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Research Paper Education

Study of Environmental Awareness among Undergraduates in Relation to their Gender, Academic Stream and Place of Residence

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ABSTRACT

An important fact of environment and ecosystem is that everything is related to each other in one way or other. Fast urbanization, rapid industrialisation and advancement in technology have lead to the heavy depletion of natural resources deteriorating man's physical, mental and social health. In order to bring back same balance, environmental awareness regarding environmental issues and its sensitivity among population is necessary. Education is a powerful medium for attending the environmental problems, as it reaches to large parts of population & the perception and attitude that a child forms towards environment is likely to be carried out throughout his life. In present empirical work the comparative analysis of gender (male and female), place of residence (urban and rural) and subject background (science and non science) have been made with regard to the environmental awareness level on a sample of 106 undergraduate students of Aligarh. Analysis of the results showed significant differences between all the compared groups ie male & female, Science & non science and urban & rural. Results are discussed in the light of previous researches and suggestions have also been put forward to sensitize the students towards achieving an ecologically sustainable society.

KEYWORDS : environmental awareness, undergraduates, Academic stream, Rural Urban Background.

A sustainable human society is one that provides food, accommodation, transport and leisure within the ecological boundaries of the planet for present and keeping in mind the needs of future generations. A rapid growth in economy of India in terms of globalisation, industrialisation, and technological advancements has brought welfare and benefits to the country, at the cost of environmental degradation which has been recorded in terms of high level of air, water, and soil pollution. To meet their demands, urbanites are consuming natural resources in highly unsustainable way while, Rurals with excessive use of chemical fertilisers, big machines etc are lending their hand in depleting resources. With the same rate of exploitation soon human race will face dangers which may prove irreversible. The need of the hour is to develop 'environmental awareness' which refers to create general awareness of environmental issues, to a common man by bringing changes in perception, attitude, values and necessary skills to solve environment related problems . McEvoy (1972) deduced that men are more concerned about environment than women due to their higher level of education and involvement with the communities and political issues. However, other studies show that women are more concerned about environment than men because men are much more concerned about economic growth and economic stability and consider environment as constraint to the economic growth (Van Liere and Dunlap 1980, Zelezny et al., (2000). Tuohini (2001), showed that the environmental awareness of the two groups i.e. boys and girls was somewhat similar. Abraham and Arjunan (2005) observed boys and urban students were found to have more interest as compared to girls and rural counterpart. Bhattacharya (1999) revealed that female students were comparatively more aware than male students but found no significant difference in the awareness of science and non science higher secondary school students. Aleem Zeba (1997) found significant difference between the awareness level of undergraduate science and non science male students. Yilmaz et.al. (2004), Simmons (1998) studies showed that science students had more awareness of biodiversity and its conservation than other students. Conversely Sengupta et al (2010) in her study found art students had greater awareness than science students and that girls were more aware than boys. Behal and Bharadwaj (2011) found that there is a no significant difference in environmental awareness and attitude of College going boys and girls and that Science student were more aware as well as have positive attitude towards Environment than non science ones. Astalin (2011) revealed that Science stream students had more awareness in comparison to arts stream students and male students were more aware than female students. The researches of Tremblay and Dunlap (1978); Van Liere and Dunlap (1980); Lowe and Pinhey (1982) indicated that urban dwellers tend to be more concerned about environmental issues than their rural counterparts. Buttel and Flinn (1974), Butte1 (1975) found rural, non-farm Wisconsinites are more concerned than those in the city. Prateek (1998), Mondal and Mete (2010), found that urban students showed higher cognitive level of awareness with respect to rural students while both male and female students were at par. Gihar's (2011) study revealed no significant difference between rural and urban prospective teachers regarding environmental responsibility.

The above mentioned studies indicate the importance of creating environmental awareness among students and then generating environmental activism in them. To summarize there are conflicting reports about the awareness regarding the significance of role of healthy environment and ecosystem in students with science or non science background and their natural habitat be it rural or urban area. Studies have been conducted and should be conducted continuously so that we can analyse the change in the attitude of students towards environmental issues. Therefore the present study is an attempt to know "Environmental Awareness among Undergraduates in relation to their Gender, Academic Stream, and Place of Residence".

OBJECTIVES OF STUDY:

1. To analyse the relationship of environmental awareness of total sample with respect to gender (male & female), academic background (science & non science) and place of residence (rural & urban).
2. To compare science and non science students with regards to their level of environmental awareness
3. To compare students from rural and urban areas with regard to their level of environmental awareness

HYPOTHESES OF STUDY:

The following hypotheses were framed for empirical verification:

1. There would be no significant difference in the environmental awareness of total sample with respect to gender (male & female), academic background (science & non science and place of residence (rural & urban).
2. There would be no significant difference in the environmental awareness level of science and non science students.
3. There would be no significant difference in the environmental

awareness level of students from rural and urban area.

METHOD AND DESIGN OF STUDY:

In the present study the target population was the undergraduate students of science and non science courses studying in government and private colleges of Aligarh city. A random sample of 106 students comprising 53 students each from science and non science background, 52 from rural and 54 from urban background and 59 male and 47 females was selected. A standardised test "Environment Awareness Ability Measure" developed by Jha ( )with reliability coefficient of 0.84 and validity 0.83 was used.One Way ANOVA and't' test were used for knowing the significance of difference between the means of different comparative groups.

ANALYSIS AND INTERPRETATION OF RESULTS

Table 1: Comparison of mean scores of Environmental Awareness of total sample with respect to gender (male and female), academic background (science and non science) and place of residence (urban and rural).

Variables	Groups	N	Mean	S.D	d.f	't' value	Remark
Gender	Male sample	59	37.02	7.882	104	4.280*	*significant at 0.01 level
	Female Sample	47	31.09	5.941			
Academic Background	Science group	53	36.23	7.968	104	2.539*	*significant at 0.05 level
	Non Science group	53	32.55	6.926			
Place of Residence	Urban group	54	37.65	7.050	104	4.947*	*significant at 0.01 level
	Rural Group	52	31.00	6.777			

the mean scores of environmental awareness were compared for total sample with respect to gender, academic background and area of residence the t value came to out to be 4.280, 2.539 and 4.947 respectively inferring that males are more aware towards environment than females, science students and urban residents have more cognizance than their counterparts. Female students who demonstrated lower level of awareness was corresponding with the results of previous studies done by Kumar (2011), Abraham and Arjunan (2005) who observed high awareness of males. This may be because men are more involved with community and are more social, keeping high interest in worldly affairs. The result was in contrast to the findings of Bhattacharya (1999), Zelezny et al., (2000) and Sengupta (2010) who found high environmental awareness among females while Behal and Bharadwaj (2011) found no significant difference among college going boys and girls. In the present study science students were found to possess more knowledge about environment rather than the non science students. The result finds it support from the findings of Yilmaz et.al. (2004), Simmons (1998), Prashant Kumar Astalin (2011). However Sengupta M et al (2010) found art students having more awareness than science students. Researches done by Van Liere and Dunlap 1980; Lowe and Pinhey (1982), Prateek M (1998), Mondal and Mete (2010) support the present study indicating that urban dwellers tend to be more informed than their rural counterparts about environment. The result is quite expected as rural inhabitants are related to farming and they have exploitive nature to use natural recourses to full extent to have maximum production. Certain contradictory results have also been reported by Butte1 (1975) where rural students were more concerned about environmental issues than urban ones. Thus the Hypothesis no. 1 is rejected.

Table- 2

Comparison of environmental awareness of male and female sample with non science and science background

Non Science Female (N=22)		Non Science Male (N=31)		Science female (N=25)		Science Male (N=28)		F value	Remark
Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	10.786*	significant at 0.01 level
30.27	2.848	34.16	8.411	31.80	7.708	40.18	5.926		

Above table 2 shows that when the mean scores of environmental awareness of four groups of male and female sample having non science and science background were compared by F test, the F value came to be 10.786 which is significant at 0.01 level of significance. To know further which groups differ significantly with each other t test was used as shown in table-3.

Table- 3

't' value comparison of environmental awareness of male and female samples with non science and science background

Groups	Non Science Female	Non Science Male	Science female	Science Male
Non Science Female	-	2.081	0.877	7.203**
Non Science Male		-	1.084	3.145**
Science Female			-	4.463**

** = significant at 0.01 level of significance

On application of t test it was seen that males with science are more aware towards environment than science females and non science group while no significant difference in awareness was found between other groups. Aleem Zeba (1997) also found significant difference between the awareness level of undergraduate science and non science male students. Thus the hypothesis 2 is partially accepted.

Table- 4

Comparison of environmental awareness of male and female sample from rural and urban background

Rural Female (N=22)		Rural Male (N=30)		Urban female (N=25)		Urban Male (N=29)		F value	Remark
Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	19.313*	*significant at 0.01 level
28.23	5.080	33.03	7.209	33.60	5.568	41.14	6.346		

With regard to the environmental awareness of urban and rural undergraduates, the environmental awareness score of the four groups were compared by applying F test. The F value 19.313 (table- 4) was found to be significant showing that place of residence plays an important role in awareness level of students.

Table 5. t value comparison of environmental awareness of male and female sample from rural and urban background

Groups	Rural Female	Rural Male	Urban Female	Urban male
Rural Female	-	2.675*	3.438**	7.82**
Rural Male		-	0.321	4.578**
Urban female			-	4.604*

* = significant at 0.05 level ** = significant at both o.05 and 0.01 level

With "t" test significant differences were found further between the groups showing rural females as least aware and urban males as most aware towards environment while no significant difference was found

between rural male and urban females. Hence hypothesis no 3 is partially accepted.

CONCLUSIONS AND SUGGESTIONS

In the present study level of environmental awareness is seen among undergraduates in relation to their gender, academic stream, and place of residence. Significant relationships between the variables have been observed. It is observed that male undergraduates, Science students and students with urban background are more aware environmentally. Males from cities, having science background showed most awareness about environment than rest of the groups.

Keeping in view the increasing threat on the sustainability of environment we need to find some strategies to put a break on further deterioration of natural resources.

- Introducing Environmental Science as a compulsory subject rather than just an optional subject.
- Organising orientation and refresher programmes for in service teachers, exclusively on environmental education at regular intervals.
- Forming "Eco Clubs" in institutions and organising programmes to observe days like Environment awareness day, Forest Day, Conservation day, wildlife week etc
- Unplanned urbanisation is a big problem in polluting the environment. Hence a proper planning of sewage, parking, plantation, and parks should be made before construction of any society.
- Working with the Media: The print, broadcast, and Internet media can be a powerful ally in educating the public on environmental matters. Newspapers, television, radio, magazines, can be used to quickly reach large number of people due to the fact that these are the most widely and frequently used modern mass media
- As in any advertisement or public awareness campaign, the involvement of influential people that are well-known and respected public figures and effective use of the media can be a potent way of increasing understanding of the importance of environmental issues and enforcement.

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