

The Effects of Global Warming on Tourism Development in Nigeria

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Abstract

It has been observed that our environments are changing daily because of the effect of global warming. Similarly the tourism industries are facing challenges as a result of Ozone Layer depletion. This has prompted the topic of this research which is "The effect of Global warming on Tourism Development". In the course of this research, the researcher used primary and secondary methods to collect data. A total of 165 copies of questionnaires were distributed and only 160 were returned completely. Simple percentage was used in circulating the research questions. It was concluded that global warming has effect on tourism development. The study therefore, recommends that the introduction of aviation fuel tax throughout the world is preferable and also a shift from fossil fuel use to renewable energy sources.

Keywords: Global warning, Tourism, Development, Impact.

INTRODUCTION

Global warming is the increase in the temperature of the earth's atmosphere believed to be due to the greenhouse effect caused by increased levels of carbon dioxide, chlorofluoro carbons and other pollutants, (Google.com). Over the last 100 years, the average temperature of the air near the earth's surface has risen a little less than 1° Celsius ($0.7 + 0.18^{\circ}\text{C}$, or $1.3 \pm 0.32^{\circ}$ Fahrenheit)

Data shows that an increase of one degree Celsius makes the earth warmer now than it has been for at least a thousand years.

With the recent renewed interest in global warming and heightened concern for environmental degradation and social justice, many people have started to pay attention to the impact of hospitality industry on local peoples. As a result there has emerged a new sector of the hospitality industry known as ecotourism or green travel.

The global development research center defined ecotourism as responsible travel to natural areas, which concerns the environment and sustains the livelihood of local people. This research centres in Nigeria at large. This study looks at the effect of global warming in development of tourism and the way to curb global warming.

STATEMENT OF PROBLEM

It has been observed that our environments are changing daily because of the effect of global warming. Similarly, the tourism industries are facing many challenges as a result of ozone layer depletion.

It is based on the foregoing that this study shall attempt to unveil the effect this global warming has on the development of tourism and how to prevent them.

OBJECTIVES OF THE STUDY

The objectives of this study are as follows:

1. To find out if global warming has an effect on tourism development.
2. To determine how the people (community) contribute to global warming.
3. To determine the level of awareness on the dangers of global warming.

REVIEW OF RELATED LITERATURE

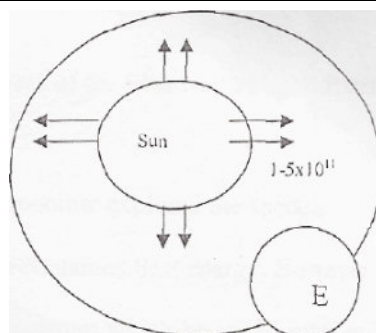
THEORY OF GLOBAL WARMING

Global Warming or Climate Change, measurable increase in the average temperature of earth's atmosphere, oceans and land users. Scientists believe earth is currently facing a period of rapid warming brought on by rising level of heat trapping gases, known as greenhouse gases in the atmosphere.

Greenhouse gases retain the refined energy (heat) provided to earth by sun in a process known as the greenhouse gas, in the atmosphere Greenhouse occur naturally, and without them the planet would be too cold to sustain life as we know it. Since the beginning of the industrial revolution in the mid-1900s, however, human activities have added more of these gases into the atmosphere. For example, levels of carbon-dioxide, a powerful greenhouse gas, have risen by 35 percent since 1750 largely from the burning of fossil fuel such as coal, oil and natural gas. With greener house gases in the mix, the atmosphere act like a thickening blanket and traps more heat.

RADIATION

Through the process of radiation all heat comes to us on earth or indirectly from the sun. The heat travel through 150 million km of space, mostly empty and in straight lines, as does the light both of which are propagated by electromagnetic waves Fig 1: Radiation of heat from the sun to the earth



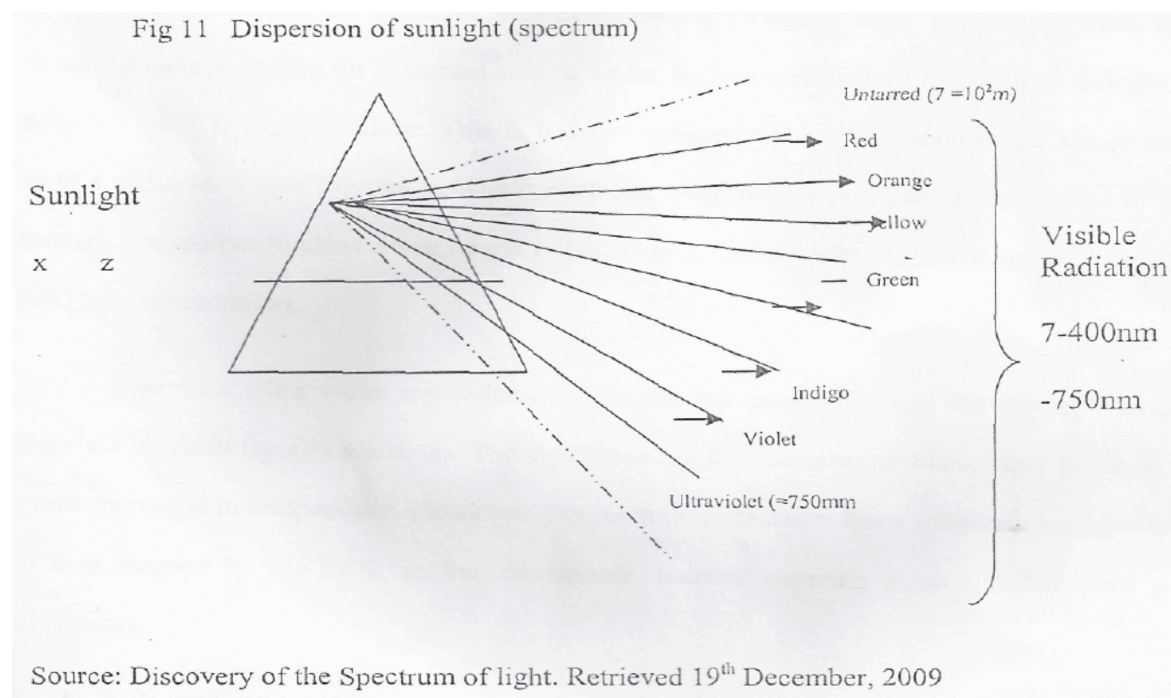
Source: www.e.o.earth.org/./solar-radiation

The amount of radiant energy approaching the earth from the sun is called the "solar constant when measured at the upper limit of the atmosphere is about 1340 W/m^2 . However at the surface of the earth it is always less than this value because ozone in the upper atmosphere absorbs much of the ultra violet in the radiation. SPECTRUM OF

SPECTRUM OF RADIATION

A beam of sunlight is an ensemble of several colours, the so called colour of rainbow) namely Red, Orange, Yellow, Green, Blue, indigo and violet. These colours are distinctly revealed or manifested when a beam of sunlight is passed through a prism.

Experimentally, but naturally it is caused by the dispersion and section of sunlight by water droplets in the atmosphere.



In 1800, an astronomer explored the spectrum, he obtained with a sensitive thermometer that all the light in the spectrum contained heat energy. However he recorded more heat at the position of a little, the Red of the visible spectrum which he called infra red i.e. it is called ultra violet ray (i.e. it is retracted more than the violet

INFRARED RADIATION: - This is the main component the radiation from a hot body and most of it is absorb by glass. When infrared radiation falls on the skin it gives the sensation of warmth (heat radiation).

ULTRA VIOLET RAY: - This is absorbed by human skin and causes sun bum. It stimulates the formation of vitamin D. It is absorbed by green plants and use in the manufacture of carbohydrates by the process of photosynthesis. Ultra violet ray is harmful to the eyes. However, ultra violet ray is strongly absorbed by "glass and ozone layer there by reducing its harmful effect to the body.

GREEN HOUSE EFFECT

The greenhouse effect describes how excessive carbon dioxide (CO₂) emissions might cause long term warming of the effect. Naturally exposed plants absorb radiated heat from the sun but give cooled by breeze and convective air currents. However, in a greenhouse these cooling airflows are virtually eliminated which is why the occupant stay so warm, Nelson and Parker (1995) argue that global warming does not work like green house. This is because increase CO₂ in the atmosphere would not eliminate earth's airflows. These physics associate earth warming with a peculiar characteristics of CO₂ which through transparent to short wave length radiation (e.g.) Ultra violet ray not long wave length radiation (I.R) infrared radiation.

Therefore Ultra violet ray radiation from the sun passed through the atmosphere CO₂ and is absorbed by earth thereby warm up. The earth re-emits this radiation as black body radiation consistent which increased in temperature. However, this re-emitted radiation has a relatively long wavelength and so it is trapped by the CO₂, in the atmosphere, thereby warming it up (culled from www.travelmo3e.com).

CAUSES OF GLOBAL WARMING

Two main factors have been implicated in global warming, namely:

1. Greenhouse effect
2. Ozone layer depletion

GREEN HOUSE EFFECT

Carbon dioxide, CO₂ is a green-house gas its presence in the atmosphere has an effect similar to that of the glass in a green house. Bakut (2006) explains that the glass in a green houses allows the warmth of the sun into the house but retards its escape, thereby causing the area below to warm up. In essence, the more the concentration of CO₂, the greater the retardation and so also the temperature on earth rises as a result of huge increase in the emission of carbon dioxide CO₂, through industrial and commercial processes.

The greenhouse effect is natural phenomenon occurring on planet earth. There are natural as well as human made causes of the greenhouse effect.

i. NATURAL CAUSE OF GREEN HOUSE EFFECT

Greenhouse effects are the emission of gases like: nitrous oxide, carbon dioxide, methane, ozone and water vapour. The life on earth depends entirely on the sun. The energy for life is supplied by the sun out of the total sunlight available; more than thirty percent is deflected into outer space. The rest is reflected and converted into slow morning energy call infrared radiation. This radiation is then trapped into the atmosphere by various gases like carbon dioxide, methane ozone and water vapours.

Therefore, its escape is showed down. Out of these gases, carbon dioxide itself is responsible for the Greenhouse effect. The greenhouse effect is actually beneficial to the earth. It is only when human-made processes increase its speed that the problems of occur one main is the repeated global warming.

ii. MAN MADE CAUSES OF GREEN HOUSE EFFECT

Man-made causes of the greenhouse effect include.

1. **DEFORESTATION:-** This increases the amount of carbon dioxide in the atmosphere. Due to the disappearance of trees, photosynthesis cannot take place. Deforestation is rampant. The levels of deforestation have increased by about nine percent in recent time. Deforestation is the cutting or burning down of trees in an area.

BURNING OF WOOD OR AND BUSH BURNING

1. The burning of woods causes it to decay, therefore releasing more carbon dioxide into the atmosphere. Bush burning by farming also contributes.

2. BURNING OF FOSSIL FUEL, OIL, COAL AND GAS

The burning of fossile fuel, oil, coal and gas also causes greenhouse effect due to its release to the atmosphere.

These are materials that are used increasingly and rampantly in industries. Therefore the industries are also a major cause of greenhouse effect even cement manufacturing industry.

3. **ELECTRICAL APPLIANCES:-** Due to the emission of gases by these appliances causes greenhouse effect. Even the humble refrigerator in the house emits gases which contribute to the greenhouse effect. These gases are known as chlorofluorocarbons (CFCs) and are used in refrigerators, aerosol cans, some foaming agents in the packaging industry, fire extinguisher chemicals and cleaners used in the electronic industry.

4. **POPULATION GROWTH:** Population growth also is an indirect contributor and one of the causes of greenhouse effect with increase in population, the needs and want of the people increase. Therefore, this increases manufacturing processes as well as the industry process.

This results in the increase of the release of industrial gases which catalyze the greenhouse effect. Increase in population also results in the increase of agricultural process.

5. **TRANSPORTATION:** -Tourism itself contributes to the very process that threatens lifeexistence. Tourism is concerned by mitigation policies to curb emission of greenhouse gas of which transport is a major source, and adaptation policies to admit to global warming and itsimplication. Air travel is the fastest growing source of emission of the gas causing climatedamage. In 1996 there were 594 million international travelers. These increase to 702 million the following. In 2010 the number of traveler was estimated to about 1 billion mark and one decade later could be as high as 1.65billion. (world wide fund WWF).
Machines like the automobiles used by tourist to convey them to and from their location also contribute to greenhouse effect.

OZONE LAYER DEPLETION:The ozone layer protects the earth from the ultraviolet rays sent down by the sun. Its action, the effects on the planet could be catastrophic. Ozone is present in the stratosphere. The stratosphere reaches 30 miles above the earth and at the very top it contains ozone. The sums rays are absorbed by the ozone in the stratosphere and thus do not reach the earth.

Ozone is a bluish gas that is formed by three atoms of oxygen. The form of oxygen that humans breathe consists of two oxygen atoms, O₂ and O₃ for ozone. When found on the surface of the planet, ozone is considered a dangerous pollutant and is one substance responsible for producing the greenhouse effect. The highest regions of the stratosphere contain about 90% of all ozone layer protects both plant and animal life on the planet.

The fact that the ozone layer was being depleted was discovered in the mid-1980s.

The main cause of this is the release of CFCs, (chlorofluorocarbons). Antarctica was an early victim of ozone destruction. A massive hole in the ozone layer right above Antarctica now threatens not only that continent, but many others that could be the victims of Antarctica's melting ice caps. In the future, the ozone problem will have to be solved so that the protective layer can be conserved.

Only a few factors combine to create the problem of ozone layer depletion. The production and emission of CFCs, chlorofluorocarbon, is by far the leading cause.

CFCs were discovered by an American chemist Thomas Midgled in 1930s. CFCs are used in industry in a variety of ways and have been amazingly useful in many products. CFCs can be used in refrigerators, home insulation, plastic f, and tin-own away food container.

Only later did people realize the disaster cause by CFCs in the stratosphere there, the chlorine atom is removed from CFCs and attracts one of the three oxygen atoms in the ozone molecule. The process continues, and a single chlorine atom can destroy over 100,000 molecules of ozone.

In 1984, when the ozone layer hole was discovered over Antarctica, was the proof fondly conclusive. At that point, it was hard to question the destructive capabilities of CFCs,

CONTROL GLOBAL WARMING

The evidence that humans are causing global warming is strong. Even if we stopped emitting green house gases (GHGs) today, the earth would still warm by another degree Fahrenheit or so.

In controlling global warming it is good to reduce green house effect as it is the main cause of global warming. Reducing emission of green house gases also called green house gas mitigation is a necessary strategy for controlling global warming. There are two major approaches to showing the building up of green house gases: (i) Reduction in the consumption of fossile fuels, (ii) carbon caption or carbon sequestration.

(i) **CARBON CAPTURE:-** This means to keep carbon dioxide out of the atmosphere by storing the gas or its carbon component somewhere else a strategy know as carbon sequestration or carbon capture.

(ii) **REDUCTION IN THE CONSUMPTION OF FOSSIL FUELS:-** The total world-wide consumption of fossils is increasing by several percent per years. However, energy use around the world is slowly shifting away from fuel that releases a great deal of carbon dioxide toward fuel that release somewhat less of this heat-trapping gas. The fossils fuels burned while during are immense. If you drive 12,000miles a year in a car that gets an average of 20 miles per gallon, then you are responsible for producing six tons of carbon dioxide every year. Global warming can be control if we reduce our rate of consumption of fossil fuel.

AFFORESTATION

This is the planting of trees in order to make a forest one way to jeep carbon dioxide emission from reaching the atmosphere is to preserve and plant more trees. Trees, especially young and last growing ones, soak up a great deal of carbon dioxide from the atmosphere and store carbon atom in new wood.

STOP EXCESSIVE BURNING OF WOOD AND BUSH

As the burning of wood causes the release of carbon dioxide in the atmosphere, effort should be made to stop this fire out break should not be controlled so that it will not lead to bush burning and consumption of the vegetation which lead to release of carbon dioxide to the atmosphere.

ELECTRICAL APPLIANCES

Appliances and lightings that are not in use should be put off.

POPULATION GROWTH

Population growth should be monitored so that increase in demand of things from the manufacturing and industrial processes will be reduced.

OZONE LAYER DEPLETION

The CFCs problem may be hard to solve because there are already great quantities of CFCs in the environment. CFCs would remain in the stratosphere for another 100years even if none will ever be produced again. However, the production of CFCs should be ban, Company should find substitute for CFCs and people in general should be more aware of the dangers of ozone depletion. The reduction in usage of CFCs should be encouraged worldwide.

EFFECT OF GLOBAL WARMING ON TOURISM DEVELOPMENT

Aaronson (2000) conceptualized sustainable tourism as tourism development that meets the needs of the present without comorting the ability of future generation to meet their own needs. This concept could be operationalized by ensuring that natural and cultural tourism resources are definitely maintained and conserved for future as well as present use. Article 3 of (WTO) world tourism organization global code of ethics for tourism (1997) provides that all the stakeholders in tourism development should safeguard the national environment to achieving sound continuous and sustainable economic growth, geared to satisfying equitably the needs and aspirations of present and future generation. But the natural environment which is the basis for sustainable tourism development is facing serious ecological threat-Added to the general earth warming there are also dangers of climate changes, substantial rise in sea levels, leading to serious consequences in the increase of food cost,

The drought in Akoko Local Government Area has lead to the low patronage of tourist in Ososo tourist centre, as the process of food and food items increase drastically the increase in the spread of diseases, heat related illnesses has also contribute to the low patronage of tourist in the tourist centre in Ososo.

If global warming continues in the same trend, areas that are well known to be disease free will turn out to be too dangerous to visit not only for tourist but also for the locals to inhabit. This is because with warmer temperature or conditions bacterial growth will greatly multiply. When this happen no tourist will like to go to any tourist site that is invaded by disease because each person is concerned about his/her health before another thing and this will lead to low patronage in any tourist centre that is affect by this.

It can lead to increase in transport fare since most tourist use any of the three means of transportation to convey him/herself when he visit tourist site, so when transportation is reduced due to reduction in the consumption of fossil fuel the cost will also increase and many people might not be able to afford the transport fare.

RESEARCH METHODOLOGY

This study obtained data from both primary and secondary sources. However, greater percentages of the data were obtained from primary sources. A total of 165 questionnaires were administered to the elders, and youths of my study area, but only 160 copies were returned. Simple percentage will be used in calculating the research questions. The following variables are going to hold all through the calculation. Strongly agreed (SA), Agreed (A), Disagreed (D), Strongly Disagreed (SD).

TABLE 1: DO YOU AGREE THAT GLOBAL WARMING HAS ANY EFFECT ON TOURISM DEVELOPMENT?

RESPONSE	ELDERS		YOUTH	TOTAL	PERCENTAGE %
	Female	Male			
Strongly Agreed	20	70	20	110	68.75
Agreed	10	10	10	30	18.75
Strongly disagreed	2	3	2	7	4.38
Disagreed	2	4	7	13	8.13
Total	34	87	39	160	100

Source: From research question number 1.

The data in the above table shows that 110 respondent representing 68.75% strongly agreed that global warming has effect on tourism development and 30 number of the respondents representing 18.5% agreed while 7 numbers of the respondents with 4.38% strongly disagreed and 13 numbers of the respondents with 8.13% disagreed that global warming has an effect on tourism development. This means that majority of the respondents supported that global warming has effect on tourism development. This is therefore accepted.

TABLE 2: DO YOU AGREE THAT THE PEOPLE OR COMMUNITY CONTRIBUTE TO GLOBAL WARMING

RESPONSE	ELDERS		YOUTH	TOTAL	PERCENTAGE %
	Female	Male			
Strongly Agreed	50	50	10	110	68.75
Agreed	30	10	-	40	25
Strongly disagreed	1	1	-	2	1.25
Disagreed	3	5	-	8	
Total	84	66	10	160	100

Source: From research question number 2

The table above shows that 10 of the total respondents with 68.75% strongly agreed that the people or community contribute to global warming and 40 numbers representing 25% agreed with the question and 1.25% with the number of two strongly disagreed with the question and 8 numbers of the respondents disagreed.

With the total number of 110 respondents that agreed with the question shows that the people or community contribute to global warming.

TABLE 3: DO YOU AGREE THAT THE PEOPLE ARE AWARE OF THE DANGERS OF GLOBAL WARMING?

RESPONSE	ELDERS		YOUTH	TOTAL	PERCENTAGE %
	Female	male			
Strongly Agreed	20	70	10	100	62.5
Agreed	5	10	5	20	12.5
Strongly disagreed	5	2	5	12	7.5
Disagreed	10	10	1	28	17.5
Total	40	92	28	160	100

Source: From research question number

From the table above, out of one hundred and sixty (160) response received, 100 representing 62.5% strongly agreed to the question and 20 numbers of respondents with 12.5% agreed, while 12 numbers of respondents with 7.5% strongly disagreed and 28 numbers of respondents representing 17.5% disagreed that the people are aware of the dangers of global warming.

By the respondents response received it shows that the people are aware of the dangers of global warming.

SUMMARY OF FINDINGS

From the presentation and analysis of data, the following summary is highlighted:

- (1) From table 1, it was found that global warming has effects on tourism development as this is backed up by the response from the respondents.
- (2) Findings from table 2, shows that the people or community contribute to global warming. As majority of the respondents supported that the people or community contributed to global warming.
- (3) Findings show that the people are aware of the dangers of global warming. This is supported by the result obtained from table 3.

CONCLUSION

The following conclusions are drawn based on the findings:

1. Global warming has effects on tourism development.
2. The people or community contributes to global warming.
3. The people are aware of the dangers of global warming.
4. The people know about the global warm.

RECOMMENDATION

The following recommendations are suggested for combating global warming in order to improve tourism development:

1. Operators of tourism centre should try to carry out research on the atmospheric condition in order to know the best place for tourist centre.
2. The production of chlorofluorocarbons (CFCs) should be ban. Company should find substitute for chlorofluorocarbons and people in genera! Should be more aware of the dangers of Ozone depletions
3. Carbon dioxide should be keep out of the atmosphere by storing the gas or its carbon component somewhere else, a strategy known as carbon sequestration or carbon capture

- 4 Afforestation i.e. the planting of more trees should be encouraged.
- 5 Researcher should be embarked upon by different firms in order to discover a better liquid gas that would not produce bad emission into the air
- 6 The introduction of aviation fuel tax throughout the world wide is preferable and also a shift from fossil fuel use to renewable energy sources and for improved energy efficiency in new buildings including tourist resort centers.

REFERENCES

- Aaronson, D. (2000):** Sustainable Tourism: Theory and Practice: Amsterdam: Elsevier
- Bukur, F. (2006):** Global Economy in Global Tourism Third Edition London: Elsevier Inc.
- Wood Kalie (1991):** *The Good Tourism: A Worldwide Guide for the Green Traveler*. Mandarin Publisher
- www.mytimes.com/ accessed on the 22nd August 2011.
- www.travelmole.com/ accessed on 22nd August, 2011.
- www.window2india.com accessed on 22nd August, 2011
- www.worldwidefund.org for nature accessed on 22nd August, 2011.
- www.news.bbb.co.uk accessed on 22nd August, 2011.
- www.goggle.com accessed on August 23rd 2011.
- www.edinet.com accessed on 22nd August, 2011
- www.o.earth.org accessed on 23 August, 2011.
- www.library.thinkquest.org accessed on 22nd August, 2011.