KELECHI BENEDICT IROEGBULEM

CLIMATE CHANGE AND STRATEGY TO PREVENT THE CRISIS OF CRUDE OIL TRANSGRESION TO RENEWABLE ENERGY IN NIGERIA

MASTER THESIS

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NEAR EAST UNIVERSITY

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DEPARTMENT OF ENVIRONMENTAL EDUCATION AND MANAGEMENT

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January, 2023

Approval

We certify that we have read the thesis submitted by Kelechi Benedict Iroegbulem titled **"Climate Change and Strategy to Prevent the Crisis of Crude Oil Transgression to Renewable Energy in Nigeria"** and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Educational Sciences.

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Declaration

I hereby declare that all information, documents, analysis, and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of the Institute of Graduate Studies, Near East University. I also declare that as required by these rules and conduct, I have fully cited and referenced information and data that are not original to this study.

Kelechi Benedict Iroegbulem

20/01/2023

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Kelechi Benedict Iroegbulem

Abstract

Climate Change and Strategy to Prevent the Crisis of Crude Oil Transgression to Renewable Energy in Nigeria

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Energy is an important accessory for the development and sustainable growth. Changes in climatic conditions is arguably the biggest challenge the environment is facing around the world today because of the rise in temperature of the earth's atmosphere through transgression of crude oil. Making use of quantitate cum descriptive analytical methods, this research also intends to study how one can provide resolution to the issue of climate change using renewable energy while also preventing the issues that might arise from the substitution of Fossil Fuel with Renewable Energy. Data was collected from 240 students in secondary schools in Nigeria and 205 University students in Northern Cyprus. According to the findings, 82% of Nigerian international university students are cognizant of the fundamentals of climate change and how it affects the nation's economy. Findings also indicated that countries with crude oil as their sole source of foreign exchange would be impacted by the switch from fossil fuels to renewable energy. Therefore, the research work implies that internalized knowledge of climate change and mounting anxiety result in a personal tipping point that prompts action.

Keywords: Climate change, renewable energy, crude oil, fossil fuel, Northern Cyprus

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CHAPTER I

Introduction

One of the biggest and major problem that is facing humanity in this 21st century is the decarbonization of the global energy system. “Since the energy industry produces nearly two thirds of the world's carbon dioxide, it is essential to combating climate change” (Quitzow, 2021). “The prosperity of the global economy is fueled by energy which is in the form of electricity and primary energy sources” (Quitzow, 2021). These resources are also crucial for the development and sustained expansion or significant changes in any given nation or region. Throughout Africa and the rest of the globe, Nigeria is well recognized for its plethora of natural resources, which include gas and oil. Due to the abundance of natural resources, the nation's exports have risen quickly in order to guarantee the realization of an adequate level of foreign exchange profits, GDP, and stability in economic growth (Maalel & Mahmood, 2018; Musa et al., 2019). Due to a high level of reliance on crude oil as their primary source of energy and the backbone of Nigeria's economy, crude oil has become a major source of energy around the world. Yet, as a nonrenewable and unsustainable energy source, it has resulted into unsustainable release of green gases in Nigeria's energy industry (Oniemola & Sanusi, 2009). In many African nations, natural resources provide a solid economic foundation for sustained growth (Hansen, 2020). If properly exploited and managed, “The discovery of crude oil in several African countries has led to foreign earnings, which should raise the standard of living for the inhabitants”.

Significant environmental risks connected to the exploration and processing of crude oil in Africa, is primarily due to “waste discharges such as drilling fluids, air emissions, oily drill cuttings, oil spills, gas flares, well treatment fluids, and deck drainage”, among other things (Beyer et al., 2020; Song et al., 2020). Upstream and downstream operations also cause noise, atmospheric, and marine pollution, all of which have a severe influence on water and atmospheric condition. “Furthermore, the process of oil exploration introduces trace elements to surface waters from deep aquifers, and majority of the substances which include cadmium, arsenic, mercury, copper, zinc, and

lead, are harmful to aquatic species as well as people (Ore and Adeola, 2021)".
Fossil fuels and other source of energy are abundant in Nigeria (Shaaban & Petinrin, 2014). More than 90% of the nation's total income comes from these energy sources, which have greatly aided the country's economic development (Kihombo, 2021). There is little to no contamination of the environment when it comes to renewable energy, because it is a clean source of energy. Renewable energy is dependent on energy sources that quickly regenerate and do not deplete. Nigeria uses biomass, wind, solar, and hydropower as renewable energy sources. Researchers, engineers, and scientists from all over the world are paying more attention to the depleting petroleum reserves including the harmful environmental effects of fossil-fuel and also the use of renewable-energy in the electricity production process. Currently, the nation uses a variety of RE sources, including solar, wind, hydropower, biomass energy, etc. Biomass is the most economically feasible of these renewable energy sources for Nigeria and nearly all of the world's continents (Njoku and Ubuoh, 2020).

Statement of the Problem

Fossil fuel facilities are the preliminary foundation of the majority of the energy produced globally. They release gaseous substances into the air which are referred to as "greenhouse gases" which are usually the major cause of climate change. examples include carbon dioxide, sulphur dioxide (SO2), and nitrous oxides (NOx) etc. and they are they are also the major challenge facing the environment because their continuous release in to the atmosphere brings about the warming of the atmosphere around the earth through the transgression of crude oil. Typically, these energy sources are pricy, constrained, exhaustible, polluting, and unstable. This problem is what essentially motivates the need to convert from using fossil fuels to renewable and low-carbon clean energy sources. One strategy to combat climate change is to convert from clean, renewable energy sources to crude oil, which produces the greenhouse effect.

This Study aims to bring out the reasons why it should be considered to allow the potentials for renewable energy usage in Nigeria. Also, it will analyze and describe the potential for renewable energy, focus on the challenges preventing the investment in renewable energy in Nigeria, and its present state of development. In addition, methods

for using renewable energy to outperform the use of crude oil in order to advance the economy are being are being considered.

Purpose of the Study

The study tends to holistically review selected literatures on Climate Change and renewable energy as an antidote to reversing the recent global climate change crisis and understand how knowledgeable the Nigeria International Students and Secondary school students are on climate Change and strategies to prevent the crisis of Crude oil Transgression to renewable energy in Nigeria through questionnaire.

Research Questions and Hypotheses

The questions generated for this research work were guided and developed by the conceptual background. The study questions below will be answered based on participant suggestions.

- Impact of climate change
- How to create awareness about climate change
- How knowledgeable the people are about climate change
- How effective is renewable energy in combating climate change
- What large scale models of renewable energy can countries adopt to finally stop the over dependence on fossil fuels
- What are the cost effective ways of making renewable energy cheaper and economical to further reduce global warming and climate change in Nigeria?

Significance of the Study

The following study will close a current vacuum in the literature on the demand for renewable or green energy by forecasting Nigeria's long-term total energy consumption and modeling alternative energy futures together with environmental emissions under a variety of user-defined theories. The findings of this research can be utilized to alter policy to promote a friendly climate and a transition in Nigeria's economy away from dependency on crude oil and toward renewable energies like

biomass, solar, and other sources. Nigeria was selected as the case study's subject because of its high level of climate change awareness. This understanding can be linked to the nation's understanding of how other players, such international organizations, affect areas related to policy-making. The information presented in this research article will serve as a tool to sensitize relevant government agencies and non-governmental organizations towards fully utilizing these abundant renewable energy resources to contribute to energy production in Nigeria. Many research papers and assessments have painted the possibility of RE to reduce climatic change conditions and its resulting effects. Limit of global warming to 1.5 degrees Celsius and utilizing renewable energy sources have been urged by the IPCC.

Recently the use of technology involved in renewable energy has skyrocketed, particularly solar, wind, geothermal, hydropower, and biofuels. As the costs of these technologies continue to decrease and become more competitive, there's more potential for greater adoption. However, the large-scale roll-out of renewable energy systems requires significant investments in infrastructure and technology, as well as changes to energy market regulations and policies, which is a major challenge.

Limitations

The result and findings of this study has some factors that caused the reduction of research size as it was targeted above 600 participants, the limitation include:

- Lack of previous research studies on the topic.
- The field is so wide that I was unable to reach higher number of secondary schools Student in Nigeria and also for the fact that some of the Secondary student are in rural Area that does not have internet to receive the questionnaire and also some of the student live in areas that have security challenges which affect the accessing of the areas.
- Many Nigeria International Student are in different University in North Cyprus, which made it impossible to finance the trips of going to different Universities many times to cover a higher number of participants in data collection.
- Many Nigeria University student was not interested to respond to the

questionnaire because of lack of idea on the topic.

It was challenging to perform fieldwork to gather first-hand information regarding the impacts of climate change in any particular place, although student surveys had been conducted. The narratives offered here, however, are strongly grounded in fundamental ideas and give a good overview of climatic change conditions and renewable energy study today, as seen, for example, in studies by Ahuja and Tatsutani (2009), Akuru and Okoro (2010), and Ovuyovwiroye, Odjugo (2013).

Definition of Key Terms

Climate change is a continuous change in the average weather conditions that have come to alter the Earth's local, regional and global climates. It can also be referred to as the variation or changes in weather patterns, these changes are usually long term. These changes sometimes can be caused by natural factors and it can also be caused by human factor. In Nigeria and other countries, human factor however has become the foremost reasons for climate change because of the emergence of different domestic and industrial activities.

Activities which cause climate changes include:

- The process of producing heat and electricity entails burning natural gas, coal, and oil, which produces enormous amounts of pollution that in turn affect the weather patterns.
- Also, the industrial processes especially within the manufacturing industries, contribute to the cause of climate change because fossil fuels are also involved in required energy used in the manufacture of their various products. The extraction of mineral resources results in the spread of gases into the air, changing the composition of the atmosphere.
- Other activities like transportation which involves the movement of vehicles from one place to another also releases gases to the atmosphere, cutting down of trees, us, powering of industrial and commercial buildings among others.

RE is produced from replenishable natural resources such sunshine, wind, rain, geothermal heat, and tides. Even if the human/industrial activities that send emissions into the atmosphere and ultimately cause climate change cannot be completely

eliminated, it is crucial that they are drastically reduced. For this reason, it is crucial to consider renewable energy as a potential solution.

CHAPTER II

Literature Review

The target point of the this review is to tell us about the ideas and hypotheses that have already been proposed about our topic of interest. Nigeria is rich in resources, which includes “fossil fuels and renewable energy sources”, but the latter are currently underutilized or underutilized. Oil prospecting began in Nigeria as early as 1908 by a few international businesses; commercial production began in 1958 and quickly became a significant source of foreign currency income (Adeniyi, 2019). Ahuja and Tatsutani's (2009) research made clear how people's livelihoods have improved over the past 50 years as a result of energy development. Since the industrial revolution, Energy has revolutionized billions of people's lives, allowing them to live at unparalleled levels of comfort and mobility. Fossil fuels are essential to the growth and development of the modern economy because they are the basics when it comes to generating energy required for production in the modern world, which is significantly different from the early years.

Energy is a crucial component or tool for socioeconomic growth and a measure of national success. It is one of the fundamental needs of human society and essential to technological and human development.

Energy can generally increase prospects and provide people more freedom to make decisions. It is impossible to overstate the essence of energy in maintaining major activities in the economy and raising the standards of living for any country. As a result, in today's highly modern society, there is a much greater need for energy than ever before. Because it is a traded good that generates national cash that is used to fund government development projects, energy is the foundation of development in Nigeria (Sambo, 1997). In Nigeria, more energy is required to meet demand due to population growth, unavoidable industrialization, greater agricultural production, and rising living standards. It is also a resource for industries, health, agriculture, education, and transportation sectors in the country, as well as a tool for politics, security, and tact. The initial stage in the energy chain to supply the aforementioned services is the use of

primitive energy, which is then changed into energy carriers suited to serve various other purposes.

The contribution of energy to Nigeria's GDP was shown in figures and presented in earlier works of (Akuru & Okoro, 2010), albeit these numbers might rise if more than 90% of the energy utilized by rural residents are taken into account. Nowadays, "fossil fuels such as coal and oil account for a significant portion of Nigeria's total energy output". The requirement for an alternative to traditional power schemes for expanding to remote and rural areas of rising nations such as Nigeria is generally due to the high costs associated with extending and maintaining the power grid system to rural areas. This has greatly increased interest in the creation and use of renewable energy. Interest in renewable energy has often been sparked by the desire to extend energy resources to remote and rural places. Yet, using fuelwood and other conventional energy sources has continued to have detrimental effects on the environment.

Renewable energy is energy that comes from resources that are practically endless, quickly regenerable, or that are naturally renewable, such as waste, the sun, water, wind, waves, and biofuels. Nigeria has enough renewable energy resources to meet its development goals for the present and the future, as well as to diversify its economy away from its current reliance on oil.

Several research works about the effects of change of climate in Nigeria have revealed shocking results (Odjugo, (2010), Chindo, & Nyelong (2005), Adefolalu et al. (2007), Odjugo, 2005, and Odjugo, 2010). Climate change has been linked to Nigeria's economy and global warming by Yahaya et al. (2010) and other independent study (Odjugo, 2011). The spillover effects of climatic change conditions include increased "global warming, sea level rise, population displacement and land conflicts, draught and desertification, irregular rainfall with negative effects on agriculture, human health difficulties, and so on". Nonetheless, the observed impacts of climate change have led to the introduction of mitigation techniques. These mitigation options include investments in renewable energy, water pollution reduction, emissions reduction, and reforestation (Odjugo, 2010; Odjugo, 2011).

Conceptual Framework

Why is Renewable Energy Important?

Millions of people have only been helped by fossil fuels in a small number of locations around the globe. According to recent statistics (Ritchie & Roser, 2019), Electricity is available to only 13% of the global populace, compared with 100% in highly developed countries. As a result, only a small percentage of between the low and middle income countries are electrified; rather, access to electricity refers to percent of the populace who has access to electricity. Only 8.8% of Chadians are Christians. For instance, have access to power, and Nigeria's electricity access in 2020 was 55.40%, a 0% increase from 2019 (macrotrend website, 2023). This indicates that for certain nations, achieving such "modern world" economic progress will remain difficult for the foreseeable future (Ritchie & Roser, 2019). Figure 1 demonstrates that, on average, Electricity is available to 85% of the world's population. What sticks out most in the photo is how extraordinarily low the rate of electricity is and that characterizes Sub-Saharan Africa, which can range from zero percent (0%) to fifty percent (50%) in different areas. As a result, fossil fuels have provided energy to a sizable percentage of the global population while leaving others behind. Furthermore, with the increased focus on climate change issues during the last 10 years, criticism of fossil fuels has escalated.

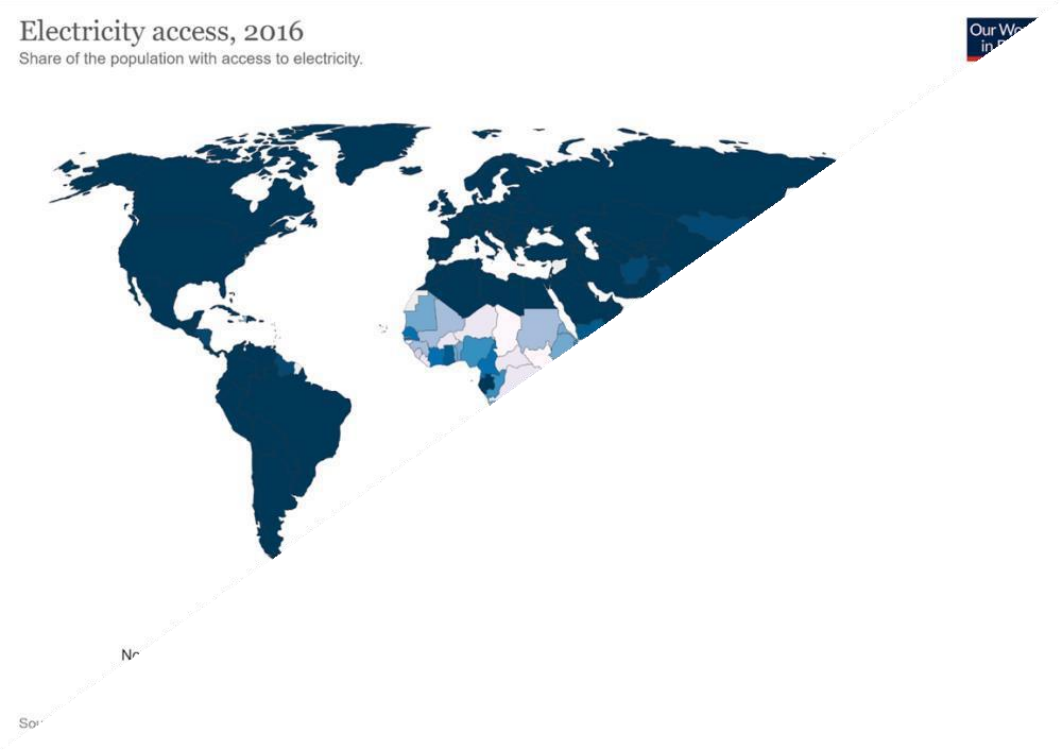
The IPCC states that carbon dioxide is produced by a variety of sources, but that fossil fuels account for the majority of this production (89%) (Köne & Büke, 2019). When fossil fuels are used to create energy, significant volumes of carbon dioxide are released into the atmosphere. A greenhouse gas called carbon dioxide adds to the heated atmosphere that results in global warming. There are several concerns associated with global warming, including increased sea levels, harsh weather, biodiversity loss, the extinction of animal species, and food shortages.

In addition, numerous research conducted over many years have revealed the serious impacts of carbon and fossil fuel combustion on both humans and animals. Fossil fuel burning is one of the main causes of air pollution, according to Kasdagli et al. in their 2019 paper on "Air pollution and Parkinson's disease." These days, academics state this kind of issue particularly as "anthropogenic air pollution," it is a term that

originates from the ancient Greek and means produced by man. In instance, nitrogen dioxide (NO2), which is produced by power plants, industries that burn fossil fuels, and automobile emissions, is one of the findings of the Kasdagli et al. study. It has been discovered that this material lowers pulmonary function and increases the likelihood of respiratory disease symptoms and diseases, both on its own and in combination with other contaminants.

Figure 1.

Electricity Access - Share of The Population with Access to Electricity (OurWorldInData, 2016)



Current Energy Scenario in Nigeria

Nigeria is rich in abundant of RE sources such as wind, hydro, solar, biomass and hydro, as well as fossil-fuels such. Akorede et al. (2017) created Table 1 in their research article using data from the NNPC, RE Masterplan and Ministry of Mines and Steel Development. It also possesses up to 36.22 billion barrels of oil reserves, 187

trillion natural gas at STP and 2.374 billion tonnes of coal and lignite deposits, almost none of which have been used. The reserve for large hydropower in Nigeria is projected to be 11,250 MW, with a reserve for minor hydropower of 3,500 MW. Nigeria has 11 million hectares of forest and woodland reserves and 72 million hectares of agricultural land waste. Available data shows that currently, Nigeria is generating roughly 227,500 tonnes waste materials which comes from fresh animal waste every day. If this figure is maximumly exploited, it corresponds to the production of bio-gas which is up to 6.8 million each day.

(Oyedepo, 2019) However, Nigeria in spite of her rich of energy resources is presently struggling and managing energy crisis because of the inadequate supply of energy which is not able to compliment the increasing rate of demand. Cooking, lighting including electrical appliances in the houses or offices are the basic consumer of energy. Based on estimates carried out in (Onochie et al., 2015), results showed that about 91% of energy consumed in the household comes from cooking, while powering up the household use about 6% while the remaining which is 3% goes to the usage of electrical appliances in the house examples include pressing iron, television and so on.

Nigeria has a large hydropower energy potential, which now supplies roughly 29% of the country's total electricity. Kanji dam located in Niger State is the highest hydropower generating facility in Nigeria, with capacity installed up to 836 MW has the potential to grow further to 1,156 MW. Meanwhile Shiroro river located in Kaduna State, the Ikom located in Cross River State and Markudi were projected to have a combined capacity of roughly 4,650 MW. Jebba, Niger State has the world's second-largest hydroelectric station, with a capacity of 540 MW. The rivers in the Mambila Plateau have an estimated production of 2,330 Megawatts (Aliyu & Elegba, 2019).

Table 1.

Energy Resources in Nigeria Resource (Akorede, *et al.,* 2017).

Resource	Reserves (natural units)	Production level (natural units)	Utilization (natural units)
Crude oil	36.22 billion barrels	2.06 million bpd	445,000 bpd
Natural gas	187 trillion SCF	7.1 billion SCF/day	3.4 billion SCF/day

Table 1 (Continue)

Coal and lignite	2.734 billion tonnes	insignificant	insignificant
Tar sands	31 billion barrels of oil equivalent	0	0
Large hydropower	11,250 MW	1,938 MW (167.4 million MWh/day)	167.4 million MWh/day
Small hydropower	3,500 MW	30 MW (2.6 million MWh/day)	2.6 million MWh/day
Solar radiation	3.5 – 7.0 kWh/m2/day	excess of 240 kWp of solar PV or 0.01 million MWh/day	excess of 0.01 million MWh/day solar PV
Wind	2 – 9 m/s at 10 m height	-	-
Biomass	Fuelwood	11 million hectres of forest and woodland	0.12 million tonnes/day	0.12 million tonnes/day
Animal waste	245 million assorted animals in 2001	0.781 million tonnes of waste/day in 2001	not available
Energy crops and agric. residues	72 million hectares of agric. land and all waste lands	excess of 0.256 million tonnes of assorted crops residues/ day in 1996	not available

** SCF – standard cubic feet * bpd – barrel per day*

Related Research

There are now several works on the research topic. Increased generation of energy is quite imperative now as it comes with demand, despite the fact that countries all throughout the world are actively strategizing ways to reduce usage of fossil-fuels, according to a Research report published in 2019. Scientists have been predicting an end to the use of fossil-fuel, which have been used for about 200 years, for decades using a variety of different parameters. The prevailing consensus is that fossil fuels will run out by 2060, based on current usage rates and known reserves. In another way, as stated by Covert et al., 2016 that with the evolving technology which makes the extraction of fossil fuel more effective and cheaper, it is unlikely that they will be phased out anytime soon, unless all governments work together to impose huge tax rates on them to discourage usage. Despite the fact that it is desperately required, that is very likely for it not to happen anytime soon. More so if we take into account the undeniably high energy concentration of oil, which means additional energy can be gotten from it compared to

other sources. This is in adding to the fact that fossil-fuel can be easily affordable. However, the political and power dynamics around that market are too significant to be overlooked so quickly.

In a 2014 article, Laumanns et al. discussed the advantages of using renewable energy sources in developing nations and the justification for wealthier nations helping these nations achieve their goals. The authors contend that inadequate electricity supply in many developing countries may be eliminated if generating energy from renewable energy sources is considered. This is so that energy may be distributed to all regions, which is necessary for normal centralized power generation, which depends on the presence of a widespread transmission infrastructure that spans the entire nation. This is sometimes not possible in especially in countries that are developing due to expensive costs involved in updating the current, frequently subpar infrastructure and expanding the electrical grid. The advance of "technology including solar systems, hydropower stations, wind power plants and so on can be employed to produce decentralized amount of power.

Oyebode (2022) conducted study on the application of natural gas, coal, and water for sustainable power generation in Nigeria. He determined that the major targets for sustainable energy production are as follows: decrease in the rate of emission of carbondioxide, embracing more activities that are friendly to the environment, securing energy transition process. Generating more energy at reduced cost and embracing more green energy technologies. All the mentioned targets aim directly to promote a more safe and friendly environment while also enhancing a boost in economic security. The total supply of energy in the country currently is almost relying fully on fossil-fuels and other local energy sources, which are swiftly decreasing. Nigeria, despite its abundant energy resources, suffers from a lack of electric energy. Availability to a regular and stable supply of energy is a major concern for both urban and rural inhabitants. Grid energy is available to around 40% of the total number of 140 million of people that make up the population, with availability dropping to 15% in local environments, which houses more than 70% of the populace. According to an evaluation of Nigeria's energy supply issues and opportunities, electrical demand far outstrips supply, creating an epileptic situation.

Compared to the small number of gas markets and the expensive gas storage and distribution, Nigeria release more gas than any other nation except for Russia. Every year in Nigeria, it is estimated that gas flaring wastes about 2.5 billion cubic feet of generated gases from the crude oil refining process (Eboh, 2018).

Renewable Energy as an Option

According to (IEA, 2010a), about 12.9% of the total 492 EJ of primary energy supply was accounted for by renewable energy in 2008. The most significant renewable energy contribution was biomass (10.2%), with the bulk approximately 60% of biomass fuel used locally for cooking and also for heating applications in underdeveloped nations, but with contemporary biomass use fast expanding. Other sources of renewable energy accounted for 0.4%, while hydropower accounted for 2.3%. The contribution of renewable energy to electricity generation is outlined in 2008, when RE provided around 19% of worldwide electricity supply (16% hydropower, 3% other renewable energy). In 2008, global electricity production was 20,181 TWh (or 72.65 EJ) (IEA, 2010a).
RE deployment has increased dramatically in recent years. To increase the share of renewable energy in the energy mix, primarily actions to induce changes in the energy system will be required. Government legislation, the falling cost of various renewable energy technologies, changes in the price of fossil fuels, and other factors have all contributed to the continuous development in the use of renewable energy. These advancements raise the possibility that, in the next decades, renewable energy may play a far larger role in both developed and developing countries (Demirbas, 2009).

CHAPTER III

Methodology

The methods utilized to develop the project will be covered in the methodology section. This part will first describe the purpose and philosophy of the study, followed by a discussion of the various methods that were used. These approaches covered the conceptual research, the research plan, and the techniques used to create the analysis. The study methodology, philosophy, and methodologies for data collecting and analysis are all presented in this part. In order to select the best technique for the study, a summary of the standard quantitative research approaches is provided.

Research Methodology

This study tries to examine the problem of continuous change of climate, effects of much dependence on energy gotten from the burning of fossil-fuels and renewable energy as a workable substitute. The research was carried out using a quantitative research methodology. To collect quantitative data; survey was carried out among some group of academic students. Information from certain research works, and also some web materials were used as secondary form of data. All those data are analyzed to interpret and discuss how knowledgeable Nigeria Secondary students and Nigeria International University Students in Northern Cyprus are on Climate Change and strategy to prevent the Crisis of Crude Oil Transgression to Renewable Energy using descriptive cum analytical research methods.

Data Collection

The study's data was collected from students of North Cyprus University and also Secondary School students from Nigeria which makes up the primary source of data, while data was also gotten from other sources. The primary data involves generating survey questions through the use of questionnaires which was distributed among the target respondents to capture their various responses. Secondary data was gotten through other literatures and web materials. Significant difference calculations

were made utilizing Chi square at the level of, p=0.05.

Research Instrument

The researcher should have access to the data that must be gathered for the research in order to collect data. Research instruments are merely tools for gathering information or data pertinent to the study's topic. Tools created and used by the researcher to accomplish their stated goal when conducting a study are known as research instruments. Ary and co. (2019).

In this research, the researcher uses questionnaire as an instrument to collect the data. The data was collected from 240 students from secondary schools in Nigeria and also about 205 Nigeria University students in North Cyprus. Questionnaire was designed as was distributed for them to answer.

The participants were not paid for their time and incentive due to the low budget as the student researcher bears all the costs. Participants were approached through their institutions and were briefed about the study and were given an informed consent form at the beginning of participation when they accept to participate in the study.

When carrying out a survey a questionnaire is used to record response from the respondents they are can be in two forms which are open ended and close ended questionnaires. The open ended makes it possible for respondents to present responses in their own words while the closed questionnaires only allow the respondents to choose from the available choice of options provided by the researcher. For this research work, a close ended questionnaire was made available for the students.

Data Analysis

After sampling respondents and having recorded their responses, it is very important to carry out analysis on the data acquired. This is because it allows the researcher to draw conclusions about the findings of the study. After gathering the data, the researcher must examine and assess the findings.

At the end of the survey, the responses of the students were entered and coded into the SPSS software after which analysis was carried out. The analysis involves descriptive summary which makes use of the frequencies and percentages which were

now presented in charts (pie chart, bar etc). inferential analysis was also carried out and used to test for hypothesis.

Ethical Considerations

All individuals and Government information obtained during the study will be handled with confidentiality. This study will analyze and report data in summary format. No individual or Government's vital information will be identifiable. The researcher conducted the data collecting and questionnaire administration firsthand to guarantee the accuracy of the data.

Informed Consent and Confidentiality

All data obtained were in paper form by the study participants and will be destroyed after conversion to electronic data to assure safety and violence of any form of the study participants' information. The data files will be all password protected and the laptop they will be saved in will not have access to any other individual except the researcher.

CHAPTER IV

Findings and Discussion

Chapter four presents the results and discussions from the analysis carried out on the response from the students sampled. It is done by showing the findings using statistical features such as pie charts, bar charts, and so on.

Socio Demographic, and Socio-Economic Characteristics of Respondents

The study was conducted by distributing questionnaires among 205 Nigerian University Students in Northern Cyprus with 122 of them been male and 83 of them are females distributed across faculties of different departments in the University as shown in figure 2 and 3 respectively and they were between the age range 16 – 35. Majority of the students were able to provided response to the questions asked.

Figure 2.

A Chart Showing the Distribution of University Respondents According to Their Sex

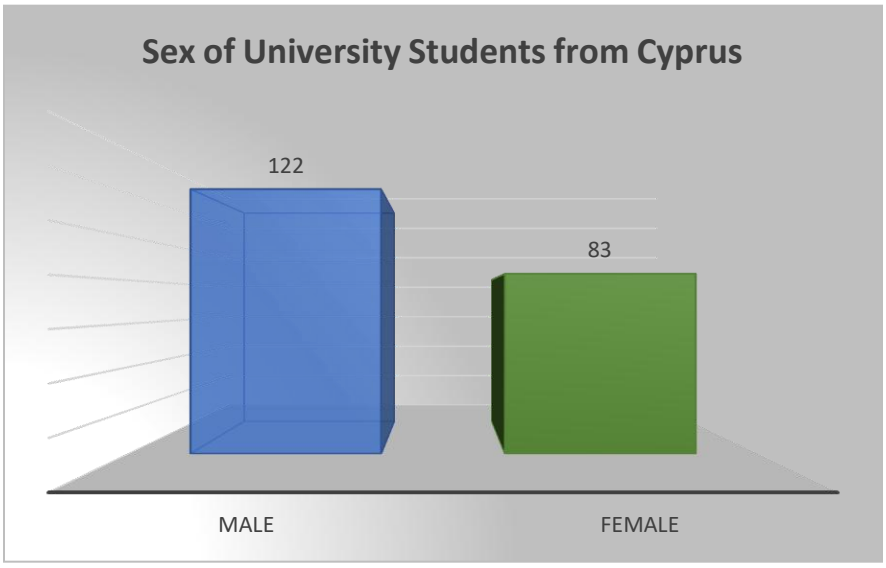
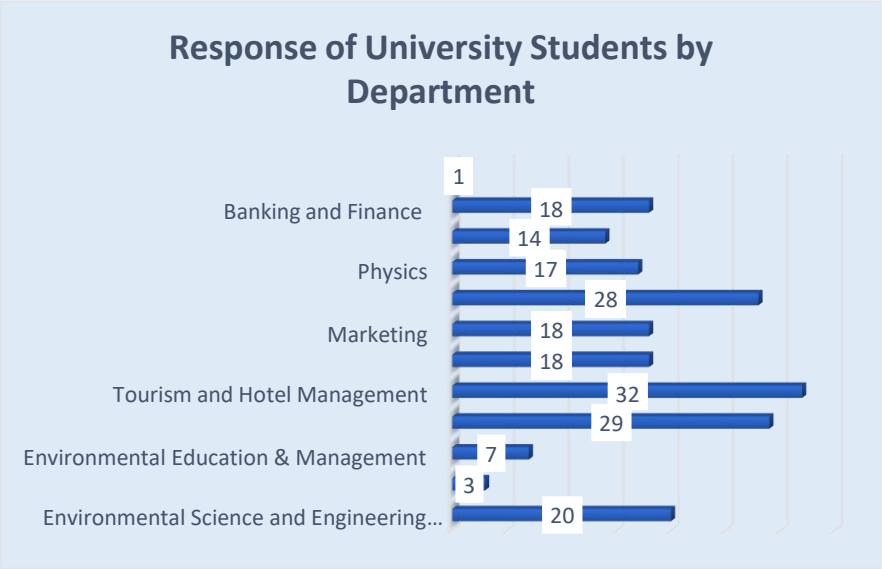


Figure 3.

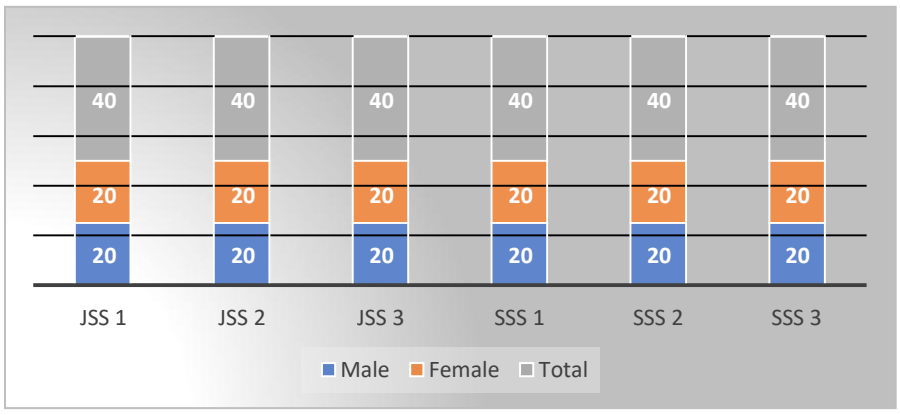
A Chart Showing the Distribution of University Respondents According to Their Departments



Also, 240 Secondary School students from Nigeria were also interviewed with forty (40) picked from each class (JSS1-JSS3 and SSS1 – SS3). They were picked to be 20 male students and 20 female students from each class as indicated in figure 4. The students were also able to answer questions on some of the subject matter but are restricted due to limited knowledge. Further details of responses from both the university and secondary students are given later in this chapter.

Figure 4.

A Chart Showing the Distribution of Secondary Students by Class and Sex



Climate Change Awareness

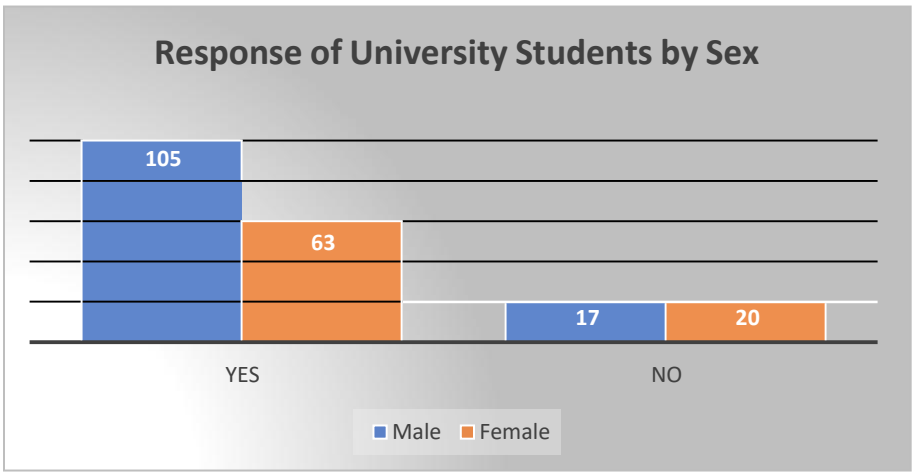
Generally, the result from the survey of the analysis among the secondary students shows that Male students are more knowledgeable about Climate Change than the Female Students, and also students in Senior classes are more knowledgeable toJunior classes students, furthermore Science Students in Higher Classes are more knowledgeablethan the Art Students, then Based on background of the students' Parents Resident, Occupation and education level, is obvious from the data collected , children whose parent reside in the Urbanarea and Rural area does not make any different on the knowledge about Climate Change and applicable to Education and Occupation. The results from the Nigerian International University Student in North Cyprus shows that most of them are aware of the basics of climate change.

Do You Know About Climate Change?

For University Students from North Cyprus, when asked if they know about climate change, out of the 205 only 168 responded 'Yes' and 105 (62%) represents the male students while 63 (38%) female and a total number of 37 responded 'No' with 17 (46%) male and 20 (54%) female. From the results it can be concluded that the male students know more about climate change than the female students as shown in figure 5 below.

Figure 5.

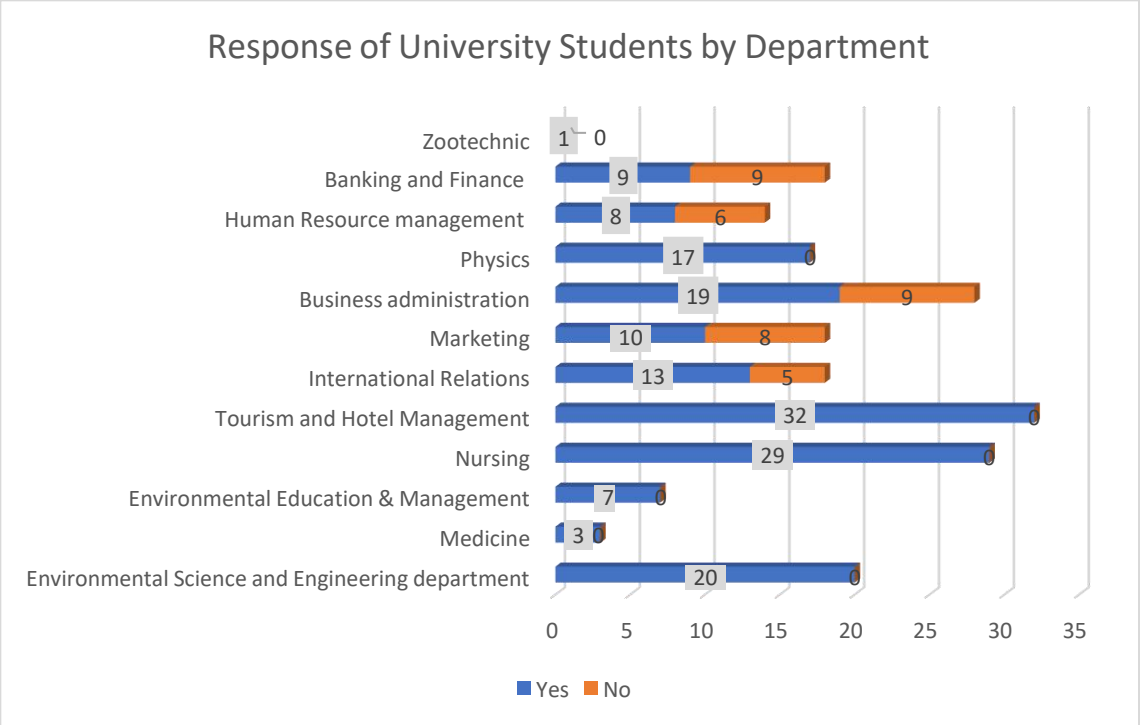
Response of University Students to Do You Know About Climate Change/Sex



Also, figure 6 shows the response of university students according to the departments. From the analysis it can be discovered that majority of the students that said 'Yes' comes from the Tourism and Hotel management department (32) followed by the Nursing department (29) then the Business administration department with 28 students, the environmental science and engineering department with 20 students the least represented department as shown in the figure is Zootechnic. Generally, the results show that across all the departments, majority of the students responded 'Yes' which shows that they know about climate change.

Figure 6.

Response of University Students to Do You Know About Climate Change/Departments



For secondary students from Nigeria, when asked if they know about climate change, out of 240 only 73 responded 'Yes' with 36 representing the male students while 37 female and a total number of 167 responded 'No' with 84 male and 83 female as seen in figure 7. From the results it can discovered that most of the secondary school students don't know about climate change.

Figure 8 also shows the response of the secondary students by according to their classes. From the chart, a higher percentage of students from the senior secondary school responded 'Yes' while majority of the junior students said 'No'. This shows that the senior students have more knowledge on climate change.

Figure 7.

Response of Secondary Students to Do You Know About Climate Change/Sex

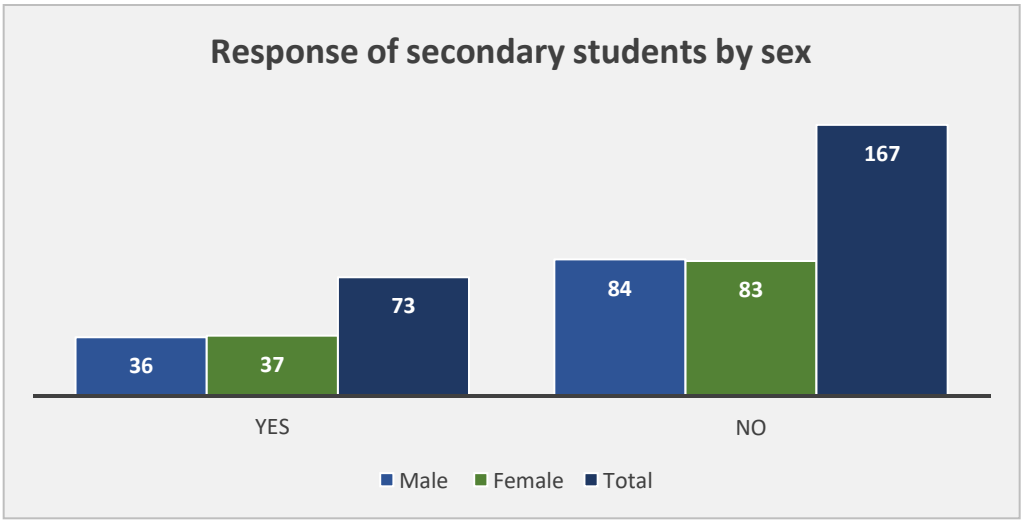
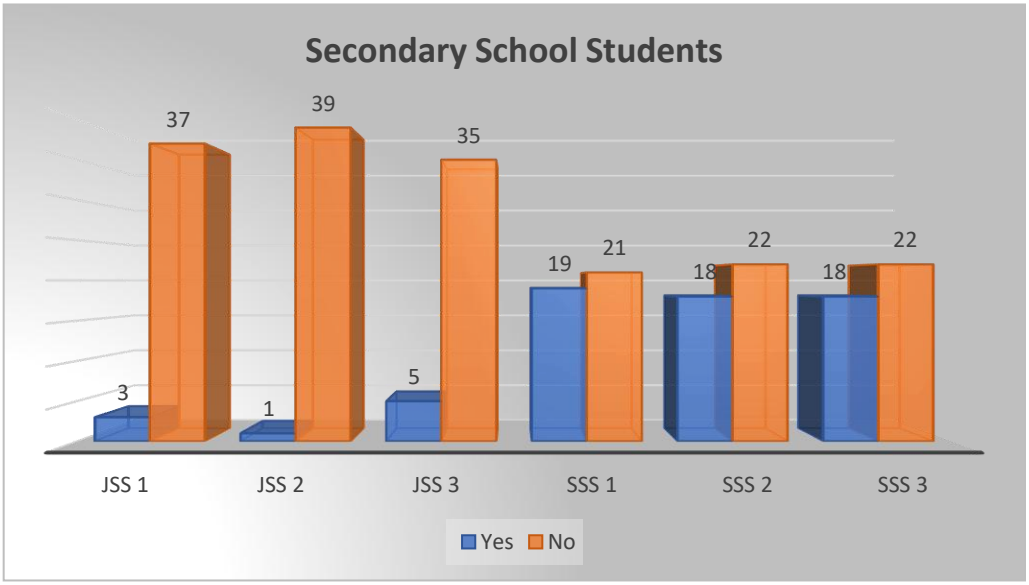


Figure 8.

Response of Secondary Students to Do You Know About Climate Change/Class

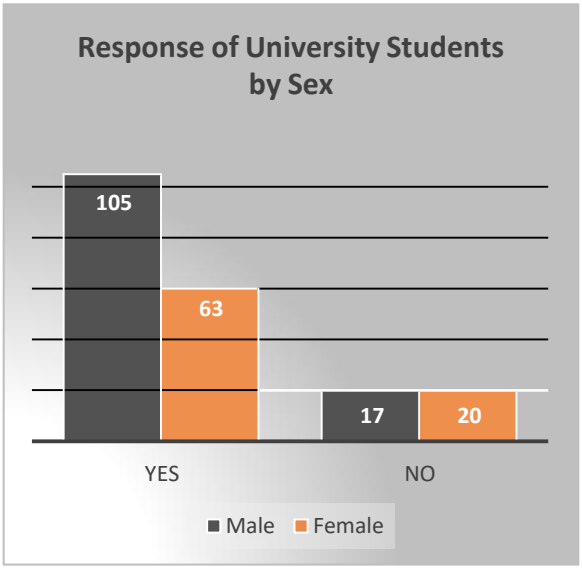


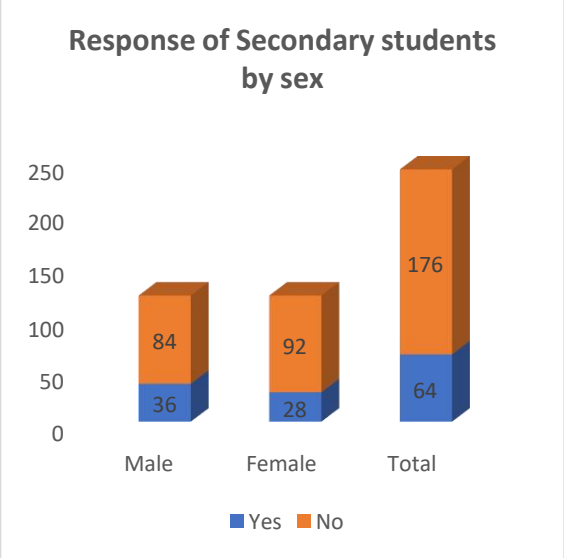
Is Climate Change Caused by Human?

When asked if climate change is caused by human beings, 105 (62%) of students from University in North Cyprus responded 'Yes', while 17 (38%) responded 'No' as shown in figure 9 also the secondary students responded with a total of 64 students from Secondary school in Nigeria saying 'Yes' while responded 176 students said 'No'. This also shows the limited knowledge of the secondary school students.

Figure 9.

Response of University/Secondary Students to is Climate Change Caused by Humans/Sex





Also, according to the various faculty an in the university, figure 10 shows the response of the university students according to their departments while figure 11 shows that of the secondary students according to their classes.

Figure 10.

Response of University Students to is Climate Change Caused by Humans/Departments

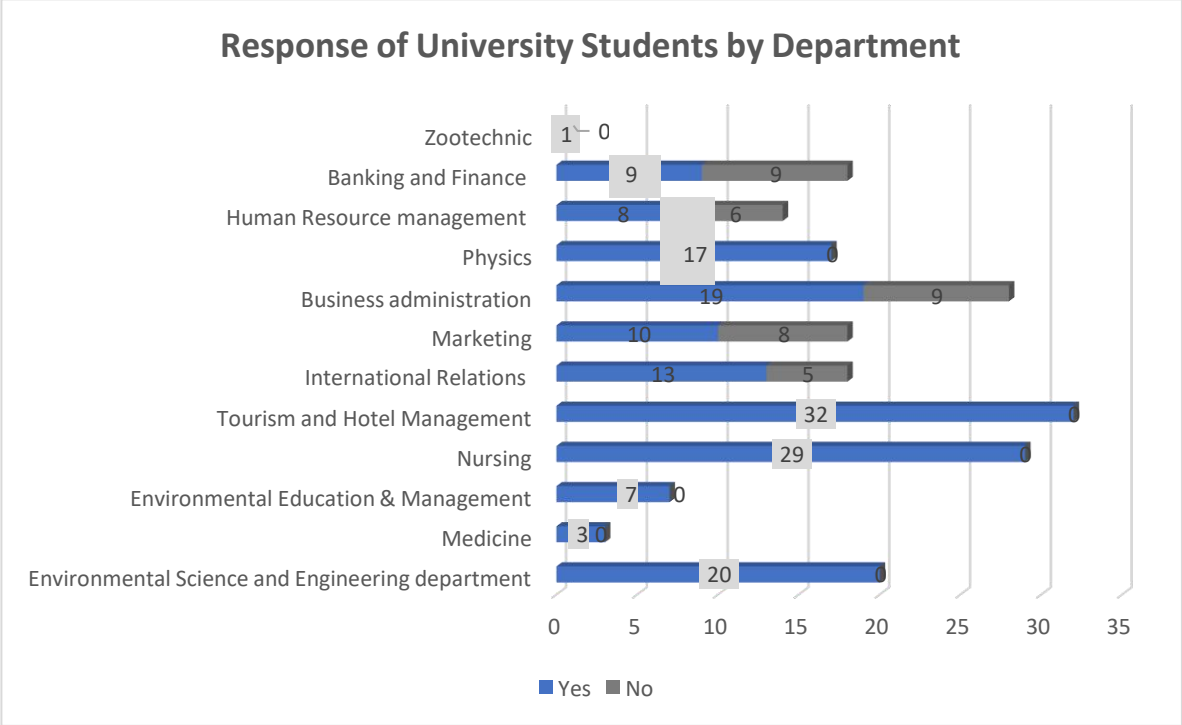
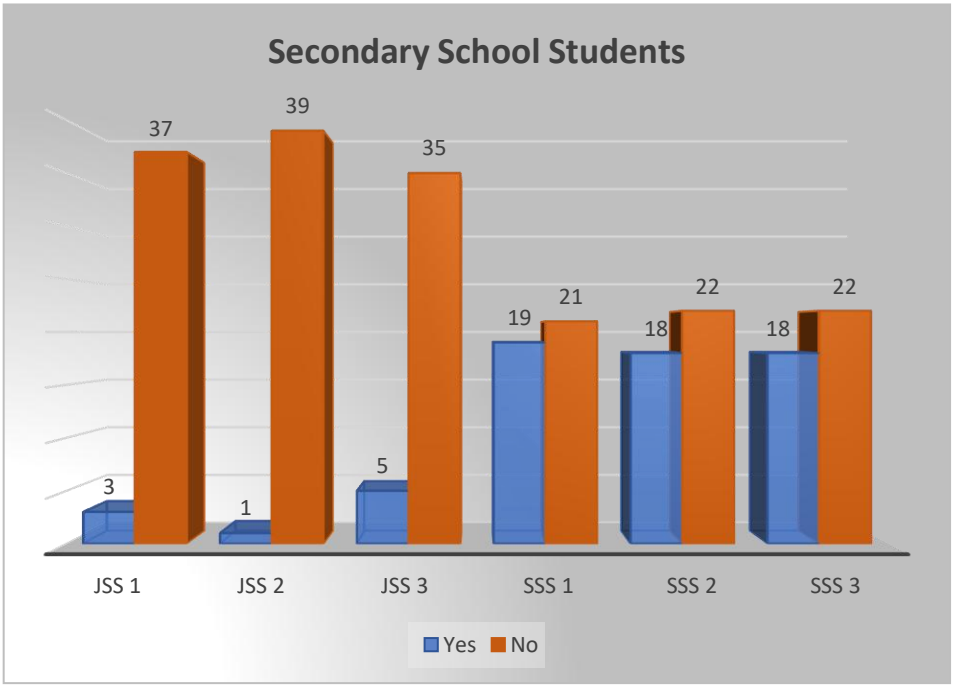


Figure 11.

Response of Secondary Students to is Climate Change Caused by Humans/Departments



Is Climate Change Natural?

When asked if climate change is natural, a total of 105 of students from University in North Cyprus responded 'Yes', while 17 responded 'No' as shown in figure 12 while figure 13 shows a total 77 students from Secondary school in Nigeria saying 'Yes' while responded 163 students said 'No'.

Figure 12.

Response of University Students to is Climate Change Natural/Sex

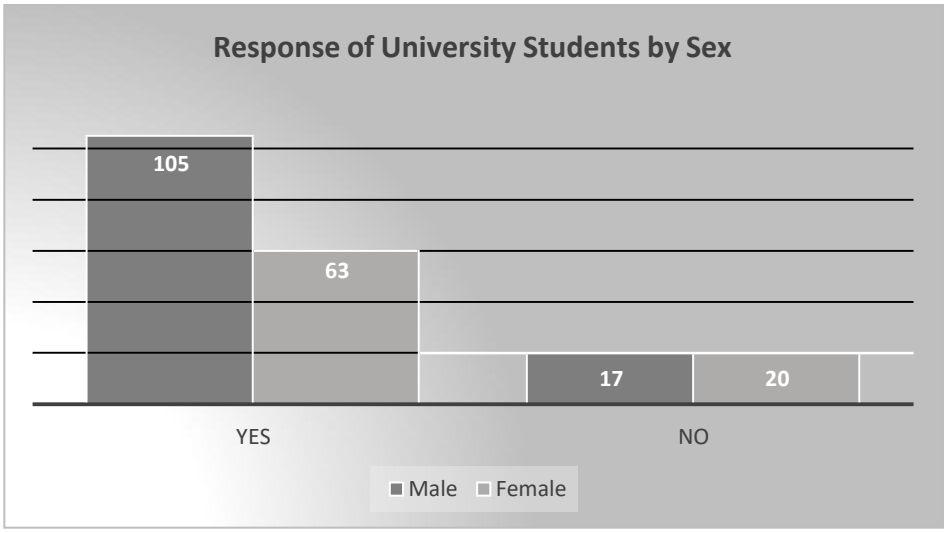
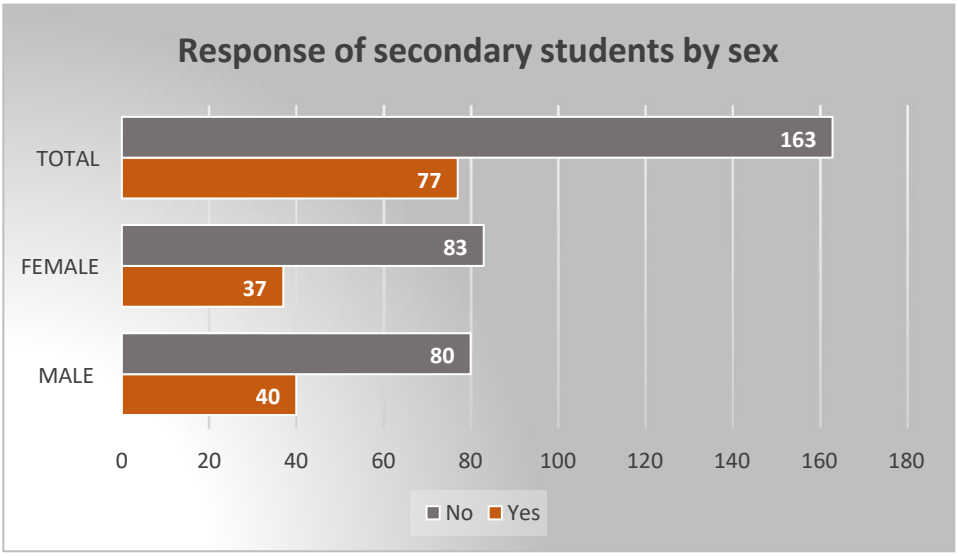


Figure 13.

Response of Secondary Students to is Climate Change Natural/Sex



Also, according to the various faculty an in the university, figure 14 shows the response of the university students according to their departments while figure 15 shows that of the secondary students according to their classes.

Figure 14.

Response of University Students to is Climate Change Natural/Departments

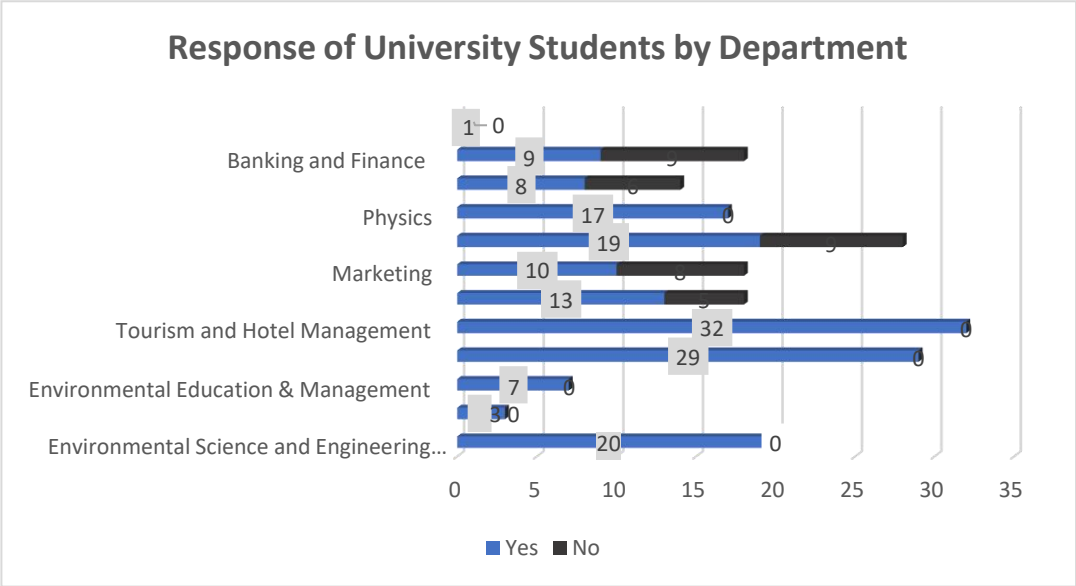
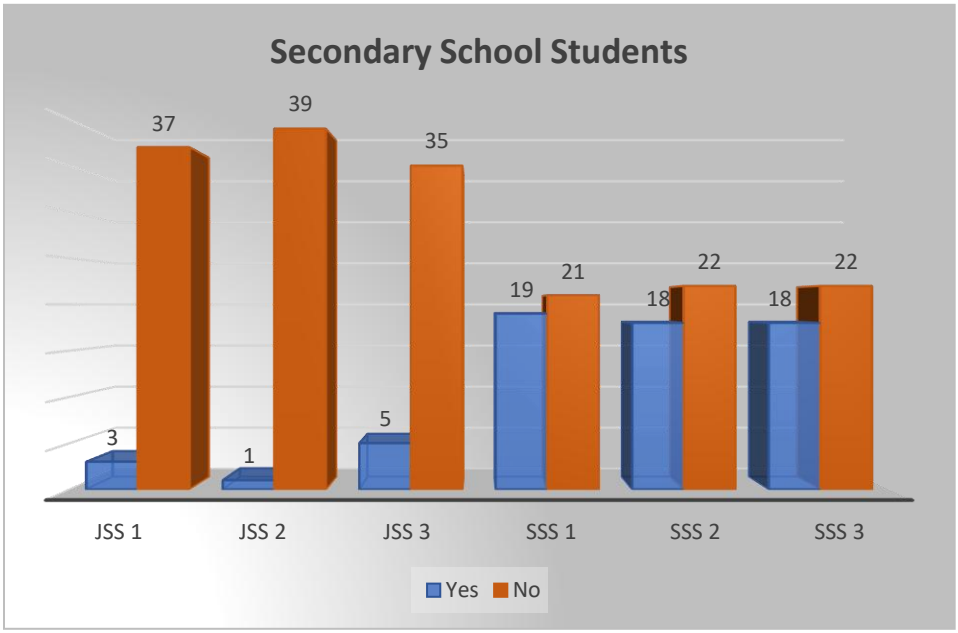


Figure 15.

Response of Secondary Students to is Climate Change Natural/Departments

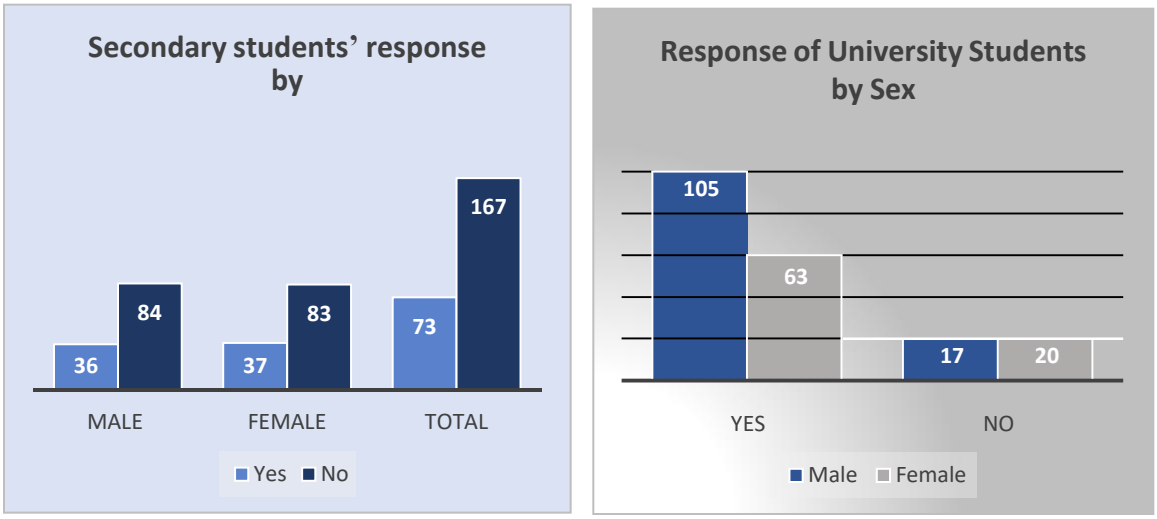


Can Climate Change Be Stopped?

In figure 16, when can see the responses of the secondary students and the university students to the question 'can climate change be stopped' in the chart out of a total of 167 students that said yes, 84 are male students while 83 are female students this shows almost equal range of knowledge between the two sex. The university students have more knowledge about the subject matter as seen in the figure.

Figure 16.

Response of Secondary/University Students to 'Can Climate Change Be Stopped'/Sex



Majority of the secondary school students said climate change cannot be stopped as seen in figure 17. Although a large proportion from the senior secondary said it can be stopped. Also, looking as figure 18 the vast majority of the students especially from the various departments said climate change can be stopped.

Figure 17.

Response of Secondary Students on Can Climate Change Be Stopped/Class

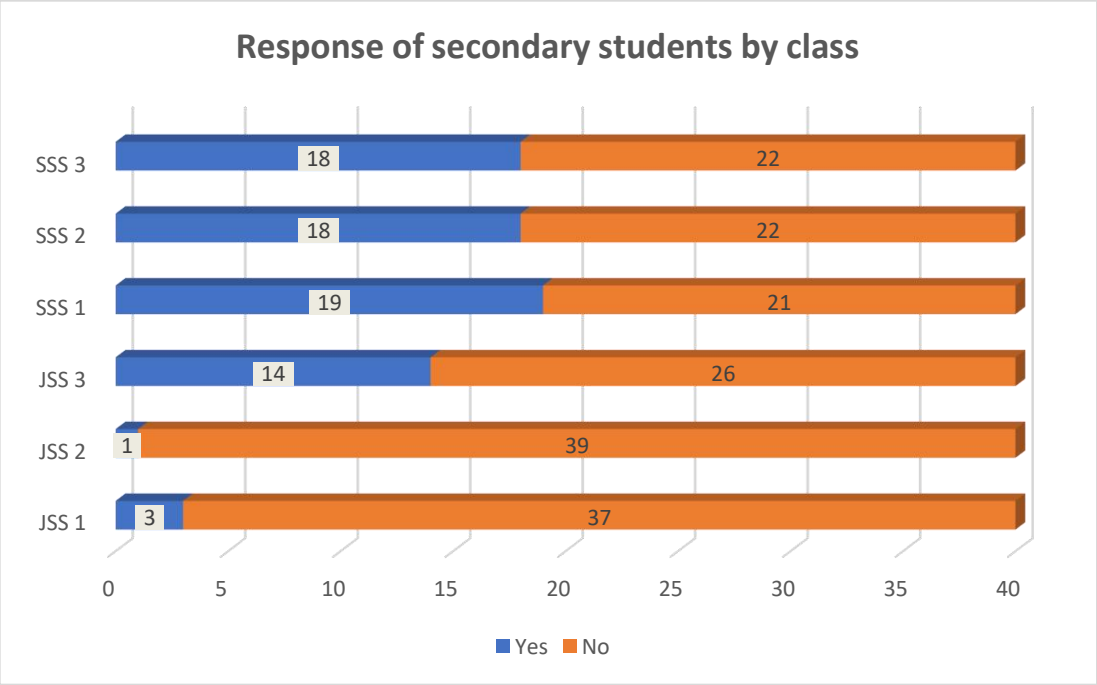
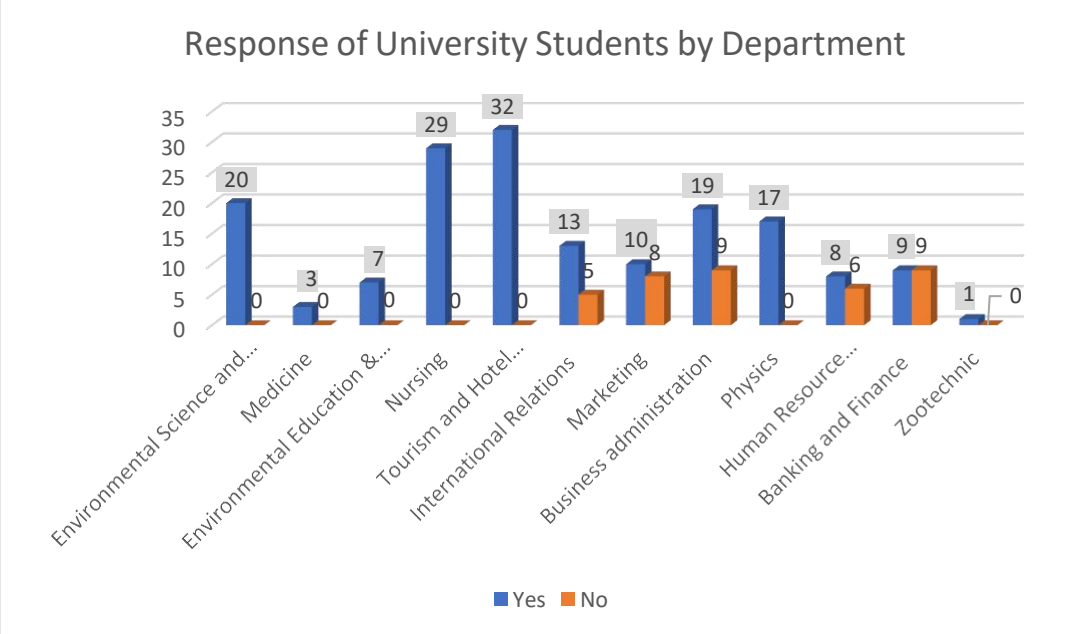


Figure 18.

Response of Secondary Students on Can Climate Change Be Stopped/Department

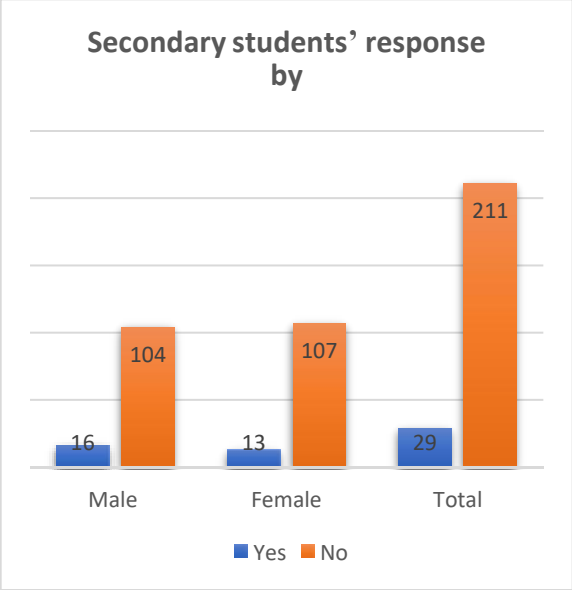


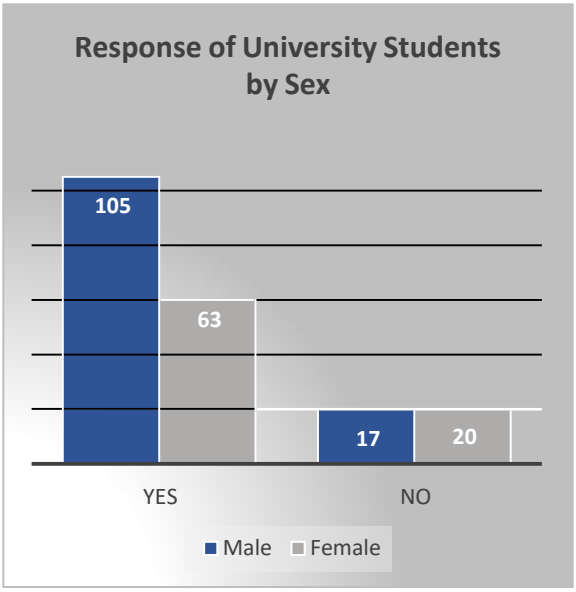
Is There Any Relationship Between Fossil Fuel and Climate Change?

In figure 19, we can see the responses of the secondary students and the university students to the question 'can climate change be stopped' in the chart out of a total of 211 students that said yes, 104 are male students while 107 are female students this shows a greater number of the female students although the difference is minute.

Figure 19.

Response of Secondary/University Students to 'Is There Any Relationship Between Climate Change and Fossil Fuels/Sex





Majority of the secondary school students said there is no relationship between climate change & fossil fuel. Reasons for the response may be due to limited knowledge this is seen in figure 20. Also, looking as figure 21 the vast majority of the students especially from the various departments said there exist relationship between climate change and fossil fuels.

Figure 20.

Response of Secondary to 'Is There Any Relationship Between Climate Change and Fossil Fuels/Class

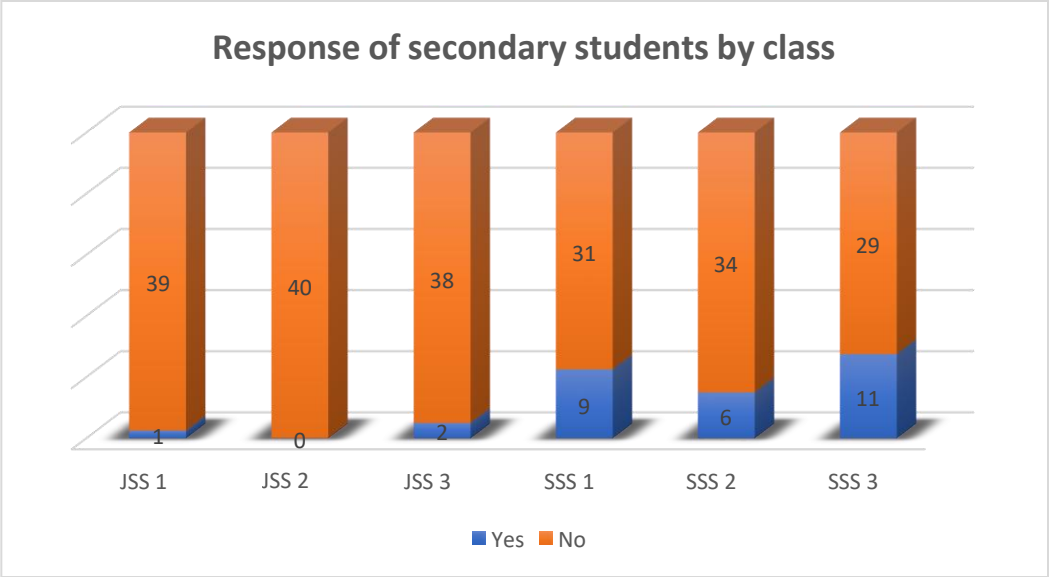
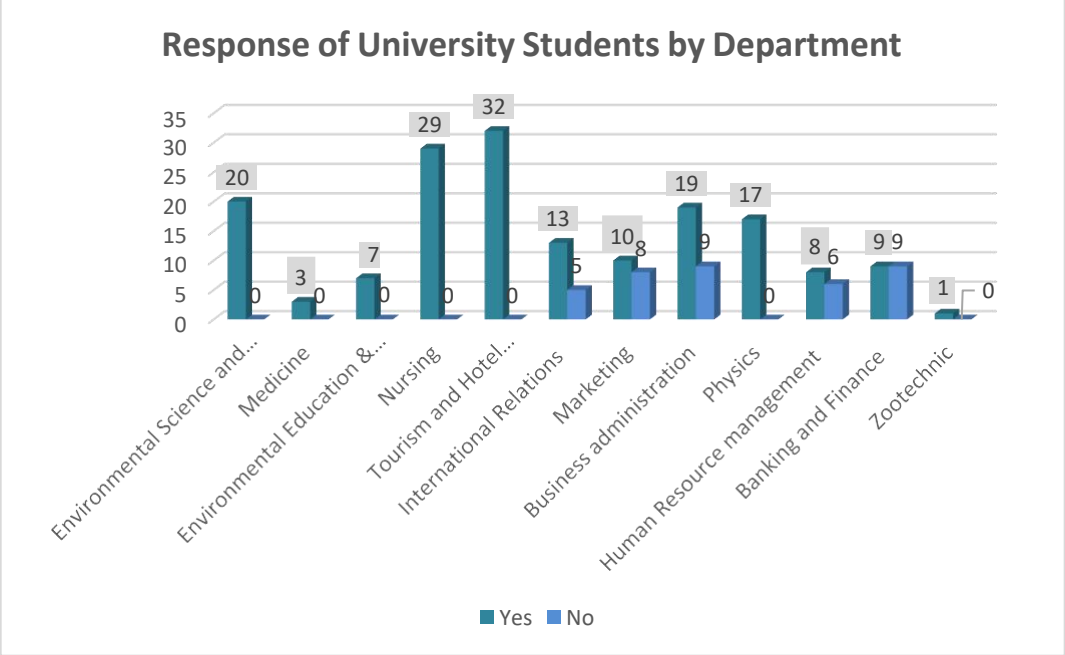


Figure 21.

Response of University Students to 'Is There Any Relationship Between Climate Change and Fossil Fuels/Departments

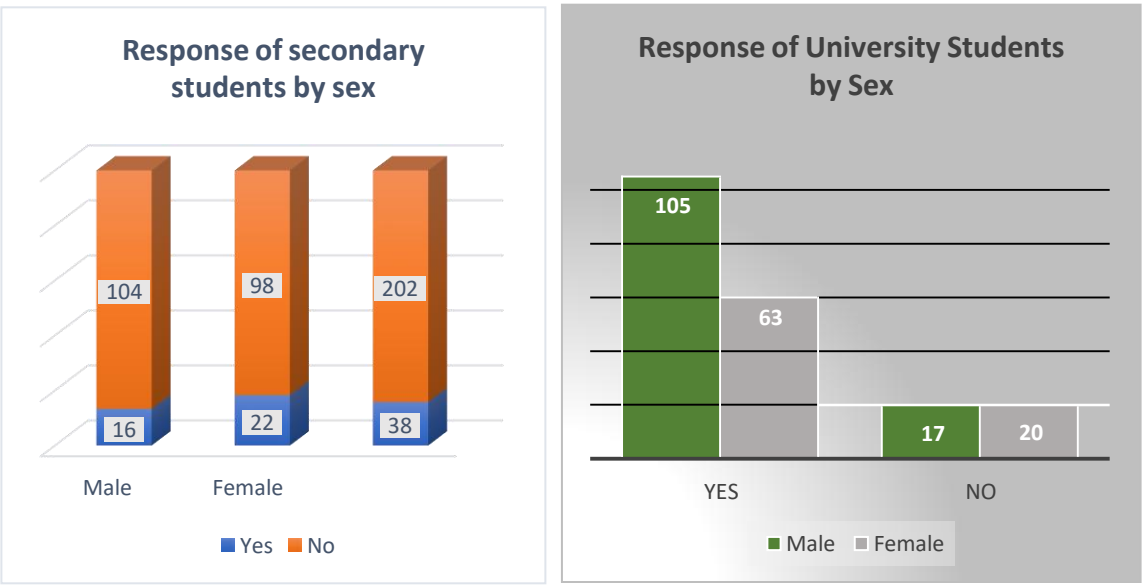


Can We Stop Use of Fossil Fuel to Fight Climate Change?

In figure 22, we can see the responses of the secondary students and the university students to the question 'can we stop use of fossil fuel to fight climate change' in the chart out of a total of 202 students that said yes, 104 are male students while 98 are female students this shows a greater number of the male students. The university students on the other hand depicts male students have more knowledge compared to female students with 105 male students saying 'Yes and 17 female students saying 'No'.

Figure 22.

Response of Secondary/University Students to 'Can We Stop Use of Fossil Fuel to Fight Climate Change



Majority of the secondary school students stopping fossil fuel cannot fight the change in climate conditions, this is seen in figure 23. However, half of the SS3 class however said yes it can fight climate. Also, looking as figure 24 majority of the students especially from the various departments said accepted that stopping fossil fuel can fight climate change.

Figure 23.

Response of Secondary Students to 'Can We Stop Use of Fossil Fuel to Fight Climate Change/Class

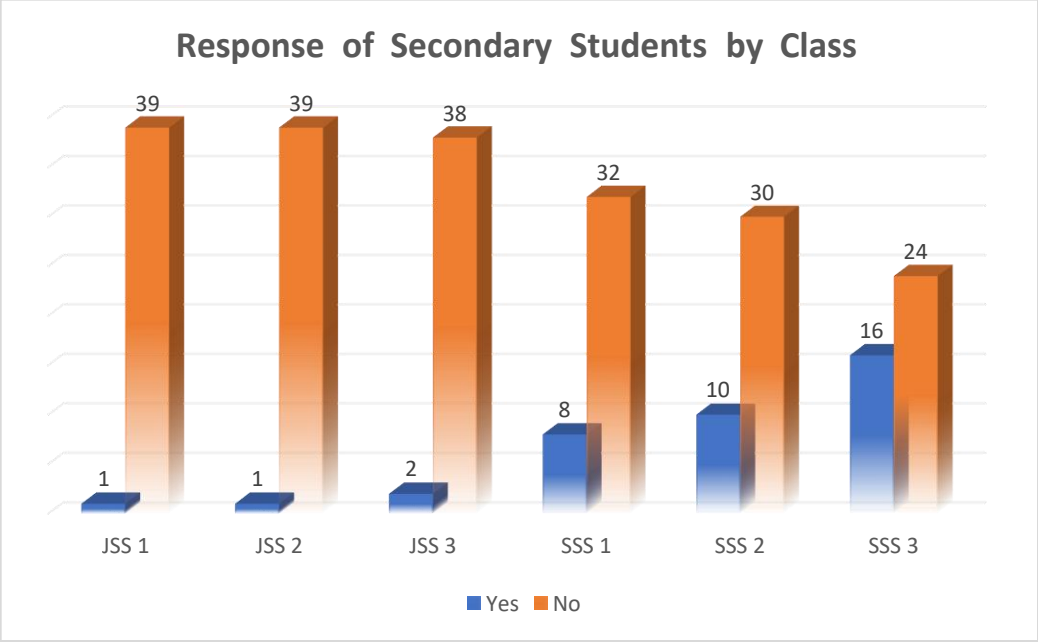
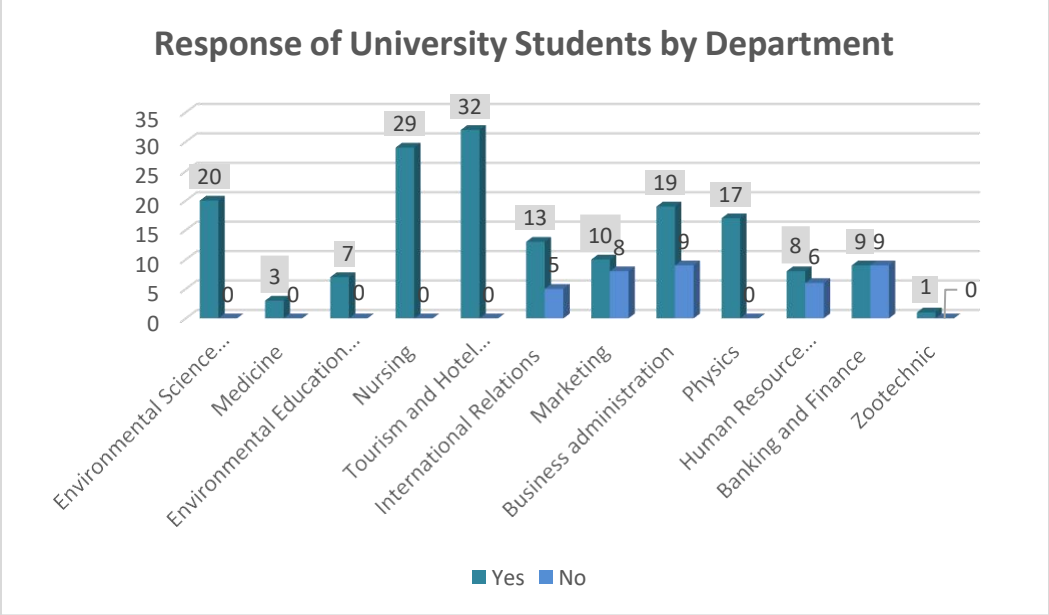


Figure 24.

Response of University Students to 'Can We Stop Use of Fossil Fuel to Fight Climate Change/Departments

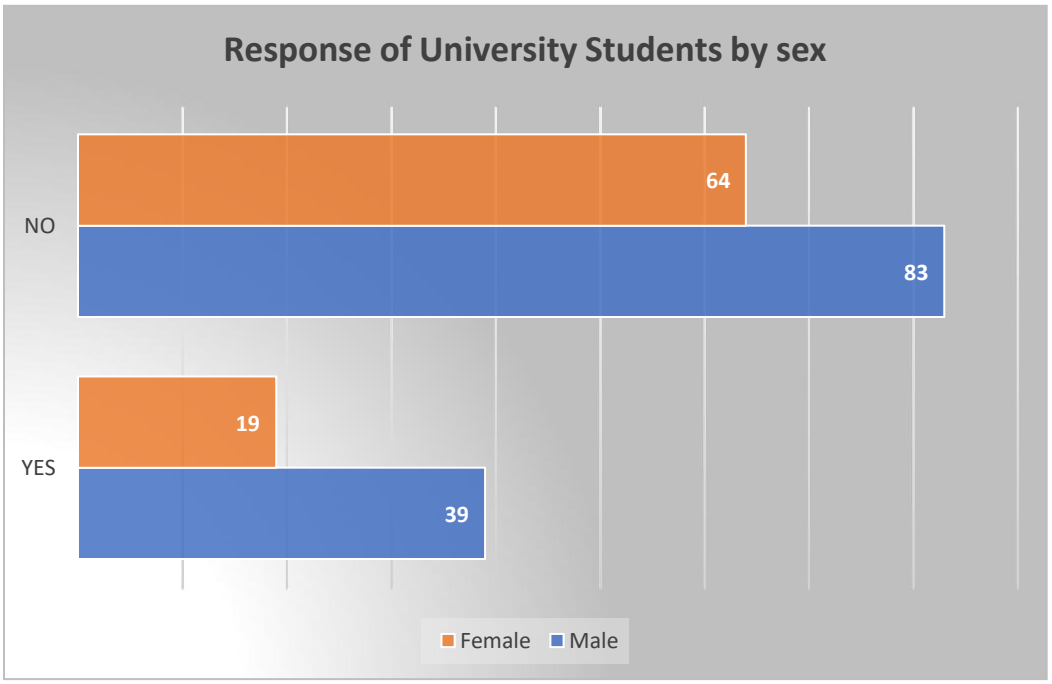


Is There Any Crisis Associated in Stopping Use of Fossil Fuel?

For University Students from North Cyprus, when asked any crisis is associated with the stopping of fossil fuel, out of the 205 only 58 responded 'Yes' and 39 (67%) represents the male students while 19 (33%) female and a total number of 147 responded 'No' with 83 (56%) male and 64 (44%) female. From the results it can be concluded that generally, the students may not have good knowledge as regards this even though the male students know more than the female students

Figure 25.

Response of University Students to 'Is There Any Crisis Associated with Stopping Use of Fossil Fuel/Sex



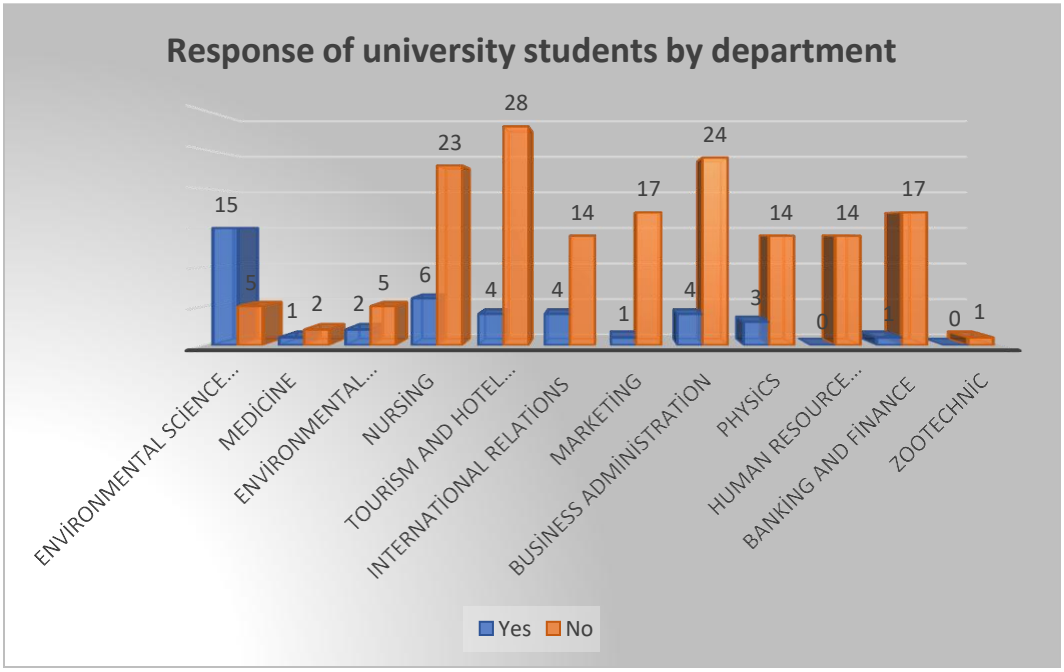
Also, figure 26 shows the response of university students according to the departments. From the analysis it can be discovered that majority of the students that said 'Yes' i.e crisis is associated with the stoppage of fossil fuel. Majority of the students that said yes came from the Tourism and Hotel management department (28) followed by the Nursing department (23) then the Business

administration department with 24 students, the environmental science and engineering department with 15 students and so on, the least represented department as shown in the figure 26 is Zootechnic.

From the figure, generally most of the students answered 'No' which shows that they may not really know about the fossil fuel stoppage causing crisis or not.

Figure 26.

Response of University Students to 'Is There Any Crisis Associated with Stopping Use of Fossil Fuel/Sex



For secondary students from Nigeria, when asked if stopping use of fossil fuel is associated with crisis, out of 240 only 36 responded 'Yes' with 16 representing the male students while 20 female and a total number of 204 responded 'No' with 16 male and 104 female as seen in figure 27. From the results it can discovered that most of the secondary school students don't know about the crisis arising at a result of stopping fossil fuel.

Figure 28 also shows the response of the secondary students by according to their classes. From the chart, a higher percentage of students from the secondary school responded 'No'. however, looking at the figure 28 more of the

senior secondary students responded 'Yes'. This shows that even though the secondary students generally may not have knowledge about the subject matter, the Senior secondary have more knowledge compared to the junior.

Figure 27.

Response of Secondary Students to 'Is There Any Crisis Associated with Stopping Use of Fossil Fuel/Sex

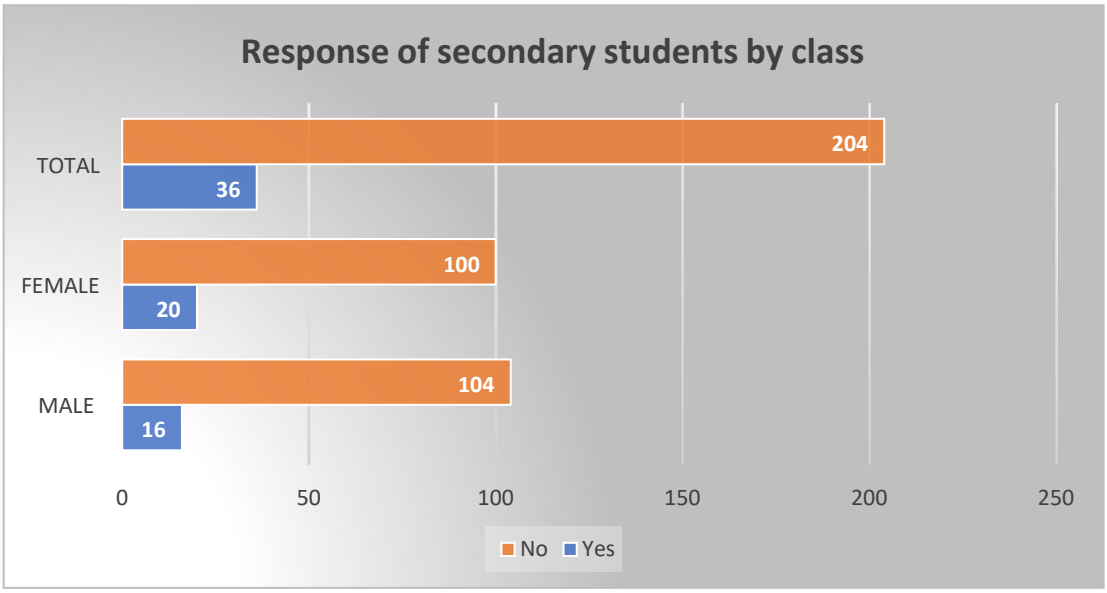
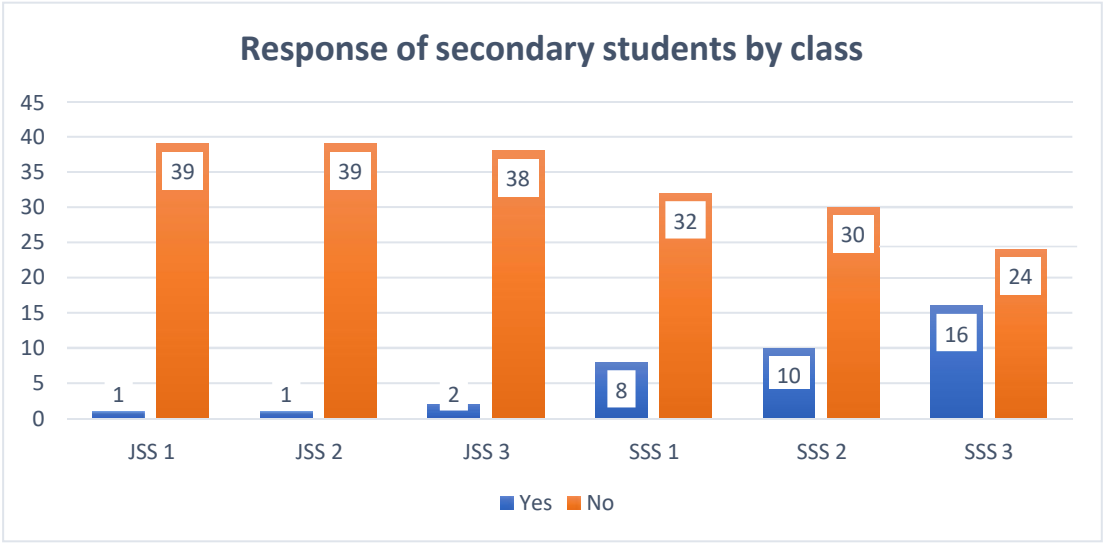


Figure 28.

Response of Secondary Students to 'Is There Any Crisis Associated with Stopping Use of Fossil Fuel/Class

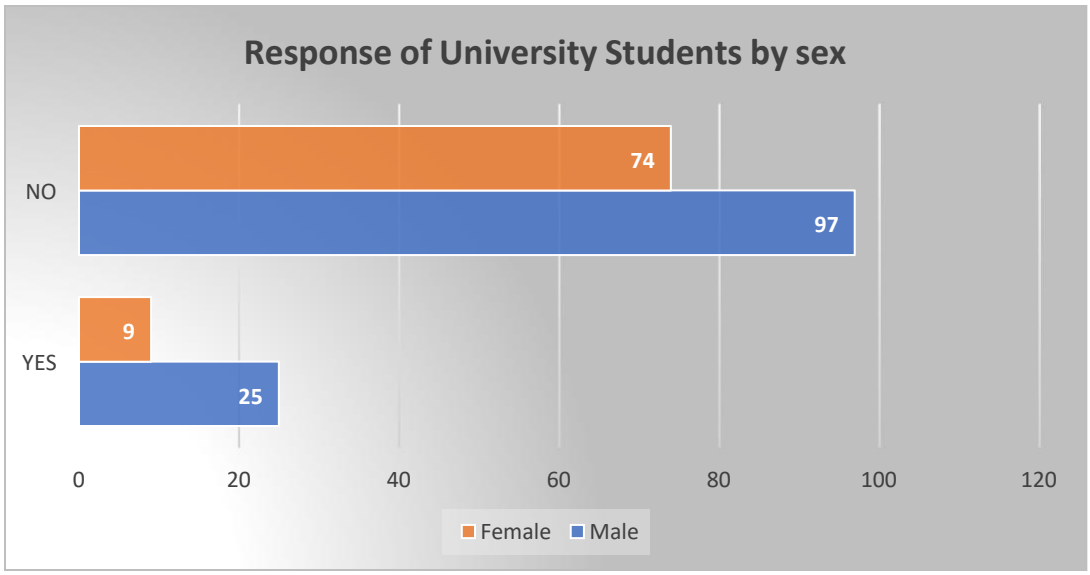


Will Change from Use of Fossil Fuel (Crude Oil) To Renewable Energy Affect Countries That Have (Crude Oil) As Only Foreign Exchange?

For University Students from North Cyprus, out of the 205 only 34 responded 'Yes' and 25 represents the male students while 9 female and a total number of 171 responded 'No' with 97 male and 74 female students. From the results it can be concluded that generally, the students may not have good knowledge as regards this even though the male students know more than the female students.

Figure 29.

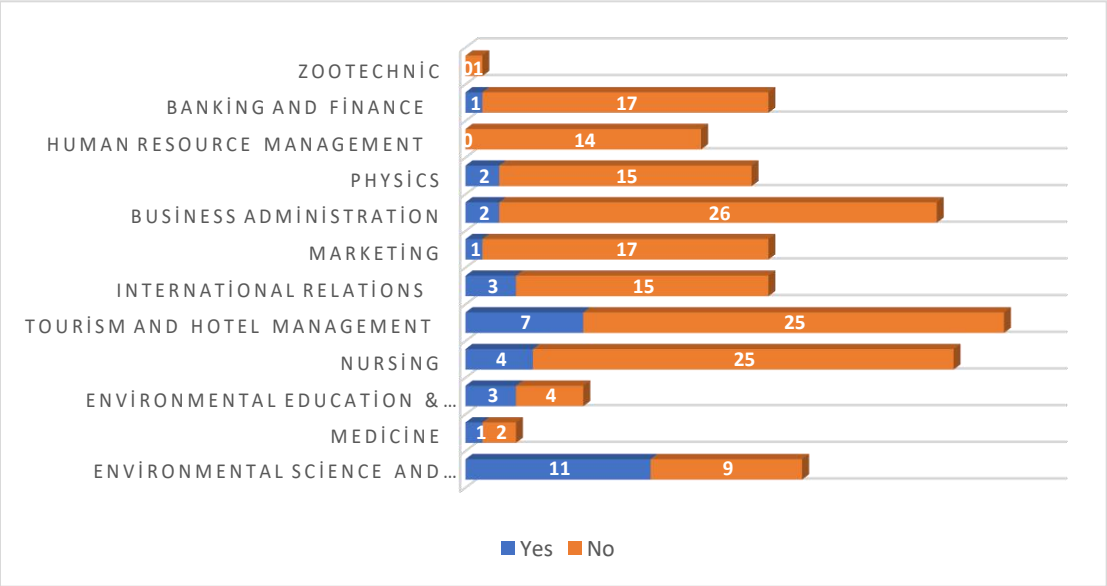
Response of University Students to Crude Oil to Renewable Energy/Sex



Also, figure 30 shows the response of university students according to the departments. From the analysis it can be discovered that majority of the students that said 'Yes' i.e countries that have crude oil as their source of foreign exchange will be affected. Majority of the students that said yes came from the Business administration department (26) followed closely by the Nursing department and Tourism and hotel management with 25 students from each department and so on, the least represented department as shown in the figure 30 is Zootechnic.

Figure 30.

Response of University Students to Crude Oil to Renewable Energy/Departments



In the case of secondary students from Nigeria, out of 240 only 21 responded 'Yes' with 9 representing the male students while 12 female and a total number of 219 responded 'No' with 111 male and 108 female students as seen in figure 31. From the results it can discovered that most of the secondary school students don't know much about the subject matter.

Figure 31.

Response of Secondary Students to Crude Oil to Renewable Energy/Sex

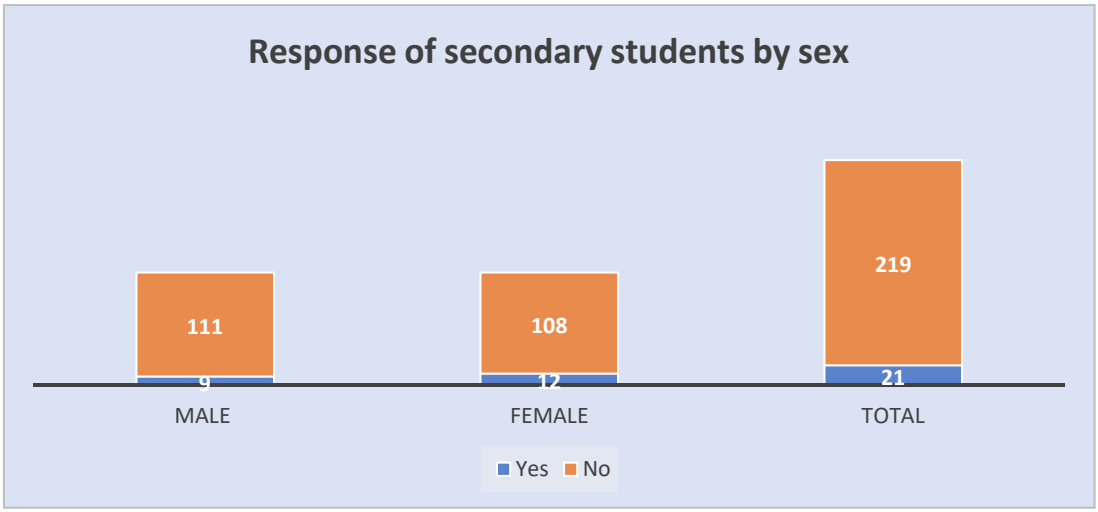
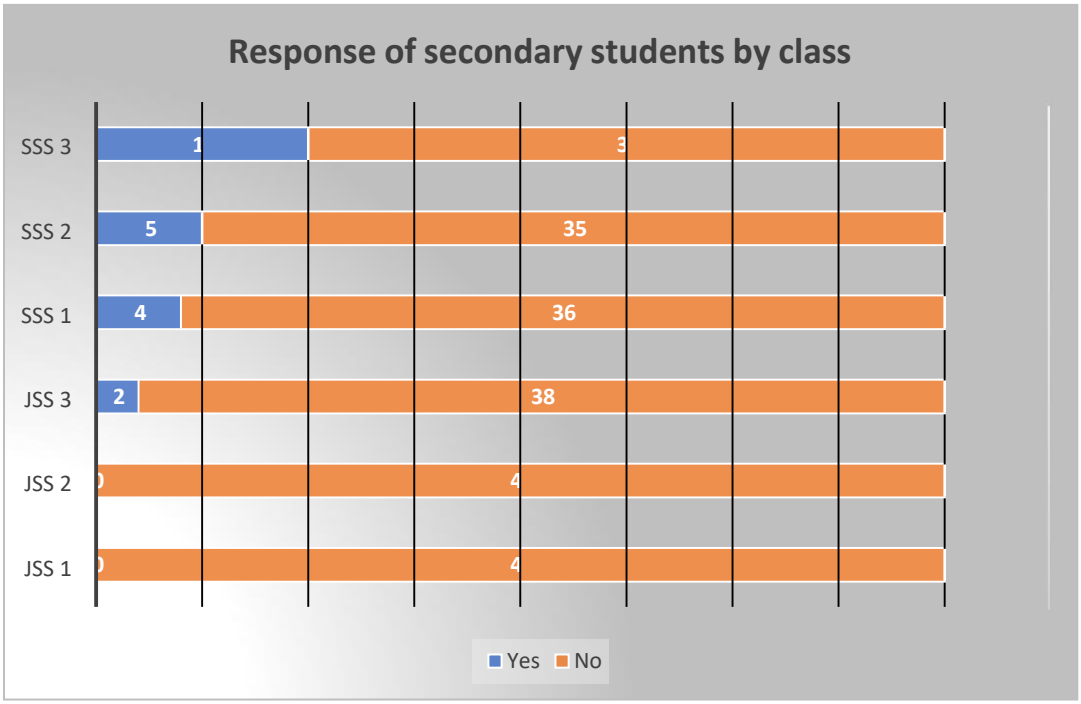


Figure 32 also shows the response of the secondary students by according to their classes. From the chart, a higher percentage of students from the secondary school responded 'No'. However, looking at the table more of the senior secondary students responded 'Yes'. This shows that even though the secondary students generally may not have knowledge about the subject matter, the Senior secondary have more knowledge compared to the junior.

Figure 32.

Response of Secondary Students to Crude Oil to Renewable Energy/Class



Following are the significant statistics results regarding gender variable for the questions,

- Male participants are significantly more confident than female about knowing the climate change.
- Significantly more male participants are of the opinion that human factor is responsible for climate change.
- Significantly more male participants think that climate change is natural.
- No significant difference between male and female participants regarding if the

climate change can be stopped or not.

- Significantly more male participants think that there is a relation between fossil fuel and the climate change.
- There exists significant difference between male and female participants regarding stopping the use of fossil fuel.
- No significant difference exists between the male and female participants regarding crisis associated in stopping the use of fossil fuel.
- There is no significant relationship between male and female participants regarding changing from fossil to renewable energy will affect foreign exchange.

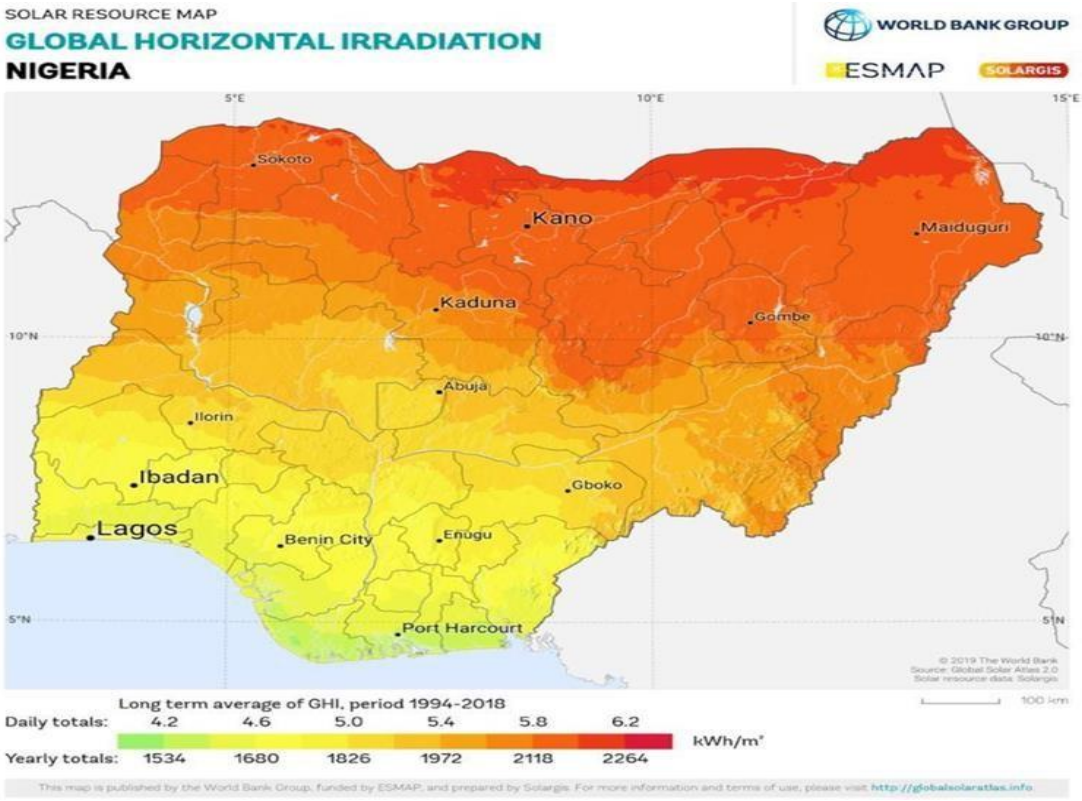
Government's Commitment Towards Renewable Energy

Notwithstanding the country's overwhelming dependence on fossil fuels, the administration tried propagating long-term viability of the energy sector in the country. NEP master plan was created by the commission and debuted in 2005 after receiving federal approval in 2003. During the Power Africa conference, Mohammed et al report shows that variety of solar energy systems were described, examined, and discussed based on their various solar energy technologies. Their research reveals that the two main categories that can be used to classify solar technology are concentrated solar power (CSP) and solar photovoltaic (SPV). The former, or CSP, techniques use solar power towers, linear concentrators, or solar dish systems to convert heat into electricity. The majority of the heat from the sun is used in CPS technologies to warm water, which then turns into steam, which powers turbines to provide energy. Energy is created using the same procedure in antiquated carbon/oil-fueled facilities.

Instead, solar photovoltaic technologies turn sunlight directly into power. In Figure 33, the World Bank (working with Solargis and ESMAP) gives an estimation of the country's potential for photovoltaic electricity based on the duration and intensity of solar radiation. It is evident that the entire country has a significant capacity for photovoltaic energy production, particularly when considering the northern and north-eastern parts. As a result, we can say with some degree of confidence that Nigeria does have a lot of untapped potential for solar energy.

Figure 33.

Nigeria's Global Horizontal Irradiation (Solargis for the World Bank Group, 2019)



The fluctuations in stream height also have an impact on the potential energy held in water resources. A turbine converts the mechanical energy this potential creates into electrical energy. Nigeria is not a newcomer to this type of technology. Nigeria is "endowed with enormous rivers and natural falls," according to the International Hydropower Association (IHA, 2020). Even while hydropower already generates around 40% of the nation's total electricity, according to Brimmo et al research from 2017, its built capacity only reflects 14% of its potential. It is important to distinguish between large- and small-scale hydropower while examining this figure, the results are very similar, indicating a lack of growth in both areas despite their considerable potential.

CHAPTER V

Conclusions

According to the responses of the pupils polled, the study's findings to some extent demonstrate that there is some amount of knowledge of climate change. On the basis of the examined literatures and collected data, it was also discovered that the level of coverage of environmental impact assessment as regards to variations in climate conditions & renewable energy in Nigeria was restricted. The study's findings demonstrate that none of the EIA reports under examination took climate change adaption methods into account, nor did they consult relevant stakeholders on these topics. Regarding adaptation, for instance, none of the EISs analyzed attempted to connect an action plan to how it will aid in the management of projected rise in the sea-level or increasing rainfall. This indicates how little the subject is perceived, despite the enormous damage it poses to Nigeria, particularly the sensitive environment of the Niger Delta region. This suggests a large gap in the EIA investigations, which should have resulted in the findings being rejected. Climate change adaptation is one of the two most important criterion specified, and its absence jeopardizes the entire environmental impact assessment process in terms of climate change inclusion. Analysis of climate change incorporation on a sectoral basis shows that there is a high level of consideration in the petroleum and petrochemical relative to other sectors. This may not be unconnected with sector-specific greenhouse gas emission targets and control mechanisms, particularly as the petroleum sector represents the most important source of Nigeria’s contribution to climate change. Agricultural development, for example, is not considered as a serious threat or GHG emission source, which is thus a reflection of its low consideration of climate change issues.

Recommendations

This research work suggests the need for a crucial step in providing more access to climate change modeling technology to improve access to climate data. Additionally, the government would need to support the capacity building of pertinent institutions and officials to increase the effectiveness of enforcement and execution. Last but not least, raising public awareness of

climate change will be crucial. In view of the evolving call for the use of cleaner energy, it is important for the country Nigeria to strategize the possibility of shifting from the use of biofuel to fossil fuels. while also maximizing its biomass resources for socioeconomic progress.

This article affirms that new, more equal socio-ecological systems can arise without being overly pessimistic; if the history of social movements and conflicts has taught us anything, it is that struggle and group activities can in fact transform the world, little by little. Nigeria must put more emphasis on how its waste is being manage, this is because the waste materials can generate the required energy to power the country for various economical and industrial activities. This at the end of day increase the number of jobs available for the unemployed public.

Summarizing

- Increasing the consciousness of the public as regards to climate change and developing modeling techniques which are essential for improving access to climate data is very key.
- It is very important for Nigerian divert from the use fossil fuels to biofuel while making maximus use of its biomass resources for socioeconomic development and growth in response to the current expanding need for cleaner energy.
- Nigeria has to focus more on how its waste products can be effectively managed which may involve drafting of a detailed plan. This will help in generating more energy to further empower the growth and development of the economy and also create more jobs.
- Reduction in generating greenhouse gases will reduce the spending on health of the public and also when companies create work friendly environment more jobs will be created.

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Appendices

Appendix A

Frequency Table

Sex of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	242	54.4	54.4	54.4
	Female	203	45.6	45.6	100.0
	Total	445	100.0	100.0	

School Category'

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	University Students of North Cyprus	205	46.1	46.1	46.1
	Secondary Students in Nigeria	240	53.9	53.9	100.0
	Total	445	100.0	100.0	

Class Type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Environmental Science and Engineering	20	4.5	4.5	4.5
	Department of Medicine	3	.7	.7	5.2
	Department of Environmental Education and Management	7	1.6	1.6	6.7
	Department of Nursing	29	6.5	6.5	13.3
	Department of Tourism and Hotel Management	32	7.2	7.2	20.4
	Department of International Relations	18	4.0	4.0	24.5
	Department of Marketing	18	4.0	4.0	28.5
	Department of Business of Administation	28	6.3	6.3	34.8
	Department of Physics	17	3.8	3.8	38.7
	Department of Human Resources Management	14	3.1	3.1	41.8

	Department of Banking Finance	18	4.0	4.0	45.8
	Department of Zootechnic	1	.2	.2	46.1
	JSS 1	40	9.0	9.0	55.1
	JSS 2	40	9.0	9.0	64.0
	JSS 3	40	9.0	9.0	73.0
	SS1	40	9.0	9.0	82.0
	SS2	40	9.0	9.0	91.0
	SS3	40	9.0	9.0	100.0
	Total	445	100.0	100.0	

Do you know about Climate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	232	52.1	52.1	52.1
	No	213	47.9	47.9	100.0
	Total	445	100.0	100.0	

Is Climate change caused by Human?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	232	52.1	52.1	52.1
	No	213	47.9	47.9	100.0
	Total	445	100.0	100.0	

Is Climate change Natural?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	245	55.1	55.1	55.1
	No	200	44.9	44.9	100.0
	Total	445	100.0	100.0	

Can Climate change be stopped by human

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	241	54.2	54.2	54.2
	No	204	45.8	45.8	100.0
	Total	445	100.0	100.0	

Is there a relationship between fossil fuel and climate change

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	197	44.3	44.3	44.3
	No	248	55.7	55.7	100.0
	Total	445	100.0	100.0	

Can we stop the use of fossil fuel to fight climate change?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	206	46.3	46.3	46.3
	No	239	53.7	53.7	100.0
	Total	445	100.0	100.0	

Is there crisis associated in stopping the use of fossil fuel?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	77	17.3	17.3	17.3
	No	368	82.7	82.7	100.0
	Total	445	100.0	100.0	

Will change from use of fossil fuel to renewable energy affect countries with cruded oil as only foreign exchange.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	56	12.6	12.6	12.6
	No	389	87.4	87.4	100.0
	Total	445	100.0	100.0	

Crosstabs

School Category' * Can Climate change be stopped by human Crosstabulation

Count

		Can Climate change be stopped by human		Total
		Yes	No	
School Category'	University Students of North Cyprus	168	37	205
	Secondary Students in Nigeria	73	167	240
Total		241	204	445

School Category' * Is there a relationship between fossil fuel and climate change Crosstabulation

Count

		Is there a relationship between fossil fuel and climate change		Total
		Yes	No	
School Category'	University Students of North Cyprus	168	37	205
	Secondary Students in Nigeria	29	211	240
Total		197	248	445

School Category' * Can we stop the use of fossil fuel to fight climate change? Crosstabulation

Count

		Can we stop the use of fossil fuel to fight climate change?		Total
		Yes	No	
School Category'	University Students of North Cyprus	168	37	205
	Secondary Students in Nigeria	38	202	240
Total		206	239	445

School Category' * Is there crisis associated in stopping the use of fossil fuel? Crosstabulation

Count

		Is there crisis associated in stopping the use of fossil fuel?		Total
		Yes	No	
School Category'	University Students of North Cyprus	41	164	205
	Secondary Students in Nigeria	36	204	240
Total		77	368	445

School Category' * Will change from use of fossil fuel to renewable energy affect countries with cruded oil as only foreign exchange. Crosstabulation

Count

		Will change from use of fossil fuel to renewable energy affect countries with cruded oil as only foreign exchange.		Total
		Yes	No	
School Category'	University Students of North Cyprus	35	170	205
	Secondary Students in Nigeria	21	219	240
Total		56	389	445

School Category' * Is Climate change Natural? Crosstabulation

Count

		Is Climate change Natural?		Total
		Yes	No	
School Category'	University Students of North Cyprus	168	37	205
	Secondary Students in Nigeria	77	163	240
Total		245	200	445

School Category' * Do you know about Climate Crosstabulation

Count

		Do you know about Climate		Total
		Yes	No	
School Category'	University Students of North Cyprus	168	37	205
	Secondary Students in Nigeria	64	176	240
Total		232	213	445

School Category' * Is Climate change caused by Human? Crosstabulation

Count

		Is Climate change caused by Human?		Total
		Yes	No	
School Category'	University Students of North Cyprus	168	37	205
	Secondary Students in Nigeria	64	176	240
Total		232	213	445

Appendix B

Questionnaire

Personal Information/Consent Form

Dear Participants,

This survey is prepared to understand how knowledgeable Nigerian Secondary student and Nigeria International University Student in Northern Cyprus is about climate Change. All personal information collected through this survey will be kept anonymous and won't be shared with third parties. Filling out this form means giving us consent to use collected data for research purposes only. Thank you in advance for your contributions.

Iroegbulem kelechi Benedict

MSc. Student

Environmental Education and Management Department

Near East University

Part 1: Student's Profile

A)

Secondary School students in Nigeria

Gender: .....

Grade: .....

Resident: Urban/Rural

Parents Occupation

Father:

Mother:

B)

Nigeria international university student in Northern Cyprus.

Gender:

Department:

Faculty:

Part 2

Survey Questions

Do you know about Climate
Is Climate change caused by Human?
Is Climate change Natural?
Can Climate change be stopped by human
Is there a relationship between fossil fuel and climate change
Can we stop the use of fossil fuel to fight climate change?
Is there crisis associated in stopping the use of fossil fuel?
Will change from use of fossil fuel to renewable energy affect countries with crude oil as only foreign exchange.

Appendix C

Ethics Approval

NAER EAST UNIVERSITY

SCIENTIFIC RESEARCH ETHICS COMMITTEE

02.12.2022

Dear Iroegbulem Kelechi Benedict

Your application titled **"Climate Change and Strategy to Prevent the Crisis Of Crude Oil Transgression To Renewable Energy in Nigeria.**" with the application number NEU/ES/2022/919 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Prof. Dr. Aşkın KİRAZ

The Coordinator of the Scientific Research Ethics Committee.

Appendix D

Turnitin Similarity Report

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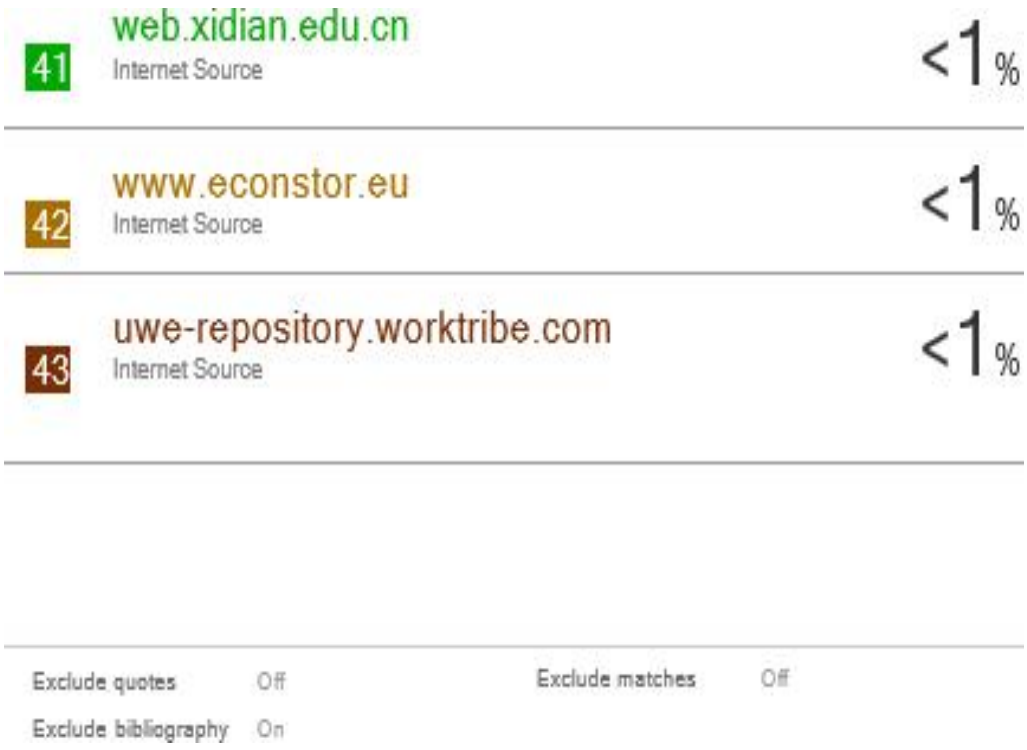
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