Awareness	Urban Girls	30	25.17	5.1	0.97	58	2.75
	Urban Boys	30	22.5	1.5			

The Table no.4 indicates that the mean value of urban girls and boys 8<sup>th</sup> class students of Odia medium school are 25.17 and 22.5 respectively. The critical ratio is 2.75 which is significant at 0.05 level of significance.

Thus it can be interpreted that there exists significant difference between boys and girls students of class 8<sup>th</sup> studying in urban elementary schools, in relation to their environmental awareness and urban girls students have better environmental awareness than the urban boys students when their mean value are taken into consideration.

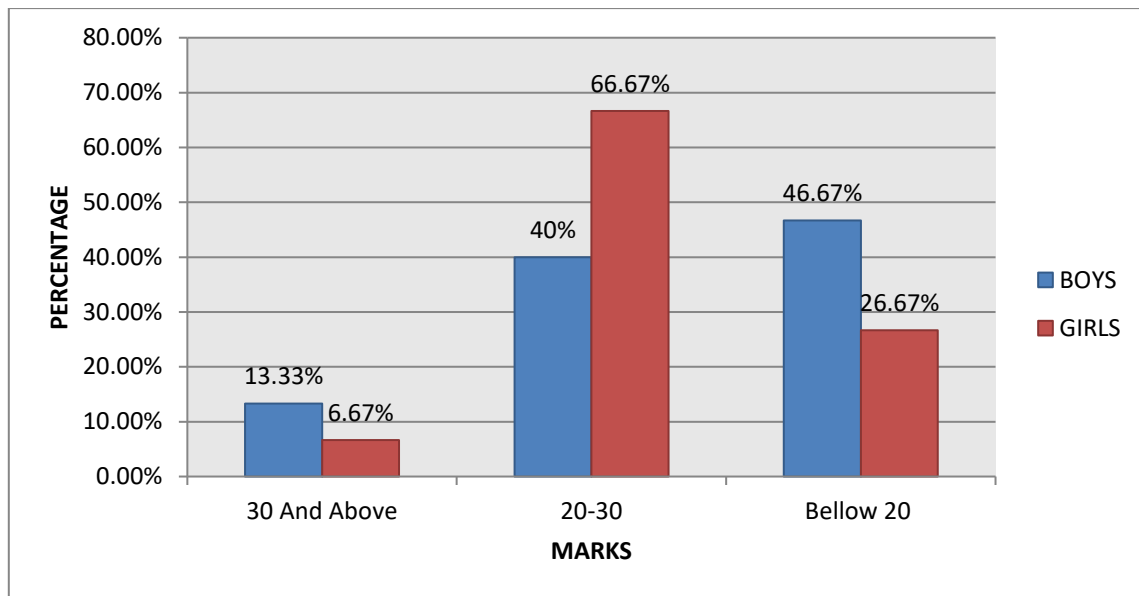
Hence, H<sub>2</sub> state that there exists significant difference between boys and girls students of class 8<sup>th</sup> studying in urban elementary schools on environmental awareness is accepted.

**3. Environmental awareness between boys and girls students of class 8<sup>th</sup> studying in rural elementary schools.**

**Table no.5 Level of environmental awareness among rural boys and girls**

MARKS	BOYS	PERCENT	GIRLS	PERCENT
30 and above (Above Average)	04	13.33%	02	6.67%
20-30 (Average)	12	40%	20	66.67%
Below 20 (Below Average)	14	46.67%	08	26.67%
TOTAL	30	100%	30	100%

Source: primary data, 2019



Source: Primary data, 2019

**Figure-3 Multiple Bar diagram showing percentage of environmental awareness of boys and girls studying class 8<sup>th</sup> in elementary school located in rural area.**

On perusal of the Table 5 and figure 3, It was observed that out of the sample of 60 rural area students (30 boys and 30 girls) from class 8<sup>th</sup> Odia medium elementary schools, 46.67% boys and 26.67% girls students have below average level of environmental awareness, 40% boys and 66.67% girls students have average level of environmental awareness and 13.33% boys and 6.67% girls students have under above average level of environmental awareness, related to personal and environmental cleanliness, health and hygiene, food and food habit, pollution (water, air, soil), disposal of garbage and conservation of natural resources.

**Table- 6 Significance of difference between mean scores of Boys and Girls students of rural area on environmental awareness**

variable	Group	N	Mean	SD	SED	df	't' value
Environmental Awareness	Rural Girls	30	20.83	5.42	1.63	58	0.61
	Rural Boys	30	19.83	7.18			

The Table no.6 indicates that the mean value of rural girls and boys 8th class students of Odia medium school are 20.83 and 19.83 respectively. The critical ratio is 0.61 which is not significant at 0.05 level of significance.

Thus it can be interpreted that there exists no significant difference between boys and girls students of class 8<sup>th</sup> studying in rural elementary schools, in relation to their environmental awareness and rural girls students have better environmental awareness than the rural boys students when their mean value are taken into consideration.

Hence, the H<sub>3</sub> of existing significant difference between boys and girls students of class 8<sup>th</sup> studying in rural elementary schools on environmental awareness was rejected.

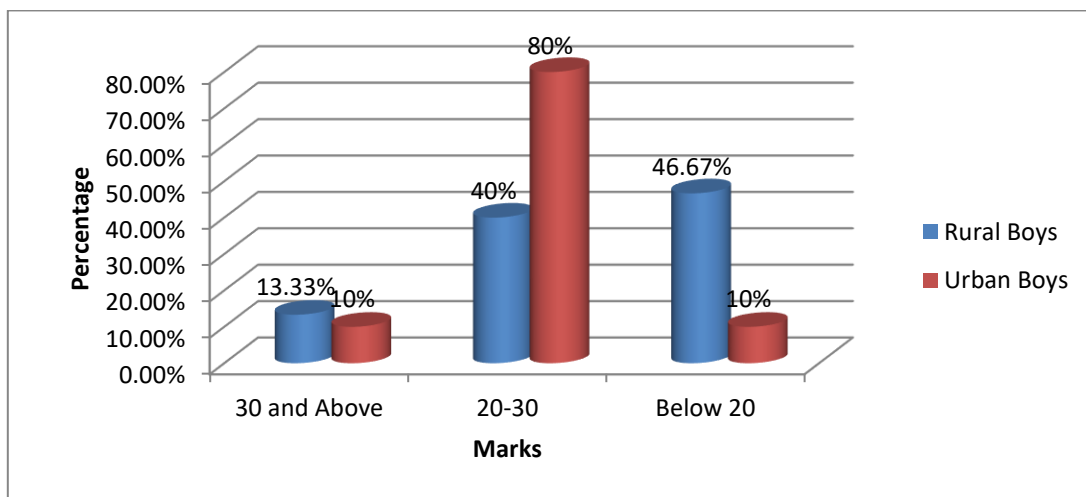
**4. Environmental awareness between urban and rural Boys students of class 8<sup>th</sup> in relation to environmental awareness.**

**Table no. 7 Level of environmental awareness among rural boys and urban boys.**

MARKS	RURAL BOYS	PERCENT	URBAN BOYS	PERCENT
30 and above (Above Average)	04	13.33%	03	10%
20-30 (Average)	12	40%	24	80%
Below 20 (Below Average)	14	46.67%	03	10%
TOTAL	30	100%	30	100%

Source: Primary Data, 2019

On perusal of the Table 7 and figure 4, It was observed that out of the sample of 60 rural and urban students (30 urban boys and 30 rural boys) from class 8<sup>th</sup> Odia medium elementary schools, 46.67% rural boys and 10% urban boys students have below average level of environmental awareness, 40% rural boys and 80% urban boys students have average level of environmental awareness and 13.33% rural boys and 10% urban boys students have under above average level of environmental awareness, related to personal and environmental cleanliness, health and hygiene, food and food habit, pollution (water, air, soil), disposal of garbage and conservation of natural resources.



Source: Primary data, 2019

**Figure-4. Multiple Bar diagram showing percentage of environmental awareness of rural boys and urban boys studying class 8<sup>th</sup> in government elementary school.**

**Table-8 Significance of difference between mean scores of Urban Boys and Rural Boys students on environmental awareness**

variable	Group	N	Mean	SD	SED	df	't' value
Environmental	Urban	30	22.5	1.5	1.33	58	2.007



<b>Awareness</b>	<b>Boys</b>						
	<b>Rural Boys</b>	<b>30</b>	<b>19.83</b>	<b>7.18</b>			

The table no. 8 indicates that the mean value of urban boys and rural boys 8<sup>th</sup> class students of Odia medium school are 22.5 and 19.83 respectively. The critical ratio is 2.007 which is significant at 0.05 level of significance.

Thus it can be interpreted that there is significant difference between rural boys and urban boys students of class 8<sup>th</sup> Odia medium schools, in relation to their environmental awareness and urban boys students have better environmental awareness than the rural boys students when their mean value are taken into consideration.

Hence, the H<sub>4</sub> of existing significant difference between urban and rural boys of class 8<sup>th</sup> students in relation to environmental awareness is accepted.

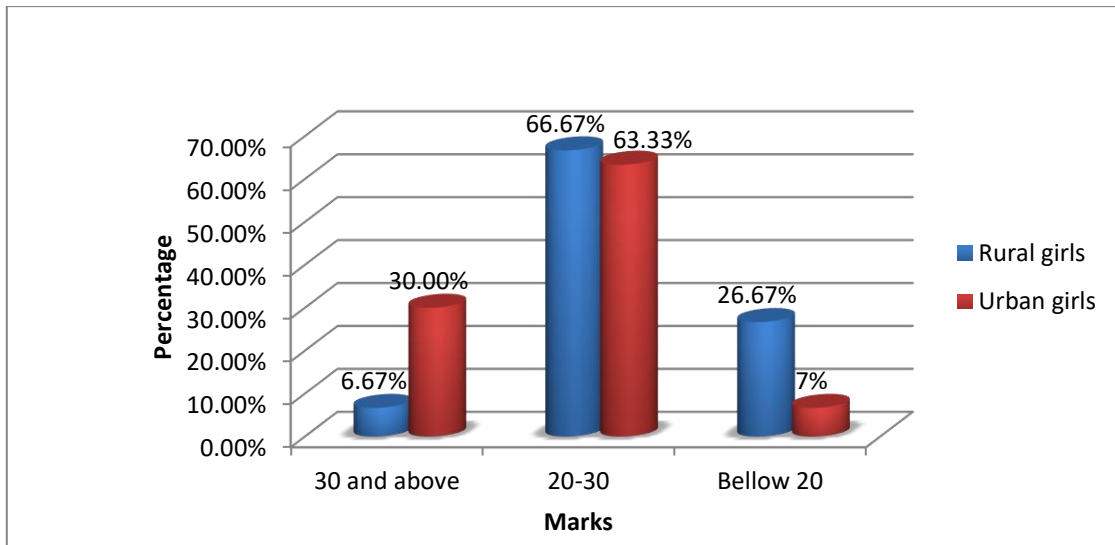
**5. Environmental awareness between urban and rural Girls students of class 8<sup>th</sup> in relation to environmental awareness.**

**Table no. 9 Level of environmental awareness among rural girls and urban girls.**

<b>MARKS</b>	<b>RURAL GIRLS</b>	<b>PERCENT</b>	<b>URBAN GIRLS</b>	<b>PERCENT</b>
<b>30 and above (Above Average)</b>	<b>02</b>	<b>6.67%</b>	<b>09</b>	<b>30%</b>
<b>20-30 (Average)</b>	<b>20</b>	<b>66.67%</b>	<b>19</b>	<b>63.33%</b>
<b>Below 20 (Below Average)</b>	<b>08</b>	<b>26.67%</b>	<b>02</b>	<b>6.67%</b>
<b>TOTAL</b>	<b>30</b>	<b>100%</b>	<b>30</b>	<b>100%</b>

Source: Primary Data, 2019

On perusal of the Table 9 and figure 5, It was observed that out of the sample of 60 students (30 urban girls and 30 rural girls) from class 8<sup>th</sup> Odia medium elementary schools, 26.67% rural girls and 6.67% urban girls students have below average level of environmental awareness, 66.67% rural girls and 63.33% urban girls students have average level of environmental awareness and 6.67% rural girls and 30% urban girls students have under above average level of environmental awareness, related to personal and environmental cleanliness, health and hygiene, food and food habit, pollution (water, air, soil), disposal of garbage and conservation of natural resources.



Source: primary data, 2019

**Figure-5. Multiple Bar diagram showing percentage of environmental awareness of rural girls and urban girls studying in government elementary school.**

**Table-10**

**Significance of difference between mean scores of Urban Girls and Rural Girls students on environmental awareness**

variable	Group	N	Mean	SD	SED	df	't' value
Environmental Awareness	Urban girls	30	25.17	5.1	1.35	58	3.21
	Rural girls	30	20.83	5.42			

The table no.10 indicates that the mean value of urban girls and rural girls students of Odia medium school are 25.17 and 20.83 respectively. The critical ratio is 3.21 which is significant at 0.05 level of significance.

Thus it can be interpreted that there is significant difference between rural girls and urban girls students of class 8<sup>th</sup> Odia medium schools, in relation to their environmental awareness and urban girls students have better environmental awareness then the rural girls students when their mean value are taken into consideration.

Hence, the H<sub>5</sub> of existing significant difference between urban and rural girls of class 8<sup>th</sup> students in relation to environmental awareness is accepted.

## FINDINGS

The main findings of the present study are presented as follows:-

1. In the rural area 48.33% of students have average as well as below average level of environmental awareness.
2. Near about 66.67% urban area students have average level of environmental awareness.

3. There is significant difference between urban and rural students of class 8<sup>th</sup> in relation to environmental awareness and urban students have better environmental awareness than rural students.
4. Near about 80% of urban boys students have average level and 63% urban girl's students also have average level of environmental awareness.
5. There is significant difference between urban boys and girls students of class 8<sup>th</sup> in relation to environmental awareness and girl's students have better environmental awareness than rural students.
6. In the rural area 46.67% of boys students have below average level and near about 66.67% girl's students have average level of environmental awareness.
7. There is no significant difference between rural boys and girls students of class 8<sup>th</sup> in relation to environmental awareness.
8. There is significant difference between urban boys and rural boy's students of class 8<sup>th</sup> in relation to environmental awareness and urban boy's students have better environmental awareness than rural students.
9. There is significant difference between urban girls and rural girl's students of class 8<sup>th</sup> in relation to environmental awareness and urban girl's students have better than rural students.

### **EDUCATIONAL IMPLICATIONS**

The above findings indicate that there is significant difference between the urban and rural students as well as between the boys and girls students of 8<sup>th</sup> class Odia medium schools in relation to their environmental awareness.

The urban students have better environmental awareness than rural students and girls students have better than boys in both urban and rural area.

Therefore, the teachers think about the cause of difference relating to the opinions of the students regarding environmental awareness. After findings the cause, the teachers should adopt special measures to eradicate their weakness and provide necessary remedies to develop better environmental awareness.

To develop positive attitude and temperament on the less aware students, the teachers should give them different types of project work as task. The teachers also have to give importance on the exhibition of environmental awareness, Experimental work, visit to different geographical area, quick competitions etc. from time to time extend the awareness level of the students.

### **SUGGESTIONS FOR FURTHER RESEARCH**

This research study is not free from limitation because it is a time bound project. Only the class-viii students were taken as the sample of the study. The research could only take the opinion of six elementary schools of Jharsuguda sadar block, Jharsuguda district. The English medium schools were thus out of the scope of the study. Hence many issues related to the environmental awareness of students reading in English medium schools could not be attempted, which provide a great scope for other researchers.

The following studies might be taken to overcome the above limitation.

1. A similar study like this may be conducted on the students of English medium elementary schools to know their level of awareness and to compare that with the findings of the present study.
2. This study will be helpful for conducting research study on environmental awareness relating with secondary school students.
3. This study will be also helpful to the researchers those wants to conduct a study on environmental awareness in other geographical area.
4. Comparative study can be taken up on environmental awareness taking two classes.

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