

A Survey of Environmental Awareness, Attitude, and Participation amongst University Students: A Case Study

Mohammed Yahaya Abbas¹, Ripudaman Singh²

¹M.A Geography, LPU, Phagwara, Punjab State, India

²PhD, School of Arts and Languages, Department of Geography

A research work conducted at Lovely Professional University (LPU), Phagwara, Punjab State, India

Abstract: *Environmental awareness implies not only being knowledgeable about the environment, but also being acquainted with sets of values, attitudes and skills for addressing environment related problems. Students, especially of higher institutions/universities are the hope for future betterment of environment, and for attaining environmental sustainability. The study surveyed environmental awareness level, attitudes, and participation among Lovely Professional University students, (LPU, Phagwara). It attempted to find out students level of knowledge and awareness on environment, their attitudes towards the environment as well as their participation level in environmental protection and improvements. The study was primary data base and hence questionnaire method of data collection was employed. A total number of 250 questionnaires were administered, students' responses were scored, and the data was analyzed using SPSS statistical software employing descriptive statistics. The sampling technique used was stratified random sampling in which students were sampled at random around the university so as to ensure an unbiased representation of the total population under study. Results from the study revealed high level of environmental knowledge and positive attitudes towards the environment among the students, but low level participation in environmental protection activities. This implies that, other factors than environmental knowledge and awareness may be the stimulants to induce students' active participation in environmental protection and improvement activities.*

Keywords: Environmental awareness, Knowledge, Attitude, participation, Environmental Protection,

1. Introduction

Global environment has in the past few decades been observed to have undergone serious changes which were largely seen as the result of human actions. The quality of environment is believed to have been significantly altered to an alarming rate through decreased in quality of air, water, soil, increased ocean pollution, wildlife extinction, loss of biodiversity, and increased in frequency and intensity of catastrophic natural disasters resulting in loss of lives and properties, spread and increased in cancerous diseases and the like (Abbas, 2013). Hence, it is no longer subject to debate whether the above mentioned environmental problems are natural or anthropogenic. It has been ascertained that man as the senior citizen of the planet Earth has been totally responsible through his greediness actions of destruction and over exploitation of the environment and natural resources. Hence, the need for environmental education and awareness becomes paramount as an essential measure to curtail the situation to a greater extent. In the works of Ibrahim et al (2012) put forward that Environmental education is a way of creating knowledge, comprehension, values, attitudes, skills, abilities and awareness among individuals and social groups towards the environment protection. The Geographical Association's Environmental Education Working Group (1980) defines Environmental Education (EE) as a multitude of processes and activities by which an understanding of environment is developed and through which caring and committed responses are evolved. It is concern with knowledge, emotions, feelings, attitudes, and values. Its aim is to

produce informed and responsible citizens capable of playing an active role in all matters concerned with the environment in which we all inhabit (Maigari, 2002). People need to be made aware of the importance of our environment in which we live and the need to preserve and protect it, as well as the consequences of our actions in the course of developmental activities. Thus the ultimate aim of environmental education is to redirect and shape human behavior towards responsible acts and commitments to environment. As such therefore, effective environmental education gears and promotes responsible citizenship behavior toward the environment and environmental protection.

Thus, environmental education and awareness as well as induced public participation in environmental protection become paramount to attaining environmental sustainability. Therefore, this paper attempted a micro study on environmental awareness, attitude and participation amongst students of Lovely Professional University. The university is diverse with a large number of students not only from different states of India but also across the world, which provide the good avenue to study and investigate the students' environmental awareness and participation.

2. Material and Method

The paper investigated student's environmental awareness, attitude and participation amongst lovely professional University. It attempted to examine students' level of awareness and participation in environmental protection.

The study employed descriptive statistics in the presentation and interpretation of data using Statistical Package for Social Sciences (SPSS) software.

3. The Study Area

The study area (LPU) is located at latitude $75^{\circ}45'28''$ East and longitude $31^{\circ}15'44''$ North occupying a total geographical area of about 2.4 square kilometres (about 600 acres/240 hectares) at an elevation of 739 feet above mean sea level (Abbas, 2013). LPU is situated in the north-western part of India, in the state of Punjab, Phagwara Tehsil of Kapurthala District, between Jalandhar city from the west and Phagwara city to the east along the National Highway No.1.

4. Objectives of the Study

The study has been undertaken to:

- 1) Find out the level of environmental awareness among students of the university under study.
- 2) Examine students' attitudes and sense of responsibility towards the environment and environmental problems.
- 3) Investigate students' participation and level of engagement in environmental activities and protection.
- 4) Propose recommendations on the bases of the results obtained from the study.

5. Methods of Data Collection

5.1 Primary Data

The study employed questionnaire survey method, a structured form of questionnaire to obtain information and responses of the sampled Population to examine their environmental awareness level, attitudes, concern, and roles towards the environment and environmental protection. A total of 250 questionnaires were administered out of which 202 questionnaires were retrieved. Students were sampled at random from wherever they could be found in their respective schools within the university from which responses were collected. The questionnaire contains four sections; the bio-data part, environmental knowledge/awareness, attitudes towards the environment, and participation level.

5.2 Secondary Data

The study also reviewed a number of relevant literatures and previous research works, sourced from published and unpublished sources, journals, books, and so on, to enrich the introductory and the literature review aspects of the research work.

5.3 Analytical Techniques

The analysis of data obtained from the study was achieved through simple descriptive statistical techniques. Frequency counts and tables, percentages, cross tabulation were determined. Results were presented in pictorial and graphical forms using pie and clustered bar charts to ensure

adequate illustrations and were supported with explanation and discussions.

6. Results and Discussion

In this section, data collected from the survey through questionnaire administration were organized, analysed and interpreted in accordance with the methods and procedures outlined above. Results were discussed and recommendations were drawn. However, the study is heavily primary data, except in the introductory and literature review aspect of the research work. However, a total of 250 questionnaires were administered out of which 202 were successfully retrieved. Responses from the respondents were recorded pertaining to bio-data (age group, gender, academic discipline, year of study, etc), environmental awareness test, attitudes and level of commitment to environmental protection. These responses were later scored, and from which the level of awareness and participation were determined. The values obtained were later inputted in SPSS statistical software and the appropriate statistical analysis was later conducted. The results obtained are discussed and vividly explained as can be seen in the preceding paragraphs/pages.

In the table below (table 1), the age structure of the respondents are shown. The age groups were drawn into 4-year class intervals of 16-20, 21-25, 26-30 and 30-above in order to ensure adequate representation. The age group of the respondents within the interval of 16-20 recorded 61 students making 30.5 valid percent of the total respondents. The highest count of the respondents age groups fall in the category of 21-25, recording a number of 124 students with the valid percent of 62.0%. This implies that the age structure of the respondents is concentrated at this age group revealing youthful age of the students with a total cumulative percent at 92.5% collectively.

Table 1: Age Groups of the Respondents, 2014

	Age Group	Frequency	Percent	Valid Percent	Cumulative Percent
	16-20	61	30.2	30.5	30.5
	21-25	124	61.4	62	92.5
	26-30	13	6.4	6.5	99
	30-above	2	1	1	100
	Total	200	99	100	
Missing	System	2	1		
	Total	202	100		

(Source: Fieldwork, 2014)

The age group within 26-30 recorded 13 respondents only with the valid percent of 6.5%. This shows low number of students falling into that age group. The least count fall between 30-above age groups with Only 2 respondents amounting to 1.0 %. Two of the total respondents did not respond to the question and hence their age group could not be determined.

In general, the study revealed that, the larger proportion of the students investigated from the study fall between 16 to 25 years making 92.5% total of the population under study. This signifies the nature of youthful age structure of the students upon which the faith of attaining environmental

sustainability and developments depend upon. The table 1 is depicted pictorially using a pie chart as shown below.

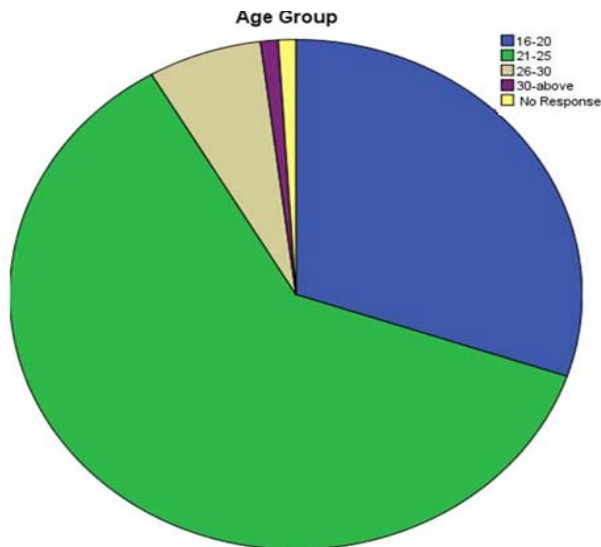


Figure 1: Age Groups of the Respondents, 2014.

Source: Generated from table 1

Haven seen the age structure of the group respondents above, their level of environmental awareness was also obtained. This is shown in table 2 below.

Table 2: Respondents' Environmental Knowledge Level, 2014

Rank	Frequency	Percent	Valid Percent	Cumulative Percent
Low	4	2	2	2
Medium	69	34.2	34.2	36.1
High	129	63.9	63.9	100
Total	202	100	100	

(Source: Field work, 2014)

From the table above, the level of environmental knowledge of the respondents were ranked from **Low, Medium to High**. However, out of the total 202 students investigated, only 4 students fall under the low category of Low awareness with the valid percent of 2%. A number of 69 students fall under the Medium category of awareness level amounting to 34.2%. The students with higher level of environmental awareness made the largest count of 129 out of the 202 total respondents with valid percent of 63.9%. Thus, data from the study generally revealed high level of environmental awareness among the university students with 63.9% total. When compared with the cumulative percent of those students within both Low and Medium level of environmental awareness of 36.1%, it can be concluded that, the study revealed high environmental awareness among the university students.

The study also attempted to find out the level of student's participation and involvement towards environmental protection and conservation. This participation in environmental protection could be either direct or indirect. Direct participation involves students engaging themselves in environmental students' clubs and/ or organisations carrying out environmental activities. The indirect participation in environmental protection were regarded as individuals being committed to environmental protection

and conservation through activities of tree planting, sanitation, proper disposal of waste items and re-use etc. However, the study clubbed all together the direct and indirect participation to environmental protection to determine the participation level in general.

Table 3 below, shows the level of student's participation in environmental protection.

Table 3: Students' Participation Level in Environmental Protection, 2014.

Participation Level					
	Rank	Frequency	Percent	Valid Percent	Cumulative Percent
	Low	72	35.6	36	36
	Medium	77	38.1	38.5	74.5
	High	51	25.2	25.5	100
	Total	200	99	100	
Missing	System	2	1		
Total		202	100		

(Source: Field work, 2014)

As shown in the table above (table 3), the level of students' participation in environmental protection was ranked from **Low, Medium to High**. Generally, it exhibits low participation in environmental activities and protection. A number of 72 students out of the total 202 respondents amounting to 36% fall under **low** participation. Similarly, 77 respondents with 38.5 valid percent were ranked among the **medium** category. Thus, combining all together (Low and Medium categories) has a cumulative percentage 74.5%. The respondents with **high** level of participation in environmental activities and protection are 51 with only 25.5%. This indicates less number of people participating fully in environmental activities and protection counteracting the high level environmental knowledge exhibited by the study as shown in the previous page (Table 2). However, out of the total respondents (202), two students did not respond, so their input pertaining to participation could not be determined.

Thus, from the data, the study revealed that, environmental knowledge alone may not be the only stimulating factor to instigate active participation in environmental protection and activities. There may be numerous other factors. To arrive at a Foolproof explanation, the data contained in table 2 and 3 were cross-tabulated to find out the level of association between the variables; the environmental knowledge and students' participation in environmental activities and protection.

Table 4: Cross-tabulations; Environmental Knowledge and Participation Levels, 2014

Cross-tabulation; Knowledge level and Participation					
	Count	Participation Level			Total
		Low	Medium	High	
Knowledge Level	Low	3	0	1	4
	Medium	30	25	13	68
	High	39	52	37	128
Total		72	77	51	200

(Source: Fieldwork, 2014)

From the table above (table 4), cross-tabulation between students' environmental knowledge and participation level reveals that, respondents with low level awareness and low level participation are 3. Similarly, those with low level awareness and participate moderately in environmental activities are 0. And those with low level environmental awareness and fully participate in environmental protection activities is only 1. This numerically reveals that, at low level of environmental knowledge there are very few people participating in environmental protection and conservation activities. The number increases with the increase in environmental knowledge at medium level and low level participation recording 30 persons, 25 and 13 persons in medium and high level participations respectively. So also, at high level awareness, 39 persons were recorded low participation, 52 persons at medium level participation and 37 persons at high level participations.

Thus, collectively, there are 128 respondents ranking **high** environmental knowledge level at all the three levels of participation, and this indicates a high proportion of people being aware. On the contrary, there is least number of respondents 51 at high level of participation and awareness than at the totals of low and medium participation levels. This of course indicates low level of respondents' participation in environmental activities since it recorded the least score.

Figure 2 below shows a cross tabulation of clustered bar chart of the above discussion showing percentage proportions of each variable at different rank levels to provide a pictorial view.

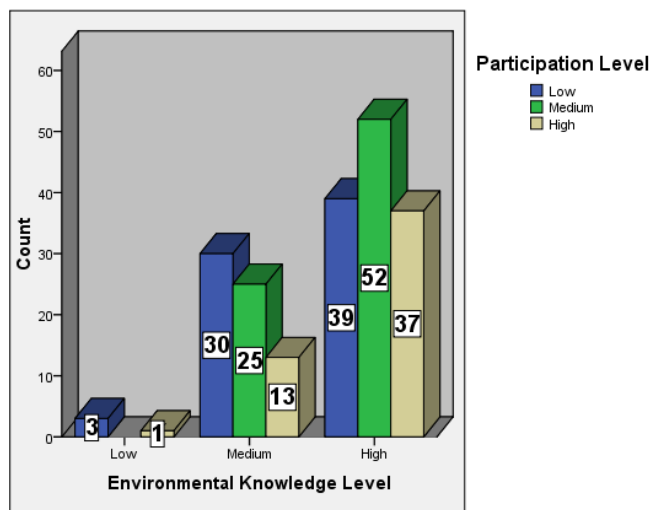


Figure 2: Cross tabulation: Environmental Knowledge and Participation Levels, 2014

Source: Generated from table 3, 4

The study also attempted to find out the attitudes and students' sense of responsibility towards the environment. Since attitudes are sets of values and feelings of concern towards environment and environmental improvement and protection, they may affect one's feeling of responsibility towards the environment. Therefore positive attitudes shape citizens behaviour and perceptions towards the responsible actions to environment (Hungerford et al, 2010).

Figure 3 below, shows respondents attitudes pertaining to different magnitude of concerns on environmental issues and problems.

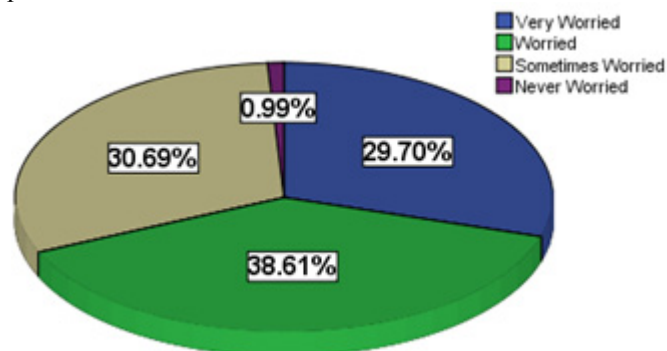
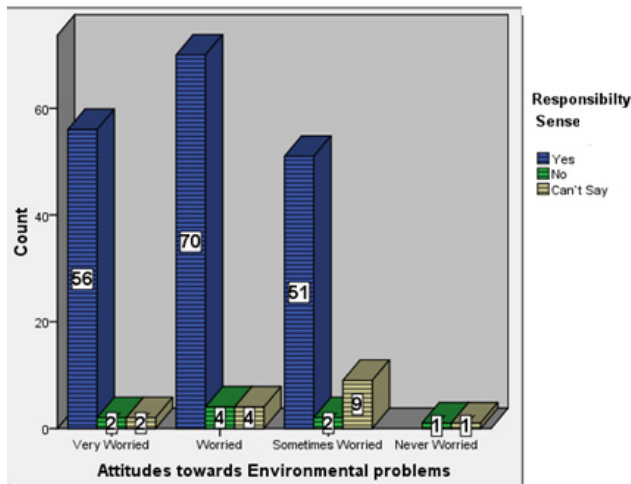


Figure 3: Respondents' Attitudes towards Environmental Issues, 2014.

From the chart above (figure 3), which reveals students' attitudes and concern on environmental issues and problems. Their levels of concern were denoted by different degree of strength in attitude from; **very worried, worried, sometimes worried, to never worried**. As shown in the figure, the proportions of respondents who **worried** about the present status of environmental problems around them carry 38.61% which is the largest proportion of the total sampled population. This expresses some degree of concern from the students, that they are not only aware of the environmental problems around them, but also have certain feelings towards these environmental issues as a matter of threat. The respondents who are only **sometimes worried** on these issues carry 30.69%. While of those who are of deep concern and are very worried on these problems carry 29.70%. The margin between the two (sometimes worried and very worried) is rather insignificant by 0.99%. Nevertheless, this shows students' in-depth feelings on environment and environmental problems which they see every day around them. The least of all the respondents' attitudes on these issues fall in the category of those students who are never worried with only 0.99%. This proportion is very insignificant. Thus, in general, the study revealed that, students have acquired a set of positive attitudes on environment and environmental problems since the larger proportion of their concerns are with the categories of **worried, very worried, and sometimes worried**, with very least from **never worried**.

However, in order to take an in-depth look into the respondents' attitudes and concerns towards the environment, the study attempted to correlate students' concerns and that of their sense of responsibility to environmental protection and improvements. This is expressed in a clustered bar chart as shown in figure 4 below.



(Source: Field Work, 2014)

Figure 4: Cross tabulation: Students Attitudes and Sense of Responsibility towards Environmental Issues, 2014.

From the figure above, students' levels of concern and sense of responsibility to the environment were cross tabulated and were shown at various degree of strength from; *very worried*, *worried*, *sometimes worried* and *never worried*, with *Yes*, *No*, and *Can't say* respectively.

Students with *very worried* concern level have high sense of responsibility (*Yes*) at 56%, *No* at 2%, and *Can't say* at 2%. This implies that, students with very worried concerns have higher feelings of responsibility to environmental protection than those with *No*, *Can't Say* both at 2% each. Similarly, students with *worried* concern on environmental problems recorded highest sense of responsibility (*Yes* category) at 70% which is much more than the *very worried* category. *No* and *Can't say* recorded 4% each. This signifies that, students at this level have much more feelings and concern to the environment proportionately, while those who have none and or not sure maintain the same proportion.

The respondents at *sometimes worried* level of concerns recorded sense of responsibility 51% (*Yes*), 1% (*No*), and 9% (*Can't say*). At this level the sense of responsibility variable at *Yes* decreases (as compared with the other levels of very worried and worried) while others (*No* and *Can't Say*) varied simultaneously. This implies low responsibility feelings towards the environment which coincided significantly with attitude of the respondents.

However, in the *Never worried* level of concern, sense of responsibility (at *Yes* category) to the environment is rather zero as can be seen in the figure. In the same vein, at *No* and *Can't say* level of responsibility sense scored the least proportions at 1% each. This describes practically that students with least attitude towards the environment have least feeling of responsibility to environmental protection and improvement.

Thus, generally, the study revealed that the larger proportion of students have positive attitudes towards environment and hence high sense of responsibility to environmental protection. This coincided with high level of environmental knowledge as discussed above.

7. Recommendations

The importance of the environment in which we all live and carry out our daily life routines cannot be overemphasized. The quality of our lives and well being is directly or indirectly dependant on the quality of such environment. The interdependence between man and environment is so conspicuous beyond any doubtful mind. Over the recent decades, environmental degradation became evident, natural catastrophic events became prevalent, which was seen largely as the result of man's greediness action aggravating the situation. Hence, this drawn the attention of global community towards a better and quality environment through sustainable development. In an attempt to attaining this goal, environmental education and awareness became important mechanisms to inducing community participation in environmental protection and improvement.

The study examined students' environmental awareness, attitudes and participation level in environmental protection and improvement. Environmental sustainability is rather a new concept and the attainment of it is associated with long term series of strategic plans and activities. Students, especially of tertiary institutions are the hope for future development policies and hence environmentally viable policies and technologies necessary to attaining environmental sustainability.

Thus, result from the study revealed that students have high environmental awareness, and positive attitudes towards environment, but low level participation in environmental protection activities and improvement. This implies that, students being aware of environment, and environment related problems alone, does not make them participate actively in the protection and improvement of environment. Hence, this means that, there could be factors other than being knowledgeable about the environment that may stimulate students' participation level. This also calls for an in-depth research in this arena to explore more of what other factors are essential to inducing students' participation in particular and the larger community participation in general. All together, this will ensure the successful attainment of Environmental Education (EE) objectives, and hence environmental sustainability at long run.

University on the other hand should provide the necessary platforms to encourage students' participation in environmental activities through students' environmental associations and clubs, debates and seminars. This will stimulates students' interest in environment and make them assume certain level of responsibility towards environmental protection and improvement.

8. Summary and Conclusion

The study surveyed and investigated university students' environmental awareness level, attitudes towards the environment, as well as their level of participation in environmental activities. Results from the study revealed that a significantly higher proportion of students exhibited high awareness level by 63.9% of the total sampled population. In the contrary, the study also revealed that, in spite of high level of knowledge and awareness on

environment but also low level participation in environmental activities by about 74%. In other words, results from the study imply that, students being aware about their surroundings and having knowledge about their environment may not be the only factor to stimulate participation in environmental improvement and protection activities. So also, the study highlighted that high environmental awareness has direct relation with acquiring good attitudes and higher sense of responsibility towards environment.

Thus, this study has identified an important gap for further studies in order to find out more of what other factors if any could induce students actively participating in environmental protection and improvement activities. This may apply to the larger community as well since students form an educated part of community, and hence the future leaders and policy makers. Therefore, there is the need for an in-depth study in order to find out a foolproof result and become certain about what other issue stimulate active participation. This will ensure the success of environmental education program and help in attaining environmental sustainability at the grassroots.

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