

# An Interdisciplinary Approach To Address Environmental Issues: Effects Of Knowledge, Attitudes, Perception And Gender Differences

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## Abstract

In the research, it has been evaluated that the interdisciplinary approach has led to a rise in the system of education as well as providing a holistic training towards the development of the society. The rise of AI services has played a significant role in the development of an interdisciplinary approach in the Asian countries. However, compared with the European countries, the knowledge, perception as well as gender differences has heightened in the Asian countries. The paper has significantly shown the challenges faced in an interdisciplinary approach too where team conflicts and lack of resources have been the main causes respectively. A survey has been conducted with 31 participants. According to survey only 3.2 % of the research participants have agreed that gaining knowledge regarding the environment creates a positive impact on environmental issues. Hence it is able to state that environmental issues in different areas of India, South Africa and Asia are related to lack of knowledge, attitude and misperceptions of the people living in these areas. However, it is not associated with gender differences.

## Keywords

Environmental issues, lack of knowledge, negative attitude, misperception, chemicals, gender.

**To cite this article:** Khan, S.; Lourens, M, E, Antriyandarti, E , Patra , B, Purohit , T, and Sharma, S. (2021) An Interdisciplinary Approach To Address Environmental Issues: Effects Of Knowledge, Attitudes, Perception And Gender Differences. *Review of International Geographical Education (RIGEO)*, 11(7), 3817-3832. Doi: 10.48047/rigeo.11.07.351

**Submitted:** 10-10-2020 • **Revised:** 15-12-2020 • **Accepted:** 20-02-2021

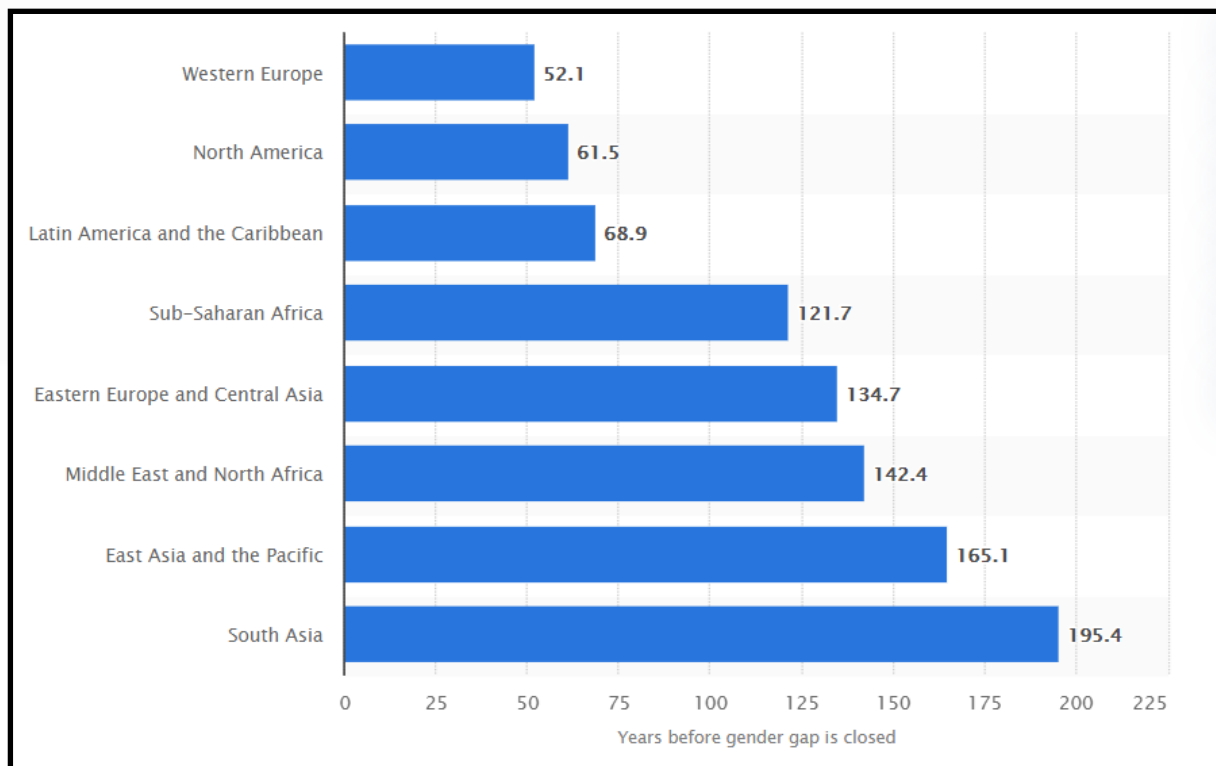
## Introduction

Rise in the environmental issues have an added concern towards societal growth and its adverse impacts. The impact of perception, attitude, gender difference as well as knowledge has been interpreted in order to understand environmental issues with the help of an interdisciplinary approach. The interdisciplinary approach helps in focusing on behavioural skills as well as in artificial knowledge creation which grooms the knowledge of future generations. The rise in management, communication as well as creativity skills provides a rise in the core behavioural traits for societal success respectively. The approach has been based on Asian countries namely India and South Africa where various issues addressable have been made. The challenges have been the respective team conflicts as well as ineffective innovative policies where interdisciplinary approach fails to meet the required changes.

## Literature Review

### Theories on interdisciplinary approach

The interdisciplinary theory helps in focusing on the issue and prepares a device tool fostering a worldwide domain in providing a proper approach. (Aithal, 2017; Blake et al., 2018) had stated that knowledge and perception has been ineffective in India due to low skills among teachers and a traditional education system leading towards less knowledge flow and gender differences in India. The interdisciplinary learning in South Africa has faced problems of financial resources as well as budget allocation to promote environmental learning in the country. The interdisciplinary theory also reflects on the large-scale use of the leadership technique in effective management as well as handling the change in the education system of Asian countries. The respective changes mostly include the development of a proper technology innovative diverse use of resources as a p[art of interdisciplinary approach(Christe, 2013; Hoque, Quinn, & Sallu, 2017).



**Figure 1:** Rate of gender parity comparison

From the above graph, it could be illustrated that gender gaps have been demolishing rapidly still at a lesser rate compared with European countries. The rate of gender parity would take almost 165 years in East Asian and 195 years in south Asian countries to get demolished while north African

and south African countries would take almost 142 and 121 years respectively. This has been due to interdisciplinary approaches adopted to bring a change in education and developing artificial intelligence (AI) services respectively (Ebadi, Toughani, Najafi, & Babae, 2020; Esler et al., 2016; Schmuck, Matthes, & Naderer, 2018).

### Critical evaluation of changes in interdisciplinary approach

India and South Africa have evolved as a stronger interconnected change in communication, learning, organizational skill as well as the setting up of a multi-dimensional team to compete in the workforce of the global market. (Byers et al., 2020; Li, Ding, Ren, Li, & Wang, 2017) had opined that the sustainable solution has been AI development as an interdisciplinary tool in the societal evolution of the population. South Africa has invested in various funding programmes through collaboration in scientific platforms such as **“Future Earth and the Program for Ecosystem Change and Society”** as an interdisciplinary approach towards knowledge and perception issues (Esler et al., 2016; Martín Martín, Guaita Martínez, & Salinas Fernandez, 2018; Mohajan, 2018). India has taken a step towards developing holistic forms of education with the help of the National Education Programme (NEP) and creation of a newer learning paradigm respectively for students. The design as well as thinking has been evaluated through a formation of a multidisciplinary team where creative skills involve AI services too. The development has been through investing almost \$1.5 trillion dollars in the artificial intelligence sector in the Indian market respectively (Esler et al., 2016; Raqib, 2019) This has also been evaluated through the technological as well as innovation policies in the interdisciplinary framework where various sustainable policies have been considered. The development in the cognitive as well as interpersonal skills adds to the benefits of the interdisciplinary approach where the Asian countries have been soaring high in addressing the issues.

### Impact of interdisciplinary approach in India and South Africa

The growth of interdisciplinary approach has led to a formation of a complex market where intensive research as well as discovery led to a collaborative decision-making skills setup among the population. The emphasis which has been put by the South African government involves significant **“boundary programmes”** where the **“Restoration of Natural Capital (RNC) project”** and knowledge return has identified various risk as well as return parameters in developing an interdisciplinary approach towards the environmental issues (Kim et al., 2018)(Esler Interdisciplinary, 2016). The real-life development of the multidisciplinary programme with the help of the RNC team as well as better decision governmental programs led to a dynamic and technologically advanced society. (Hoque et al., 2017)Hoque et al. (2017) has demonstrated that the integrated as well as diverse knowledge resource helped in forming a transformative learning process in higher education programs respectively. The formation of a decisive tool for addressing the interdisciplinary team has been the required progressive step in dealing with the virtual learning process where the required changes involve a formation of a **“student training model”** towards significant development in the educational approach.

The NEP programme in India has developed interdisciplinary education in India. The sustainability as well as communication development made an important step towards addressing the gender parity issues as well as lack of knowledge respectively (Li et al., 2017). The interdisciplinary approach in education has developed a large number of artificial intelligence professionals respectively in the country. The rise in the enterprise has been a surge of AI talent pool from western to Asian countries respectively. As per the views of (Kim et al., 2018), the fundamental aim has been to the required development in the student thinking capacity as well as problem solving skills through a specific aggregated overarching education system respectively. The deliberate attempt has been to increase dynamic professionals throughout the country. The ecological as well as sociological framework has been part of the deliberate attempt taken towards the risk assessment framework as well as facilitating development of the knowledge. The cross-sectional changes involve a multidisciplinary framework where the research as well as development helps combat the environmental issues respectively.



## Challenges faced in interdisciplinary approach

There have been a lot of challenges involved with interdisciplinary approaches such as lack of cooperation as well as barriers in resources for adopting interdisciplinary programmes. (Balachandran, de Beer, James, van Wissen, & Janssen, 2020) Balachandran et al. (2020) had opined that the practical dimensions as well as knowledge have not successfully placed its required engagement with the innovative policy maker's design. Furthermore, it has also led to the prior crisis in the diverse resource funding as well as reshaping technological progress where a large funding programme has been necessary. The lack of infrastructure failed to comply with the innovative programmes which further failed to address the environmental issues in a sustainable way. The lack of an establishment of a connection between the multi disciplines such as proper resources, diverse knowledge policies and often political barriers led to the failure of the interdisciplinary approaches. As argued by (Blake et al., 2018) Blake et al. (2018), the failure to form a connection between the complex situations in various interdisciplinary fields as well as in the contribution lacks development as well as address to environmental issues respectively.

It also states the most serious challenge as the required problem in the communication development as well as in the preparation of a proper resource material for education leads to a failure in the interdisciplinary approach respectively. As per the views of (Byers et al., 2020), furthermore, it also leads to a level of difficulty in the interdisciplinary management among the work groups due to teamwork conflicts as well as problems in the conduct of specialized training programs. The identified challenges in the interdisciplinary team research have been the lack of an in-depth knowledge as well as in the difficulty in the collaborative team work skills.

## Methods

For conducting the primary quantitative research information in the interdisciplinary approach for adding environmental issues as an effect of attitudes, knowledge perception and gender differences. A survey has been conducted regarding all the issues for analysing the effect of these factors on environmental issues in South Africa, Asia and India. As narrated by (Martín Martín et al., 2018), the survey includes a wide range of different perspectives in the research context. A simple random sampling method has been implemented in this research paper for the sample to conduct the survey. As opined by (Snyder, 2019) generalisation of the research result becomes easy due to simple random sampling. The population size of this survey was 100 belongs to Asia, South Africa and India. However, only 31 people gave the responses to the survey questionnaires, which were sent by social media platforms. The survey questionnaire has been created with the help of Google form and has been uploaded on social media platforms. The questionnaire was first to a group of students who belong to South Africa, Asia and Indian country origins, therefore after they have modified the questions that have been used in the final survey questionnaires.

## Methodology

**Positivism research philosophy** has been implemented in this research in order to identify the effect of editing on knowledge perceptions and gender differences on environment issues in Asia, South Africa and India. As commented by (Raqib, 2019), bring negotiation among different research phenomena. However, failures of positivism research philosophy and here's To concentrate only on the factual knowledge, and it believes that the functional knowledge or only able to gain through observations. However, this philosophy has the resources to include reliable measurements and interpret the collected data regarding the research phenomena. Hence, with the help of original measurement positivism research, he is able to help the researcher to analyse the impact of gender differences, perception attitudes and knowledge on environmental issues in the selected regions.

**A deductive research approach** has been implemented in this research paper. As highlighted by (Ngozwana, 2018), provide an intention to the researcher for analysing the different research phenomena. Deductive research approaches explain the difference in the causal relationship between variables and concepts associated with research topics. Furthermore, with the help of the deductive research approach the reason she becomes able to generalise the research findings to a certain extent. **Exploratory Research Design** has been instrumental in this research paper in order to explore the effect of gender differences, knowledge, perception and attitude

on environmental issues of India, South Africa and Asia. As described by (Aithal, 2017), research design helps to develop a specific structure for the research paper. With the help of exploratory Research Design, the resources are able to gather new information regarding the effect of all the selected factors on environmental issues at a lower cost. Moreover, it helps the results to gain new information and generate a new path for conducting further research.

### Ethical considerations

A participant consent form was attached to the survey questionnaire, and all the participants had to agree with the consent form for providing a response in the survey. After agreeing with all the factors of the participants' consent form, the participants were allowed to provide answers to the research survey questionnaire. All the data has been gathered anonymously as none of the research participants was asked to provide any personal identification information. Furthermore, all the participants were allowed to quit from the server and, whenever they felt uncomfortable, to provide answers to any one of the survey questions.

No participants were forced to participate in the survey. Participation in the survey was voluntary. All the gathered information was kept password protectively, and the access was only available for the research team. After completing the research work, the collected data sets have been destroyed completely for maintaining safety. Moreover, any kind of commercial use of the data has not been performed. Data sets have only been used for academic purposes. All the secondary resources that have been used in this paper have been implemented after proper paraphrasing for avoiding plagiarism issues.

## Results

### Responses for question 1

Options	Number of Respondents	Total Numbers of Respondents	Percentage
Strongly disagree	2	31	6.50%
Disagree	3	31	9.70%
Neutral	1	31	3.20%
Agree	17	31	54.80%
Strongly agree	8	31	25.80%

**Table 1:** Question 1

Question one of the surveys is trying to analyse whether the lack of knowledge among people of India, South Africa and Asia is negatively impacting the environmental issues and increasing the issues in those areas regarding their circumstances. Therefore 25 research participants have agreed that lack of knowledge among the citizens is increasing the environmental issues in the regions, which consist of 80.6% of the participants who have taken part in the server.

### Responses for question 2

Options	Number of Respondents	Total Numbers of Respondents	Percentage
Strongly disagree	1	31	3.30%
Disagree	6	31	20.00%
Neutral	0	31	3.20%

Agree	10	31	33.30%
Strongly agree	13	31	43.30%

**Table 2:** Question 2

The second question of the survey is concerned that the negative attitude and perception of the people of India, South Africa and Asia is negatively impacting their environment. This has identified that most of the participant 76.6% of the research participants have agreed that misperceptions and negative attitudes of people towards nature are increasing environmental issues in the areas.

### Responses for question 3

Options	Number of Respondents	Total Numbers of Respondents	Percentage
Strongly disagree	2	31	6.50%
Disagree	2	31	6.50%
Neutral	4	31	12.90%
Agree	15	31	48.40%
Strongly agree	8	31	25.80%

**Table 3:** Question 3

The third question of the survey was about the impact of attitude and perception and their connection to their gender and all its effects on the environmental situation in this region. Only 12.9% of the research participants have stayed neutral in terms of answering this question. Most of the research participants have agreed that attitude, gender and perception of the regional people have a negative impact on their environment.

### Responses for question 4

Options	Number of Respondents	Total Numbers of Respondents	Percentage
Strongly disagree	3	31	9.70%
Disagree	5	31	16.10%
Neutral	3	31	9.70%
Agree	11	31	35.50%
Strongly agree	3	31	9.70%

**Table 4:** Question 4

However, the maximum number of research participants have agreed with the fact that gender plays an essential role in order to generate perceptions and attitudes positively towards nature.

**Responses for question 5**

Options	Number of Respondents	Total Numbers of Respondents	Percentage
Strongly disagree	0	31	0.00%
Disagree	3	31	10.00%
Neutral	7	31	23.30%
Agree	9	31	30.00%
Strongly agree	11	31	36.70%

**Table 5:** Question 5

According to question number 5 of this survey, knowledge about environmental issues creates negative attitudes regarding the environment among people. Most of the research participants have also agreed with this fact that lack of knowledge regarding the environment creates a negative attitude, among which is able to generate more issues regarding the environment.

**Responses for question 6**

Options	Number of Respondents	Total Numbers of Respondents	Percentage
Strongly disagree	7	31	22.60%
Disagree	1	31	3.20%
Neutral	5	31	16.10%
Agree	18	31	58.10%
Strongly agree	7	31	22.60%

**Table 6:** Question 6

Most of the research participants have suggested that gaining knowledge about environmental issues and the environment helps to create a positive perception among people regarding the environment.

**Responses for question 7**

Options	Number of Respondents	Total Numbers of Respondents	Percentage
Strongly disagree	0	31	0.00%
Disagree	4	31	12.90%
Neutral	5	31	16.10%
Agree	15	31	48.40%
Strongly agree	7	31	22.60%

**Table 7:** Question 7

71% of the participants have agreed to the fact that negative attitudes in the environment are coming from different misperceptions present in the society of India, South Africa and Asia. Perceptions and attitudes play an essential role in order to reduce environmental issues in different areas.

### Responses for question 8

Options	Number of Respondents	Total Numbers of Respondents	Percentage
Strongly disagree	1	31	3.20%
Disagree	3	31	10.00%
Neutral	5	31	16.10%
Agree	15	31	48.40%
Strongly agree	7	31	22.60%

**Table 8:** Question 8

Most of the research participants have agreed that his perceptions and knowledge among people are able to create environmental issues.

### Responses for question 9

Options	Number of Respondents	Total Numbers of Respondents	Percentage
Strongly disagree	1	31	3.30%
Disagree	4	31	13.30%
Neutral	2	31	6.70%
Agree	14	31	46.70%
Strongly agree	9	31	30.00%

**Table 9:** Question 9

16.6% of the research participants have disagreed that lack of knowledge among people is associated with their tendency not to resolve environmental issues. Therefore, lack of knowledge is highly associated with the tendency of individuals to resolve different environmental issues.

### Responses for question 10

Options	Number of Respondents	Total Numbers of Respondents	Percentage
Strongly disagree	8	31	25.80%
Disagree	6	31	19.40%
Neutral	3	31	9.70%



Agree	12	31	38.70%
Strongly agree	2	31	6.50%

**Table 10:** Question 10

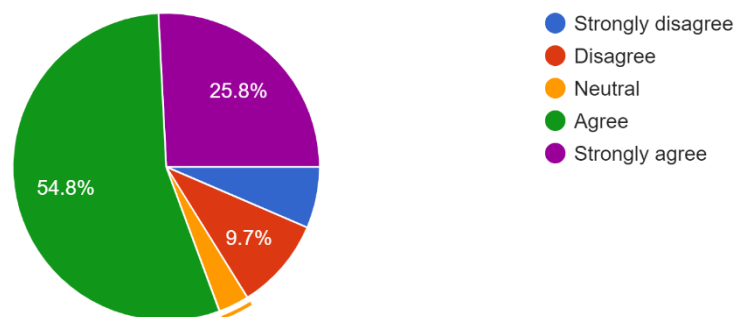
Most of the research participants do not play any role in order to perceive environmental issues among the citizens of different regions.

## Data Analysis

### Question 1

1. Do you agree with the fact that lack knowledge among people regarding environment is increasing environmental issues?

31 responses



**Figure 1:** question 1

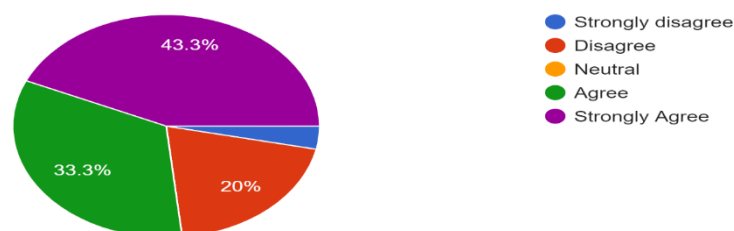
### Analysis

According to 80.6%, the lack of knowledge regarding the environment and increasing environmental issues among India, Africa and Asia is enhancing the environmental issues. This lack of knowledge is also a barrier for the people to resolve different environmental issues that are being arrived at in their religion. 16.2% of the research participants have disagreed with fact, while only 3.2 % of the participants stayed neutral. Land of knowledge among the people is able to create different issues regarding the environment as it is able to increase different negative attitudes regarding the environment.

### Question 2

2. According to your perspective, negative attitudes among the people makes negative impacts on the environment?

30 responses



**Figure 2:** question 2

### Analysis

According to the Research question, a negative attitude amounts to people having a negative impact on the environment. In this context, 76.6% of the research participants have agreed that negative attitudes of people are able to make a negative impact on the environmental situation of different regions. In this context, only 23.3 % of the research participants have disagreed.

### Question 3

3. To what extent you are agreed with the fact that perception and attitude of people regarding environmental issues plays important roles?

31 responses

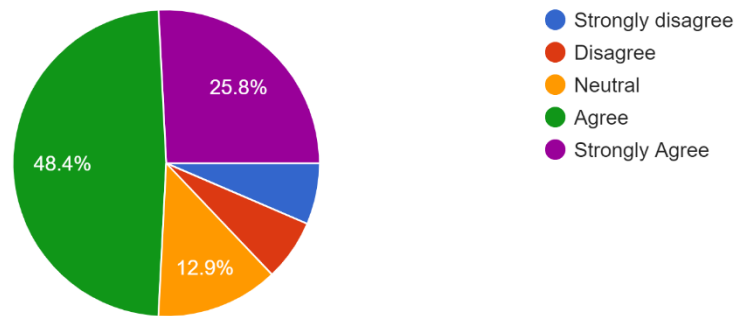


Figure 2: question 2

### Analysis

According to the graph above, 4.2 % of the research participants have stated that the perception and attitude of people regarding environmental issues plays a huge role in resolving the environmental issues in those regions. In this context, 12.9% of the research participants stayed neutral, while 13% of the research participants have disagreed with this.

### Question

4

4. Perception and attitude of the people regarding environmental issues are associated with their gender, agreed or not?

31 responses

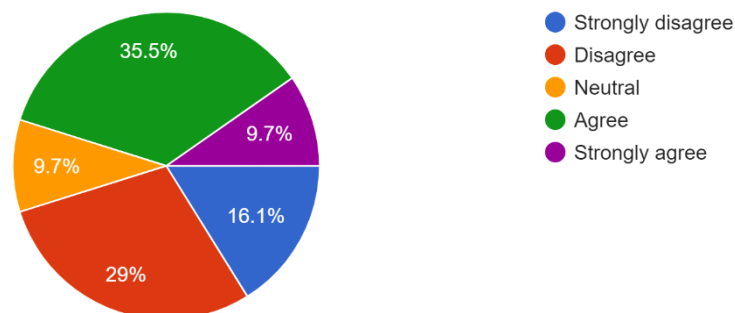


Figure 4: question 4

## Analysis

Only 25.2% of the research participants had disagreed with the idea that gender plays an essential role in order to develop an environmental perspective.

### Question 5

6. According to your perspective, does environmental knowledge makes impact on perceptions about environment among people?

31 responses

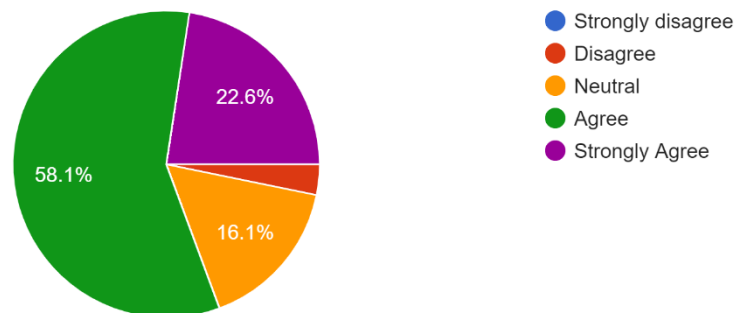


Figure 5: question 5

## Analysis

80.7% of research participants have stated that environmental knowledge makes a huge impact on the perception regarding environmental situations among the people of different regions.

### Question 6

6. According to your perspective, does environmental knowledge makes impact on perceptions about environment among people?

31 responses

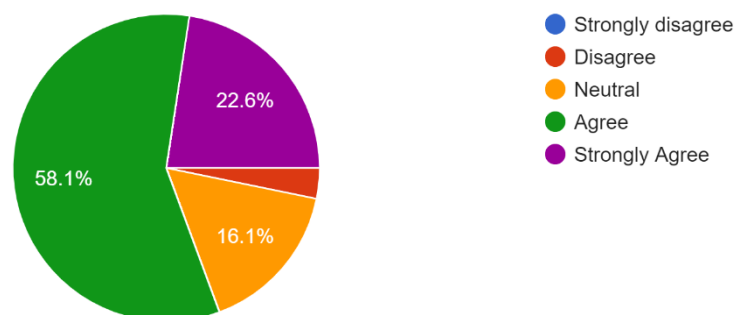


Figure 6: question 6

## Analysis

Only 3.2 % of the research participants have agreed that gaining knowledge regarding the

environment creates a positive impact on environmental issues.

### Question 7

7. How much you agreed with the fact that, negative attitudes regarding environment are coming from miss perceptions?

31 responses

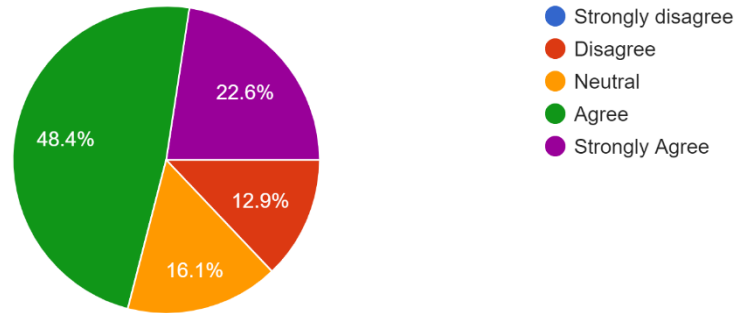


Figure 7: Question 7

### Analysis

71% of the research participants have suggested that negative attitudes regarding the environment come from different misperceptions present in their social situation.

### Question 8

8. Lack of knowledge and misperceptions among people are creating environmental issues.

Agreed or not?

18 responses

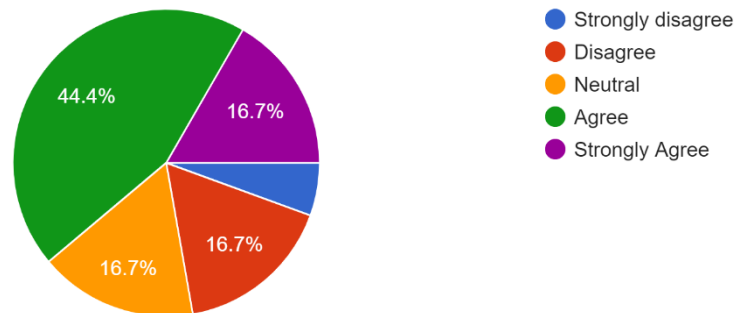


Figure 8: Question 8

### Analysis

61.61% of the research participants have agreed with the fact that lack of knowledge regarding the environment among the people is developing environmental issues in the selected regions.



### Question 9

9. Do you agree with the fact that lack knowledge among people is associated with their tendency to not resolving environmental issues?

30 responses

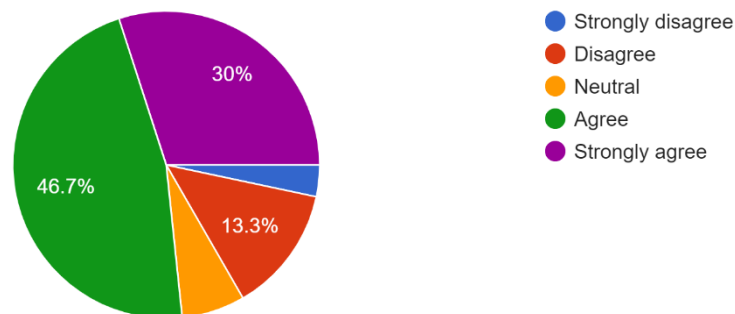


Figure 9: Question 9

### Analysis

Choose the server analysis only 13.3% of research participants have stated that lack of knowledge among the people is associated with their tendency not to resolve the environmental issues.

### Question 10

10. Gender is a key factor in environmental perceptions among people. Agreed or not?

31 responses

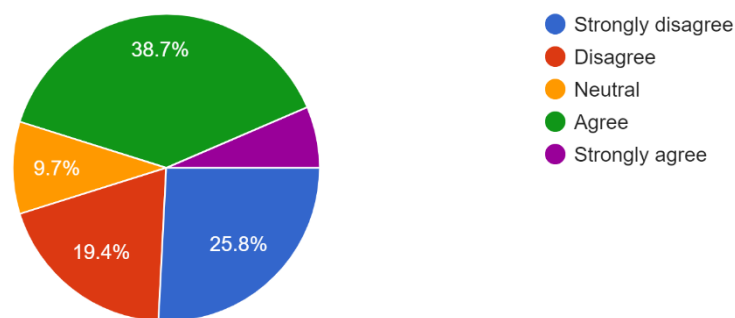


Figure 10: Question 10

### Analysis

Only 45.2% of the research people have agreed that gender plays a key role in the environmental perception among people.

## Discussions

### Gender does not play any role in negative attitudes towards the environment.

According to the survey, question analysis has identified that gender does not play a role in

developing negative attitudes towards environmental issues and resolving the environmental issues in any region. As described by (Ebadi et al., 2020) global warming, which is an irregular relative of the present means, is not only caused by any specific gender. Therefore, gender does not develop any negative attitude among people towards the environment; it is completely dependent on their perspective and attitudes. As highlighted by (Schmuck et al., 2018), Individual perceptions about global warming and other environmental issues and their consumption of different chemicals are associated with misleading perceptions. Therefore, the perception does not have any connection with gender, as it is also identified from the survey analysis. In addition to this, Martín (Martín Martín et al., 2018) have narrated that planning lack of collaboration and sustainability and accommodation between the citizens are creating different types of environmental issues which are not associated with any specific gender. Hence, it is able to state that the gender does not develop any negative attitude or negative perception in order to maintain the environment.

### **Lack of knowledge and awareness is generating different environmental issues in India, South Africa and Asia.**

Lack of knowledge regarding different environmental issues in the regions is creating huge environmental issues due to the lack of awareness among the people. This is happening due to the lack of environmental awareness in these regions. As described by (Li et al., 2017), implementing different types of chemical uses along with plastics and other harmful chemicals is generating environmental issues in these areas. Misperception among the people regarding the use of different kinds of chemical effects on the environment is the reason for this developing issue regarding the environment of this region. Moreover, (Martín Martín et al., 2018) have commented that immigration and struggling to adapt to a new environment is also generating issues regarding the environment. As the immigrants are not well aware of the different environmental issues of the regions, this is the level of the environmental issues frequently.

## **Conclusion**

From the entire analysis, it can be concluded that genre is not associated with knowledge attitude perception regarding the environmental issues of specific regions that have been selected. Lack of knowledge is associated with misperception and negative attitudes towards the environment, generating different kinds of environmental issues and creating a barrier to resolving the issues. Lack of knowledge about different chemicals and the use of those chemicals in everyday life creates different kinds of environmental issues in the areas. Furthermore, generating different kinds of attitudes is not related to the gender of any individual; it is dependent on their personality characteristics which are not associated with gender.

Moreover, according to the survey analysis that has been conducted in this research paper, it has been identified that gender does not play any specification role towards developing environmental issues and being a barrier to resolving the issues. 61.61% of the research participants have agreed with the fact that lack of knowledge regarding the environment among the people is developing environmental issues in the selected regions. Hence it is able to state that environmental issues in different areas of India, South Africa and Asia are related to lack of knowledge, attitude and misperceptions of the people living in these areas. However, it is not associated with gender differences.

### **Limitations and Future Studies**

The present research paper has been entirely based on a survey where the research did not include deduced opinions from secondary materials. Moreover, the research also has a global barrier where interdisciplinary approaches did not include progress on the European countries. Hence, the limitation which has been found in this study includes the lack of secondary resource information where the approaches could be different. The required implementation of a proper quantitative data interpretation could have represented a different aspect of an interdisciplinary approach in the Asian countries. The limitations of interdisciplinary approaches have been the failed innovative approaches which could not address the complexities of the environmental issues respectively. The rise in the environmental issues were often not met with the proper

establishment of an interdisciplinary team and information on lack of diverse resources were often not collected. This identified problem has reduced the required reliability of this research where the analysis and discussion has been based on evaluation based on the survey respectively. The research paper has however presented significant information on the practical opinion towards the interdisciplinary approach towards the environmental issues. This has significantly opened a new perception on the various perspectives taken by the Asian countries towards a proper interdisciplinary framework for the issues. The various other forms or policies which must be adopted in the improvement of the interdisciplinary framework have been helped through the information provided in this required research work. The research has also opened a proper limelight on the nature of the environmental issues faced by the Asian countries respectively.

## Acknowledgement

I would like to express my foremost and special thanks of gratitude to my guide for guiding me with proper guidance and helping me to complete this review. The completion of project could not be possible without the guidance of my guides. The professional standards whose articles have been used in this review also deserves my thanks of gratitude as without proper idea about the key words related to this topic the review would not have done. This review honours the researches whose names have been mentioned in the study. My sincere thanks also go to my fellow lab mates who have contributed their precious time in making the lessons clearer. Thanking you

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