

## Awareness and Attitude Among College Students Towards Climate Change in Kashmir

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### Abstract

Climate change is supposed to adversely impact freshwater resources, and in many settings these impacts are already evident globally. In this paper, we examine the knowledge and attitudes of college students of Kashmir valley about the causes, effects, and priority given to climate change. The study comprised of 400 students selected at random from different Colleges of Kashmir valley using a well designed questionnaire based on the literature available on the topic and validated by experts. The data collected was analysed using standard statistical tools. The results obtained from our study reveals that the students under study have low climate change awareness and attitude. Further, it was observed that statistically there is no significant difference between the male and female students mean score on climate change awareness and attitude. Finally, recommendations of the study were discussed and suggestions for further studies were made. The results obtained in our study are in agreement with the previous study (Bilal et al. 2017).

**Keywords:** Climate Change; Awareness; Attitude; Student; Statistics; Kashmir Valley.

### Introduction

The state of Jammu and Kashmir is located in the northern part of the Indian subcontinent in the vicinity of the Karakoram and westernmost Himalayan mountain ranges. The state has been the subject of dispute between India, Pakistan, and China since the partition of the subcontinent in 1947.

The state of Jammu and Kashmir, formerly one of the largest princely states of India, is bounded to the northeast by the Uygur Autonomous Region of Xinjiang (China), to the east by the Tibet Autonomous Region (China) and the Chinese-administered portions of Kashmir, to the south by the Indian states of Punjab and Himachal Pradesh, to the southwest by the country Pakistan, and to the northwest by the Pakistani-administered portion of Kashmir known as Azad Kashmir.

The administrative capitals are Srinagar in summer and Jammu in winter. The present area

is 39,146 square miles (101,387 square km) and population as per Census report 2011 is 12,541,302. The vast majority of the Jammu and Kashmir state's territory is mountainous, and the physiography is divided into seven zones that are closely associated with the structural components of the western Himalayas.

The climate of the state varies from alpine in the northeast to subtropical in the southwest. It is important to mention here that from southwest to northeast those zones consist of the plains, the foothills, the Pir Panjal Range, the Vale of Kashmir, the Great Himalayas zone, the upper Indus River valley, and the Karakoram Range. The climate varies from alpine in the northeast to subtropical in the southwest. Kashmir is world wide known for its beautiful natural resources (Figure 1).

According to Small and Nicholis (2003), climate is defined as the average weather for a particular region over a long time. This includes average weather conditions, regular weather season (winter,

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spring, summer and fall) and special weather events (like tornadoes and floods). These climate patterns play a fundamental role in shaping natural ecosystems, and the human economic and cultures that depend on them. Climate reflects changes state of the atmosphere over time scales ranging from decade to thousands of years.

In the literature (Nwagu & Nzewi, 2009; Udenyi, 2010; Okebukola & Akpan 2009; Uzochi, 2009) discussed in detail climate change. The contact of human activities to the climate change comes as a result of excessive emission of greenhouse gases (GHGs) into the atmosphere. It is reported that increasing rate of climate change has severe consequences associated with it such as desertification, drought, temperature rise, low agriculture yield, drying up of water bodies, flooding among others (Oruonye, 2011).

In the literature, we notice various definitions of awareness and attitude. Oragwam (2004) defined awareness as a state of consciousness and purpose. Further, Chinedu (2008) viewed awareness as the condition of being aware and able to understand what is happening around one.

According to Agiande (2006), attitude is an acquisitioned tendency. For Williams (2000), attitude is readiness to act in a certain way expressed by a person's words, gestures or facial expression. In view of the above discussions, attempt has been made to increase students' awareness and attitude towards climate change

in educational institutes of Kashmir valley. People seem to have continued perpetuating actions such as bush burning, deforestation, burning of fossil fuel like petrol, coal, and crude oil which are responsible for climate change.

It is important to note that as these human actions continue, so shall the consequences of climate change continue to face human beings on earth. In this paper, an attempt has been made to assess the students' awareness and attitude towards climate change in Kashmir valley.

### Methodology

In the present study carried out in Kashmir valley, a well designed questionnaire based on previous literature was used to collect the information from 400 college going students studying in various Colleges of Kashmir valley using stratified random sampling technique. The data collected was analysed using standard statistical tools.

In this study, based on the four-point scale, a mean score of 2.50 was used as the benchmark of the study. Therefore, any item that scored below 2.50 was rejected while the items that scored 2.50 and above was accepted. Mann-Whitney U test was used to compare the opinion of male and female respondents.

### Results and Discussion



Fig. 1: Dal Lake and Gulmarg, Jammu and Kashmir State

The results of the present study are presented in the following tables:

**Table 1:** Result of mean and standard deviation analyses of the climate change awareness

S.No	ITEM	MEAN	SD	DECISION
1	Climate is dynamic and always changing through natural cycle.	2.423	.421	Disagree
2	Climate change is a measurable increase in the average temperature of earth's atmosphere.	2.854	.483	Agree
3	Change in weather condition over an extended period of time is climate change.	1.812	.423	Disagree
4	Climate change is characterized with high temperature.	2.552	.427	Agree
5	Climate change comes with rise in sea level.	1.656	.413	Disagree
6	Climate change is characterized by desertification.	1.749	.482	Disagree
7	Most streams in Kashmir are drying up as a result of climate Change	1.762	.523	Disagree
8	Most springs in Kashmir are drying up as a result of climate change.	1.711	.443	Disagree
9	There is decrease in agricultural products in Kashmir.	1.673	.427	Disagree
10	I have heard of climate change before.	3.24	.415	Agree
11	The rate of sunshine is higher now than before.	2.591	.471	Agree
12	The weather seems to be hotter nowadays.	2.721	.463	Agree
13	The atmospheric heat level is higher now than before	2.831	.483	Agree
14	There is increased rate of rainfall.	1.943	.424	Disagree
15	Cases of flooding occur more nowadays.	2.972	.423	Agree
<b>Total</b>		<b>2.269</b>		

The data presented in Table 1 reveals that in response to statements 1,3,5 to 9 and 14 the students under study disagree. Further, it is observed that the overall climate change awareness mean score of college students is 2.269 which is less than 2.50 mean benchmark of the study. This indicates that the students possessed low climate change awareness. This finding of our study are in line with Ishaya and Obaje (2008), Oruonye (2011) and Bilal et al (2017) who found out that the students posses low level of climate change awareness.

**Table 2:** Result of mean and standard deviation analyses of the students attitude towards climate change

S.No	ITEM	MEAN	SD	DECISION
1	I belief that there is still plenty of time to prepare for climate change problems.	2.589	.432	Agree
2	I think climate change will bring a period of great adversity.	1.919	.542	Disagree
3	I am seriously concerned with what problem climate change may bring.	1.586	.631	Disagree
4	I think no special preparation is needed for climate change.	2.798	.672	Agree
5	I believe climate change will pass like other environmental problems, so there is no need to worry.	3.321	.521	Agree
6	I am working hard to educate my friends on climate change.	1.596	.413	Disagree
7	I am spreading news of climate change within my area.	2.421	.651	Disagree
8	I am preparing myself to manage the effects of climate change.	1.541	.612	Disagree
9	I always ask questions on climate change.	2.672	.711	Agree
10	I read available information on climate change.	2.687	.649	Agree
11	I preach to my friend against bush burning to prevent further global climate change.	1.812	.441	Disagree
12	I do not think that global climate is changing.	1.941	.523	Disagree
13	I think responding to climate change will be a waste of my time.	3.371	.597	Agree
14	I think participating in climate change related issues will lead to Waste of national resources.	3.394	.462	Agree
15	I believe climate change will only affect those who caused it.	2.321	.583	Disagree
<b>Total</b>		<b>2.382</b>		

The data presented in Table 2, shows that in response to statements 2,3,6, 7,8, 11, 12 and 15 college students disagree. Further, it is noticed that the total mean score of 2.382 was obtained for students attitude towards climate change. This means that the college students' attitude towards climate change is low. The finding of our study are in agreement with earlier studies e.g., Oruonye (2011), Ishaya and Obaje (2008), Bilal et al (2017).

**Table 3:** Comparison between male and female students towards *climate change awareness*

Gender	Mean	Std. Deviation	N	P-value
Boys	2.342	.242	200	>0.05
Girls	2.372	.173	200	

Result in Table 3 reveals that the climate change awareness mean score of male college students is 2.342 with a standard deviation of .242 while the female students mean score is 2.372 with a standard deviation of .173. The result showed that the total mean score for male and female students on climate change awareness is 2.357. This implies that both the male and female students have low climate change awareness. The study showed that there is no significant different between the climate change awareness mean score of male and female students ( $p>0.05$ ).

**Table 4:** Comparison between male and female students towards *climate change attitude*

Gender	Mean	Std. Deviation	N	P-value
Boys	2.243	.156	200	>0.05
Girls	2.231	.113	200	

Result presented in Table 5 reveal that the male college student’s attitude towards climate change mean score is 2.243 with a standard deviation of .156 while the female student’s attitude mean score is 2.231 with a standard deviation of .113. The result showed that the total mean score for male and female college student’s attitude towards climate change is 2.237. This means that both the male and female students have low attitude towards climate change. Further, it is observed that statistically non- significant difference was observed between male and female students in the climate change attitude.

**Table 5:** Comparison between urban and rural students towards climate change awareness

Location	Mean	Std. Deviation	N	P-value
Urban	2.571	.245	238	<0.05
Rural	2.349	.221	162	

Result in table 5 reveals that the urban students awareness of climate change mean score is 2.571 with a standard deviation of .245 while the rural students awareness mean score is 2.349 with a standard deviation of .221. The result showed that the total mean score for urban and rural student’s awareness of climate change is 2.46. This result indicated that rural students have low awareness than urban students. Statistically, there is a significant different between the climate change awareness mean score of urban and rural students ( $p<0.05$ ).

**Table 6:** Comparison between urban and rural students towards climate change attitude

Location	Mean	Std. Deviation	N	P-value
Urban	2.441	.153	238	<0.05
Rural	2.181	.103	162	

Result in table 6 reveal that the urban students attitude towards climate change mean score is 2.441 with a standard deviation of .153 while the rural students attitude mean score is 2.181 with a standard deviation of .103. The result showed that the total mean score for urban and rural students attitude towards climate change is 2.311. This result indicated that both the urban and rural students have low attitude towards climate change. Statistically, there is a significant different between the climate change attitude mean score of urban and rural students. The results obtained in our study are in agreement with the earlier studies (Edema et al 2015)

**Table 7:** Genderwise response to “human activity is responsible for climate change”.

Gender	Strongly agree	Somewhat agree	Don’t know	Somewhat disagree	Strongly disagree	No response
Boys	119 (59.5)	53 (26.5)	11 (5.5)	5 (2.5)	9 (4.5)	3 (1.5)
Girls	123 (61.5)	45 (22.5)	13 (6.5)	8 (4.0)	7 (3.5)	4 (2.0)

Chisquare=1.971,  $p\text{-value}>0.05$

The data presented in Table 7 reveals that both boys as well as girl respondents strongly agree that human activity is responsible for climate change. Statistically, there is non-significant difference in the responses of boys and girls students ( $p>0.05$ ).

**Table 8:** Gender wise response to “Top environmental issues in Kashmir”

S.No.	Statement	Boys	%	Girls	%	Chisquare	P-value
1	Pollution	65	32.5	71	35.5	4.845	>0.05
2	Overpopulation	26	13.0	21	10.5		
3	Urbanization	34	17.0	23	11.5		
4	Deforestation	29	14.5	36	18.0		
5	Climate change	33	16.5	31	15.5		
6	Recycling	5	2.5	6	3.0		
7	Environmental Education	4	2.0	7	3.5		
8	Others	2	1.0	3	1.5		
9	No response	2	1.0	2	1.0		

The data shown in Table 8, reveals that in case of boys majority of the respondents 32.5% prioritized pollution as main environmental issue, followed by urbanization (17.0%), followed by climate change (16.5%), followed by deforestation (14.5%), followed by overpopulation (13.0%), followed by recycling (2.5%), followed by environmental education (2.0%), followed by others and non-response (1.0%). Further, in case of girls majority of the respondents 35.5% prioritized pollution as main environmental issue, followed by deforestation (18.0%), followed by climate change (15.5%), followed by urbanization (11.5%), followed by overpopulation (10.5%), followed by environmental education (3.5%), followed by recycling (3.0%), followed by others (1.5%) and non-response (1.0%). Statistically, there is a non-significant difference between boys and girls respondents ( $p>0.05$ ). The results are in agreement with the earlier studies (Edema Ojomo et al 2015, Bilal et al, 2017).

### Conclusion

It is concluded from our study that college students from Kashmir valley possessed low awareness of climate change and have low attitude towards climate change. It is observed that there is no significant difference in the climate change awareness and attitude in mean score of male and female students. Further, the results obtained from our study reveals that there is significant different in the climate change awareness and attitude in mean score of urban and rural students.

### Recommendations

It is recommended that relevant subjects should be promoted in colleges that could be useful to promote students climate change awareness and attitude. It is important that government and other relevant non-governmental organizations should organize and or support conferences, workshops and seminars directed at exposing the scholars/ teachers on the need to reflect climate change causes and effect effectively each time environmental relevant contents in their subject are being taught in educational institutions. There is need for stakeholders in education curriculum planning particularly for the school education to consider, as a matter of necessity, the infusion of more contents that could help the students to understand the causes and effects of climate change into the

relevant subjects in senior secondary schools. Further, it is important that Government and non-governmental organization should ensure that quality education activities are carried out in rural areas as it is obtainable in urban areas of Kashmir. It is suggested for further study, sample size should be taken large in order to get a good picture about the awareness, attitude and role played by students towards climate change awareness.

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