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Assessing International Community Efforts to Address the Damages of Climate Change and the Role of Sustainable Development in Curbing the Causes and Mitigating the Expected Negative Impacts

تقييم جهود المجتمع الدولي للتصدي لأضرار تغير المناخ ودور التنمية المستدامة في كبح الأسباب والتخفيف من الآثار السلبية المتوقعة

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Abstract:

This paper aims to shed light on the issue of climate change, as it focuses on climate policies adopted by the international community to mitigate the harmful effects of climate change. In addition to this, it seeks to evaluate international efforts and endeavors to combat climate change through agreements and conferences concluded internationally. This article also shows the importance of sustainable development as a basic principle adopted by the agreements in their climate policies, where economic development is an essential element to move towards a better application of climate policies and to curb the potential climate damage.

Keywords: climate change, sustainable development, climate policy, convention.

ملخص:

يهدف هذا المقال إلى تسليط الضوء على موضوع تغير المناخ حيث يركز اهتمامه على السياسات المناخية المنتهجة من طرف المجتمع الدولي للتخفيف من حدة الآثار الضارة الناجمة عن التغيرات المناخية. بالإضافة إلى تقيم الجهود و المساعي الدولية لمجابهة التغير المناخي من خلال الاتفاقيات و المؤتمرات المبرمة دوليا. كما يبين هذا المقال أيضا أهمية التنمية المستدامة كمبدأ أساسي تبنته الاتفاقيات في سياساتها المناخية حيث تعتبر التنمية الاقتصادية عنصرا أساسيا للمضي قدما نحو تطبيق أفضل للسياسات المناخية و تكبح عجلة الأضرار المناخية المحتملة.

الكلمات المفتاحية: تغير المناخ ، التنمية المستدامة ، سياسة المناخ ، اتفاقية.

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Introduction:

Climate change is one of the most prevalent and intimidating issues of the recent period. It has moved to the center stage of public disquiet in a remarkable way and in a very short space of time. Scientists and policy makers expressed their serious concerns about climatic fluctuations during the last decades. Adapting to these impacts will be more convoluted and expensive in the future if necessary actions are not taken now. Climate change is expected to have unprecedented impacts on where people can settle or grow food, construct cities…etc. In many places, temperature changes and sea level rise are putting ecosystems in danger and upsetting human welfare.

This phenomenon has become a threat to global security due to the way the world becomes as a result of these changes that took several dimensions. Perhaps the most important one is food security which affects living organisms (plants and animals) and this is due to heat waves, expansion of droughts and fires, not to mention the melting of the ice poles that leads to raise the sea level and flood the coasts.

The main concern of this paper is basically centered on the policies and strategies adopted by nations to deal with this predicament. It is important first to know fundamental details concerning climate change, its causes and impacts. Then, the universal response to this dilemma is expressed through the different conventions and agreements: United Nation Framework Convention on Climate Change, Kyoto Protocol, and Paris Agreement. In addition to this, sustainable development is a crucial point in this paper since it is considered as a major principle of climatic conventions. All these points are clearly elucidated through the general plan which includes the following important axes:

→ **1. *Understanding Climate Change Phenomenon.***

→ ***2. Efforts of the International Community to Address Climate Change.***

→ ***3. Sustainable Development and Climate Change.***

To deal with this subject matter, a historical descriptive analytical approach was adopted throughout the whole study. This approach paves the way for a good interpretation of historical data to better understand changes that have happened. It seeks also t to find an explanation for everything that has occurred in the political arena with regard to climate change.

1. Understanding Climate Change Phenomenon

The phenomenon of climate change is one of the chief predicaments that the world is witnessing in the last recent decades, and which requires international efforts. Before discussing the policies adopted by the countries of the world, we must first understand and realize the facts of this phenomenon and its causes and consequences.

1.1 Certainty of Climate Change

Climate change has become a clearly identifiable reality, as recent scientific documents

and reports indicate.[1] Despite occasional doubts about the accuracy of expectations and assumptions about the extent of the effects of this phenomenon, or the few gaps in scientific certainty that remain, everyone understands, more than ever, that climate change has serious consequences and destructive impacts. Many ecosystems, economic sectors, and geographic regions are threatened, and they threaten to hinder the development process worldwide.[2,3,4]

Greenhouse gases present in the atmosphere absorb infrared radiation from the surface of the earth due to sunlight. The absorption of these gases - the most common of which are carbon dioxide, water vapor, methane and nitrogen dioxide - infrared radiation from the surface of the earth leads to the accumulation of large quantities of them in the atmosphere, which creates a direct thermal impact on the planet by virtue of the proximity of the atmosphere to the surface Earth, and this phenomenon is known as global warming. In fact, these gases are important for the survival of humans and organisms alive by keeping part of the sun's warmth and reflecting it back into space to make the Earth livable. Industrial activity is primarily responsible for the production and accumulation of greenhouse gases in the atmosphere, and which have a high impact on exacerbation of global warming.[5] Most climate scientists agree that the main cause of the current "global warming" phenomenon is the increase in the average global temperature due to human activity. This phenomenon occurs when the Earth's atmosphere traps the heat from the Earth and prevents it from entering space. These scientists warn that global temperatures will continue to rise for decades, due largely to greenhouse gases from human activities.

According to the Intergovernmental Panel on Climate Change (IPCC),[6] which is the largest international body concerned with studying climate change and its impacts, global climate change is expected to continue throughout the current century and beyond, and the extent of climate change will depend primarily, after the next few decades, on the amount of greenhouse gas emissions globally and how sensitive the Earth's climate is to these emissions. The IPCC says that every region has its chance of climate change, as its effects are not the same for all regions of the world. The consequences differ from one region to another, according to its geographical location, or according to the ability of the region and its social and environmental systems to adapt to climate change or mitigate its effects.

The IPCC expects that an increase in the global average temperature by a degree less than three degrees Celsius above the 1990 temperature levels will produce mixed effects for its benefit and harm, according to the region, but "in general, published evidence indicates that the net costs of the damage caused by Climate change, to increase over time". In its report issued in 2018[7], the authority said that limiting global warming to 1.5 degrees Celsius instead of two degrees Celsius compared to pre-industrial rates would achieve real benefits for

(1): Mathez, Edmond A. & Jason E. Smerdon. (2018). *Climate Change: The Science of Global Warming and Our Energy Future*. pp. 5-7

(2),(3)(4): explain clearly the different effects of climate change on environment and ecosystems.

(5): retrieved from United Nations site/ page title: "Climate change"

(6): (IPCC. (2014 b). Climate Change 2014: Synthesis Report.

(1) : IPCC. (2018). Global Warming of 1.5°C.

humans, livelihoods and natural ecosystems. Reaching this goal requires unprecedented and appreciable changes in all sectors of society.

Moreover, there is disturbing evidence of significant transformations, which will lead to irreversible changes in the main ecosystems and the planet's climate system, if they are not already attained or transcended. Various ecosystems, such as the Amazon rainforest and the tundra in the Arctic, may have approached the thresholds of fundamental change through higher temperatures and droughts. Mountain glaciers foreshadow a serious downturn as well as the effects of declining water supplies in drier months.[1]

1.2 General Causes of Climate Change

Climate changes can be referred to as periodic changes that occur in the climate as a result of changes in the atmosphere, in addition to the occurrence of an interaction between the atmosphere and geological, biological, geographical and chemical factors in the earth system. According to Professor Stephen T. Jackson[2], the main causes of climate change are:

- ***Greenhouse gases***

These gases, including carbon dioxide, methane, and water vapor, contribute to the absorption of infrared radiation from the surface of the earth and reflect its radiation, which contributes to the development of the greenhouse phenomenon.

- ***Atmospheric interaction with terrestrial components***

Ice sheets, marine snow, as well as vegetation, ocean temperature, ocean cycle, and salinity levels are directly or indirectly affected by the atmosphere. They also affect the atmosphere in important ways.

- ***Periodic changes in the Earth's orbit and axial inclination with respect to the sun***

These changes occurring over tens of thousands to hundreds of thousands of years affect how the solar radiation is distributed across the Earth’s surface.

- ***Tectonic movements***

These movements that contribute to changing the shape, size, location and height of continental masses and ocean measurements have had strong effects on ocean circulation and the atmosphere.

- ***Solar variability (Sun Brightness)***

The sun’s brightness increases with age, which contributes to an increased amount of this energy being passed into the atmosphere over time.

- ***Human activities***

Increased human activities such as fossil fuel consumption, desertification, rice cultivation, livestock raising and industrial production since the development of agriculture, especially since the beginning of the industrial revolution are all considered as the primary cause of global warming. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change concluded that there is a 95 percent greater chance that human activity over the past 50 years has been responsible for the warming of our planet.

(2): Lapola DM, Oyama MD, Nobre CA. (2009). Exploring the range of climate biome projections for tropical South America: The role of CO2 fertilization and seasonality. Global Biogeochem. Cycles. 2009;23 .
(3): Jackson, Stephen T. (2018). *Climate change*. Encyclopedia Britannica.

Modern industrial activities have increased the levels of CO2 concentration in the atmosphere from 280 to 400 ppm over the past 150 years. The panel also concluded that there is a 95 percent possibility that the observed elevation of temperatures on the planet over the past 50 years is due to greenhouse gases produced by human activity such as carbon dioxide, methane and nitrous oxide.[1]

1.3 Impacts of Climate Change

The Earth has undergone a tremendous change in its climatic nature from many years away. One manifestation of this is the unprecedented rise in temperatures from the North Pole to the South Pole, and that was happening since 1906, but rates of climate change have now increased very much from before, for example increased the average surface temperature of Earth is more than 1.6 degrees Fahrenheit; that is, it is more in the critical polar regions, and among the manifestations of climate change and its impact on the environment is global warming; It is the one that causes glaciers to melt, change rainfall patterns and affect most animals with all of this change. Climate change does not only include higher average temperatures, but also includes various extreme weather events, changing wildlife numbers, rising sea levels and a host of other impacts. All these climatic changes and their impacts on the environment do not depend upon the dangerous aspects of it on humans, but rather extend to the entire planet.[2]

- ***The impacts of climate change on the environment***

To clarify more about climate change and its impact on the environment, it should be noted that scientists have already documented these impacts of climate change; as there are many attempts to set the amount of melting ice around the world to varying degrees, especially in the poles of the earth, including mountain glaciers and ice sheets that cover western Antarctica and Greenland, and a large part of this melted ice contributes to sea level rise.[3]

Climate changes affect wildlife as many species of butterflies and foxes migrate to the north or to colder regions than their habitat. In addition, rainfall has increased throughout the world, while some regions suffer from severe drought and this increases the risk of forest fires, crop losses and a shortage of drinking water, overall these are climate changes and their impact on the environment.[4,5]

- ***The impact of climate change on humans***

The effect of climate changes on humans occurs directly or indirectly, so that these changes are likely to lead to the death of individuals, and the direct impact is due to heat stress or due to floods and storms, while the impact of climate changes on humans is indirectly due

(1): IPCC. (2014 a). Summary for Policymakers. / Climate Change 2014: Mitigation of Climate Change. pp.6-9.
(2): National Geographic .Global warming effects. Retrieved from: https://www.nationalgeographic.com/environment/global-warming/global-warming-effects/
(3): Hobbs, W.R. et al., 2016: A review of recent changes in Southern Ocean sea ice, their drivers and forcings. *Global and Planetary Change*, 143**,** 228–250, doi:10.1016/j.gloplacha.2016.06.008.
(1): European Commission. Climate Change Consequences.
(2): EPA. Climate impacts on ecosystems.

to low water quality or Air quality, food availability and quality, or destabilization of the natural system, as the indirect effect may be due to insects or any type of different disease vector, as it transmits infectious diseases from one region to another, and these effects are severe for humans in each of the social conditions Local economic and environmental. World Health Organization enumerated the effects of climate changes on humans[1], as follows:

→ Power outages in hot or very cold conditions, which disrupts hospitals and transportation movements.

→ Decrease in crop production, which may lead to malnutrition and higher food prices.

→ Increased incidence of sunstroke.

→ The high number of Lyme infections, due to the high temperatures and humidity, which increases the reproduction and spread of ticks, as the tick contributes to the transmission of Lyme disease.

→ Having psychological problems such as anxiety, depression and even suicide attempts.

→ Increased duration of allergic seasons due to increased rains.

→Sea level rise, threatening the availability of fresh water.

2. Efforts of the International Community to Address Climate Change

For more than three decades, the interest in fighting climate change has become evident. Countries around the world have struggled to tackle the problem. They have combined efforts through several international agreements that oblige the emitters of greenhouse gases to reduce their emissions. There was a series of treaties and agreements that were intended to find solutions to the climate dilemma.

2.1 Evolution of International Efforts to Combat Climate Change

Although the climate change phenomenon has emerged as an environmental problem for more than thirty years, the interest in it remained limited and did not, at that stage, purely scientific discussions in international conferences and meetings, until the international community began to pay attention to the great risks that may be involved, which it coincided with the accumulation of evidence and evidence linking this phenomenon to human activities, especially activities related to burning fossil fuels (coal, oil and gas), which contribute to high levels of greenhouse gas concentrations in the atmosphere, foremost of which is carbon dioxide.[2]

While climate change may occur as a result of natural factors, the United Nations Framework Convention on Climate Change[3] attributes this change, directly or indirectly, to human activity, which was confirmed by scientific studies and reports issued in recent years, the most important of which is the fourth evaluation report of the Intergovernmental Authority Concerned with climate change, released late last year. In the face of this evidence

(3): WHO. Climate change and human health. Retrieved from:https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health.
(1): IISD. Introduction to the UNFCCC and Kyoto Protocol. Retrieved from: https://enb.iisd.org/process/climate_atm-fcccintro.html
(2): United Nations Framework Convention on Climate Change (UNFCCC) (1992). United Nations. FCCC/INFORMAL/84.

and evidence, the world began to move forward in order to put an end to the exacerbation of this phenomenon and limit its effect.

After arduous negotiations, in 1992 the international community reached an international multilateral agreement, the United Nations Framework Convention on Climate Change, which aims to "stabilize greenhouse gas concentrations in the atmosphere at a level that prevents damage to the climate system", followed by a few practical years. A broad negotiation, which took two years, to elaborate an international instrument that contained stronger and more detailed obligations, ended with the status of the Kyoto Protocol in December 1997.[1]

2.2 United Nation Framework Convention on Climate Change

The international political response to climate change began with the adoption of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992. The UNFCCC sets out a framework for action aimed at stabilizing atmospheric concentrations of greenhouse gases to avoid “dangerous anthropogenic interference” with the climate system. Controlled gases include methane, nitrous oxide and, in particular, carbon dioxide. The UNFCCC entered into force on 21 March 1994, and now has 192 parties 5.[2]

This agreement represents the international legal framework to confront global warming and is also a primary response to international intervention to counter this dangerous environmental phenomenon, based on the fact that international responsibility for this phenomenon and its harmful effects is a shared responsibility among all member states of the international community, but it is a different responsibility based on its historical responsibility In the occurrence of this phenomenon. The agreement seeks to limit the exacerbation of the concentration of greenhouse gases resulting from human industrial activities and affect the climate balance of the planet, as the second article of them stipulates that “The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”. [3]

The same article indicated the necessity of reaching this level “within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner” and to prevent dangerous anthropogenic interference with the climate system.

It should be noted that the aforementioned article did not differentiate between developed and developing countries with regard to the commitment to achieving this general goal, and although this article did not specify a explicit time period to implement this goal, there are indications through which it is possible to identify the extent of its achievement and among these signs, for instance, is to assess the extent to which ecosystems are naturally adapted, how stable food is produced naturally, its quality not affected, and how sustainable development is achieved.

(3): De Chazournes**,** Laurence Boisson. .*Environmental Law :*Negotiating a Universal Legal Framework. Reytrieved from https://legal.un.org/avl/ha/ccc/ccc.html.
(4): PMC. United Nation Framework Convention on Climate Change.
(1): Ibid.p.4

2.2 Kyoto Protocol

The Kyoto Protocol is based on the Earth Summit Agreement that was held in the Brazilian city of Rio de Janeiro in 1992. The international community had unanimously agreed in that agreement to reduce greenhouse gas emissions in order to allow the ecosystem to adapt naturally to changes in the climate and ensure that no Endangering food production. This protocol also represents the first operational step of the United Nations Framework Convention on Climate Change concluded in 1992. In 1997, industrialized countries committed to the Japanese city of Kyoto to reduce greenhouse gas emissions in the period between 2008 and 2012 at a rate of no less than 5 percent compared to 1990 levels. Carbon dioxide gas is the primary responsible for this climate pollution by nearly fifty percent.[1]

The Kyoto agreement contains two sets of specific obligations to achieve the general principles endorsed by the United Nations Framework Convention on Climate Change: the first group includes the obligations that all contracting parties undertake, while the second group concerns the group of obligations assumed by developed countries towards developing countries.[2] With regard to the obligations that make up the first group, it can be said that the protocol obliges the signatory states with a specific list of obligations that are not differentiated between the developed and developing countries, as they are joint obligations that are implemented by all the contracting parties. As for the obligations contained in the second group, they are obligations undertaken by developed countries alone, and they are committed to facing developing countries to help the latter to abide by the provisions contained in the United Nations Framework Convention on the one hand, and to encourage developing countries to cooperate effectively in the framework of the international system for the protection of the environment.

2.3 Paris Agreement

In 2015, the parties to the United Nations Framework Convention went to Paris to conduct new international negotiations on how to deal with climate challenges after the year 2020, in terms of mitigating greenhouse gas emissions (mitigation) and adapting to climate change (adaptation).The negotiations that concluded in December in the French capital led to the adoption of the Paris Agreement, to define the goals of the new climate policy and other processes to ensure broad participation by all parties. 175 countries signed the Paris Climate Agreement on April 22, 2016 at the United Nations headquarters in New York. The Secretary-General took advantage of the occasion to confirm the importance of the speedy states in the climate agreement to ensure its application in 2020, after the ratification of (55) countries responsible for (55%) of greenhouse gas emissions in the world to the agreement.[3]

The Paris Agreement is based on a bottom-up implementation approach. In the sense that states define their contributions at the national level to face the consequences of climate

(2): Chasek, P.S., Downie, D.L. and Brown, J.W. (2006). *Global Environmental Politics*. Boulder, CO: West view Press

(3): Kyoto Protocol to the United Nations Framework Convention on Climate Change (1998). United Nations. Retrieved Sept, 15,2019 from http://unfccc.int/resource/docs/convkp/kpeng.pdf.

(1): European Commission. Paris Agreement.

change, and in this context, the regulatory framework includes a periodic review of state contributions (including the level of progress in implementing these contributions), and an inventory or assessment of the level of progress made by all countries of the world, in Reducing global warming to bring it to safe levels, as one of the factors that contribute to the implementation of this agreement. The Paris Agreement succeeded in overcoming the obstacles that were facing the basic principle of the United Nations Framework Convention on Climate Change, which is "to develop common but differentiated responsibilities and taking into account the capabilities of states" by keeping the current obligations imposed on the developed countries while leaving the door open for increased contributions by Developing countries that produce emissions are about to surpass emissions from developed countries, in terms of both absolute and historical values.[1]

Many see the Paris Agreement as the best possible outcome, but the agreement only sets the international framework that motivates countries to increase the ambitious goals and actions they intend to implement; that is why the success of the Paris Agreement hinges on its success in motivating countries to increase the ambitious goals they set and their ability to achieve these goals. In the long term, the Paris Agreement may help to form a better picture of the investment climate in clean energy and green (environmentally friendly) infrastructure, which creates new economic opportunities in areas in which the United Arab Emirates plays a leading regional role such as renewable energy.[2]

3. Sustainable Development and Climate Change

Sustainable development seeks to find new ways to mitigate the climate change crisis. Based on this, countries have adopted climate policies centered on the foundations and principles of sustainable development.

3.1 Sustainable Development in the Climate Negotiations

International environmental law has been linked to the existence of the principle of sustainable development, which has profoundly changed the understanding of the relationship between the environment and development, which was described as incompatibility as a result of the contradiction of the two concepts, because economic growth has always been at the expense of the environment, so this principle came to reconcile and create harmony between the environment and development by recognizing the importance of moving forward in Increased economic growth, but in ways that support the environment and its safety.[3]

Sustainable development is what prepares the present generation for its basic and legitimate requirements without prejudice to the ability of the ocean to prepare for the following generations their requirements or in other words, the development response to the needs of the present without compromising the ability of future generations to meet their needs. It means moving forward in economic development with the use of renewable and

(2): United Nations. What is the Paris Agreement. Retrieved from : https://unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement.
(3): Dzebo et al. (2019). Exploring connections between the Paris Agreement and the 2030.
(1): Emas, Rachel. (2015). *The Concept of Sustainable Development: Definition and Defining Principles*

clean energies such as solar and wind, and rationalization in the use of non-renewable and unclean wealth and energies, such as fossil fuels.[1,2]

It was believed by developing and industrialized countries since the end of World War II, that resources exist unlimitedly in nature, and dealt with them on the basis that they are free goods and have no value, which encouraged the exploitation and waste of these resources more and more. In the period between July 5-16, 1972, the United Nations Summit on the Human Environment was held in Stockholm, where this conference discussed for the first time environmental issues and their relationship to the reality of poverty and the absence of development in the world, and it was announced that poverty and the absence of development are the most enemies of the environment, and on the other hand, this conference was criticized by states and governments that still ignore the environment when planning development.[3]

The report of the Brundtland Committee entitled *Our Common Future*, which was submitted by this committee to the United Nations General Assembly in 1987, and which was approved by the General Assembly in 1989, on the basis of which the Brazil Conference was held in 1992 where this was included. The report is a complete chapter on sustainable development, by giving a precise definition of it, as sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet the needs of the future. Accordingly, the United Nations General Assembly decided in 1989 to hold the sustainable development conference in the Brazilian city of Rio de Janeiro in 1992. This conference came out with a set of legal documents, represented in the Declaration of the Earth Summit (Rio Declaration), the agenda of the 21st century, the principles of forest protection, as well as Convention on Climate Change and Convention on Biological Diversity.[4]

In the area of climate protection, the fourth paragraph of Article Three of the Framework Agreement (UNFCCC) stipulated that the states parties have the right to sustainable development and they must follow the policies and procedures that ensure the protection of the climate system from the impact of human activities, and they must take The appropriate measures according to the special circumstances of each of them, which must be integrated with the national development programs in them, taking into consideration that economic development is an essential pillar in adopting measures to reduce climate change. As stated in Article 11 of the Framework Convention that the goal of climate protection should be reached within a sufficient period of time that allows ecosystems to adapt naturally to climate change, in a sustainable manner.[5] The practical reality shows that applying the principle of sustainable development in the field of climate change is very difficult, as it is not easy to replace fossil fuels, which are the backbone of economic development, with another clean fuel due to the high cost of clean energies and limited effectiveness, which makes countries depend on cheap

(2): IISD.(n.d.). Sustainable Development. Retrieved from :https://www.iisd.org/topic/sustainable-development
(3):United Nations. (n.d.). Sustainable development goals. Goal 13: Take urgent action to combat climate change and its impacts Retrieved from : https://www.un.org/sustainabledevelopment/climate-change/

(4) : Jakson, Peter. (2007).From From Stockholm to Kyoto: A Brief History of Climate Change. UN Chronicle. Retrieved from :https://unchronicle.un.org/article/stockholm-kyoto-brief-history-climate-change
(1): World Commission on Environment and Development. (1987). *Our common future* .Oxford University
(2): United Nation Framework Convention on Climate Change. 1992.

traditional energy. The pollutant is very attractive, but if the perspective mentioned in the Fourth Principle of the Rio Declaration is applied, which states that to achieve sustainable development, environmental protection must be an integral part of planning for the development process, and it is not viewed in isolation from environmental protection, that is, if it is taken. Countries consider the environment or one of its elements in mind when developing any development plans; it will be easy to take advantage of this principle in terms of achieving the desired development and environment protection.[1]

3.2 The Role and Dimensions of Sustainable Development

Human being has been at the center of the definitions provided on sustainable development, which includes human development based on improving the level of health care, education and social welfare. The report of the International Committee for Development and Environment "Brundtland" indicated that sustainable development is "Development which meets the needs of the present, without compromising the ability of future generations to meet their own needs".[2] Also, the term sustainable development means a pattern of development that does not overstretch the investment of natural resources, which underpin this development, or destroy it, i.e. development that works to renew resources and wealth and recycle in a way that guarantees a clean and fit environment for the present and future generations.[3]

According to the human development report issued by the United Nations Development Program, "Human development is development of the people for the people by the people. Development of the people means investing in human capabilities, whether in education or health or skills, so that they can work productively and creatively. Development for the people means ensuring that the economic growth they generate is distributed widely and fairly"[4], and sustainable development proposes to confront the threats facing the ecological environment, a world in which the phenomena of poverty, inequality, selfishness, looting of nature, and deviations of scientific progress are removed from our societies so that present and future generations can benefit from the resources of nature. This means blaming the prevailing growth patterns. Sustainable development is the main control of the economic policies that neoliberal globalization has reached in its dealings with the environment and natural resources in a way that threatens the human feeling of security and stability, after it believed that the earth is an inexhaustible source of wealth and an energy of unlimited natural renewal. The reports of experts at the International Climate Change Committee confirmed, beyond a reasonable doubt, that human activities are responsible for what the risks to the future of mankind as a whole have reached.[5]

Consequently, it seems obvious the existence of a close link between economic and social development and the preservation of the environment, and it is not possible to implement a

(3): Owusu, Phebe Asantewaa & Samuel Asumadu-Sarkodie. (4 April 2016). *A review of renewable energy sources, sustainability issues and climate change mitigation*.
(4): Ibid. World Commission on Environment and Development.
(1): McChesney, Ian G. (February1991). The Brundtland Report and sustainable development in New Zealand. Information Paper No.25. Centre for Resource Management. Lincoln University and University of Canterbury.
(2):United Nations Development Programme. (1993).Human Development Report 1993.
(3): United Nation Development program. (2019).Human Development Report 2019.

sustainable development strategy without noting the development requirements of the three: economic, social and environmental aspects. Conserving natural and environmental resources for future generations, by finding economically viable solutions to reduce resource consumption, stop pollution, and conserve natural resources is the core of sustainable development. All peoples of the world need work, food, education, energy, health care, and water. In addressing these needs, the global community must also ensure respect for the environment where they live to fulfill their role in deciding their future.[1,2]

In fact, this dimension is based on the principle of resilience or the ability of the ecosystem to maintain its ecological integrity and resilience, if those systems lose their resilience, they become more vulnerable to other threats. For this, environmental boundaries must be taken into account so that each ecosystem has certain limits that cannot be crossed. From consumption and attrition, but in case of exceeding these limits; It leads to a deterioration of the ecosystem, and on this basis limits must be placed on consumption, population growth, pollution, environmental production patterns, water depletion, deforestation, and soil erosion. Likewise, achieving environmental sustainability, which is a development method that leads inevitably to protecting the necessary natural resources, to ensure the protection of people, such as water, air, land and biological diversity, so that it does not lead to a significant deterioration by pollution and accumulation of carbon dioxide, the elimination of the ozone layer, and the elimination of natural habitats That allows for ensuring biodiversity, by fighting pollution, reducing energy consumption, and protecting non-renewable resources.[3]

3.3 The United Nations Development Program

This program is a United Nations organization that supports providing knowledge, experience and resources to countries in providing a better life for their citizens. It works in 177 countries and helps them develop their solutions to meet the challenges of local and global development. This program was adopted in cooperation with a large group of countries to achieve the Millennium Development Goals. Among the objectives of the program are the following: democratic rule in states, poverty reduction, reducing and dealing with crises, and environment and energy. As for the role of the program to confront the effects of climate change, it helps developing countries to achieve a decent life for their citizens in light of the serious effects of the climate change problem by supporting the establishment of drinking water projects, providing food, improving sanitation, energy methods, and building the capacity of institutions working in these sectors.[4]

The program also enhances the ability of developing countries to remain within the low-carbon countries by working to achieve sustainable development, and to help in providing

(4): Dernbach, J. C. (2003). *Achieving sustainable development: The Centrality and multiple facets of integrated decision making*. Indiana Journal of Global Legal Studies, 247-285.
(5): Stoddart, H. (2011). *A Pocket guide to sustainable development governance*. Stakeholder Forum.

(1): Science Direct. *Ecological Resilience*. Retrieved from:https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/ecological-resilience.
(2): Science Daily. *United Nations Development Program*. Retrieved Sept, 12, 2019 from: https://www.sciencedaily.com/terms/united_nations_development_programme.htm

investment projects that guarantee this. It aims to divert cash flowing from the public and private sectors towards investments in the clean energy sectors. The program also draws the attention of developing countries that It has areas of forests to develop policies to protect those forests, and the program also helps developing countries to participate and contribute to global efforts to combat climate change.[1]

This project focuses on developing the capacity of policymakers with respect to combating climate change, through organizing national dialogues between ministries within those countries with the aim of raising awareness about this problem, while training participants to put forward proposals that may benefit the climate protection negotiations process. Moreover, it aims to provide a special understanding among these countries regarding the size and intensity of national efforts necessary to reduce greenhouse gas emissions, and adapt to the adverse effects of climate change, through an assessment of the expected impacts of the main sectors of these countries, and includes other activities of the project on aspects related to the development of negotiation skills among country representatives, as well as studies on the economics of climate change, in cooperation with the Economic Commission for Europe. The United Nations Development Program cooperates with other United Nations agencies under the name of the unified system to combat climate change with the aim of helping to integrate climate change risks in the formulation and implementation of the main frameworks of cooperation for the United Nations system, and the role of the program in that system focuses on providing methodological tools and advisory services for this system.[2]

3.4 The Role of the United Nations Industrial Development Organization (UNIDO)

It is a specialized agency of the United Nations based in Vienna with the main objective of promoting and accelerating industrial development in developing countries and countries with economies in transition and strengthening international industrial cooperation.[3] The UNIDO was founded in November 17, 1966, and recognized in 1979 as a specialized agency of the United Nations that specializes in working to improve living conditions in the poorest countries in the world, by establishing industrial companies with governments and private sectors in countries to encourage industrial production that is internationally competitive, as it depends on resources available to it, as well as international experiences available to it.[4]

The ultimate goal of the UNIDO is to create a better life for people by establishing an industrial base in countries that enable them to provide prosperity and economic strength in the long run. In recent years, the UNIDO has played an important role in achieving the global development agenda, as a technical cooperation agency, implementing key projects aimed at reducing poverty and enhancing the integration of developing countries into global trade by

(3): UNDP.Climate Change. Retrieved from: https://www.undp.org/content/undp/en/home/2030-agenda-for-sustainable-development/planet/climate-change.html.
(1): Ibid. UNDP.Climate Change.
(2): Digital Watch Observatory. United Ntaions Idustrial development organization.
(3): UNIDO. (n.d.). UNIDO in brief. Retrieved from : https://www.unido.org/who-we-are/unido-brief

building trade capabilities, enhancing environmental sustainability in industry, and improving access to energy.[1]

With regard to the role of the UNIDO in the face of global warming and climate change, especially with regard to creating clean energy that helps in economic development and preserves the environment in developing countries and the poorest, the organization worked to achieve this through the following axes as they are explained in the UNIDO:[2]

- The UNIDO addresses the problem of obtaining clean energy at reasonable prices in order to support the achievement of sustainable development as it helps developing countries to reduce dependence on fossil fuels by encouraging these countries to take advantage of opportunities to achieve material gains by relying on the green industry.
- The World Health Organization cooperates with the Global Environment Facility (GEF) as a key implementing partner in projects related to climate change mitigation, protecting international water systems and avoiding ozone layer depletion.
- The UNIDO participated in the discussions that took place during the Millennium Development Goals Summit, and focused mainly on the problem of climate change, ways to achieve energy efficiency and access to energy, and an economy that considers the preservation of the environment and the development of the private sector to achieve the goals.[3]
- The organization pays special attention to the use of rural energy sources for productive purposes, with a focus on renewable energy and energy efficiency, and for this purpose, the UNIDO conducts studies that explain the social and economic impacts of power generation methods, and also encourages national facilities that can provide services in the energy field based on renewable energy technologies, and it also conducts questionnaires on income-generating activities related to energy production, generation or use in rural areas, where the UNIDO proves that energy can reduce poverty and prevent hunger by facilitating obtaining generating types.[4]
- With regard to energy efficiency, the organization adopts an approach that aims to achieve the optimum efficiency of energy systems used by factories by helping to transfer technologies, skills and information that countries can benefit from. Energy efficiency also reduces pollution, reduces the energy density used, and improves productivity and competitiveness.[5]

The UNIDO activities still contribute to the implementation of the Kyoto Protocol mechanisms, especially the Clean Development Mechanism projects (CDM), as they provide special services to build the capacity of developing countries to qualify them to participate in this mechanism in order to achieve a significant reduction in carbon dioxide.

(4): Green Growth.United Ntaions Idustrial development organization.
(5): UNNIDO (2018). UNIDO at the UN Climate Change Conference (Katowice, 3-14 December 2018.
(1): Ibid. UNIDO (2018).
(2): Ibid. UNIDO (2018).
(3): UNIDO (c). (n.d.). Clean development Mechanisms. Retrieved Nov, 14, 2019 from https://www.unido.org/our-focus/safeguarding-environment/clean-energy-access-productive-use/industrial-energy-efficiency/selected-projects/kyoto-protocol-and-clean-development-mechanisms-cdm/cdm-project-activities

Conclusion:

Climate change is one of the most important challenges facing all different sectors directly or indirectly, it has become a tangible reality that we see its effects and deal with in the fields, where this phenomenon has taken a great interest by scientific bodies, organizations and governments, in order to reduce them and mitigate their economic, social, and environmental impacts. The phenomenon of climate change led to a considerable increase in the proportion of carbon dioxide, which was followed by a noteworthy rise in the global temperature, and this exemplified since the industrial revolution.

One of the most important steps that must be taken in order to avoid the exacerbation of the climate change problem and which are attributed to human activities in different areas, is the adoption of mitigation policies to reduce the substances that constitute a means of emitting human greenhouse gases in several fields and sectors, the most important of which are industry, energy, transport, environment, agriculture and forestry. There is no doubt that the policies and measures taken by countries are important in the context of climate change mitigation, but the speed at which this phenomenon develops calls for the search for other options for mitigation and adaptation, in addition to continuing to pay attention to these measures and strengthening them in order to achieve the most effectiveness.

Sustainable development is a long-term development, which takes into account the rights of future generations to land resources and seeks to protect them. It meets the basic and necessary needs of the individual for food, clothing, and health and educational needs that lead to improving the material and social conditions of human beings without harming biological diversity. Sustainability is the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs, and this definition was developed by the United Nations Global Committee on Environment and Development, and has been expanded over the years to include human needs and well-being, the possibility of human survival for several generations to come on this planet is linked the extent of preserving nature and its resources.

Human activities have recently become depleted of natural environment resources, which threatens human survival and long-term sustainability in the event that environmental sustainability methods are not taken into consideration to be applied. Environmental sustainability helps to ensure that the needs of the current population are met while preserving the needs of future generations without affecting them. Thus, environmental sustainability can be defined in general terms as the interaction of the responsible person with the environment to avoid depletion or degradation of natural resources, and preserve the quality of the environment for a long time.

References:

1- Chasek, P.S., Downie, D.L. and Brown, J.W. (2006). *Global Environmental Politics*. Boulder, CO: West view Press

2- De Chazournes, Laurence Boisson. (n.d.) .*Environmental Law :Negotiating a Universal Legal Framework*.Reytrieved Oct, 21, 2019 from https://legal.un.org/avl/ha/ccc/ccc.html

3- Dernbach, J. C. (2003). *Achieving sustainable development: The Centrality and multiple facets of integrated decision making*. Indiana Journal of Global Legal Studies, 247-285.

4- Digital Watch Observatory. (n.d.). United Ntaions Idustrial development organization. Retrieved Nov, 11, 2019 from https://dig.watch/actors/united-nations-industrial-development-organization

5- Dzebo et al. (2019). Exploring connections between the Paris Agreement and the 2030.The Case for Policy Coherence. Stockholm Environment Institute, Stockholm. Retrieved Jan, 27, 2020 from https://www.sei.org/wp-content uploads/201 9/08/connections-between-the-paris-agreement-and-the-2030-agenda.pdf. Dec.27.2019

6- Emas, Rachel. (2015). *The Concept of Sustainable Development: Definition and Defining Principles.* Retrieved Dec 20, 2019 from https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015_SD_concept_definiton_rev.pdf

7- EPA. (n.d.). Climate impacts on ecosystems.Retrieved Dec, 16, 2019 from https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-ecosystems_.html

8- European Commission. (n.d.). Climate Change Consequences. Retrieved Dec, 15, 2019 from https://ec.europa.eu/clima/change/consequences_en

9- European Commission. (n.d.). Paris Agreement. Retrieved Dec, 22,2019 from https://ec.europa.eu/clima/policies/international/negotiations/paris_en Dec.22.2019

10-FAO. (2008). *Climate Change and Food Security*: *A Framework Document*. FAO Inter-Departmental Working Group on Climate Change, Food and Agriculture Organization of the United Nations: ROME. PDF. Retrieved Sept, 25,2019 from www.fao.org/Clim/k2595e00.pdf

11-Green Growth. (n.d.).United Ntaions Idustrial development organization. Retrieved Nov, 12, 2019 from https://www.greengrowthknowledge.org/organization/united-nations-industrial-development-organization-unido

12-Hobbs, W.R. et al., 2016: A review of recent changes in Southern Ocean sea ice, their drivers and forcings. *Global and Planetary Change*, 143, 228–250, doi:10.1016/j.gloplacha.2016.06.008.

13-IISD.(n.d.). Introduction to the UNFCCC and Kyoto Protocol. Retrieved Nov, 11, 2019 from https://enb.iisd.org/process/climate_atm-fcccintro.html

14-IISD.(n.d.). Sustainable Development. Retrieved Dec, 22, 2019 from https://www.iisd.org/topic/sustainable-development

15-IPCC. (2007). Climate Change 2007 the physical science basis. Contribution of Working Group I to the Fourth Assessment Report of IPCC. Cambridge. UK. Cambridge University Press. Climate change and food security: a framework document 80

16-IPCC. (2014 a). Summary for Policymakers. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

17-IPCC. (2014 b). Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland

18-IPCC. (2018). Global Warming of 1.5°C. *An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* .In Press.

19-Jakson, Peter. (2007).From From Stockholm to Kyoto: A Brief History of Climate Change. UN Chronicle. Retrieved Dec, 22, 2019 from https://unchronicle.un.org/article/stockholm-kyoto-brief-history-climate-change

20-Jackson, Stephen T. (2018). *Climate change*. Encyclopedia Britannica. Retrieved Dec, 10, 2019 from https://www.britannica.com/science/climate-change

21-Kyoto Protocol to the United Nations Framework Convention on Climate Change (1998). United Nations. Retrieved Sept, 15,2019 from http://unfccc.int/resource/docs/convkp/kpeng.pdf.

22-Lapola DM, Oyama MD, Nobre CA. (2009). Exploring the range of climate biome projections for tropical South America: The role of CO2 fertilization and seasonality. Global Biogeochem. Cycles. 2009;23

23-Mathez, Edmond A. & Jason E. Smerdon. (2018). *Climate Change: The Science of Global Warming and Our Energy Future*. USA, New York: Columbia University Press.

24-McChesney, Ian G. (February1991). The Brundtland Report and sustainable development in New Zealand. Information Paper No.25. Centre for Resource Management. Lincoln University and University of Canterbury. Retrieved Oct, 11, 2019 from https://core.ac.uk/download/pdf/35461353.pdf

25-NASA.(n.d.). *Causes of Climate Change.* Retrieved Sept, 15, 2019 from https://climate.nasa.gov/causes/.

26-National Geographic (n.d.).Global warming effects. Retrieved Dec, 10, 2019 from https://www.nationalgeographic.com/environment/global-warming/global-warming-effects/

27-Owusu, Phebe Asantewaa & Samuel Asumadu-Sarkodie. (4 April 2016). *A review of renewable energy sources, sustainability issues and climate change mitigation*. Retrieved Dec, 14, 2019 from https://www.cogentoa.com/article/10.1080/23311916.2016.1167990

28-PMC (Department of the Prime Minister and Cabinet). (n.d.). United Nation Framework Convention on Climate Change.Retrieved Oct, 15, 2019 from https://www.pmc.gov.au/domestic-policy/taskforces-past-domestic-policy-initiatives/united-nations-framework-convention-climate-change-unfccc.

29-Science Daily. (n.d.). *United Nations Development Program*. Retrieved Sept, 12, 2019 from https://www.sciencedaily.com/terms/united_nations_development_programme.htm

30-Science Direct. (n.d.). *Ecological Resilience*. Retrieved Dec, 14, 2019 from https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/ecological-resilience

31-Stoddart, H. (2011). *A Pocket guide to sustainable development governance*. Stakeholder Forum

32-UNDP. (n.d.) .Climate Change. Retrieved Oct, 15, 2019 from https://www.undp.org/content/undp/en/home/2030-agenda-for-sustainable-development/planet/climate-change.html

33-UNDP (United Nations Development Programme). (2019).Human Development Report 2019 Beyond income, beyond averages, beyond today: Inequalities in human development in the 21st century, 2019.Retrieved Dec, 20 , 2019 ISBN: 978-92-1-126439-5/ eISBN: 978-92-1-004496-7

34-UNIDO(a). (n.d.). UNIDO in brief. Retrieved Nov, 14, 2019 from https://www.unido.org/who-we-are/unido-brief

35-UNNIDO (b)(2018). UNIDO at the UN Climate Change Conference (Katowice, 3-14 December 2018). Retrieved Nov, 14, 2019 from https://www.unido.org/unido-cop24

36-UNIDO (c). (n.d.). Clean development Mechanisms. Retrieved Nov, 14, 2019 from https://www.unido.org/our-focus/safeguarding-environment/clean-energy-access-productive-use/industrial-energy-efficiency/selected-projects/kyoto-protocol-and-clean-development-mechanisms-cdm/cdm-project-activities

37-United Nation Development program. (1993).Human Development Report 1993. United Nations Development Programme (UNDP). Oxford University Press. Oxford. ISBN 0-19-508457-8

38-United Nation Framework Convention on Climate Change.1992.Retrieved from: https://www.sciencedirect.com/topics/earth-and-planetary-sciences/united-nations-framework-convention-on-climate-change. Oct.10.2019

39-United Nations Framework Convention on Climate Change (UNFCCC) (1992). United Nations. FCCC/INFORMAL/84. Retrieved Oct,10, 2019 from http://unfccc.int/resource/docs/convkp/conveng.pdf.

40-United Nations. (n.d.). Climate change. Retrieved Oct, 10, 2019 from https://www.un.org/en/sections/issues-depth/climate-change/

41-United Nations. (n.d.). Sustainable development goals. Goal 13: Take urgent action to combat climate change and its impacts Retrieved Nov, 14,2019 from https://www.un.org/sustainabledevelopment/climate-change/

42-United Nations. (n.d.). What is the Paris Agreement. Retrieved Nov, 15, 2019 from https://unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement

43-WHO. (n.d.). Climate change and human health. Retrieved Dec, 16, 2019 from https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health

44-World Commission on Environment and Development. (1987). *Our common future* .Oxford University.