

Environmental Knowledge and Awareness among Girl Students in Thoothukudi District

Dr. S.Kanthimathinathan

Head and Associate Professor in Economics, V.O.C. College, Thoothukudi

Abstract- Environmental awareness is the first stage eventually important to the capability to carry on accountable performance by citizens. This present study is intended to understand the environmental awareness among the girl students of Thoothukudi district. The research is based on primary and secondary data both. The primary data were obtained from 120 girl students from the sixth standard to post graduate of Thoothukudi District using simple random sampling method. Secondary data was taken from research papers, journals, magazines and websites. For data analysis, percentage analysis, tabulation, averages, standard deviation, t-test, chi-square test and probability analysis tools are used. The data relates to the month of November 2017. It is seen that out of the 120 girl students, only 13 percent girl students had knowledge about environmental protection before learning environmental studies but 94 percent girl students had gained knowledge about environmental protection after learning environmental studies. In order to find out whether there is any correlation in the knowledge about environmental protection before and after learning environmental studies, chi-square test has been applied. As the calculated value of Chi-square is greater than the table value at 1 percent level of significance, there is a relationship in the knowledge about environmental protection of the respondents before and after learning environmental studies in the study area. According to the study, the level of knowledge and awareness towards an environment of girl students was found low in the variables namely global warming, toxic waste disposal, marine pollution and air pollution. The mean score values of these variables are 1.24, 1.36, 1.15 and 1.61 respectively. The level of knowledge and awareness towards an environment of girl students was found high in the variables namely extreme manipulation of natural resources, solid waste dumping, environmental education, contamination of fresh water and protect the environment. The mean score values of these variables are 3.42, 3.51, 3.69, 3.38 and 3.57 respectively. The significant difference among the level of knowledge and

awareness towards an environment of girl students is found high in all aspects of knowledge and awareness towards environment except global warming, contamination of fresh water, marine pollution, health problems and air pollution since its respective 't' statistic are not significant at 5 percent level.

Index Terms- environmental protection, solid waste dumping, environmental education, contamination, global warming

INTRODUCTION

The growth in economic activities in developing countries results in more energy ingesting which usually lead to the environmental deprivation. The accomplishment of environmental security depends on the cooperative efforts and each member of the society dividends the accountability. Unification of thought and opinion is needed to implement sustainable development as it involves not only the government institutions but also require support from professional groups, public sectors, environmental organizations and all individual in the society (Hamidi et al. 2003).

Environment protects the options for future generations and emphasizes on the more friendly sustainable development (Mozaffar Qizilbash 1996). The purposes of environmental education are to produce people who are knowledgeable about biophysical and its association with environmental problems, awareness of how to help in solving these problems and motivating people to work towards solutions (Stapp 1969).

World Bank report estimates that by 2000 up to 1 billion people in the world and 256 million people in developing countries were affected by soil erosion and land degradation due to deforestation, overgrazing, and inappropriate agricultural practices (World Bank, 2002). As environmental issues are

becoming more and more complex and the need to take action becomes more urgent, college students need to be equipped with appropriate skills that can help them to make better decisions and choices (Joseph et al., 2004). The ecological crisis dramatically continues to highlight influential factors on environmental protection such as environmental behaviour, awareness, knowledge and attitude (Ayush, D., 2008).

Environmental education means the educational process dealing with man's relationship with his natural and man-made surroundings and includes the relations of population, pollution resource allocation and depletion, conservation, transportation, technology, energy, urban and rural planning to total biosphere. Environmental awareness means to help social groups and individuals to acquire an awareness of and sensitivity to the total environment and its allied problems (Kant and Sharma 2013).

World educators and environment specialists have repeatedly pointed out that a solution to environmental crisis will require an environmental awareness and its proper understanding which should be deeply rooted in the education system at all levels of school education (Shobeiri, Omidvar, and Prahallada 2007).

Therefore, the school and educational system where formal educational inputs are received by the student, have a major and critical role to play in the environmental educational process of the next generation that has to live into the future (Gopinath 2014). The present study is aimed to assess the environmental awareness among the girl students of Thoothukudi district.

OBJECTIVE OF THE STUDY

The specific objectives of the study are

1. To study the socio-economic conditions of the sample girl students in the study area.
2. To find out the sources of information about the environmental protection
3. To examine the knowledge about environmental protection before and after learning environmental studies
4. To analyse the level of knowledge and awareness towards environment of girl students

Methodology

The research is based on primary and secondary data both. The primary data was collected through a

questionnaire designed exclusively for the study. The primary data were obtained from 120 girl students from the sixth standard to postgraduate of Thoothukudi District using simple random sampling method. Secondary data was taken from research papers, journals, magazines and websites. For data analysis, percentage analysis, tabulation, averages, standard deviation, t-test, chi-square test and probability analysis tools are used. The data relates to the month of November 2017.

LITERATURE REVIEW

Abdo (2010) in his study reveals that Males were shown to be more knowledgeable about environmental issues than females. Fliegenschnee (1998) found that women usually have a less extensive environmental knowledge than men but they are more emotionally engaged, show more concern, show more concern about environmental destruction, believe less in technological solutions, and are more willing to change.

Mohon.I, (2007) in his study stated that there are more than 3000 industrial units in Tamil Nadu which have been classified under the highly polluting or 'red' category. The effluents have caused serious problems in the Palar basin. Similarly, there are a large number of textile bleaching and dyeing units in Tiruppur, Erode, and Karur, which contaminates the Noyyal, Amaravathy and other water bodies. There are five main industrial complexes in Tamil Nadu: Manali/Ennore, Ranipet. Cuddalore, Mettur and Tuticorin have chemical, petro chemical and other industries. These complexes have also become environmental pollution hotspots. There are cement units, distilleries, sugar, sago, paper, dairying, electroplating, chemical and fertilizers (Agro chemicals), mining industries, ores/mineral processing industries and a variety of other industries which are water consuming and also generate large quantities of effluents. Some of the industries have also provided the treated effluent for irrigation with some degree of success. The professional social worker has a very vital role in environmental issues and generating awareness among people. The priority goes mainly for creating awareness among the students through mass media, campaign, competitions, voluntary work etc., but by viewing the present situations which is happening all over India.

Owens, (2000) in his study stated that increases in knowledge and awareness did not lead to pro-environmental behaviour. He points out that common sense tells us that changing behaviour is very difficult. Anyone who has ever tried to change a habit, even in a minor way, will have discovered how difficult it is, even if the new behaviour has distinct advantages over the old one and Fietkau's, (1981) also said knowledge does not directly influence behaviour. This is the unique feature of the study undertaken by the researcher.

Socio-personal characteristics of respondents (n=120)

Variable	Categories	Percentage
Age	Below -14	4
	14-17	28
	17-20	42
	20-23	18
	Above- 23	8
Religion	Hindu	76
	Christian	24
Community	Backward Caste	56
	Most Backward Caste	28
	Scheduled Caste	16
Level of Education	Middle and High school	24
	Hr. Sec	28
	Graduate	22
	Post Graduate	26
Nature of Family	Nuclear Family	76
	Joint Family	24
Family Size	Less than 2	16
	Low 2-4	32
	Medium 4-5	38
	Large 5-6	10
	More than 6	4
Housing	Own	76
	Rent	24
Monthly income of the father	Below Rs. 1,000	4
	Rs. 1,001 and Rs. 2,000	4
	Rs. 2,001 and Rs. 3,000	14
	Rs. 3,001 and Rs. 4,000	24
	Rs. 4,001 and Rs. 5,000	54
Place of residence	Rural	54
	Semi-urban	33
	Urban	13
Sources of Information about the environment	Newspaper	28
	Schools/ Colleges	41
	Radio/ T V	23
	Friends/Relatives	8
	Total	100

Source: Primary data

RESULTS AND DISCUSSION

The socio-economic characteristics of respondents were analyzed and presented in the above table.A

total of 150 girl respondents were surveyed. It could be inferred that the important age groups of the respondents are 14-17 years and 17-20 years. They constitute 28 and 42 percent of the total respectively. It is followed by 20-23 years and above 23 years which constitute 18 percent, and 8.00 percent respectively. The mean age of girl students worked out to be 22.1 years.

It is found that the majority of the respondents are Hindus, which constitute 76 percent. It was followed by Christians, which constitute 24 percent. It is concluded that among the 150 respondents selected under study, 38 are Hindus, 12 are Christians in Thoothukudi district.

It could be seen that out of 150 respondents, 28 (56 percent) are Backward Class and it was followed by Most Backward Class, Scheduled Caste 28 percent and 16 percent respectively. It is concluded that the majority of the respondents come under the category of Backward Class. Education makes a difference in the enunciation of thoughts. About 24% of the respondents had middle and high school education, about 28% had higher secondary education, about 22% possessed degrees and about 26% had pursued post-graduate degrees.

It could be identified that a maximum of 76 percent of the total respondents belongs to the nuclear family system, whereas the remaining 24 percent of the respondents belong to the joint family system. It is concluded that the majority of the respondents belong to a nuclear family in Thoothukudi district. The majority of the respondents i.e., 38 percent of families are having Medium 4-5 size ranging from members.

From the table, it is revealed that almost all the sample respondents have own houses (76%). The study revealed that 8% of the respondent's father is earning an income up to Rs.2000, 14% of the respondent's father is earning Rs.2000-3000 monthly, 24% of the respondent's father is earning Rs.3000-4000 monthly, and the others 54% of the respondent's family are earning Rs.4000-5000 monthly. The average monthly income of the girl's family is Rs.3740.

The above table reveals that the place of residence of the respondents is coming from rural areas which constitute around 54 percent and coming from semi-urban is 33 percent, remaining 13 percent of urban

counterparts. The majority of the respondents are living in rural areas.

From the table shows that a various sources of information about the environmental protection along with number of girl students reported are evident, 28 percent of the girl students have information through newspaper, 23 percent of beneficiaries have information through radio/ TV, 8 percent of girl students information through friends/relatives and remaining 41 percent of girl students information through schools/ colleges.

Knowledge and awareness about environmental protection

The distribution of girl students acquired knowledge about environmental protection before and after learning environmental studies is shown in the table.

Null hypothesis: There is no significant difference in the knowledge about environmental protection of the sample respondents before and after learning environmental studies.

Knowledge about environmental protection before and after learning environmental studies

Percentage of Respondents			
Sl. No.	Knowledge about environmental protection	Before learning	After learning
1.	Yes	13	94
2.	No	87	6
	Total	100	100

Source: Primary data.

It is seen from Table that out of the 120 girl students, only 13 percent girl students had knowledge about environmental protection before learning environmental studies but 94 percent girl students had gained knowledge about environmental protection after learning environmental studies.

In order to find out whether there is any correlation in the knowledge about environmental protection before and after learning environmental studies, chi-square test has been applied. The results of the Chi-square test are furnished below.

Calculated value of Chi-square = 131
 Table value at 5 percent level = 3.841
 Degrees of freedom = 1

As the calculated value of Chi-square is greater than the table value at 1 percent level of significance, there is a relationship in the knowledge about

environmental protection of the respondents before and after learning environmental studies in the study area.

Test of significant difference between medium of students in their environmental awareness

Medium	N	Mean	S.D	T	Level of significance
English	86	24.62	7.34	2.21	Significant at 0.05 level
Tamil	34	28.22	9.27		

Source: Computed from Primary data.

The above table shows that the obtained t value 2.21 is greater than the table value 1.96 at 0.05 level of significance. This indicates that there exists a significant difference between English and Tamil Medium Students' Awareness towards Environment. The Mean Score of Tamil Medium students (28.22) are greater than the mean score of English medium school students (24.62). It is inferred that Tamil Medium students have a higher level of awareness regarding the environment.

Level of knowledge and awareness towards environment

The concept of quality of life includes not only wealth and employment, but also the built environment, physical and mental health, education, recreation and leisure time, and social fitting. The quality of life is the degree to which an individual enjoys the important possibilities of his or her Life²³. In the present study, the level of knowledge and awareness towards environment of girl students are measured through ten selective variables such as global warming, toxic waste disposal, marine pollution, air pollution, extreme manipulation of natural resources, solid waste dumping, environmental education, health problems, contamination of fresh water and protect the environment. Each of the ten variables is measured with the help of responses to relevant questions in respect to each construct by using a five-point to scale technique according to their level of knowledge namely 'strongly agree', 'agree', 'neutral', 'disagree' and 'strongly disagree' which carries 5, 4, 3, 2, and 1 marks respectively. In order to examine the differences in mean score values of each variable of the level of knowledge and awareness towards an environment of girl students, the computed mean score values and t-values are presented in the following table.

Level of knowledge and awareness towards environment

Sl. No.	Level of knowledge and awareness towards environment	Mean	S.D	T-test
1.	Extrememanipulation of natural resources	3.42	1.32	1.5241*
2.	Global warming	1.24	0.18	0.1242
3.	Air pollution	1.61	0.51	0.3621
4.	Solid waste dumping	3.51	1.49	2.5132*
5.	Environmental education	3.69	1.67	2.4687*
6.	Toxic waste disposal	1.36	1.37	1.2043*
7.	Contamination of fresh water	3.38	1.87	1.2819
8.	Health problems	2.16	1.14	2.1051
9.	Marine pollution	1.15	1.62	1.0204
10.	Protect the environment	3.57	1.79	2.3867*

* Significant at 5 percent level.

According to Table, the level of knowledge and awareness towards an environment of girl students was found low in the variables namely global warming, toxic waste disposal, marine pollution and air pollution. The mean score values of these variables are 1.24, 1.36, 1.15 and 1.61 respectively. The level of knowledge and awareness towards an environment of girl students was found high in the variables namely extreme manipulation of natural resources, solid waste dumping, environmental education, contamination of fresh water and protect the environment. The mean score values of these variables are 3.42, 3.51, 3.69, 3.38 and 3.57 respectively. The significant difference among the level of knowledge and awareness towards an environment of girl students is found high in all aspects of knowledge and awareness towards environment except global warming, contamination of fresh water, marine pollution, health problems and air pollution since its respective 't' statistic are not significant at 5 percent level.

CONCLUSION

The present study was an attempt to see the environmental awareness of girl students from the sixth standard to postgraduate of Thoothukudi District and the result showed that the environmental awareness of female students is more. Educational policy maker should be changed the curriculum accessible in the arts and science stream books in colleges. Numerous actions related to environmental

education like essay writing, mime etc. can be organized in schools and colleges. Establishing awareness crusades about environment connected social issues in rural areas. Environmental education should be introduced as a distinct unit in the higher secondary level and colleges with the pervaded approach to teaching.

REFERENCES

- [1] Abdo, s. A.-w. (2010), The effects of demographic factors on the environmental awareness of Omani citizens. Human and ecological risk assessment, 16: 380–401,
- [2] Ayush, D., 2008. Integrating Sacred Natural Sites Concept into Environmental Education, UNESCO workshop Mongolia, Kharkhorinsoum, Uvurkhangai province, 25-28 August 2008
- [3] Fietkau, h.-j. & kessel, h. (1981) umweltlernen: veraenderungsmoeglicheite n des umweltbewusstseins. Modellerfahrungen(koenigstein, hain).
- [4] Fliegenschnee, m. & schelakovsky, m. (1998) umweltpsychologi e und umweltbildung: eine einfu ¨hrung aushumano ¨kologische r sicht(wien, facultasuniversita ¨tsverlag).
- [5] Gopinath G., (2014), A Study on the environmental awareness among secondary school students in a district of Kerala state, International Journal of Education and Psychological Research, 3(2), pp 54-57.
- [6] Hamidi Ismail, Noraniza Yusoff, Raman Mariyappan, Tuan Rokiyah Syed Hussain & Wahida Ayob. 2003. Modul Pendidikan Jarak Jauh (Pentadbiran alamsekitar). Pusat Pendidikan an Profesional dan Lanjutan (PACE): Universiti Utara Malaysia.
- [7] Joseph, L. A., Victoria, E. A., Campbell, A. B. & Louie, R. (2004). Teaching students to make better decisions about the environment: lessons from the decision sciences, Journal of Environmental Education, 36(1), 33–44.
- [8] Kant S. and Sharma Y., (2013), The environmental awareness of secondary school students with reference to their intelligence, BPR Technologia: A Journal of Science, Technology and Management, 2(1), pp 33-39.

- [9] Mohon.I, (2007). Environmental crisis (New Dimensions and Challenges). New Delhi – 110 002: Ammal publications Pvt.Ltd.,
- [10] MozaffarQizilbash. 1996. Ethical Development. World Development 24 (7): 1209-1221.
- [11] Owens, S. (2000). Engaging the public: information and deliberation in environmental policy, Environment and Planning A, 32, pp. 1141–1148.
- [12] Shobeiri S.M., Omidvar B. and Prahallada N.N., (2007), A comparative study of environmental awareness among secondary school students in Iran and India, International Journal of Environmental Research, 1(1), pp 28-34.
- [13] Stapp, W.B. 1969. The concept of environmental education. The Journal of Environmental Education 1 (1): 30-31.
- [14] World Bank, Linking Poverty Reduction and Environmental Management, 2002