Assessments of Environmental Awareness Among the Some Selective University Students of Bangladesh

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To cite this article: Ahmad Kamruzzaman Majumder. Assessments of Environmental Awareness Among the Some Selective University Students of Bangladesh. International Journal of Education, Culture and Society. Vol. 2, No. 6, 2017, pp. 190-194. doi: 10.11648/j.ijecs.20170206.15

Received: March 14, 2017; Accepted: April 10, 2017; Published: December 19, 2017

Abstract: This study investigated the student’s awareness on environmental issues and problems and their behaviors towards the environment in different public and private universities in Bangladesh. In this regards data has been collected from the students of two public universities and two private universities. A sample of 400 students (60% male and 40% female) was drawn from these four Universities taking 100 students from each university and equally sharing the number between two categories like environmental background and non-environmental background. The analysis revealed that according to the perception of the surveyed students global warming (86.5%) and depletion of natural resources (71.2%) were two most important environmental problems in the world whereas in Bangladesh, arsenic contamination in ground water (93.2%) and natural resources depletion (71.2%) have found as major environmental problems. The study concluded that peoples’ education on environment (98%) is a most convenient solution for mitigating the problems and the printing & electronic media (78.8%) are most helpful means to bring awareness among people.

Keywords: Science and Technology, Environmental Education, Social Morals, Climate Change

1. Introduction

The environment is of global concern today and is burning issue for discussion. Because the global environment is changing more rapidly than any time in the known history and it is difficult to force all the changes that will occur in the 21st century. The world is now alarmed with various environmental problems, such as climate change, ozone layer depletion, global warming, and so on. Many of these problems are the result of irresponsible environmental behaviour, which is highly influenced by the attitudes people possess [1-2]. In other words, people’s decision-making is also guided by the values and attitudes they possess [3]. Environmental attitudes are therefore a big concern in significant environmental education research [4-9]. Bangladesh is also facing many environmental problems because of its rising population and industrial growth. Only individuals who have environmental literacy, awareness, and sensibility would contribute the diminishing the environmental problems. Therefore, environmental education has been viewed as an important way to educate students about environmental issues in identifying and challenging environmental problems in all educational levels including university [10-12]. Particularly Universities and other equivalent institutions play a leading role in promoting of environmental ethics and the principles sustainable development [13]. So right now environmental awareness is a prime concern and that is why environmental education is mandatory in all level of education. The educational process becomes sustainable when the people decide to act, when they take responsibility and lead the process themselves. In this model of development, education and communication are important tools for managers, civil servants, social groups and NGOs to put into effect environmentally sound policies [14]. Until 1995, the coverage of the environment in the higher education system was rather disjointed and poorly developed. In 1996, the environmental science discipline was established at Khulna University, and full session courses (four year undergraduate courses) started in 1997. Recently some public universities like Shahjalal University of Science and Technology, Jahangirnagar University, Chittagong University and Dhaka University etc. have been...
offering undergraduate and graduate course in Environmental Education (EE). At the same time, some private universities like North South University, Independent University Bangladesh, Stamford University Bangladesh and State University Bangladesh have opened EE courses. The study was conducted to investigate the environmental awareness of the students from private and public universities.

2. Methods

In this study data has been collected from two public universities (Dhaka University and Jahangirnagar University) and two private universities (Stamford University Bangladesh and State University of Bangladesh). A sample of 400 students (60% male and 40% female) was drawn from these four Universities taking 100 students from each university and equally sharing the number between two categories like environmental background and non-environmental background (Table 1). For collecting data, a structured questionnaire survey was conducted among the participants. The questionnaire was prepared comprising 10 major environmental issues such as General perception on environment, Awareness on environmental pollution (air, soil and noise), Awareness on safe water, Awareness on arsenic pollution, Knowledge on sanitation practice, Awareness on waste management, Global warming and Climate Change. The questionnaires were supplied at the end of class periods or during their gathering in their particular departmental library. Students responded voluntarily for this survey.

### Table 1. Distribution of the study subjects according to their background and university.

| Background                | Name of University          | N  | % of Total N |
|---------------------------|----------------------------|----|--------------|
| Environmental Background  | Dhaka University            | 100| 25.0         |
|                           | Jahangirnagar University    | 100| 25.0         |
| Non Environmental Background | Stamford University Bangladesh | 100| 25.0         |
|                           | State University of Bangladesh | 100| 25.0         |
| Total                     |                            | 400| 100.0        |

3. Results and Discussion

Environmental problems (air pollution, water pollution, soil pollution, noise pollution, climate change etc.) are the causes of environmental degradation. Environmental degradation refers to the deterioration in its physical component brought about by human activities to such an extent that it cannot be set right by the self-regulatory mechanism or homeostic mechanism of the environment. While analyzing the clear knowledge on the general perception on Environment it was revealed that the environmental background student has more clear understanding comparing to non environmental background student. From the table 2, it was found that out of 400 respondents 84.8% has a clear knowledge on different components of environment. The study also shows that, environmental background student has more understanding comparing to non environmental background student. 47.2% environmental background student has a clear understanding on the issue whereas it was 37.5% among the non environmental background students.

### Table 2. Knowledge on different components of environment.

| Group                      | N   | % of Total N | Std. Deviation |
|----------------------------|-----|--------------|----------------|
| Environmental background   |     |              |                |
| Yes                        | 189 | 47.2         | .510           |
| No                         | 11  | 2.8          | .701           |
| Total                      | 200 | 50.0         | .554           |
| Yes                        | 150 | 37.5         | .657           |
| No                         | 50  | 12.5         | .718           |
| Total                      | 200 | 50.0         | .709           |
| Yes                        | 339 | 84.8         | .581           |
| No                         | 61  | 15.2         | .714           |
| Total                      | 400 | 100.0        | .643           |

| Group                      | N   | % of Total N | Std. Deviation |
|----------------------------|-----|--------------|----------------|
| Environmental background   |     |              |                |
| OP                         | 181 | 45.2         | .561           |
| ST                         | 3   | .8           | .000           |
| LEE                        | 14  | 3.5          | .514           |
| SM                         | 2   | .5           | .707           |
| Total                      | 200 | 50.0         | .554           |
| OP                         | 161 | 40.2         | .708           |
| ST                         | 19  | 4.8          | .697           |
| LEE                        | 16  | 4.0          | .727           |
| SM                         | 4   | 1.0          | 1.000          |
| Total                      | 200 | 50.0         | .709           |

### Table 3. Major source for causing environmental problems for Bangladesh?

| Group                      | N   | % of Total N | Std. Deviation |
|----------------------------|-----|--------------|----------------|
| Environmental background   |     |              |                |
| OP                         | 181 | 45.2         | .561           |
| ST                         | 3   | .8           | .000           |
| LEE                        | 14  | 3.5          | .514           |
| SM                         | 2   | .5           | .707           |
| Total                      | 200 | 50.0         | .554           |
| OP                         | 161 | 40.2         | .708           |
| ST                         | 19  | 4.8          | .697           |
| LEE                        | 16  | 4.0          | .727           |
| SM                         | 4   | 1.0          | 1.000          |
| Total                      | 200 | 50.0         | .709           |
From the table 3, it was found, out of 400 respondents 85.5% have marked OP as a major source for causing environmental problems for Bangladesh. While analyzing it was revealed that the environmental background student has more understanding comparing to non environmental background student. 45.2% environmental background has a clear understanding on the issue whereas it was 40.2% among the non environmental background students.

The respondents were requested to answer on the causes of air pollution (Table 4). The study shows that, 61.5% have clear knowledge on the causes of air pollution and moderately 33.5%. While analyzing it was revealed that the environmental background student has more understanding comparing to non environmental background student. 39.2% environmental background has a clear understanding on the issue whereas it was 22.2% among the non environmental background students.

### Table 4. How much you know about the causes of air pollution.

| Group                  | N     | % of Total N | Std. Deviation |
|------------------------|-------|--------------|----------------|
| Environmental background |       |              |                |
| Clearly                | 157   | 39.2         | .503           |
| Moderately             | 36    | 9.0          | .558           |
| Fairly                 | 7     | 1.8          | .900           |
| Total                  | 200   | 50.0         | .554           |
| Clearly                | 89    | 22.2         | .699           |
| Moderately             | 98    | 24.5         | .677           |
| Fairly                 | 13    | 3.2          | .862           |
| Total                  | 200   | 50.0         | .709           |
| Clearly                | 246   | 61.5         | .587           |
| Moderately             | 134   | 33.5         | .645           |
| Fairly                 | 20    | 5.0          | .852           |
| Total                  | 400   | 100.0        | .643           |

### Table 5. Do you know about the causes of water pollution?

| Group                  | N     | % of Total N | Std. Deviation |
|------------------------|-------|--------------|----------------|
| Environmental background |       |              |                |
| Yes                    | 190   | 47.5         | .543           |
| No                     | 10    | 2.5          | .699           |
| Total                  | 200   | 50.0         | .554           |
| Non Environmental Background |     |              |                |
| Yes                    | 162   | 40.5         | .738           |
| No                     | 38    | 9.5          | .414           |
| Total                  | 200   | 50.0         | .709           |
| Yes                    | 352   | 88.0         | .656           |
| No                     | 48    | 12.0         | .515           |
| Total                  | 400   | 100.0        | .643           |

Water pollution is a very common scenario in Bangladesh. Respondents were asked to mention whether they know about the causes of water pollution or not. Table 5 showed that, out of 400 respondents 88% has know about the causes of water pollution. While analyzing it was revealed that the environmental background student has more understanding comparing to non environmental background student. 47.5% environmental background has a clear understanding on the issue whereas it was 40.5% among the non environmental background students.

Whenever respondents were asked to mention whether they know about biodiversity degradation, environmental background students found to have more understanding on the issue. From the table 6 it was found, out of 400 respondents 71.2% has know about biodiversity reduction. While analyzing it was revealed that the environmental background student has more understanding comparing to non environmental background student. 47% environmental background has a clear understanding on the issue whereas it was 24.2% among the non environmental background students.

### Table 6. Knowledge about biodiversity degradation.

| Group                  | N     | % of Total N | Std. Deviation |
|------------------------|-------|--------------|----------------|
| Environmental background |       |              |                |
| Yes                    | 188   | 47.0         | .545           |
| No                     | 12    | 3.0          | .674           |
| Total                  | 200   | 50.0         | .554           |
| Non Environmental Background |     |              |                |
| Yes                    | 97    | 24.2         | .723           |
| Environmental Background |     |              |                |
| Yes                    | 103   | 25.8         | .698           |
| No                     | 107   | 27.2         | .709           |
| Total                  | 200   | 50.0         | .618           |
| Yes                    | 285   | 71.2         | .643           |
| No                     | 115   | 28.8         | .693           |
| Total                  | 400   | 100.0        | .643           |

Respondents were asked why they consider global warming is a major issue in the perspective of Bangladesh. From the survey (Table 7) it was come out that 86.5% has awareness about the consequence of global warming in general. While analyzing it was revealed that the environmental background student has more understanding comparing to non environmental background student. 49.2% environmental background has a clear understanding on the issue whereas it was 37.2% among the non environmental background students.
Respondents pointed out a number of consequences to consider climate change as the main problem. From the table 8 it was found, out of 400 respondents 84% has aware about the consequence of climate change in Bangladesh. While analyzing it was revealed that the environmental background student has more understanding comparing to non environmental background student.

### Table 8. Are you of consequence of climate change in Bangladesh?

| Group          | N  | % of Total N | Std. Deviation |
|----------------|----|--------------|----------------|
| Environmental background | Yes | 197         | 49.2           | .558           |
|                 | No  | 3           | .8             | .000           |
| Total           | 200 | 50.0        | .554           |
| Non             | Yes | 149         | 37.2           | .692           |
| Environmental Background | No | 51           | 12.8           | .753           |
| Total           | 200 | 50.0        | .700           |
| Non Environmental Background | Yes | 346         | 86.5           | .623           |
|                 | No  | 54          | 13.5           | .744           |
| Total           | 400 | 100.0       | .643           |

During survey, students were asked to respond on the issue of ways for environmental management. Survey showed (Table 9) that respondents have given emphasis on EA (62.5%) for Environmental management depends followed by SI (14.8%) and LR (8.8%). While analyzing it was revealed that the environmental background student has more understanding comparing to non environmental background student.

### Table 9. Environmental management depends on.

| Group          | N  | % of Total N | Std. Deviation |
|----------------|----|--------------|----------------|
| Environmental background | LR  | 26          | 6.5            | .491           |
|                 | IE  | 35          | 8.8            | .568           |
|                 | SI  | 24          | 6.0            | .338           |
|                 | EA  | 115         | 28.8           | .586           |
| Total           | 200 | 50.0        | .554           |
| Non             | LR  | 9           | 2.2            | .441           |
| Environmental Background | IE  | 21          | 5.2            | .811           |
|                 | SI  | 35          | 8.8            | .591           |
|                 | EA  | 133         | 33.8           | .731           |
| Total           | 200 | 50.0        | .709           |
| Non             | LR  | 35          | 8.8            | .473           |
| Environmental Background | IE  | 56          | 14.0           | .690           |
|                 | SI  | 59          | 14.8           | .512           |
|                 | EA  | 250         | 62.5           | .671           |
| Total           | 400 | 100.0       | .643           |

During the survey, respondents were requested to answer the issue of the sources of environmental awareness. Environmental background students emphasized book/newspaper more than non environmental students (33.5%) and TV has come out as the second awareness source (35.5%) where non environmental students emphasize it more than environmental back ground students (8.5%) as in Table 10. From both background students response, book/newspaper (50.5%) has pointed out as the most important source for creating awareness. Radio is in third source of awareness (9.75%) where environmental students (12.5%) have emphasized it more comparing to non environmental back ground students (7%). Elders also play a role to make awareness but it is negligible (4%).

### Table 10. What are the sources to create environmental awareness?

| Group          | Sources | N  | % of Total N |
|----------------|---------|----|--------------|
| Environmental background | T. V.  | 34 | 8.5          |
|                 | Radio   | 25 | 12.5         |
|                 | From elders | 6 | 3            |
|                 | Book/ newspapers | 135 | 67.5 |
| Total           | 200     | 50.0 |
| Non Environmental Background | T. V.  | 108 | 54          |
|                 | Radio   | 14 | 7            |
|                 | From elders | 10 | 5            |
|                 | Book/ newspapers | 67 | 33.5 |
| Total           | 200     | 50.0 |
|                 | From elders | 16 | 4            |
|                 | book/ newspapers | 202 | 50.5 |
| Total           | 400     | 100.0 |

### 4. Conclusions

From the investigation, it has found that the main key of awareness is education. It starts with primary level and keeps on upgrading by diverse of knowledge through different lessons. Among different education levels, University level Students do gain most advanced and effective lesson through class and research work. That is why they have picked up the most serious problem in the world is global worming (95%) and the second most serious problem is depletion of natural resources (71.2%). And the third marking problem is ozone depletion. In case of Bangladesh the remaining environmental problems are depletion of natural resources, then arsenic contamination in ground water and the last air pollution. In addition majority students focused on unplanned urbanization as an environmental issue in future. This is consistent with the previous literature university students were found at a high level of awareness and sensibility to environmental problems [15-16]. The student’s general attitude about the environmental problems that may occur in the future has been assessed as pessimistic. Using of the recycled materials in industries, renewable energy and environmental protection activities are the other possible solutions that came out of the survey. It is also shown that TV, Radios plays the most important role to get the attention of the people to raise the awareness about the environmental

Note: a) LR=Legal Regulations b) IE=Individual Efforts c) SI=State Input d) EA= Environmental Awareness
issues. Moreover, printing media including some other publications act as a secondary way of raising awareness among the people to protect the environment. Environmental organization and educational institutions should base their activities on the young generations and they should be encouraged to read and learn about the environmental issue in the educational institution.

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