

**UNIDAD EDUCATIVA PARTICULAR JAVIER**

**BACHILLERATO EN CIENCIAS**

**MONOGRAPH**

**“HOW HUMANITY CAN EXTINGUISHED CERTAIN SPECIES DUE TO  
GLOBAL WARMING (CONSEQUENCES FOR MAN AND ANIMALS).”**

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**2019 – 2020**

### **Gratitude**

First of all, I want to thank my parents since they are the ones who give me the opportunity to study at this school and they work hard every day so that I can have a good training every day, also thank my monograph tutors who always They have been attentive to help me in what I need and what I need, and finally thank God that gives me the opportunity to stay alive and have the health to study. (80)

## Summary

In this monograph, I talk about how human beings can become their main enemy because they destroy their planet, and in this way, they can destroy themselves because planet earth is the only planet where we humans can live. But it seems that we are not aware of this fact since the human being continues polluting the planet, destroying everything that crosses it, and what they do not know is that the damage that we humans are doing can become irreversible if we do not stop it. This damage goes beyond what we humans see, the damage is from people, who do not know, who dump garbage in the oceans, and without knowing can get to kill a marine animal if it ingests that garbage, and can cause an imbalance in the food chain and make a big imbalance in marine life, this means that animals would die and there would be less fish which would also affect us, humans, because fish is the second protein most used by humans, so thousands of things of pollution that humans do trigger thousands of things that cause imbalance on our planet, because what we do no matter how small it is, speaking of pollution, that small thing comes to trigger in things that humans do not control and we could never repair. In this text I also talk about the consequences of environmental pollution is the degradation of the ozone layer, this causes more consequences such as the radiation of the sun fall stronger and thus cause skin problems, because the sun falls more directly and causes the rise in temperature and thaw, all these are very bad consequences for humans and their planet, and as I said before we have to change and fix what we have been damaging all these years because then it will be impossible to try to fix this. (312)

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## Introduction

The importance of this topic “ *How humanity can extinguish certain species due to global warming*” is that human beings need this planet to live, and know-how humans are destroying our home, especially know a little about the consequences that this brings to take action against these consequences, this topic is of great importance because if something happens directly affects human beings and they are the only ones who can do something.

My main purpose of doing my degree monograph on this subject is to create a little awareness in people who read it, and especially for these people to create a group consciousness and together to change and improve the world, talking about environmental pollution, that people know and do not do things that in the long run can cause a problem to our planet. Another of my purposes is that people can prepare for events that may happen, such as covering themselves from the UV rays of the sun that today are coming in stronger due to the destruction of the ozone layer, that people use protectors and also protect themselves, but above all create awareness of change.

My monograph is based on environmental pollution, and there is a global company called *Green Peace*, they have a website where they explain the main factors of ozone layer damage and puts in the presence of the world's largest companies that do not have a green conscience, from this page I got most of my research.

The spatial context where I write my monograph is at a very critical moment of the planet where it is very worn out by environmental pollution, so my concern for our world leads me to choose this topic. The spatial context is also a world where many world figures, celebrities, also try to create this awareness of change as they have realized that we are destroying our own home, it's not an easy task, but everyone in a way helps to take care of our planet.

My monograph is divided into three chapters; these have their sub-themes that describe the problems the planet is experiencing at the moment and their consequences. the first chapter spoke of the causes of global warming and among its sub-themes spoke of the same causes of global warming but of different factors, the second chapter focuses more on the consequences in the world of global warming, and in its sub-themes it talks about the consequences in animals and in rivers or places that are within the world, heritage of our world. The third and last chapter deals with the specific case of what happened in the Amazon of Brazil, and also speaks of the message of the pope who invites us all regardless of religion to take care of our planet for the future. (469)

## **Chapter I**

### **Causes of global warming**

There are a lot of causes of global warming and everyone think that the humans are the central factor for this global warming and they are in some way right, but there are some factors that are natural causes from the planet, the most dangerous that is growing a lot in the last years, is the solar activity what is growing warming the planet, and all that is on the planet, this make that the water evaporates faster and this vapor is very harmful to the ozone layer and this solar activity is not an action in which the humans are participating but we, the humans have to do something to stop this because after there is nothing we can do to fix it. A cause that is very harmful and the humans are in effect participating in the greenhouse effect, and this is when the big fabrics emit a lot of fossil fuels that contain dioxide carbon that is the principal destroyer of the ozone layer, and this problem is getting bigger over the years and no one does anything, in 2018 the NASA did a study and in that study they can see that the most affected area was in Asia, because of all the fabrics that are there. The global warming is true, some data demonstrate since the year 2000 there has been a warming of 1 degree Celsius and only 19 years have passed, and this compares with that from the year 1600 to 1800 there was only an increase of 0.5 degrees Celsius.

(Caballero.2007)

#### **1.1 Main factors of global warming**

The main factor of global warming is the contamination in general, in the air, that is represented by all the gases of dioxide carbon that the big fabrics emit, this gases are generally emitted by fabrics that made plastic and when they burn the chemicals stuffs to make plastic they produce the harmful gases, this contamination is also in the land and oceans, because the humans throw



the plastics to the oceans causing that an animal eats it and can die, this affect the food chain and make a big hole in this chain that can end in the dead or in some times the extinction of some species, that in now days is something normal, the humans also throw the plastic to the forests or to a place that has a lot of trees and these plastics can make in some occasions forest fire that also make a damage in the ozone layer because of the gases of the fires that also contain dioxide carbon which comes from the leaves of those trees.

### **1.1.2 Direct factors on which humans influence warming. (Level 3)**

The humans influence in global warming in a lot of ways, the most important way is that, the humans use and "need" plastic and as I said before, the plastic does a lot of damage to the ozone layer in the process of making it and in what the humans do after they use it. Another way that the humans interact in the global warming is the indiscriminate cutting down of trees, this is more in the industries of furniture because the best things or the best good looking things are made of wood, and wood came from trees, but these companies are not interested in planting new trees after cutting down a lot, and like Cynthia (2008) said "the trees are a fundamental pillar for the planet, because thanks to them we can breathe, they are the green lung of the earth" (p. 1). She talks about a very true thing; the trees are all for human beings and if on the planet weren't more trees we don't have oxygen to live. The trees make oxygen in the mornings and the nights eject a minor quantity of dioxide carbon, "It is not dangerous at all: it is an urban legend" (Alby, 2018, P. 1). So after reading these, we know that trees do more good things than bad so we need them and we should not cut them down because without them we could not exist.

#### ***1.1.2.1 Direct human consequences of global warming.***

When we talk about global warming we talk about climate change and this is a consequence of global warming to all the humans because when the weather changes the humans need to be

accustomed to a type of weather and when the weather changes a lot, like in the last years around the world, and you are not accustomed you don't feel good and feel with flu, and it bother your throat and if this weather changes a lot you never will be good because the human body needs 80 days to get used to a new weather, another consequence that global warming can do in humans are a lot of diseases because of the bad form of the water, "Diseases due to the use of water in poor condition. With the lack of clean water, health and hygiene are in danger and the development of diarrheal diseases increases" (OMS. 2018. P. 1). The water gets contaminated with the water of the rain and when it is dirty you can get a lot of diseases like OMS said, another disease that you can get in consequence of global warming is SICA or CHICUNGUNYA because when rains the water get emphatic and there is where the mosquitos reproduce and no one is ready for this diseases because are things that you in some cases you don't feel but it could be very serious.

#### ***1.1.2.2 Direct consequences for animals due to global warming.***

When we talk about global warming we talk about the destruction of the ozone layer and in first-order we talk about the sun that damages the skin of all the human beings and the animals are not an exception. The animals that suffer the most are the Antarctic and those that need or are used to the cold because with the global warming, there is thaw that destroys the habitats of these animals and in consequence of this, the affected animals have to migrate to other places where they cannot be adapted and in some cases they die. Saldivia (2016) said, "The Adélie, Chinstrap and Papua penguins are all Pygoscelis, morphologies and similar habits, are the most affected by the consequences of heating." (p. 7). This confirms that the penguins are the most affected animals of the global warming, and not only for the thaw, their food (the krill) is affected too

because ice is what keeps krill and without ice and penguins away from ice they have to settle for other food like fish, and this imbalance the food chain.

” In the last 50 years, the extent of sea ice the ocean sector of where they live has been reduced as a result of global warming and the glaciers have receded notably, with what he has increased the contribution of freshwater to the ocean. (Cook, 2005.P9)”

There are data, where lately it is clearly seen the thaw that is traveling the earth lately, and this is very critical for all kinds of animals, since it is true that it affects the Antarctic animals more pronounced but in if it imbalances the food chain in general, and something must be done about it since it will be too late to try to repair the thaw, it would be impossible, we must promote recycling campaigns since what affects the planet most in all areas is plastic. (1273)

## **Chapter II**

### **Sea level rise due to global warming**

The thaw is a thing that in now days is very normal, this is because of the temperatures of the places that have ice, the ice melts and makes a lot of bad consequences in the world, the first one is that in the ice, the penguins live there and if all the ice melts, they are going to have no place to live because this is an animal need this low temperature to live right because it has more complications to live in places with high temperatures.

” The level of the sea grows 2.6mm to 2.9mm in the last 10 years, this is making that a lot of bays get disappear, this is in consequence of the thaw of the Antarctic.

It is estimated that in the coming years the sea level will continue to grow and double the figures given above. (Parris, 2010.P.5)”

The second one consequence is that the seal level is growing quickly in the last years, this makes a lot of bad things: there are a lot of beaches that have no bay now and 10 years before have a lot of this bay, this makes that the people cannot get into the ocean because when the tide grows it can make ocean swirls and this is very dangerous.

#### **2.1 Long-term effects of global warming.**

The global warming is going to continue growing because of the anthropogenic CO<sub>2</sub> emissions that are a thing that doesn't stop; this is emitted by the big fabrics of Asia and this is because the CO<sub>2</sub> has a long life in the atmosphere, and this is very bad because if it is more CO<sub>2</sub> is going to be less oxygen so that the CO<sub>2</sub> need so to speak to live oxygen, and is less oxygen for us the humans. Fernández (2011) said “The most serious and far-reaching is climate change, which will affect the temperature and conditions in today's ecosystems. Many people speculate that if the global warming trend continues, swamps, wetlands and rainforest ecosystems may cease to exist.



Other long-term effects of global warming may include sea-level rise, desertification, changes in weather patterns and increased animal extinction.” (p. 1). Another consequence of this long-term effects of global warming is that the CO<sub>2</sub> that is inside the ozone layer continue destroying this ozone layer and in consequence of this the ultraviolet rays are going to continue destroying the plants and a lot of things are going to continue happening if the CO<sub>2</sub> keep in the atmosphere. Another long-term effect is the earth crust response to ice melting and deglaciation, this is when the earth is going to decompress because it no longer has the weight of ice and as a result there may be large seismic motions and oceanic eruptions since the tectonic plates were also compressed and when they are decompressed there can be great consequences.

### **2.2.2 Solar activity.**

The solar activity it's increasing in the last years and this is from the consequence of the activity of the CO<sub>2</sub> that is inside of the ozone layer, this CO<sub>2</sub> destroys the layer and the rays can get in the earth with more facility, having a lot of consequences in the humans and the animals. The solar activity is growing and we can know because NASA measures this solar activity through satellites that are planted in strategic places. Another way to see that the solar activity is real and is a thing that affects us and we can see it very clearly that is growing is the high temperatures; the temperatures in all the world are increasing because of the rays that the sun it reflects on the earth and thus the temperatures rise, but these rays not only warm-up so to speak the earth but can also cause thousands of diseases in the skin of humans and animals, not to mention what it does in glaciers. The ozone layer has a great depletion, and thus to yield by ultraviolet rays So you have to make changes especially in CO<sub>2</sub> emitters, recycle so that the industries do not produce more plastic which is what most affects the ozone layer, and you have to do this soon as the ozone layer is “ running out”.



### ***2.2.2.1 Possible responses to climate change.***

Climate engineering: This is a response for the change of climate, in general, is the camp that study the change of climate, in now days is the NASA the most strong industry that is in the climate engineering, this engineering is the thing that studies the climate in general, the solar activity and all the things that can happen in the outside of the ozone layer In this field, what is most frequently done is the techniques to reduce and somehow eliminate carbon dioxide and improve these techniques to apply them more safely and with certainty.

Mitigation: The mitigation of the global warming, and the change of temperature too, are the activities that try to reduce the greenhouse gas emissions that are also known as the ones that accept the ozone layer, this activity has many possibilities in the future to reduce these gases in certain ways, since they have had several tests that these activities do work. “The number of disasters each year is increasing but only 50% of events trigger Federal assistance.” (FEMA. 2018. P. 1).

The mitigation is the effort that humans can do to stop the destruction of the ozone layer and many things should act as CO<sub>2</sub> emissions or oil spills in the ocean but NASA is working on greenhouse gas emissions and is doing quite well, taking excellent results.

Adaptation: This is another response to global warming, this tries in a certain way to make humans adapt to the climatic changes that can become abrupt due to the situation of the country, the clearest example of this is the meteorological centers that treat of preparing humans for the meteorological events that will happen in the near future. It also occurs in the adaptation of infrastructures, that is to say, that the structures are prepared in some way for meteorological events to which they were not prepared, there are organizations in almost all countries to monitor this and so there are no more tragedies. (1065)

## **Chapter III**

### **3.1 The actual effects of global warming and climate change**

The most real effects of global warming, are close to human beings, in rivers and seas, today there is a higher sea level than in past years, and although they seem few, 4 to 5 centimeters, this can cause very big havoc as the overflowing of rivers and this would be very bad because there are people who live very close to the river basins, this is due to melting, due to the increase in the temperature of the planet as a result of pollution. Another real effect is the animals, many species of animals are becoming extinct and without realizing we unbalance the food chain, which is very important, this is due to the garbage can in the seas and forests, and animals to ingest these foods can reach death.

### **3.1.1 The situation in the Amazonas**

In the dry forests of the Amazon River basins in the dry season which is usually between July and September, which are the driest months in this forest. And during those months, with the garbage that is in those forests, especially plastics and those things, with the work of the sun can get to burn and as it is a dry forest can spread very fast.

“Thousands of fires are continuing to ravage the rainforest in Brazil in the most intense blazes for almost a decade. The Amazon is the largest rainforest area remaining on Earth. It is home to unique wildlife and ecosystems, and plays an important role in carbon storage and global climate (Santos, 2019)”

This fire spreads very quickly and is more difficult to extinguish as it is a very wide terrain, we are talking about thousands of hectares, it becomes more difficult for firefighters to extinguish it because they have to enter with special equipment, which are helicopters to try to extinguish it more quickly but the smoke is very intense and firefighters cannot enter that area, this was a very serious problem, since this was almost 3 weeks on and in all this time caused much damage to the atmosphere layer both in the ozone layer and in the respiration of humans.

### **3.2 International response to the Amazonas fires**

The international response of the countries, in general, was very good, France more than anything else, and their president took the initiative to help economically Brazil to be able first of all to put out that fire and thus stop the destruction of the ozone layer, and secondly also those funds were to be able to plant new trees and thus not affect one of the largest lungs in the world. In South America especially, 7 countries joined to make a pact which was based on monitoring more constantly the basins of the Amazon river as there are more frequent forest fires in Brazil, this treaty is very important because that forest in addition to being the lung of the earth is the main lung of South America and we have to take care of it as a treasure, and so are doing this union of certain countries that named the pact: treaty of Leticia.

### **3.3 Pope Francis' response to the Amazonas fires**

Pope Francis' 2nd Forum of *Laudato si'* Communities revolves basically around the phrase written in his Encyclical, "everything is connected". With this focus, the Pope addresses what he calls an "unsustainable situation of the Amazon and the peoples who live there", as it is a topic of universal character, that does not only involve the countries' leaders but also Francis as an authority with a developed position upon it, in representation of the whole Church, which he says cannot remain silent (Vatican News, 2019).

Pope Francis, Catholic Pope, seeing the reality of the world, today seeing the pollution and destruction of our planet made a writing called *Laudato Si'*, this is a document in which we ask all people, regardless of religion or social class, is this something very important for world peace and equality more than anything, invites us to take care of the common home, Thus he says to the earth, seeing the fire and the catastrophe, because that's how it was, from the fire in the Amazon forest in the Republic of Brazil he urged the pope to send this message of environmental



care, this one is more aimed at young people because if the planet is destroyed, or we destroy it as we're doing right now, we're not going to have a future for our children or even for ourselves. The Pope's message is based more on an invitation to take care of the world, not to throw garbage, and to take care of the animals, creating the conscience that the only ones benefited from the wonders of the world are us who have a great way ahead of us.

### ***3.4 The potential follow-up to the Amazonas fires***

The follow-up that the world, in general, gave to this important and harmful event was very important, many countries, especially the neighboring countries of Brazil, provided much help with firefighters and specialists, to put out this great fire in the fastest way so that it does not do more damage to the ozone layer and the earth in general, the smoke generated by this great fire also killed many animals, humans must protect ourselves more from this smoke.

"Brazil has already proved it can do this between 2005 and 2014 it reduced deforestation by 70 percent" (Santos, 2019). In Brazil this initiative to reduce deforestation has been generated in a very good way, as we can see, in the Amazon the dry trees that were in that area were burned, and with the help of the dry leaves that fall on the ground and the help of the wind this could be spread very quickly, countries also donated trees to replant, so to speak, the Amazon, because, as we know, trees have a great function, which is to clean the air, and it is convenient for all of us that the air is clean, and that this forest returns to what it used to be because this was one of the most important lungs in the world. (1036)

## **Conclusion**

1. With the conclusion of my first chapter, this is based on the main causes of environmental pollution, I am also talking about what we humans do to pollute the environment, also



there I emphasize as humans we have many consequences in many ways as for the health especially of this case of environmental pollution that crosses the planet now, the conclusion I wanted to make in this chapter is that the people who inhabit the planet earth, who are those who enjoy the wonders of the planet, are the same people who destroy them, And I'm looking for the awareness that humans should have to take care of their world.

2. In conclusion of my Second Chapter is on the consequences of the global warming that is hitting the planet in these times, talks about the consequences both on nature, like the flooding of rivers and seas due to the thawing that affects rural areas with the flooding of rivers, as much as the human being since the damage of the ozone layer the sun's rays fall more directly and we can acquire skin problems. Bottom line is that people know what's going on and they can take care of themselves.
3. In chapter three I speak of a particular case that in these times in South America, I speak of the case of the Brazilian Amazon that burned in fire for several days, here I explain in more detail its cause, and also its consequences, which were very harmful to farmers, especially in this area, I also speak of the pope's message that we should take care of the environment for all, and this is something very peculiar since the pope being catholic speaks to all humans without distinction or anything, my conclusion is that people are already changing, and campaigning about environmental pollution, To stop it, it's a good thing because among human beings we can do a great job for our planet.
4. In a general conclusion of the entire monograph, I think that people after reading it, besides learning about environmental pollution and global warming, its causes and consequences I think you can get a clearer picture of what's going on so you can start caring. A more personal conclusion the planet has serious problems that can be permanent and being permanent the normal life of people can become a life of poor health, there are

different people who are trying to be aware of the same thing that I'm saying, and we need to act and change to make the world cleaner, greener. Another conclusion of my monograph is the life of the planet, as it can end if there are no radical changes, especially in the burning of fossil fuels because it affects the most important thing on the planet which is the ozone layer because this is the one that protects us from gases from space and resists now if you say the sun's rays. (495)

### **Recommendations**

- My recommendation is to be aware more than anything else because if we think, and we know that people are destroying the planet little by little, we have to start first of all stop dumping garbage and do things that are in our hands because even if we think they are irrelevant or very small, they can have a big role in pollution
- And also another recommendation is to do what a company is doing globally, which is called Green peace which makes the world's largest companies, which are the ones that use plastic the most, which is one of the most harmful things in the world (producing it)
- Going so far as to require these companies to recycle or have environmental awareness more than anything else so that in the future the planet will remain as beautiful as it is

now, with all its wonders, also take care of these wonders that are usually the animals, the ones that suffer the most and if any animal becomes extinct can cause an imbalance in the food chain

- The general recommendation, to take care of planet earth as it is the only one where we can inhabit. (198)

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