Proceeding The 2nd ICHELSS, August 24-25, 2022, Jakarta, Indonesia

ISBN: 978-623-92475-1-5
ISSN: 2963-1351

Environmental Care Attitude for University Students to Anticipate Climate Changer (Descriptive Study: FIS UNJ Students)

Widya Putri Azzahra[1], Desy Safitri[2], Shahibah Yuliani[3]
Universitas Negeri Jakarta, Indonesia[1,2,3]

Abstract**:** *The purpose of this study is to determine the environmental care attitude of FIS UNJ students in 2019 to anticipate changes and to determine the extent to which FIS UNJ students in 2019 have sensitivity to environmental care attitudes. The research method used is descriptive research with a quantitative approach. This study uses a purposive sampling technique, and the subjects of this study are active students of the 2019 FIS class in the Social Studies Education, Geography Education and History Education study programs. The results showed that the 2019 FIS students already had very good environmental care attitudes in the six indicators of environmental care attitudes, namely environmental care with a percentage of 88%, reducing the use of plastic by 90%, managing waste by type 85%, reducing carbon emissions 91%, 94% energy savings and 97% improvement efforts.*

Keywords**:** *Environmental Care Attitude, Climate Change*

Introduction

In Indonesia, the number of natural disasters increases every year along with climate change phenomena such as flash floods, hurricanes, landslides, droughts, forest fires and extreme rainfall, not infrequently these disasters cause casualties and material losses.

The National Disaster Management Agency (BNPB) noted that in the last five years there have been 17,032 natural disasters in Indonesia, causing 30,139,694 people to evacuate, 28,928 people injured, 6,655 people died and 1,043 people are missing to date. More specifically, this natural disaster was triggered by 5,436 extreme weather events, followed by 4,936 floods, 3,835 landslides, 2,144 forest fires, 147 tidal waves and abrasion, 109 earthquakes, 85 volcanic eruptions, tsunamis. once, and an earthquake that generates a tsunami once. (Alaidrus, 2021)

The current environmental problems, especially with climate change, are not only caused by natural factors but also due to human behavior that does not care about their own environment, causing natural conditions to become increasingly alarming. (Azmi, 2017)

One of the parties who are able to take an active role through an attitude of caring for the environment is that students as one of the layers of society, agents of change and the nation's successor have an important role to contribute through their actions. To significantly reduce the possibility of damage to the environment in the future, the solution is to instill an attitude of caring for the environment from an early age.

ISBN: 978-623-92475-1-5
ISSN: 2963-1351

Literature Review

According to Saifuddin Azwar, the attitude structure consists of 3 components that influence each other, among others (Azwar, 2012):

1) Cognitive Component

   The cognitive component contains a person's beliefs about something that applies to what is true for the attitude object

2) Affective Component

   The affective component concerns a person's subjective problem with an attitude object

3) Components of Conative Behavior

   The components in the attitude structure show how a person's behavior or behavioral tendencies that exist in a person is related to the attitude object he faces.

According to Sri Narwanti, caring for the environment is an attitude and action that has an effort to prevent damage to the natural environment and its surroundings. These efforts should arise starting from oneself and can be implemented through small things such as disposing of garbage in its place, planting trees, saving electricity and fuel. (Narwanti, 2011). Based on expert exposure according to the definition of environmental care is an action and attitude that has the aim of preventing environmental damage. Then caring for the environment is also accompanied by efforts to repair the natural damage that has occurred.

According to Irfianti Dewi, there are six indicators of environmental care, including (Dewi, 2016):

1) Environmental care, students view to keep the environment neat and clean
2) Reducing the use of plastic, students' views on how to reduce plastic waste
3) Waste management according to its type, students' views regarding the importance of sorting waste and disposing of it according to its type
4) Reducing carbon emissions, students' views on efforts to reduce activities that can produce greenhouse gases
5) Energy saving, students' views on efforts to save water availability and save electricity
6) Efforts to repair the natural damage that has occurred include planting trees and utilizing used goods

A student is categorized in the developmental stage whose age is 18 to 25 years. This stage can be classified from late adolescence to early adulthood and in terms of development, the developmental task at this student age is to strengthen the establishment of life (Yusuf, 2012).

As a student, various labels are also carried, according to Syaiful, there are several kinds of labels attached to students, namely (Syaiful, 2014):

1) As Iron Stock, students must be able to become substitutes for those who lead in the government later, which means students will be the next generation to lead this nation in the future.
2) Agent of Change, is required to be an agent of change. That is, if something happens in the surrounding environment and it turns out to be wrong, students are required to change it according to their real expectations.

ISBN: 978-623-92475-1-5
ISSN: 2963-1351

3) Social Control, must be able to control the social in the surrounding environment (community environment). So besides being smart in academics, students must also be smart in socializing with the environment.
4) Moral Force, is required to maintain the existing morals. If immoral things happen in the surrounding environment, students are required to change and realign them according to what is expected.

Climate change is a change in a certain time interval, can be caused by natural variations or due to human activities (anthropogenic). Climate change based on several studies is something that is visible and clearly visible, especially temperature changes that greatly affect several physical and biological systems around the world. (Subair, 2015)

According to Sumampouw, the factors causing climate change include (Sumampouw, 2019):

1) Greenhouse Gas Effect

   Currently, the increase in carbon dioxide gas that can be produced naturally is through breathing or human actions such as industrial gas, motor vehicle fumes, and forest fires. Although carbon dioxide gas can be reabsorbed by trees and carry out fontosynthesis, carbon dioxide gas that cannot be absorbed will block the ozone layer. The increase in the number of motorized vehicles affects the production of carbon dioxide gas, especially for big cities. Then one of the other greenhouse gases is methane which is produced from swamps and rice fields and can also be produced from piles of garbage produced by humans every day. Livestock also produce methane gas from the excreta. Piles of garbage that cannot be treated properly will produce high levels of methane gas and affect the ozone layer. There is a need for proper waste management so as to minimize the high methane gas produced. This is intended for TPS (Temporary Disposal Sites) in the Bantar Gebang area which is estimated to experience a 1% increase in waste piles every year.

2) Global Warming

   Global warming is considered as one of the main factors causing climate change. Global warming can be characterized by an increase in the average temperature of the earth. Global warming caused by humans is the result of changes in the amount and concentration of greenhouse gases in the atmosphere and a decrease in the absorption of greenhouse gases already present in the earth's atmosphere. Human activities have increased the concentration of greenhouse gases in the atmosphere with carbon dioxide dominating the increase in greenhouse gas concentrations from burning coal, oil, gas and coupled with other gases. The most dominating factors causing climate change are global warming and the greenhouse effect, both of which are caused by daily human activities. Global warming is exacerbated by the effects of greenhouse gases such as CO2 that roams the air. Both of these require further attention in order to minimize the factors causing climate change.

The indicators of climate change impacts according to the IPCC are (Suryadi & Denny, 2018):

1) Surface temperature. The increase in air temperature due to climate change is an increase in the temperature of hot air that humans can feel during the day. In addition, the increase in air temperature has an impact on human health.

ISBN: 978-623-92475-1-5
ISSN: 2963-1351

2) Rainfall. Changes in rainfall in the form of a rainfall deficit can cause drought impacts, while an increase in rainfall, duration and intensity of rainfall can cause several natural disasters that arise, namely floods, landslides and impacts on human health.
3) Extreme climatic events. This event can cause changes in seasonal rain patterns that can harm humans.
4) Extreme weather events. The impacts of climate change that are most felt are disasters that arise due to extreme weather, namely heavy rains, storms, strong winds, storm surges, floods.

Climate change adaptation is the actions of a number of actors to manage and reduce risks associated with climate change. The form of climate change adaptation is that humans adapt to changes in temperature and extreme weather due to climate change and manage risks related to climate events that are more frequent, severe to unpredictable. (Kusumasari, 2015)

Methodology

This research uses descriptive research method with a quantitative approach. Descriptive research is literally research that intends to make a description (description) of situations or events (Suryabrata, 2012)

The population in this study were FIS UNJ students batch 2019 with the condition that they had taken environmental courses in the Geography Education, History Education and Social Sciences Education study program FIS UNJ batch 2019 totaling 238 students.

The research technique used is purposive sampling, namely the technique of determining the sample with certain considerations. Sampling with the purposive sampling technique must be based on certain characteristics, traits, or characteristics. (Sugiyono, 2009)

This research was conducted at the location of Building K, Faculty of Social Sciences, State University of Jakarta, which is located at Jl. Rawamangun Muka Raya, RT.11 / RW.14, Rawamangun, Kec. Pulo Gadung, East Jakarta City, Special Capital Region of Jakarta 13220.

Data collection was carried out by distributing a Guttman scale questionnaire consisting of 60 questionnaires then followed by interviews as complementary data.

The instrument is composed of two dimensions with nine indicators. According to Irfianti Dewi, there are six indicators of environmental care, including (Dewi, 2016):

1) Environmental care,
2) Reduction of plastic usage,
3) Waste management according to its type,
4) Reduction of carbon emission,
5) Energy saving,
6) Efforts to repair nature's damage

Then for the climate change impact indicators, the climate change impact indicators according to the IPCC are (Suryadi & Denny, 2018):

1) Surface temperature.
2) Rainfall.
3) Extreme weather events.

Tabel 1. Indicator Environmental Care

No	Indicator	Questionnaire

ISBN: 978-623-92475-1-5
ISSN: 2963-1351

1.	Environmental care	1,2,3,4,5
2.	Reduce of using plastic	6,7,8,9,10,11
3.	Waste management	12,13,14,15,16,17
4.	Carbon emission reduction	18,19,20,21,22,23
5.	Energy saving	24,25,26,27,28
6.	Efforts to improve	29,30,31,32,33,34,35,36,37,38
7.	Surface temperature	39,40,41,42,43
8.	Rainfall	44,45,46,47,48,49,50,51
9.	Extreme weathers	52,53,54,55,56,57,58,59,60

Furthermore, to obtain the percentage figure (relative frequency) According to Sudijono, the following formula is used (Sudijono, 2010):

$$P=\frac{F}{N}x100\%$$

Information:
P = Percentage Number
f = Frequency being searched for the percentage
N = Number of Cases (Number of Frequency / Number of Individuals) 100 % = Number Constant

After processing the data using the frequency formula above, it is then entered into the assessment criteria. (Kasmini & Fauziah, 2017)

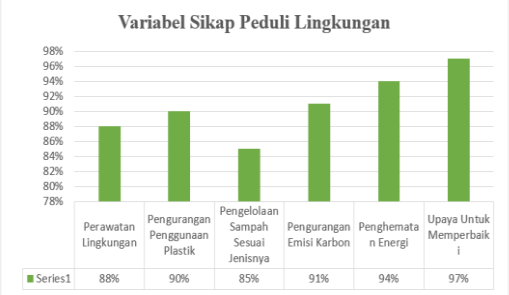
Tabel 2. Environmental Care Attitude Categorization

Score Interval	Criteria
84 – 100%	Very good
68 – 83%	Well
52 – 67%	Pretty good
36 – 51%	Deficient
20 – 35%	Not good

Tabel 3. Continuum Variables Concerning the Environment

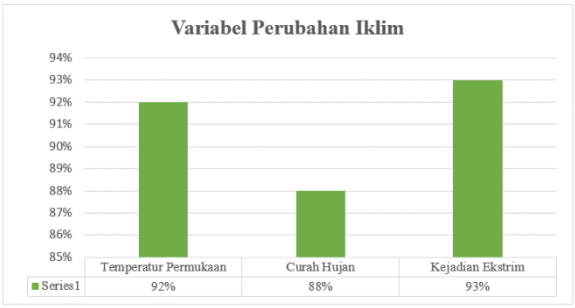
Based on the results of the questionnaire data for the 2019 FIS UNJ students, data were collected using environmental care instruments, reducing the use of plastics, reducing carbon emissions, saving energy and efforts to improve improve with the final

ISBN: 978-623-92475-1-5
ISSN: 2963-1351



result, it can be seen that the highest percentage result is the effort to improve indicator of 97% in the very good category while the lowest percentage is on the waste management indicator according to its type with a percentage of 85% and enters the very good category. Followed by environmental care indicators with a percentage of 88% in the very good category, reducing the use of plastic with a percentage of 90% in the very good category, reducing carbon emissions with a percentage of 91% in the very good category and 94% in energy saving in the very good category. Followed by environmental care indicators with a percentage of 88% in the very good category, reducing the use of plastic with a percentage of 90% in the very good category, reducing carbon emissions with a percentage of 91% in the very good category and 94% in energy saving in the very good category. In the effort to improve indicator which has the highest percentage than other indicators, this is because based on the results of the questionnaire, students have taken various actions to improve the environment, for example they have carried out small-scale reforestation in the home environment, spread campaigns to care for the environment together with friends. peers, choose to recycle and they realize that if a campaign is carried out in the university environment, it can increase student awareness to contribute more to actions to improve the environment. Students have an awareness that efforts to improve the environment are not too late if these efforts are carried out simultaneously by involving various levels of society.

Tabel 4. Continuum of Climate Change Variables



In the diagram above, it can be seen that the highest percentage results are on the extreme event indicator with a percentage of 93% included in the very good category while the lowest percentage on the rainfall indicator with a percentage of 88% included in the very good category. Followed by the surface temperature indicator with a percentage of 92% in the very good category. It can be concluded that the three indicators in the climate change variable have a very good category. Questionnaire data taken from the research sample can show that the 2019 FIS UNJ students have awareness about the phenomenon of climate change.

The indicator of extreme events has the highest percentage because according to the results of the study it was found that students are aware that extreme events that are happening today cannot be separated from the impact of climate change which causes losses and poses a threat to humans. The extreme events in question are sudden changes in air temperature, increases in natural disasters, and much more. Students also realize

ISBN: 978-623-92475-1-5
ISSN: 2963-1351

that extreme events caused by climate change are completely unpredictable because recent extreme events often occur suddenly.

Findings & Discussion

FIS UNJ students class 2019 with Social Studies Education, Geography Education and History Education study programs gain knowledge about environmental science so as to create an attitude of caring for the environment with the aim of anticipating climate change. The attitude of caring for the environment carried out by students is able to have a positive effect on suppressing the rate of climate change even though it is carried out in the form of individuals but if the campaign continues, it will have a very large positive impact and invites more people to participate in taking environmental care actions for the good of all parties, especially for earth. Environmental care attitudes of FIS UNJ students in 2019 to anticipate climate change include:

1) Environmental Care

FIS UNJ students class 2019 with Social Studies Education, Geography Education and History Education study programs have an attitude of caring for the environment in the form of environmental care. Respondents are interested in taking various actions for environmental care, this shows that respondents have a good environmental care attitude.

Environmental care can be done to anticipate climate change, namely:

a. Surface temperature

The increase in air temperature felt by respondents is one of the impacts of climate change. Respondents answered that they felt a significant and relatively rapid change in air temperature so that it affected human activities or had an impact on one's health.

b. Rainfall

The increase in rainfall intensity felt by respondents and realized that the big flood event in the new year 2020 was the impact of climate change. The increase in rainfall intensity can trigger various kinds of diseases that threaten human life. Moreover, the impact of the disaster as a result of this rainfall is very detrimental to humans in the form of material and non-material.

c. Extreme weathers

The increase in the incidence of extreme disasters due to climate change is very detrimental to humans and threatens humanity. The mass media that displays news of an increase in extreme disasters is a fact that climate change can be a factor in extreme disaster events.

2) Reduce of using plastic

The attitude of caring for the environment in the form of reducing the use of plastic among respondents found that they used environmentally friendly products to reduce plastic waste, namely tote bags, stainless straws and were willing to spend more money to buy environmentally friendly products. This shows that respondents have a good environmental care attitude found by their knowledge and experience.

ISBN: 978-623-92475-1-5
ISSN: 2963-1351

3) Waste management

The form of an attitude of caring for the environment in the form of waste management according to its type, the results show that respondents have awareness to manage waste according to its type, namely they know that waste management actions according to type can help many parties before being disposed of in the landfill and they have a special trash can at home to differentiate several types of waste so as to facilitate the allocation of waste to be disposed of.

4) Carbon emission reduction

Reducing carbon emissions to create a healthy environment, respondents provide input if the campaign is for the community to provide knowledge and information to the public about the dangers of carbon emissions for the earth so that through this campaign it is hoped that the community can take action to reduce carbon emissions. In addition, the form of respondents to reduce carbon emissions by choosing to use public transportation instead of using private vehicles to travel so this shows that respondents have a good environmental care attitude.

5) Saving energy

The respondent's environmental care attitude in the form of energy saving is to use sunlight during the day then use LED lights for lighting at home and invite peers to take energy saving actions. This shows that respondents have a good sensitivity to environmental care and implement actions that can help anticipate climate change.

6) Efforts to improve

Respondents showed an attitude of caring for the environment in the form of efforts to repair environmental damage by planting trees in the home environment, doing reusable items that can still be used and conducting campaigns to peers to invite all of them who previously did not take action to repair environmental damage will contribute. after the campaign was held with the hope that many millennials would continue to implement environmental care around their homes. The reflection of this form of environmental care is one of the implementations of students' knowledge of the environment.

FIS UNJ students in the class of 2019 with Social Studies Education, Geography Education and History Education study programs must have sensitivity to environmental care attitudes. Based on research data, as many as 30 respondents with a percentage of 100% they can make an invitation to their peers to also love the environment, choose to save energy, and know the extreme disasters that occur due to climate change. Students as agents of the nation's successors, agents of change who have their own role in society as intellectuals must have a sensitivity to environmental care that can be done on a small and large scale.

The attitude of caring for the environment that students can have is very diverse so that students can do it according to their respective abilities. Moreover, the attitude of caring for the environment is not something that is difficult to implement when someone already knows what will happen to the impact of environmental damage so as to create climate change. The thing that underlies the attitude of caring for the environment other than one's knowledge is intention. Based on the research that has been carried out regarding the environmental care attitude of FIS UNJ students in the class of 2019 with the Social Studies Education, Geography Education and

ISBN: 978-623-92475-1-5
ISSN: 2963-1351

History Education study programs, it can be concluded that the environmental care attitude possessed by FIS UNJ students in the class of 2019 with the Social Sciences Education, Geography and Education study programs History Education has been implemented in various forms of environmental care, namely environmental care, plastic waste reduction, energy saving, carbon emission reduction and efforts to improve.

Based on the results of the study, it was found that FIS UNJ students in the class of 2019 with the Social Studies Education, Geography Education and History Education study programs have shown that they implement a very good environmental care attitude supported by the data obtained, although there are still some respondents who do not take action. care for the environment in several categories, but most of the respondents have shown a good attitude of caring for the environment. FIS UNJ students in the class of 2019 with Social Studies Education, Geography Education and History Education study programs must have an attitude of caring for the environment and also increase their environmental care attitude, this is because as the next generation of the nation and intellectuals students already have knowledge about climate change by Therefore, through their knowledge, students are expected to be able to implement an attitude of caring for the environment with the aim of anticipating climate change. Forming collaboration among students can have a positive impact on reducing the rate of climate change.

References

Alaidrus, S. (2021). *BNPB: 17.032 Peristiwa Bencana Alam Terjadi Dalam Lima Tahun Terakhir*. Antaranews.Com. https://www.antaranews.com/berita/2457653/bnpb-17032-peristiwa-bencana-alam-terjadi-dalam-lima-tahun-terakhir

Arikunto, S. (2010). Manajemen Penelitian. In *PT Rineka Cipta*. PT Rineka Cipta.

Azmi, F. (2017). Sikap Peduli Lingkungan Siswa Melalui Program Adiwiyata di SMA Negeri 1 Medan. *Jurnal Geografi*, *9*(2).

Dewi, I. (2016). Perkembangan Karakter Peduli Lingkungan Melalui Model Experiential Learning. *Physics Education Journal*, *5*(3).

Kasmini, Lili., & Fauziah, Resti. (2017). *Penerapan Model Pembelajaran TGT (Teams Games Tournament) Untuk Meningkatkan Hasil Belajar Siswa Pada Materi Sumber Daya Alam di Kelas III SD N 70 Kuta Raja Banda Aceh. Jurnal Tunas Bangsa*

Kusumasari, B. (2015). *Perubahan Iklim dan Strategi Adaptasi di Indonesia*. *4*(3), 6–7.

Kasmini, Lili., & Fauziah, Resti. (2017). *Penerapan Model Pembelajaran TGT (Teams Games Tournament) Untuk Meningkatkan Hasil Belajar Siswa Pada Materi Sumber Daya Alam di Kelas III SD N 70 Kuta Raja Banda Aceh. Jurnal Tunas Bangsa*

Narwanti, S. (2011). *Pendidikan Karakter Pengintegrasian 18 Nilai Pembentuk Karakter dalam Mata Pelajaran* . Familia.

Saputra, F. (2015). *Hubungan Harga Diri Dengan Perilaku Menyontek Pada Mahasiswa*.

Subair. (2015). *Resiliensi Sosial Komunitas Lokal Dalam Konteks Perubahan Iklim Global* (Subair, Ed.). Aynat Publishing.

Sudijono, A. (2010). *Pengantar Statistik Pendidikan*. Raja Grafindo.

Sugiyono. (2009). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.

Sumampouw Jufri, O. (2019). *Perubahan Iklim dan Kesehatan Masyarakat* . Deepublish.

Suryabrata. (2012). *Metodologi Penelitian*. PT. Raja Grafindo Persada.

ISBN: 978-623-92475-1-5
ISSN: 2963-1351

Suryadi, Y., & Denny, N. S. (2018). *Strategi mitigasi dan adaptasi perubahan iklim di Kota Semarang*.

Syaiful, A. (2014). *Mahasiswa dan Organisasi.* Grafindo Persada.

About the Author:

Chief Researcher
Widya Putri Azzahra *State University of Jakarta, Indonesia*
Researcher Member
Desy Safitri *State University of Jakarta, Indonesia* **Shahibah Yuliani** *State University of Jakarta, Indonesia*