

# Environmental Consciousness Survey of University Students

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## Abstract

This study aims to determine the environmental awareness and sensitivity level of university students. A total of 500 university students belonging to different levels were surveyed by a questionnaire form. In this questionnaire, a total of 34 questions were asked to the students regarding their conscious to use and consumption of environmental impacting things, energy saving, waste and recycling to reuse and other topics. Research findings showed that students have a high level of consciousness and awareness for a sustainable environment about the use of natural resources, energy saving, waste recycling and reusing. It is also understood that students have often done this behavior. Besides, It was determined that our society have a low level of environmental awareness, the most important cause of environmental pollution is water pollution and our country has water scarcity in terms of water resources.

**Keywords:** Environmental consciousness, awareness, higher education

## 1. Introduction

Environment is an external medium where living creatures and inanimate live together and interact with each other. In order to maintain lives of people it is necessary to meet their needs as a continuously from their live environment. Human interaction with environment began since being humanity and in parallel to the human population increasing, it is increase rapidly today. Rapid population growth, industrialization and technological advances all together that make up environment natural resources in consumption increased rapidly. Natural resources which consume as an unconscious and consumption of natural environment as an excessive cause destruction and contamination of environment.

With direct or indirect interference changes in environment affect all the creatures which exists in that environment. An increase in environmental problems arise a term of environmental consciousness. To provide more healthy and safe environment for future generations, it becomes compulsory to raise the awareness of a person about environment and related issues. Environmental consciousness is a form of behavior, thought and attitude of an individual and community to maintain a balanced way of interaction with the environment. The basic purpose of this consciousness of the people is to get benefit from environment without any damage to the environment.

The key aims of environmental awareness are to conserve the nature of our living places that we share with other living bodies in our surrounding and bio-diversity in regard to the environmental awareness and to fulfill their own requirements. To create environmental awareness, everyone must be sensitive to global and local environmental issues and should fulfill their duties and obligations.

The topic of environmental awareness starting from the smallest unit of society like family to the whole community including, educators, local governments and citizens, in short every member of society and people of all ages are responsible to protect the environment. The way we can protect our environment and natural resources is by providing information and by making sense of an individual to its responsibility and awareness

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regarding environment issues. Environmental awareness requires the efforts of people to hear the people around and make the sense of individual's responsibility.

By keeping in mind that environment is not our legacy it will be transferred to the next generation. So to keep the sustainability of the environment it is important to raise the awareness of individuals to protect the environment from all hazards activities. Considering that everything starts from the individual and the society should be made aware by raising the awareness of individuals. At this point the awareness of younger especially upper classes student of university is very important, as after graduation they will start professional activities in their related fields and those information will help them to make the environment sustainable by monitoring the environment policy.

In our country, there have been several studies related to environmental awareness education in recent years [1-8]. Much of this work has been carried out on young people and young people's awareness about environmental consciousness has been determined Oğuz et al., [9] A study aimed to determine the awareness level of students was conducted on 213 students in Ankara Landscape Architecture, Environmental Engineering, and City and Regional Planning students studying in graduate programs on issues related to environmental awareness. As a result of the study found that students on issues related to the environment that is independent of the class they read students' awareness and sensitivity, and environmental issues and conceptual knowledge about the protection of resources even if they are not on the same level of attitudes and behavior in everyday life.

In addition, the study courses related to environmental attitudes and behaviors have stressed the need to question the effectiveness of that provided guidance Karatas et al., [8] In his theoretical work, although each preventive measures and laws to prevent the environmental problems was studied, in order to tackle environmental issues primarily giving importance to environmental awareness to sustain the nature of the environment and it must be emphasized in favor of the next generation.

In order to achieve more reliable and viable environment, it is important for all higher education institutes and other institutes as well at each level of education they must have to increase the number of lectures and there is also a need to increase the contents related to environmental concerns Özdemir et al., [10] The study of awareness and sensitivity about environment was carried on 301 students including grade 1<sup>st</sup> to 4<sup>th</sup> form the Faculty of Medicine, result showed that girls are more sensitive to environment, other than that there was no specific difference between grade 1<sup>st</sup> and 4<sup>th</sup> regarding environmental sensitivity. It was expected that at high level of education of these students, they should be sensitive to show sufficient interest in this subject but they lacked in it, at the end they reached the conclusion that there is inadequate training on environment related issues. Kalkan et al., [11] The study showed that a difference regarding environmental awareness exist between two groups of students those who attended the voluntary environmental training seminars in comparison to non-attenders of those seminars at primary level of education. The results obtained from this study showed insignificant difference between these two groups of students.

The aim of this study is to observe the behavior and attitude of students at pre-university, undergraduate and at graduate student level, related to the awareness of environmental issues and to determine their consciousness level. For this purpose, the comprehensive investigation was made on students of different universities belonging to various faculties, to determine their awareness and sensitivity regarding environmental issues.

## **2. Methodology and Data Analysis**

The objective of this study is to determine the awareness of university students regarding their attitudes and behavior on environment related issues by using survey investigation method. This research was conducted on 500 students at pre-university, undergraduate and graduate level belonging to various faculties from different universities in 2015. The questionnaire contains variety of questions about attitude and behavior regarding to environmental awareness has been prepared. The research survey contains question about the attitude and behavior of students related to environment and also tried to investigate the initial level of students on this topic. This questionnaire contains 34 questions to reflect the purpose of their specific subject to observe the

behavior and attitude of students related to environmental issues. There are 5 questions to measure the demographic measurement of participants, to determine the level of environmental awareness. The 17 questions were in Likert form carrying 5 options in response (measurements were figured as; 5 “every time”, 4 “often”, 3 “sometimes”, 2 “rarely”, 1 “never”), 12 question were prepared in (3: “yes”, 2 “no”, 1 “I have no idea”) categorical form. In addition there is some open-ended question to investigate or to observe the attitude, behavior and thoughts in students to protect the environment.

First of all pilot study was made to check the errors and to monitor waiting results of this carried survey and after that it was finalized. The survey has been conducted on 500 students at pre-university, undergraduate and graduate levels who are studying in various departments belonging to different universities; the questionnaire was delivered via e-mail. For data collection during this survey, participants were requested to fill the questionnaire completely.

### 3. Results

#### 3.1. Demographic Results

A demographic characteristics of 500 students participated in this research findings are presented in Table 1. The results in Table 1 show that 61% of girls and 39% of boy participated in this survey. The distribution of participated students on the basis of age is as 7% of students were 17-19 years, 54% were 20-22 years, 31% were 23-25 years and 8% were 26 years or above. As distribution on the basis of education, 3% of students were from preparatory class 14% of 1st year, 18% of 2nd year, 22% of 3rd year, 33% of 4th grade, 4% of 5th grade and 7% were of 6th and above grades. In addition, the distribution of students in terms of education type, morning classes 71% and evening classes 22%, distance learning was 3% and from coeducation learning it was 4%. The second part of the table provides information about participating student’s faculty, institute or high school. Accordingly 42% of the students from the faculty of engineering participated in this survey study and this ratio of participants varies from 1-6% for different departments as per shown in Table 1.

#### 3.2. Frequency distribution of the answers

In this section, the distribution of responses to the questionnaire prepared in accordance with the 5-point Likert scale and is given in percent. This information is presented in Table 2, Table 3 and Table 5. In addition, Table 4 shows the response of participants to the 12 questions asked in the survey and were answered in 3 choices (Yes, No, No idea) and are given in percentages.

In Table 2 obtained information from the participants to determine their consciousness regarding environment in response to the asked questions has been presented. According to these results, participant’s consciousness about consumption of things was 3.72 as the average response to the questions in the questionnaire that indicate the behavior of conscious consumption was determined more often. The response of participants received in order to avoid the paper wasting that they use the front and back sides of the paper for output. They reuse the paper of notes and it was understood that it’s better to send an e-mail rather than taking it to a hard copy by printing and instead of taking a print they study those documents on computer by changing their reading habits to middle level.

**Table 1.** The distribution of participating students in survey according to demographic characteristics

Demographic Characteristics		Number of Students	%	Demographic Characteristics	Number of Students	%
<b>Gender</b>	Woman	305	61	Institute of Education Sciences	7	1
	Man	195	39	Institute of Natural Sciences	20	4
	<b>Total</b>	<b>500</b>	<b>100</b>	Institute of Health Sciences	8	2
<b>Age</b>	17-19 age	34	7	Institute of Social Sciences	9	2
	20-22 age	270	54	Faculty of Engineering	212	42
	23-25 age	154	31	Faculty of Computer and Information Sciences	25	5
	26 or above	42	8	Faculty of Education	15	3
	<b>Total</b>	<b>500</b>	<b>100</b>	Faculty of Agriculture	5	1
<b>Level</b>	Preparation	17	3	Faculty of Arts and Sciences	21	4
	1 <sup>st</sup>	68	14	Faculty of Fine Arts	8	2
	2 <sup>nd</sup>	89	18	Faculty of Law	7	1
	3 <sup>rd</sup>	110	22	Faculty of Economic and Administrative Sciences	30	6
	4 <sup>th</sup>	163	33	Faculty of Theology	8	2
	5 <sup>th</sup>	20	4	Faculty of Communication	7	1
	6 <sup>th</sup> or above	33	7	Faculty of Management	14	3
	<b>Total</b>	<b>500</b>	<b>100</b>	Faculty of Political Sciences	6	1
<b>Education Types</b>	Formal Education	354	71	Faculty of Technical Education	10	2
	Evening Education	110	22	Faculty of Technology	8	2
	Distance Education	15	3	Faculty of Medicine	9	2
	Mixed Education	21	4	Faculty of Veterinary	11	2
	<b>Total</b>	<b>500</b>	<b>100</b>	School of Physical Education and Sports	15	3
				State Conservatory	18	4
			School of Health	11	2	
			School of Foreign Language	9	2	
			Vocational Schools	7	1	
			<b>Total</b>	<b>500</b>	<b>100</b>	

Institute – Faculty – High School

**Table 2.** Frequency distribution of the answers related to conscious consumption

ENVIRONMENTAL AWARENESS	5	4	3	2	1	5 Awareness
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## QUESTIONS

	N	%	N	%	N	%	N	%	N	%	N	%	%
<b>CONCIOUS CONSUMPTION AND SUSTAINABLE ENVIRONMENT</b>													
1 I reuse the paper of lecture notes.	97	19	151	30	216	43	7	1	29	6	3.56		71.20
2 I take print on both side of a paper.	199	40	173	35	115	23	3	1	10	2	4.10		81.92
3 I did check the preview of document in computer before printing.	273	55	110	22	83	17	11	2	23	5	4.20		83.96
4 I often sent e-mail instead of hard copy output.	41	8	156	31	262	52	12	2	29	6	3.34		66.72
5 I prefer to read the document on computer instead of the taking its print on paper.	64	13	155	31	238	48	8	2	35	7	3.41		68.20
<b>Note:</b> 5: Every Time, 4: Often, 3: Sometimes, 2: Rarely, 1: Never N: Number of Students											<b>Average</b>	<b>3.72</b>	<b>74.40</b>

**Table 3.** Frequency distribution of the answers related to waste and recycling

ENVIRONMENTAL AWARENESS QUESTIONS	5		4		3		2		1		Average	Awareness %	
	N	%	N	%	N	%	N	%	N	%			
<b>WASTE, RECYCLING AND SUSTAINABLE ENVIRONMENT</b>													
1 I throw the used batteries in waste collection boxes.	113	23	109	22	201	40	13	3	64	13	3.39	67.76	
2 I use rechargeable batteries instead of disposable batteries.	75	15	123	25	194	39	31	6	77	15	3.18	63.52	
3 I prefer to use long lasting products (rechargeable batteries, cloth bags) for a sustainable environment instead of disposable products.	123	25	198	40	152	30	7	1	20	4	3.79	75.88	
4 I would avoid using plastic bags.	25	5	81	16	264	53	17	3	113	23	2.78	55.52	
5 I prefer to use easily-soluble bags rather than plastic bags.	80	16	118	24	189	38	38	8	75	15	3.18	63.60	
6 I pay attention to water consumption when using the sink and toilet.	213	43	185	37	86	17	2	0	14	3	4.16	83.24	
7 I try to protect the environment by using the least number of paper towels.	162	32	160	32	158	32	1	0	19	4	3.89	77.80	
8 I throw the garbage to dustbins before leaving that place and not leaving any trash.	386	77	95	19	19	4	0	0	0	0	4.73	94.68	
9 I throw the plastic, metal Plastic, metal and paper to separate recycling boxes	156	31	179	36	148	30	3	1	14	3	3.92	78.40	
<b>Note:</b> 5: Every time, 4: Often, 3: Sometimes, 2: Rarely, 1: Never N: Number of Students											<b>Average</b>	<b>3.67</b>	<b>73.38</b>

Table 3 presents the detail of participants in response to the question asked about waste and recycling and practically in this field it is determined by the habit of participants they often do. There was the lowest score for the question "I would avoid to use plastic bags" from the participants. Due to this mindset of community our country is considered where widespread use of plastic bags. They also gave the highest score of those 6 questions asked about the water consumption and it indicates that there is a high level of awareness on this issue.

**Table 4.** Frequency distribution of the answers related to sustainable environment

ENVIRONMENTAL AWARENESS QUESTIONS	3		2		1		Average	Awareness %	
	N	%	N	%	N	%			
1 Do you think that working of governmental and non-governmental organizations of our country is sufficient with respect to environment?	22	4	450	90	28	6	1.99	66.27	
2 Do you think that young people should have a good environmental awareness for sustainable environment?	481	96	15	3	4	1	2.95	98.47	
3 Have you attended any project or seminar to acknowledge the environmental awareness?	303	61	193	39	4	1	2.60	86.60	
4 Is it necessary for all university students to take subject related to environmental awareness?	414	83	45	9	41	8	2.75	91.53	
5 I always show my best efforts to prevent pollution of the environment and show awareness.	458	91	20	4	22	4	2.87	95.73	
6 I think the choice of public transport is important for a sustainable environment.	452	90	27	6	21	4	2.86	95.40	
7 Do you think it is necessary for a sustainable environment to get your bills electronically?	429	86	37	8	34	7	2.79	93.00	
8 Do you see that promotions of renewable energy resources are necessary for sustainable environment?	484	97	7	2	9	2	2.95	98.33	
9 I see that energy saving is important for sustainable environment.	489	98	6	1	5	1	2.97	98.93	
10 Is recycling of waste is important for the protection of the environment and natural resources.	495	99	4	1	1	0	2.99	99.60	
11 Do you think that collection of waste in separate dustbins is important for a sustainable environment?	486	97	6	1	8	2	2.96	98.53	
12 Is there enough separate collection dustbins (plastic, metal, etc.) in the buildings of our university?	125	25	333	67	42	8	2.17	72.20	
<b>Note: 3: Yes 2: No, 1: No Idea</b>							<b>Average</b>	<b>2.74</b>	<b>91.22</b>

The participants' answers to question about the action to be taken for a sustainable environment are presented in Table 4. According to the obtained results, the environment related activities in our country is not sufficient (90%), young people must have a good environmental awareness (96%), but only 61% participating in a project or seminar on the environment, a course on environmental awareness that should be mandatory for all university students (83%), the need for expansion of renewable energy sources (97%), energy savings is substantial (98%), recycling of waste and the importance of re-use (99%), the need to collect waste separately (97%), they are enrolled in the university building enough of recycling bins for separate collection of waste they think that (67%) was found.

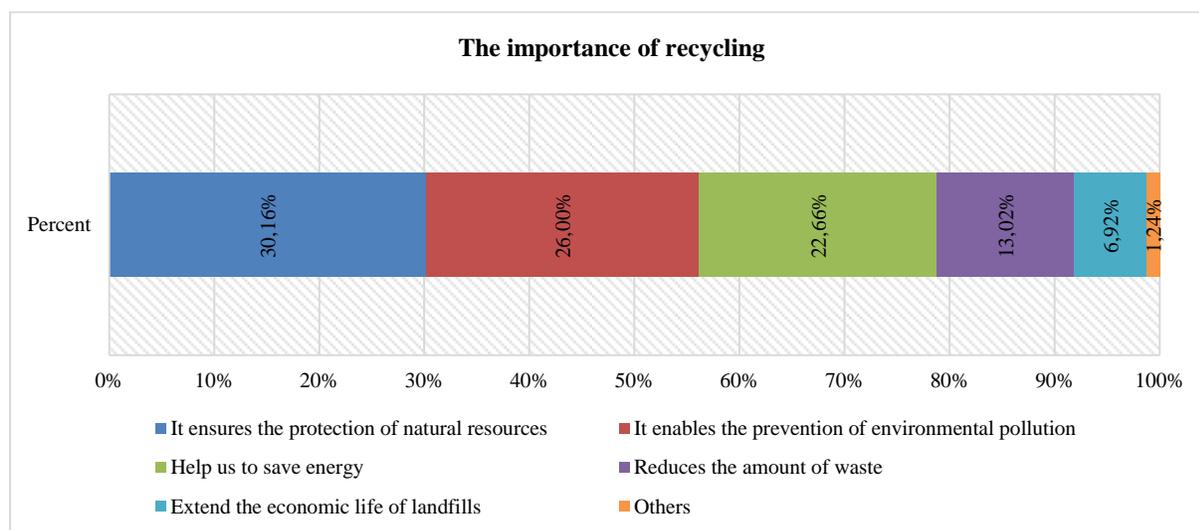
**Table 5.** Frequency distribution of the answers related to energy saving

ENVIRONMENTAL AWARENESS QUESTIONS	5	4	3	2	1	Average	Awareness
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	N	%	N	%	N	%	N	N	%	N	%	
<b>ENERGY SAVING AND SUSTAINABLE ENVIRONMENT</b>												
1 To prevent unnecessary use of energy, I use light and electric devices only when it needs.	248	50	156	31	81	16	1	0	14	3	4.25 84.92	
2 I keep my computer and printer off when I'm not using to save energy.	259	52	144	29	75	15	5	1	17	3	4.25 84.92	
3 When I am leaving room/place, I check is there anyone to close the lights.	374	75	99	20	21	4	0	0	6	1	4.67 93.40	
<b>Note:</b> 5: Every time, 4: Often, 3: Sometimes, 2: Rarely, 1: Never N: Number of Students										<b>Average</b>	<b>4.39</b>	<b>87.75</b>

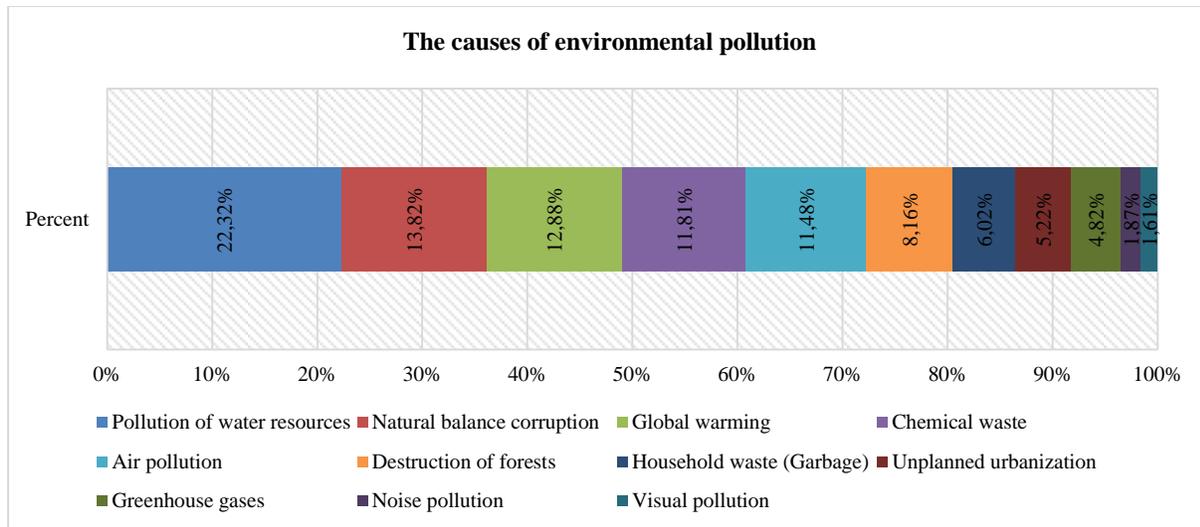
In Table 5 the answers of participants to the questions asked about energy saving and environmental relations were presented. According to these results, high levels of environmental consciousness of the participants in terms of energy savings (4.39 / 5; 87.75 / 100) has been observed.

### 3.3. The Frequencies and Distributions of open-ended questions



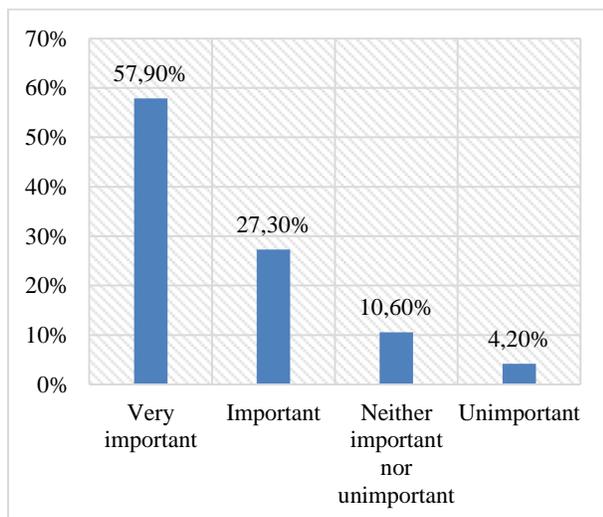
**Figure 1.** Why recycling is important?

The Figure 1 shows the result distribution of participants about the question “why recycling is important”. According to the results, a majority of respondents (30.16%) understood that recycling protects the natural resources and (26%) think it’s important to save the energy.

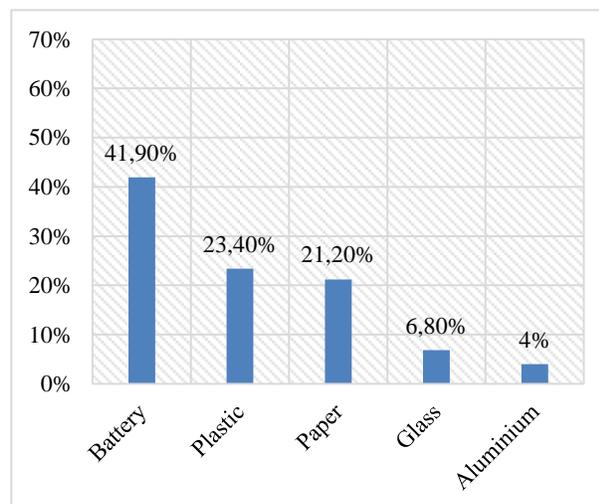


**Figure 2.** What are the causes of environmental pollution?

The response of participants about the causes of environmental pollution and distribution of their answers are given in Figure 2. According to results (22.32 %) of the participants understood that most important cause of environment pollution is the pollution of the water resources. The (1.61%) of participants response indicate that visual pollution have the least impact on environmental pollution.

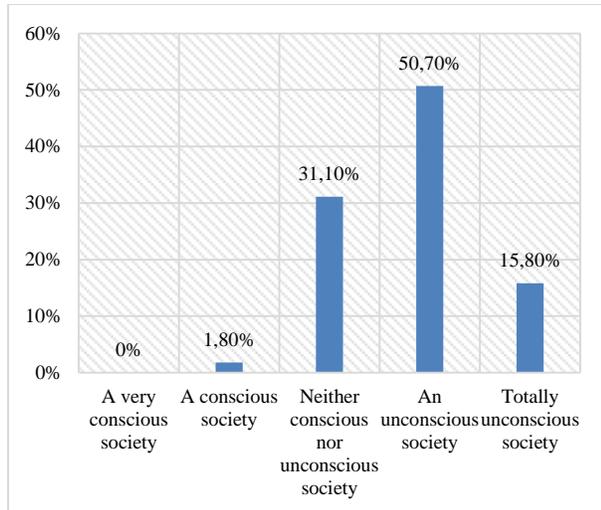


**Figure 3.** How much importance is, of electronic and print media news related to environmental awareness?

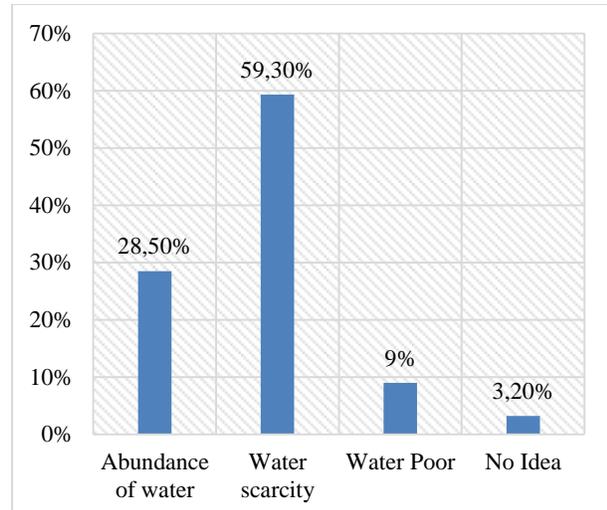


**Figure 4.** What do you think about the priority of waste separation and collection?

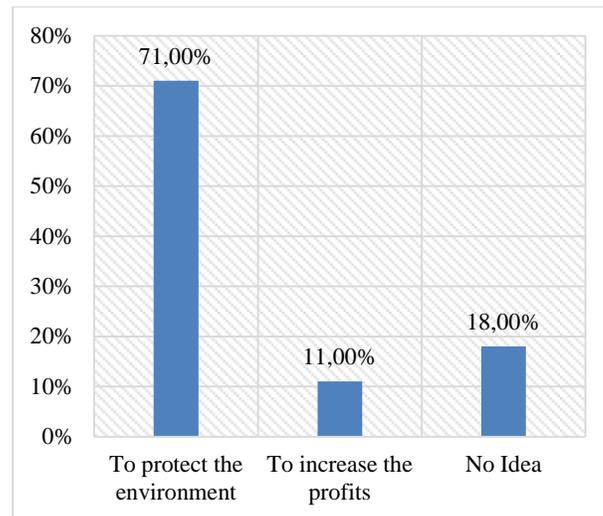
According to 57.9% of the participants the information in terms of print and electronic media is very important for environmental awareness as shown in Figure 3; 41.9% given priority to the collection of waste batteries as shown in Figure 4 ; according to 50.72% our society is a unaware society, and according to 31.10% our society is not aware nor unaware as shown in Figure 5; in the perspective of water resources of our country, according to 59.30% our country has water shortage problem and according to 28.5% our country has high water resources as shown in Figure 6.



**Figure 5.** What is the general level of environmental awareness in our society?



**Figure 6.** What is the situation of our country's water resources in your opinion?



**Figure 7.** If you are an enterprise holder and for rising up your profit you are bound to give a little harm to environment, would you prefer to protect environment or would you prefer rising up your profit?

Moreover, “If you are an enterprise holder and for rising up your profit you are bound to give a little harm to environment, would you prefer to protect environment or would you prefer rising up your profit?” question was directed to the participants and it is understood that 71% of them preferred to protect the environment, 11% of them prefer increasing their profits and 18% of them had no opinion on this topic as shown in Figure 7.

#### 4. Results and Discussion

The aim of this study was to assess the level of consciousness and awareness of university students on issues related to environmental and behavioral sensitivity. A survey was conducted by asking 34 questions, from 500 undergraduate / graduate / post-graduate students of different universities belonging to various departments. The following results were obtained from current study.

- Average level of the participants to conscious consumer awareness was recorded about 3.72/5; it

- means they often did as their behavior showed related to this issue.
- The answers in reply to question about energy saving, it was observed that participants are conscious by considering the energy consumption in electronic devices as well as use for lighting purposes to protect the nature of environment.
  - In response towards the question about waste and recycling system, the participants strongly recommended the need for (separate collection of waste, proper choice of products that can be reused instead of disposable products, the prevention of usable water from contaminants, etc.) was determined more often.
  - In reply to the question about activities for sustainability of environment, according to the results; In our country about (90%) of participants thought that there was not enough of organizational work on environment, (96%) were suggested that young people should have a proper environmental awareness, data showed that only 61% were participating in the environment related projects or seminars, environmental awareness should compulsory for the university students, it was argued by (83%) of participants, about (97%) recommended that there must be a development in renewable energy sources, (98%) supposed that energy savings is substantial, about (99%) participants emphasized that waste recycling and re-use is significant, (97%) suggested that there is a need of hour to provide separate collection bins and (67%) of students thought there is an inadequate recycling system in the university for the collected waste .
  - In addition, survey results showed that according to the majority of participants, recycling is important for the protection of natural resources, and the contamination of water is the most important cause of the environmental pollution, the role of electronic and print media is about (57.90 %) in order to create environmental awareness, primarily (41.90 %) waste batteries should be collected in a different form, about ( 50.70 %) of the community was unconscious regarding environmental awareness, and (59.30 %) of the opinion was found that our country is suffering water scarcity.

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