Al-Adab Journal **Vol. 68, No. 2, (June 2026)**
E-ISSN: 2706-9931 P-ISSN: 1994-473X

Awareness of Climate Change and Environmental Issues among Individuals Affected by Floods in Sharjah

Aisha Ali Mousa Al-Darmaki
University of Sharjah- College of Arts, Humanities and Social Sciences, Department of Sociology
U21103712@sharjah.ac.ae
Prof. Ahmad Falah Alomosh (Ph.D.)
Criminology – University of Sharjah- College of Arts, Humanities and Social Sciences, Department of Sociology
alomosh@sharjah.ac.ae
Dr. Ahmed Mahmoud Sallam
First psychological counselor
University of Sharjah- College of Arts, Humanities and Social Sciences
asallam@sharjah.ac.ae

DOI: https://doi.org/10.31973/7vd7xe82

Abstract:

This study seeks to determine the level of awareness of climate change and environmental issues among individuals affected by floods, and to reveal the relationship between such awareness and the study variables (gender, age, educational level, nationality, and income level). A questionnaire targeting individuals affected by floods in the Emirate of Sharjah was designed and sent to 300 male and female respondents with different demographic characteristics. The findings show a high level of climate and environmental awareness among flood victims. They also reveal a statistically significant relationship between the level of awareness and the variables of age, educational level, and income level), but no statistically significant relationship between the level of awareness and the variables of gender and nationality.

Keywords: awareness, climate change, environmental issues, individuals affected by floods, Emirate of Sharjah.

Introduction

Global awareness of climate and environmental crises is markedly growing, as individuals increasingly recognize the current and future global threats associated with the climate crisis, their long-term effects on physical and mental health and their impact on job performance, work, and productivity as a result of acute and chronic environmental changes (Hickman et al, 2021).

Climate crises also have an impact on the occurrence of floods. Climate change is caused by a change in weather conditions over a long period of time (maybe up to hundreds of years) until the effects of these changes begin to appear in the natural and geographical environment. This leads to a change in rainfall and snowfall patterns that in turn causes an increase in droughts and floods, which eventually affect water resources and other natural ecosystems (Nielsen et al, 2020).

Climate change also poses a serious threat to the ecosystem and biodiversity, leading to water and food insecurity and increased mortality rates. As such, societal awareness of the repercussions of climate change is one of the key preventive measures to address climate change (Heshmati, 2020).

It has also been noted that increasing climate change awareness could not only drive change in individuals directly, especially behavioral changes that favor more sustainable consumption decisions, but could also cause shifts in current lifestyles, as individuals increasingly lean towards a sustainable lifestyle (Venghaus, 2022).

In 2023, COP28 UAE presented its recommendations on climate change, which included reducing greenhouse gas emissions, promoting energy efficiency, protecting and restoring ecosystems, increasing awareness of the impact of climate change, and promoting sustainable lifestyle choices among individuals and communities.

In this context, the UAE has contributed to accelerating climate action, protecting the environment, and promoting sustainable development by launching environmental initiatives to raise public awareness and knowledge about the impact of climate change at the local, national, and regional levels, particularly in terms of atmospheric and environmental systems, coastal areas, food security, and water resources. (Climate Action, UAE Government Portal).

Key Concepts:

Awareness:

Al-Sa'idi (2015) defines awareness as "a state of readiness consisting of several contributing mental acts through which we are conscious of this or that in our environment or within ourselves."

Shukair (2022) defines awareness as "the understanding and soundness of perception, where perception means a person's direct perception of themselves and their environment."

In this study, awareness is defined as the extent to which Sharjah residents affected by floods are aware of climate change and issues associated with their environment.

Climate Change:

Climate change is a change in temperatures, wind patterns, and rainfall in a given region due to human factors, natural factors such as volcanoes, or external forces such as changes in the intensity of solar radiation. The risks related to climate change and how they are managed depend on society's ability to adapt (Sampson, 2017).

The Intergovernmental Panel on Climate Change (IPCC) defines climate change as "a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or due to human activity" (IPCC, 2007).

In this study, climate change is defined as "a change in the climate that is mostly caused by the burning of fossil fuels, which increases greenhouse gases in the Earth's atmosphere, leading to increased temperatures, rising sea levels, and natural disasters such as floods."

Environmental Issues:

Environmental issues are all environmental topics and problems that arise as a result of an imbalance in ecosystems and that require the contribution of the public to resolve and prevent them. (Samir, 2021: 229)

Environmental issues are defined as the information and knowledge gained about environmental problems that have health, economic, and environmental implications. They include issues such as global warming, environmental pollution resulting from the use of industrial technology, land degradation, and water and food security.

Operational definition of awareness of climate change and environmental issues: the degree of perception and awareness of weather and climate changes, whether due to natural changes or

human activity, as well as the information and knowledge acquired about environmental issues.

Research Problem and Questions:

Climate change is one of the major challenges of our time, and its consequences are a source of concern for the entire global community. The increase in temperatures, floods, hurricanes, droughts, and fires spurred by climate change have negative repercussions on social, economic, and other aspects of life, and lead to the emergence of physical and mental diseases. Despite the above, there is an evident lack of research on climate change, particularly on public awareness of climate change.

Climate and environmental awareness has recently gained prominence due to its importance at the global, regional, and national levels. As such, sustainability and climate change strategies are at the forefront of the UAE's national agenda. The UAE has launched several sustainability initiatives and projects to foster positive attitudes towards the environment and environmental issues and raise awareness and educate communities about the risks of climate change.

Awareness of climate change and global as well as national environmental issues and concerns is critical to ensure appropriate response to climate change adaptation and mitigation, in addition to helping enhance individuals' resilience to climate change impacts.

Since real reform comes from observing reality and facts, assessing awareness of climate change and environmental issues among citizens has become a necessity. Changes in the mindset and behaviors of citizens inform the way they deal with climate change in their environment, including natural disasters such as floods.

Research problem: determine the degree of awareness and knowledge of climate change and environmental issues among individuals affected by floods in Sharjah in light of certain variables. The findings shall help develop future perspectives on ways to raise awareness of climate change.

This study seeks to answer the following question:

What is the level of awareness of climate change and environmental issues among individuals affected by floods in Sharjah?

Is there a relationship between the level of awareness of climate change and environmental issues and the study variables (gender, age, educational level, nationality, average income) in the study sample comprising individuals affected by floods?

This study aims to identify the level of awareness of climate change and environmental issues among individuals affected by floods, in addition to identifying the relationship between such

awareness and the study variables (gender, age, educational level, nationality, average income) among the study sample.

Significance

The significance of this study stems from the significance of the questions it raised and attempted to answer, as well as the research findings and information collected about awareness of climate change and environmental issues among individuals affected by floods in Sharjah. The significance of this study is determined based on two main considerations:

Theoretical Considerations

The significance of this study stems from the importance of climate change, especially in light of the significant developments in various fields. The effects of such developments are evidenced by the accelerated temperature changes, the increasing hurricane formation and changes in wind movement, and the emergence of many natural phenomena such as global warming and floods, which affect human life in one way or another.

This study will help bridge the research gap in this field, given the importance of the climate change topic locally and globally and the UAE's concern with this phenomenon to achieve sustainable development. This study paves the way for further scientific research on such topics, including studies based on other variables, to help enhance and accumulate knowledge and research in this field.

Practical Considerations

The importance of the study from a practical point of view lies in the possibility of using the obtained results and information to develop strategies and environmental awareness programs on climate change, and to identify priorities for addressing weaknesses and building on strengths.

Previous Studies

Many studies have focused on climate change and environmental issues, but the researcher opted for considering the relevant studies only.

Masshal (2023) ("*Climate Change Awareness and Relation to Adaptation, Climate Anxiety, and Lifestyle Among Workers Across Various Sectors*") aimed to identify the relationship between climate change awareness and climate adaptation, climate anxiety, and lifestyle among a sample of workers in various sectors. The findings revealed a statistically significant positive correlation between climate change awareness and climate adaptation and lifestyle among the study sample. It also showed statistically significant differences between the average scores of climate change awareness based on gender (male, female) and job type (technical, administrative), with

higher scores for female and administrative workers, respectively. On the other hand, there was no difference based on the educational level (intermediate vs high).

Venghaus et al. (2022) examined the impact of climate change awareness on behavioral changes in Germany. The study adopted a descriptive approach and found that increased awareness of climate change prompts direct changes in individuals, driving behavioral shifts towards more sustainable consumption decisions. Furthermore, the study found that awareness of climate change contributes to a shift towards more sustainable lifestyles.

Shukair (2022) ("*Climate Change Awareness Among Saudi Arabia Citizens: A Field Study*") aimed to determine the level of climate change awareness among a sample of 367 Saudi citizens, as well as the key factors influencing this awareness. The study used an online cross-sectional social survey approach. The study concluded that the level of knowledge about climate change in general among survey respondents is high with a mean of 1.75, and that the attitude towards climate change is at an average level with a mean of 3.49. The study found no statistically significant differences in the averages of climate change awareness levels due to differences in gender, residence area, and educational levels. However, the findings revealed statistically significant differences in climate change awareness based on age, marital status, and monthly income.

Al-Azmi (2022) (*"Environmental Awareness Related to Climate Change among Secondary School Students in the State of Kuwait and its Relationship to their Social Responsibility"*) investigated environmental awareness related to climate change among a random stratified sample of 324 secondary school students. The findings showed that the levels of social responsibility and environmental awareness related to climate change among Kuwaiti secondary school students were both average, with means of 1.765 and 1.687 respectively. Furthermore, the study found a positive correlation between the levels of social responsibility and environmental awareness. The results also indicated no differences in responses based on gender or region but revealed statistically significant differences in responses based on the school grade variable, as 12th graders fared better compared to 10th and 11th graders.

Abdulmajeed and Jadallah (2021) ("*Awareness of Climate Change Impact on Health Security and Ways to Address Them*") found that awareness among youth of the impacts of climate change on health security in terms of public health security, food security, and environmental health security is low. The study further revealed a need to raise environmental awareness and prioritize it by government

and non-governmental organizations by increasing youth awareness of environmental and pollution problems and the resulting damages.

Jorgenson et al (2019) sought to highlight the role of social, cultural, and economic factors in shaping people's responses to climate change. The findings confirmed the importance of adapting to climate change and mitigating its effects., including by achieving a balance between community sizes and available resources, moving from places threatened by violent climate change, and providing alternative technological solutions for the use of fossil fuels.

Theoretical Framework:

The research uses a critical approach informed by the theoretical insights of Karl Marx on social consciousness, as well as Lucien Goldmann's theorizing of the problem of consciousness. Investigating awareness of climate change and environmental issues requires a focused lens on the subject of consciousness, especially potential consciousness. Whereas the immediate effects of climate change are simply a matter of taking consciousness of reality, the other consequences associated with climate change that negatively impact those affected are a matter of potential consciousness, i.e., awareness related to future aspirations and hopes to be realized sustainably within the community. As such, focusing on climate change awareness levels among those affected by floods can be considered a key pillar in dealing with the effects of climate change, thus contributing to the achievement of sustainable development goals.

The Marxist perspective defines the essence and structure of social consciousness based on the famous Marxist proposition: "It is not the consciousness of men which determines their existence; it is on the contrary their social existence which determines their consciousness." (Hijazi, 2011).

Based on Marx's ideas about the social consciousness of individuals, we can identify the social and class positions of individuals affected by floods, whose status determines their social consciousness of themselves and of their rights, and identify the nature of their formed consciousness and how they secure their rights and protect their interests.

Marx believes that all developments in society, regardless of their form, are reflections of economic factors. Therefore, economic forces determine the ideas and dominance of societies. (Ahmed, 2006)

It can be stated, with some foundation, that the UAE now has surpassed, so to speak, Marx's ideas as a governing state and dominant power that does not seek to achieve economic surplus while disregarding environmental issues and forming false awareness among society. Thanks to its policy and strategic vision, the UAE government

has been able to address the climate change phenomenon and has made it a key priority for achieving sustainable development. The government policy also noted the importance of engaging the public in addressing climate change by fostering environmental awareness. Agencies working on environmental protection organized educational campaigns at the emirate level or in coordination with federal entities concerned with conducting such campaigns at the federal level.

For his part, Lucien Goldmann deemed the issue of consciousness dynamic and conservative: dynamic in the sense that the subject attempts to extend its sphere of action to the surrounding world, and conservative in the sense that the subject endeavors to preserve its own internal structures of thought. (Mohammed, 2015)

The researcher agrees with the importance of awareness as an important factor in dealing with the repercussions that arise within the social environment. The dynamics of awareness can be positive when social awareness of climate change repercussions prevails and turns into actual executive steps, and negative if a group tries to spread ideas that would increase the negative repercussions of climate change. As such, the UAE has sought to raise awareness and educate the public about climate change issues and enacted laws to preserve and protect the environment.

Methodology and Procedures

Approach:

The study utilized an analytical-descriptive method to depict the current awareness of climate change and environmental issues among individuals affected by floods.

Sample:

The survey was distributed online in the Emirate of Sharjah, and a purposive non-probability sample was used. The sample included 300 individuals affected by floods, including males and females with different demographic characteristics.

Tool:

To achieve the objectives of this study, a questionnaire was designed for individuals affected by floods in the Emirate of Sharjah. The questionnaire consisted of two parts: the demographic and socioeconomic characteristics of the respondents (gender, age, educational level, nationality, average income), and the level of awareness of climate change and environmental issues and ways to obtain information on climate and the environment.

Tool Validity and Reliability

To ensure the validity of the questionnaire's content, the tool was presented to a jury comprising University of Sharjah faculty members specialized in sociology to assess the tool and confirm its validity.

Upon taking note of their observations, some questions were corrected, changed, rephrased, or removed due to irrelevance or unclarity. This was followed by statistical analysis and an assessment of consistency between each statement and the overall score of the questionnaire. Statistically significant correlations with the overall score were achieved. The reliability of the questionnaire was also verified using Cronbach's alpha, which stood at a value of 0.79, indicating a high coefficient.

Findings:

The SPSS Statistics software was utilized to identify the extent to which the opinions (responses) of respondents deviate from the mean for each statement using standard deviation and to determine the association between the level of awareness and the study variables (gender, nationality, age, educational level, average income) using the Chi-Square test.

The responses are detailed in the following tables:

Based on the table above presenting the responses on the level of awareness of climate change and floods, it was found that awareness of "Elevated NO2 due to fertilizers and other chemicals" ranks first with a mean of 4.71, followed in second place by "Rise in global warming" with a percentage of (34%) and "Increase in CO2 levels and lack of CO2 absorption due to extensive deforestation" with a mean of 4.68, then in third place "High temperatures and increased humidity are among the causes of floods" with a mean of 4.62.

"Building cities on flood plains is one of the causes of floods" ranked fourth with a mean of 4.60, followed by "Rising greenhouse gas emissions due to increased industrial and technological activities" in fifth place with a mean of 4.29, then "Global warming is one of the causes of floods and extreme weather" in sixth place with a mean of 4.20, then "Floods are caused by heavy rainfall" in seventh place with a mean of 4.17, then "Melting ice caps and rising sea levels globally" in the eighth place with a mean of 2.69, and finally "Rise in temperatures faster than the global average" with a mean of 1.32.

E-ISSN: 2706-9931 P-ISSN: 1994-473X

Table (1) shows the results of awareness of climate change and environmental issues among respondents

#	Level of Awareness of Climate Change and Floods		Approval score					Mean	Standard deviation	Ranking	Approval trend
			Strongly agree	Agree	Not sure	Strongly Disagree	Disagree				
1	Floods are caused by heavy rainfall	Count	199	84	17	-	-	4.17	1.07	7	Strongly agree
		Percentage	66.3	28	5.6	-	-				
2	Building cities on flood plains is one of the causes of floods	Count	96	159	37	3	5	4.60	1.04	4	Agree
		Percentage	32	53	12.3	1	1.6				
3	Global warming is one of the causes of floods and extreme weather	Count	166	91	43	-	-	4.20	0.94	6	Strongly agree
		Percentage	55.3	30.3	14.3	-	-				
4	High temperatures and increased humidity are among the causes of floods	Count	209	69	22	-	-	4.62	0.76	3	Strongly agree
		Percentage	69.7	23	7.3	-	-				
5	Rising greenhouse gas emissions due to increased industrial and technological activities	Count	222	60	18	-	-	4.29	1.03	5	Strongly agree
		Percentage	74	20	6	-	-				
6	Rise in global warming	Count	102	73	125	-	-	4.68	0.62	2	Not sure
		Percentage	34	24.3	41.7	-	-				
7	Melting ice caps and rising sea levels globally	Count	99	170	31	-	-	2.69	1.29	8	Agree
		Percentage	33	56.7	10.3	-	-				
8	Rise in temperatures faster than the global average	Count	25	82	193	-	-	1.32	0.83	9	Not sure
		Percentage	8.3	27.3	64.3	-	-				
9	Increase in CO2 levels and lack of CO2 absorption due to extensive deforestation	Count	98	188	14	-	-	4.68	0.66	2	Agree
		Percentage	32.7	62.6	4.6	-	-				
10	Elevated NO2 due to fertilizers and other chemicals	Count	200	195	95	-	-	4.71	0.62	1	Strongly agree
		Percentage	66.7	65	31.6	-	-				
Overall average								4.00	0.31		Strongly agree

Table (2) Results of the association between the level of awareness of climate change and environmental issues and the personal and social characteristics of respondents

Study Variables	Awareness of Climate Change and Floods						Total	
	Low		Average		High			
	Count	%	Count	%	Count	%	Count	%
Gender								
Male	29	19.3	39	26	82	54.7	150	100%
Female	33	22	35	23.3	82	54.7	150	100%
Chi Squared=4.000; df=2; Contingency Coefficient=0.153; Level of Significance =0.135; Significance = Not significant.								
Age								
Younger than 30	17	22.7	21	28	37	49.3	75	25
30-40 years old	9	11.25	27	33.75	44	55	80	26.7
40 to 50 years old	16	16	30	30	54	54	100	33.3
50+ years old	4	8.9	12	26.7	29	64.4	45	15
Chi Squared=5.907; df=3; Contingency Coefficient=0.148; Level of Significance =0.116; Significance = Significant.								
Educational level								
Did not complete secondary education	15	30	12	24	23	46	50	16.7
Completed secondary education	12	16	27	36	36	48	75	25
Obtained university qualification	15	12	38	30.4	72	57.6	125	41.7
Obtained postgraduate qualification	4	8	13	26	33	66	50	16.6
Chi Squared=20.937; df=6; Contingency Coefficient=0.465; Level of Significance =0.002; Significance = Significant at 0.01.								
Nationality								
Citizen	23	17	38	40.5	74	54.8	135	45
Resident	23	13.9	52	31.5	90	54.5	165	55
Chi Squared=18.707; df=6; Contingency Coefficient=0.473; Level of Significance =0.004; Significance = Not significant at 0.01.								
Average Income								
≤ AED 5,000	6	17.1	**10**	28.5	19	54.2	35	11.6
AED 5,000 to AED 10,000	20	18.1	46	41.8	44	40	110	36.6
AED 10,000 to 15,000	16	16	15	15	69	69	100	33.3
≥ AED 15,000	4	7.2	19	34.5	32	58.1	55	18.3
Chi Squared=11.439; df=4; Contingency Coefficient=0.398; Level of Significance =0.022; Significance = Significant at 0.05.								

The above table shows that there is no statistically significant relationship between climate change awareness level and gender (males vs females). The level of awareness among respondents does not differ in relation to this variable, as both males and females have a high degree of climate change awareness.

As for age, the highest percentage of high awareness of climate change and floods was registered in the 50+ age group (64.4%), followed by 30 to 40- year-olds (55%), then 40 to 50 year-olds (54%), and finally the younger than 30 age group (49.3%).

In terms of educational level, respondents who obtained a university degree showed the highest climate change awareness level (41.7%), followed by those who completed secondary education (25%), then those with a post-graduate qualification (16.6%), and finally those who did not complete secondary education (16.7%). As for nationality, the table shows that there is no statistically significant relationship between awareness level and nationality (citizens vs residents). Climate change awareness levels do not differ among respondents according to nationality.

Lastly, the table showed a statistically significant relationship between climate change awareness level and the average income among respondents. Individuals with an income of AED 5,000 to 10,000 came in the first place (36.6%), followed by individuals with an income of AED 10,000 to 15,000 (33.3%), then individuals with an income ≥ AED 15,000 third (18.3%), and finally individuals with an income ≤ AED 5,000 (11.6%). Moreover, respondents with an income ≥ AED 15,000 registered the highest percentage of a "High" level of awareness of climate change (58.1%), followed by those with an income of AED 10,000 to 15,000 (69%), then those with an income ≤ AED 5,000 (54.2%), and finally those with an income of AED 5,000 to 10,000 (40%).

Discussion of Findings:

The study aimed to assess the level of awareness of climate change and environmental issues among a sample of flood-affected individuals in Sharjah, and concluded with the following key findings:

This study built on other studies relevant to monitoring and analyzing the awareness level of climate change and environmental issues among the sampled flood-affected population, and sought to answer the following questions: What is the level of awareness of climate change and environmental issues among individuals affected by floods in the Emirate of Sharjah? Is there a relationship between the level of awareness of climate change and environmental issues on the one hand, and the study variables (gender, age, educational level,

nationality, average income) on the other hand, in the sampled population of individuals affected by floods?

The study attempted to determine the awareness level and its relation to the personal and socioeconomic characteristics of the sampled population. Their responses were ranked based on the highest value of the relative weight. The level of agreement (strongly agree, agree, not sure, strongly disagree, disagree) was also presented in percentages, and arithmetic means were calculated to determine the increase or decrease of the opinions of the sampled population about each of the questionnaire statements. Following are the results:

- Respondents with high awareness of climate change and environmental issues ranked first (54.7%), followed by those with average awareness (30%), and finally those with low awareness (15.3%).
- There is no statistically significant relationship between awareness level and gender (males vs females). Both males and females are highly aware of climate change.
- There is a statistically significant relationship between awareness level and age. The highest percentage of high awareness of climate change and floods was registered in the 50+ age group (64.4%), followed by 30-40 year-olds (55%), then 40-50 year-olds (54%), and finally those younger than 30 years old (49.3%). This indicates that climate change has become relevant and important to different age groups and members of society. The high level of awareness shows that the sampled population is motivated to follow up on climate change and floods and is more informed about the causes of climate change and floods.
- In terms of educational level, respondents who obtained a university degree showed the highest awareness level of climate change (41.7%), followed by those who completed secondary education (25%), then those with a post-graduate qualification (16.6%), and finally those who did not complete secondary education (16.7%). The results indicate the following correlation: the higher the educational level, the higher the awareness of climate change and floods.
- There is no statistically significant relationship between awareness level and nationality (citizens vs residents), as awareness levels do not differ among respondents based on nationality.
- There is a statistically significant relationship between the level of awareness of climate change and environmental issues and average income. Individuals with an income of AED 5,000 to 10,000 came in first place (36.6%), followed by individuals with an income of AED 10,000 to 15,000 (33.3%), then individuals with an income ≥ AED

15,000 third (18.3%), and finally individuals with an income ≤ AED 5,000 (11.6%). Moreover, respondents with an income ≥ AED 15,000 registered the highest percentage of a "High" level of awareness of climate change (58.1%), followed by those with an income of AED 10,000 to 15,000 (69%), then those with an income ≤ AED 5,000 (54.2%), and finally those with an income of AED 5,000 to 10,000 (40%). This indicates that the average monthly income of the sampled population affects their awareness of climate change and floods.

Recommendations:

- Raising social awareness about the importance of engaging in the efforts to preserve the environment and reduce the causes of harmful greenhouse gas emissions by all individuals from various social groups.
- Integrating social protection interventions in disaster risk management and climate change adaptation measures.
- Conducting further studies on ways to adapt to climate change and on awareness of the risks of climate change.

References:

Abdel Majeed, Iman, Jadallah, Amani. (2021). Awareness of the Climate Change Effects on Health Security, and How to Face it: A Study in the Village of Sanhour Al-Madina, Desouk, Kafr El-Sheikh. Journal of Agricultural Economics and Rural Development. 1(7), 1-16. https://doi.org/10.21608/jard.2021.179203

Ahmed, Samir. (2006). Theory in sociology: a critical study. Dar Al Hani for Printing and Publishing.

Al-Azmi, Mubarak. (2022). Environmental Awareness Related to Climate Change among Secondary School Students in the State of Kuwait and its Relationship to their Social Responsibility. Journal OF Education. 196(4), 229-274. https://doi.org/10.21608/jsrep.2022.281057

Al-Saidi, Tariq. (2015). THE ROLE PLAYED BY MEDIA EDUCATION IN DEVELOPING MEDIA A WARENESS OF PUPILS IN PREPARATORY STAGE. Doctoral dissertation, Faculty of Information, Cairo University.

Al-Shugair, Abdul Rahman. (2022). Climate Change Awareness among Saudi Arabia Citizens: A Field Study. Journal of the College of Arts and Humanities. (42),411-449. https://doi.org/10.21608/jfhsc.2022.284513

Climate Action, the official portal of the UAE government, On the link: https://u.ae/ar-ae/about-the-uae/leaving-no-one-behind/13climateaction

Climate Change (2007). Synthesis report. IPCC assessment. IPCC University of Cambridge. New York.

Hegazy, Muhammad. (2011). Social Theories (8th ed.). Dar Al-Kutub for National Records.

Heshmati, H. (2020). Impact of Climate Change on Life, Environmental Issues and Sustainable Development, https://doi.org/10.5772/intechopen.94538

Hickman, C, Marks, E, P ihkala, P, Clayton, S, Lewandowski, R, E Mayall, E, Wray, B, Mellor, S, Susteren, L. (2021). Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey, Lancet Planet Health www.thelancet.com/planetary-health Vol 5: e863–73.

Jorgenson, A. K., Fiske, S., Hubacek, K., Li, J., McGovern, T., Rick, T., ... & Zycherman, A. (2019). Social science perspectives on drivers of and responses to global climate change. Wiley Interdisciplinary Reviews: Climate Change, 10(1), e554.

Mashal, Rabaa.(2023). Awareness of Climate Change and its Relationship to Adaptation, Climate Anxiety and Lifestyle among a Sample of Workers in Different Sectors. Journal of the Human Studies Sector, (31), 697-798. https://doi.org/10.21608/jsh.2023.304920

Muhammad, Ihsan. (2015). Advanced Social Theories (3rd ed.). Wael Publishing House.

Nielsen, K. S., Stern, P. C., Dietz, T., Gilligan, J. M., van Vuuren, D. P., Figueroa, M. J., ... & Wood, R. (2020). Improving climate change mitigation analysis: a framework for examining feasibility. One Earth, 3(3), 325-336

Samer, Mirna. (2021). ENVIRONMENTAL ISSUES IN ENGLISH CURRICULA OF PRIMARY STAGE IN INTERNATIONAL AND GOVERNMENTAL SCHOOLS - A COMPARATIVE STUDY. Environmental Sciences Journal. 50(5), 225-264. https://doi.org/10.21608/jes.2021.182315

Sampson, m. (2017). Climate change awareness and attitude of senior secondary students in umuahia education zone. Doctoral dissertation. Abita state

Venghaus, S., Henseleit, M. & Belka, M. (2022). The impact of climate change awareness on behavioral changes in Germany: changing minds or changing behavior? Energy Sustain Soc 12, 8 https://doi.org/10.1186/s8-00334-022-13705