The impact of climate change on achieving sustainable development goals in the world

أثر التغيرات المناخية على تحقيق أهداف التنمية المستدامة في العالم

Benichou Fethi [1], University of Tlemcen (Algeria), fethibenichou@yahoo.fr

Benaissa Amina [2] University of Tlemcen (Algeria), amibenaissa@yahoo.fr

Received: 27/02/2023 ; **Revised**: 20/04/2023 ; **Accepted**: 20/06/2023

Abstract:

Climate change is a global long-term environmental phenomenon, the effects of which vary from place to place depending on the nature and sensitivity of the ecosystem in each of the world's regions. These impacts affect all dimensions (economic, social, environmental and health) and thus hinder the mechanism for achieving global sustainable development. This paper aims to study and analyse the impact of climate change on the international community's ability to achieve sustainable development goals The study found that climate change has a negative and varying impact on States' ability to achieve sustainable development, Global warming at current rates could exacerbate existing economic and social challenges, especially for societies that depend on climate-sensitive resources.

Keywords: Climate change - Sustainable development - Carbon oxide - Drought.

Jel Classification Codes : Q53 ; Q54; Q20; Q01

الملخص :

يعتبر تغير المناخ ظاهرة بيئية عالمية طويلة المدى ، تختلف تأثيراتها من مكان إلى أخر وذلك حسب طبيعة وحساسية النظام البيئي في كل منطقة من مناطق العالم ، وتطال هذه التأثيرات جميع الأبعاد (الاقتصادية ، الاجتماعية ، البيئية و الصحية) وهي بذلك تعوق آلية تحقيق التنمية المستدامة العالمية . تهدف هذه الورقة البحثية إلى دراسة و تحليل أثر التغيرات المناخية على قدرة المجتمع الدولي على تحقيق أهداف التنمية المستدامة ، توصلت الدراسة إلى أن التغيرات المناخية لها تأثير سلبي و بدرجات متفاوتة على قدرة الدول على تحقيق التنمية المستدامة ، وأن الاحتباس الحراري بمعدلاته الحالية قد يفاقم من التحديات الاقتصادية والاجتماعية القائمة وخاصة بالنسبة للمجتمعات التي تعتمد على الموارد الحساسة للتغيرات المناخية .

الكلمات المفتاحية : تغير المناخ – التنمية المستدامة – اوكسيد الكربون- الجفاف.

تصنيف JEL: Q53 ; Q54; Q20; Q01 .

fethibenichou@yahoo.fr

I- Introduction :

The climate crisis threatens human rights around the world; It's a real global problem that's been worsening lately. climate change ", and the gravity of climate change falls into its significant long-term impacts on natural biosystems, The world is therefore experiencing dramatic changes as a result of climate changes, which are one of the most serious environmental challenges facing the world during its contemporary history of high temperatures due to greenhouse gas emissions in some regions of the world, while floods, rain and snowstorms are sweeping across other regions of the world (World Bank, 2018).

Today's climate change is a development issue that contributes to worsening poverty rates and is hitting economic growth (Alhamdany, 2019) , thus increasing interest in it in recent times by countries, global and national institutions and bodies concerned with environmental and climate affairs and environmental researchers. Numerous studies and research on this phenomenon continue and continue to hope for ways and solutions to mitigate and adapt to climate change, especially in developing countries (Chazee.L, 2017).

Climate change is therefore a fundamental challenge for sustainable development. s economic and social aspects of development without losing sight of the environmental dimension in order to preserve natural resources for the purpose of contemporary development, The conservation of natural resources for future generations, from which climate change is one of the most pressing environmental issues at the domestic and international levels because of its implications, poses a threat to the future of future generations with the right to remain in a clean and secure environment. On the basis of the above, the following problems have been raised: **How do global climate changes affect the achievement of sustainable development goals? What are the ways to mitigate?**

Study hypothesis: Global climate change affects negatively and to varying degrees the achievement of sustainable development goals in different countries of the world.

The importance of the study and the approach used: The climate changes facing today's world pose an important challenge, owing to the repercussions of global warming on various areas and human dimensions. The problem of the misuse of natural resources and environmental degradation has had a clear impact on the weakening of sustainable development. Our study is therefore geared towards identifying the realities of the impacts that climate change can have on the world's resources and sectors and demonstrating its impact on sustainable development, and the extent to which the State, institutions and individuals are aware of the risks and alternatives to achieving the 2030 Agenda for Sustainable Development.

In this study, we relied on a descriptive approach by addressing a theoretical aspect that explains the phenomenon of climate change. and analytical approach by analysing the impact of climate change on sustainable development goals based on the reports of international organizations and bodies, as well as using websites and some recent scientific articles. The research has been divided into two main interlocutors:

First: The theoretical framework of the study.

second: Impact of global climate change on the achievement of sustainable development goals.

2-Theoretical framework for the study.

Sustainable development and adaptation to climate change are pillars of all the world's agendas, with the United Nations supporting the climate change negotiations that led to the Paris Convention on Climate Change in 2015. The Paris Agreement's main objective is to

strengthen the global response to the threat of climate change by keeping global temperature rise well below 2 degrees Celsius above pre-industrial levels, or even below 1.5 degrees Celsius. In addition, the Paris Agreement aims to strengthen countries' capacity to deal with the impacts of climate change. (United nation, 2015). Although the world was early alerted to the seriousness and repercussions of climate change on sustainable development goals in various countries of the world, the current reality in 2022 clearly points to the worsening of this phenomenon and not to reverse its negative repercussions on sustainable development conditions in countries of the world.

2-1.Basic concepts on climate change

The United Nations Framework Convention on Climate Change defines the phenomenon of climate change as "directly or indirectly attributable to human activity resulting in the observed change in the composition of the global atmosphere, as well as natural climate variability over similar periods of time". (Khalid, 2021).

The Intergovernmental Action Group on Climate Change (GIEC) considered climate changes as "all forms of changes that can be expressed as statistically, resulting from human activity, or from internal interactions of components of the climate system, and which can last for decades in a row" (saaddin, 2009,P33).

Climate changes occur as a result of several causes, including dynamic processes in the Earth's subsoil and surface, such as volcanoes, as well as changes in the intensity of sunlight and meteorites falling on Earth. Human activities in modern times are the most important of these causes. The most important causes of climate changes resulting from human activities on Earth can be mentioned below:

• Energy generation by burning fossil fuels resulting in global warming that stimulates the emission of greenhouse gases.

• Logging, damaging greenery and burning forests adversely affect the nature of the climate.

• Industrial development in modern times, which began since the 18th century industrial revolution depends on energy that can be obtained by burning fossil fuels, as the need for goods and industry increases, and the quantities of manufactured materials and the number of factories increase significantly, the amount of greenhouse gases presented in the atmosphere has increased.

• Different modes of transport depend on fuel burning as well, releasing large amounts of harmful gases and greenhouse gases, and contributing significantly to increasing the amount of these gases in the atmosphere, and thus to increasing global warming.

2-2-basic concepts on sustainable development:

The term "sustainable development" was used for the first time in 1980 in the Global Strategy for Survival of the International Union for the Conservation of Nature, and in 1987 the concept of sustainable development was included in the report of the International Union for the Conservation of Nature. "Our common future", issued by the World Commission on Environment and Development at the invitation of the United Nations, for a proposal "A Comprehensive Agenda for Change" on the concept and practice of development, rethinking the way of life and governance and responding to the goals and aspirations of mankind. This concept was developed in 1991 in the United Nations Environment and Development Programme. The Conference of Arab Environment Ministers also adopted this concept at the meeting held in Cairo in 1991 in preparation for participation in the Earth Summit. "Rio de Janeiro, Brazil, 1992. It was a conference." Rio ", in which 178 States participated, ending

with the proclamation of Rio as the official sponsorship of the concept of sustainable development; Since the Conference, this concept has become a reference for all international conferences organized under the auspices of the United Nations, and sustainable development priorities were identified in 2002 at the World Summit on Sustainable Development in Johannesburg.

The Brundtland report (1987) defined sustainable development as "development that meets the needs of the present generation without sacrificing or damaging the ability of future generations to meet their needs". (United nation, 2015)

It is defined as: "Enduring endeavour to develop the quality of human life taking into account the ecosystem's capabilities (Paugam.A, 2015).

The FAO Conference came up with a broader definition of sustainable development as "managing and maintaining the resource base and guiding the process of biological and institutional change to ensure that the human needs of present and future generations are continuously satisfied in all economic sectors and do not lead to environmental degradation, artistic and acceptable". (Akparova.A, 2014).

The Sustainable Development Plan of 2030 contains 17 of the Sustainable Development Goal (SDG), which aims to guide global action to achieve a common set of development goals over the next 15 years. These 17 sustainable development goals remain universally adopted (NATIONS UNIES, 2015). These goals are:

- Poverty eradication -- zero hunger - Good Health and Well-being - Quality Education - Gender Equality - Reducing inequalities - clean water and hygiene - Clean and affordable energy - decent work and economic growth - Upgrading industry, innovation and infrastructure - maintaining cities and building sustainable communities - Application of sustainable production and consumption patterns - addressing the issue of climate change - underwater life (preservation of the seas) - life on land (preservation of forests) - Promoting peace and strong institutions - Partnerships to achieve these goals (United nation, 2015).

3-Impact of global climate change on the achievement of sustainable development goals

Climate change is a long-term global problem involving complex interactions between environmental factors and economic, political, social and technological conditions (Khalid, 2021). The impacts associated with climate change have emerged from human activities in several forms, notably:

• Changes in average temperatures, associated changes in season times and increasing intensity of extreme weather events.

• Low soil moisture, increased evaporation and fluctuation.

• Shifts in rainfall patterns in terms of time and geographical distribution, annual and severe seasonal volatility of weather events, and increased droughts and floods.

• Snow cover on the highlands has decreased (e.g. mountainous areas in Syria and Lebanon).

• Sea level rise and overlap in freshwater coastal aquifers, as well as climate change is expected to negatively affect water quality through groundwater pollution and increased salinity.

These effects are currently occurring and will worsen in the future (IPCC, 2013), exposing millions of people (especially in developing countries) for lack of water and its impact on agricultural production, environmental pollution problems, conflicts and wars due to land,

resources, water and food, and the problem of extinction (plants, small mammals and marine organisms), loss of biodiversity, deforestation and the elimination of the Earth's lungs, fish wealth, overfishing, waste management and recycling, and for heightened risks to health (Suleiman Sarhan, 2015).

Increasing levels of greenhouse gases (resulting from greenhouse gas emissions such as methane and Nowruz oxide) are the main cause of climate change, as human activities produce a significant proportion of about 78% of carbon dioxide from fossil fuel combustion (coal, oil and gas) and industrial uses.

The World Bank reports that the last 15 years are one of the hottest since temperatures began to be recorded 130 years ago, and that the Earth's temperature could rise four degrees Celsius at the end of the current century. This will have devastating effects on agriculture, water resources and human health and the poor will be most affected by these impacts, which will not exclude any of the world's regions and these reports confirm that if the world warms only 2 degrees Celsius, This is what can happen in 20 to 30 years. We may see a widespread shortage of food. Unprecedented heatwaves and more severe storms (l'environnement, 2012)(Ministry Of Regional Planning And The Environment).).

Energy-related CO2 emissions rose by six per cent last year to reach an all-time high, completely eradicating the declines associated with the coronavirus pandemic. To avoid the worst impacts of climate change, greenhouse gas emissions must peak before 2025 and decline by 43 per cent by 2030, reaching net zero by 2050, Under current voluntary national commitments to climate action, greenhouse gas emissions are expected to increase by approximately 14 per cent during the next decade's(climate summit. COP27 ، 2022) .

• Impact of climate change and the global economy:

Climate change poses one of the most significant threats to sustainable development for poor countries than for wealthy countries, although it does not contribute a significant proportion of total greenhouse gas emissions, owing to the fragility of these countries' economies in the face of the repercussions of climate change on the one hand and weak adaptation capabilities on the other. (UNFCCC, 2011), and many of the world's economies continue to rely mainly on sectors hostage to climatic conditions, such as agriculture, fishing, forest exploitation, other natural resources and tourism, so that energy resources such as petroleum and others, which are the cornerstones of the economy, are highly vulnerable to climate change (Khalid, 2021).

A research study by Stanford and Berkeley Universities of America covered 611 countries during the period. (1960- 2010) By determining the optimal annual temperature that coincides with the highest levels of productivity at work and food crops, climate changes can damage the global economy 10 times higher than previously estimated. global production will be reduced by 32% by the end of the century, Researchers found that 13 degrees Celsius represented the optimal temperature or equivalent of the climate conditions prevailing in the San Francisco Bay Area The study showed that countries in the tropics with temperatures already above that optimum temperature will face the most dramatic economic damage from global warming.

The study indicated that countries with an average annual temperature of 55 or more, such as the United States of America, China and Japan, may increasingly suffer severe economic losses due to higher temperatures. and that countries in the North of the globe with

temperatures below optimal average may reap many economic benefits as agricultural and industrial opportunities increase similar to higher GDP (Khalid, 2021).

• Climate change, hunger and poverty in the world:

In a report on the impact of climate changes on humanity, AFP said that some 166 million people in Africa and Central America needed assistance between 2015 and 2019 due to climate change-related food emergencies. Similarly, between 8 and 80 million people are at greater risk of starvation by 2050. With regard to malnutrition, some 1.4 million children would suffer from extreme stunting in Africa due to the climate in 2050. Agricultural crops have declined by between 4 and 10 per cent globally over the past 30 years. Equatorial fishing decreased by 40 to 70 per cent, with higher emissions. An additional 2.25 billion people are at risk of dengue in Asia, Africa and Europe, under alarming high emission scenarios. (Suleiman Sarhan, 2015).

In this regard, the World Bank estimated in 2015 that climate change alone could drive more than 100 million people into poverty by 2030. According to their estimates, sub-Saharan Africa and South Asia (regions already suffering from some of the world's worst forms of poverty) They will be most affected, and severe weather events such as droughts, floods and severe storms can cripple poverty-stricken communities. Poverty and hunger are two sides of the same coin, preventing poverty from obtaining good food and clean water while hunger and associated health problems due to lack of food and water make it difficult to escape poverty (World Bank, 2015).

- **Climate changes, undernutrition and food security**

Climate change affects the global food production system at a time when the system needs to respond to the challenges of the world's growing population, changing food systems and urbanization (FAO, 2015). As stated in the Paris Convention (UNFCCC) climate change 2015), almost all countries agreed to act to keep global temperature rise below 2 ° C and seek to limit this increase to 1.5 ° C above period levels Pre-industrial era. The 1.5 ° C maximum represents the best line of defence in front of the worst effects Climate change. Apart from the effects of CO2 emissions, shifts are expected to result In temperatures and rains, global food prices will rise by 2050, with estimated increases 3 per cent and up to 84 per cent, based on food type.(Porter et al., 2014)

In areas near the equator, high temperatures and changing patterns can lead precipitation to droughts or floods, damaging crops and resulting in an increase in Market prices. Climate change food price volatility increases food insecurity (Hertel et al., 2010). In the face of rising prices, consumers may choose to buy food that does not contain Many nutrients but high in calories and/or hunger tolerance, with consequences ranging from deficiency Nutrition and micronutrient deficiency to weight gain and excessive obesity.

Climate change may also affect stunting rates. The worst-case prospects are estimated based on High concentrations of greenhouse gases, increasing population growth and low economic growth, that The number of people at risk of global undernutrition may increase by 175 million compared to levels recorded today by 2080(Brown et al., 2015)..

Unless action is taken to reduce global emissions, climate change is expected to reduce The amount of food available globally is about a third by 2050, and the average per capita availability of food is reduced Per 3.2 per cent (99 calories per day) and 4 per cent (14.9 grams per day) For fruit and vegetables, to 0.7 per cent) 0.5 grams per day (for red meat consumption)(Springmann and al, 2016) Although these percentages may not look too high,

they are averages Global, which means that some regions may be affected much more than others (Lingyun.H, 2019).

• Climate changes and natural disasters:

2022 has witnessed many natural phenomena that have imposed their control over the world, most notably the phenomenon of drought on seas, oceans, agricultural land and forests in many countries of the world. (European News Agency website report Photos, 2022), where this year has seen the most widespread drought in decades, and records are broken in some regions, with NASHA indicating that "2022 is striking for drought in the northern hemisphere, with record or near-record hot droughts affecting both North America, Europe, the Mediterranean and China." The Horn of Africa region is among the worst affected by the absence of rainfall for four consecutive seasons and Africa is more drought-stricken than any other continent, according to a report by the United Nations Convention to Combat Desertification (UNCCD). Of the continent's 134 droughts between 2000 and 2019, 70 were in East Africa.

China has declared a drought emergency this year, with extreme temperatures drying up some rivers, including parts of the Yangtze River, the world's third-longest. Records of the lowest rainfall levels in western Europe (according to Copernicus Climate Change Watch) were broken, while Central Asian States such as Afghanistan and Iran have been experiencing severe drought conditions for more than a year now.

The Strzepek K.M. study also noted; D.N.Yates and D.E.El Quosy; 1996 "" On the future impacts of climate changes on the Nile River, to nine different scenarios showing the impact of climate changes on the Nile River, All of these scenarios indicate a decline in the River Nile's water flow rate of about 20% even in 2040. and one scenario predicts an increase in the flow rate of river water after 2045, The rest of the scenarios indicate a decrease in the flow rate to varying degrees (K.M Strzepek, 1996,P89).

At least 62 people were killed by severe snowstorms sweeping across the United States and Canada in December 2022, with thousands still suffering from power outages due to storms that hit large areas of North America. At least 28 people have died in New York state, mostly in Buffalo, with authorities recording dozens of deaths in nine US states. Meteorologists warned of the possibility of further snow, up to nine inches (23 centimetres), in areas of the state. (Bank, 2022)(World Bank, 2022).

• Climate changes, homelessness and migration:

Climate change is fuelling the humanitarian emergency in the Sahel States, which has been more severe and rapid across Africa than anywhere else, according to last month's report by the Intergovernmental Panel on Climate Change, four million people have been displaced across the Sahel to this day. (UNHCR estimates), the humanitarian emergency has been characterized by an "extraordinary crisis", according to the Office for the Coordination of Humanitarian Affairs. Displacement due to environmental catastrophe is a serious phenomenon, particularly in Asia, where the Centre for Internal Displacement Monitoring reported that in 2019, China, Bangladesh, India and the Philippines experienced more disaster-induced displacement than all other countries, accounting for 70 per cent of the global total (IPCC, 2020).

In addition, drought has affected many regions, climate variability and rising temperatures and irregular rainfall to a decline in agricultural wealth, This has led to problems in States and regions dependent on agriculture and thus migrations from these areas to other areas in which

they can work and live have doubled, Changes will also lead to serious environmental disasters that disrupt social and economic stability and thus to the indiscriminate and dangerous rise in migration, as it contributes to a dramatic increase in the congestion of major cities and the emergence of larger problems as a result such as pollution, disease, etc.

• Climate Changes and Human Health:

Climate emergencies pose a major threat to human health, especially in areas where people have difficulty accessing basic care or where they are deprived. For example, changing rainfall patterns in Niger affect food production and lead to the spread of communicable diseases such as mullah ria. This is in addition to repeated epidemics and food insecurity associated with demographic pressure and land use, as well as violence and displacement. The malnutrition of Mullah Rea's lethal association also takes a heavy toll on children under the age of five. (Khalid, 2021).

Climate change also contributes mainly to the occurrence of air pollution, space, water and food. These are important factors in maintaining human health. According to scientists, about 150 thousand people die annually. The number is expected to increase to 250 thousand between 2030 and 2050. The most significant adverse effects on human health will be included:

• It contributes to increased human fears and concern for serious phenomena that threaten the Earth, as well as to the failure to properly regulate the heat of the human body.

• Contribute to the spread of infectious diseases through the spread of insects that carry them.

• Prevents some medicines from working properly, as rising temperatures affect the work of many types of medicines such as schizophrenia.

• Rising Earth temperature leads to health problems in humans such as: heat exhaustion, sunstroke and muscle spasms, and affects heart disease and respiratory diseases.

• Climate changes and greenhouse gas emissions

Although the Paris Climate Agreement was signed on December 12, 2015 as the first legally binding global agreement to reduce emissions to keep the planet's temperature below 2 degrees Celsius compared to pre-industrial values, the abandonment of commitments by several countries such as the United States of America and the continuation of daily activities harmful to humans have made global warming waving to kill the Earth driven by carbon dioxide gases, being responsible for more than 65% for gas warming. (Suleiman Sarhan, 2015), there is also a gas "methane" and "nitose oxide" that accumulates in the atmosphere.

Methane gas has the greatest impact on climate after carbon dioxide and results from the degradation of organic materials in the oxygen-free environment. Melting ice releases large quantities of methane. Methane is made up by approximately 40% through natural processes. The remaining 60% is derived from the human factor in agricultural activities, especially livestock husbandry, waste processing, coal industry and oil. Nitrous dioxide gas is mainly produced by intensive agriculture (Composting) In addition to fossil fuel combustion in addition to some industrial processes, although the concentration of methane and nitrous oxide is lower than carbon dioxide, their effects in global warming are much greater, as methane heating capacity is 265 times higher than that of carbon dioxide, and nitrous gas and methane concentrations in the atmosphere continue to increase, with a 26% higher concentration of methane and 23% (saaddin, 2009,P33).

4-Conclusion:

Although the COVID-19 virus has temporarily reduced greenhouse gas emissions, this does not replace sustainable climate action (Goal 13), CO2 concentrations remain (CO2) at major reporting stations at record levels (WMO) Climate change cannot be stopped but can be curbed, and this may need to achieve significant and sustainable reductions in greenhouse gas emissions. To achieve this, individuals must significantly change their lifestyle other than what is actually done to reduce dependence on fossil fuels, which are the main source of greenhouse gases. The study's findings were as follows:

* Climate changes have a negative, varying and sometimes uncertain impact on countries' ability to achieve sustainable development goals, and global warming at its current rates may exacerbate existing economic and social challenges, especially for societies that rely on climate-sensitive resources.

* Climate change is likely to make sustainable development difficult in the second part of the century s development goals in the middle of the century, These crises will undermine States' capacities to achieve the targets measured by reducing poverty s rights ", promoting equity, eradicating hunger, achieving health and human well-being, Conservation and efficient use of resources, provision of clean water for all, Use of clean energy sources, protection of vulnerable groups such as displaced persons, Equality and women's empowerment by 2050 in Africa and parts of Asia in particular.

* Sustainable development can reduce vulnerability to climate change by encouraging adaptation, enhancing resilience and increasing resilience. Climate change can slow progress towards sustainable development either directly through increased exposure to adverse impact or indirectly through erosion of resilience.

Goal 13 calls for urgent action to combat climate change and its impacts. But all these goals affect climate change and vice versa. We will not make much progress in climate action without accelerating Goal 7 on clean and affordable energy for example, or achieving Goal 12 on responsible consumption and production Climate solutions can support the Goals, for example through a fair transition to renewable energy focused on decent work or focus on Goal 8, or through the development of resilient infrastructure under Goal 9.

We therefore decided to make the following recommendations:

- Global carbon oxide emissions must be reduced by 50 per cent by 2030 through the use of clean energy, and the Earth's warming ceiling must be maintained at 1.5 ° C. Fossil fuel production must decline by approximately 6 per cent annually during the decade 2020-2030. In order to address climate change and its various effects, the COP 27th Climate Conference COP has endorsed the outcome of Sharm el-Sheikh 2022.
- Action must be taken to enhance adaptability to climate impacts human rights ", adapting to climate consequences protects individuals, institutions, ways of life, infrastructure and natural ecosystems, to include current and likely future impacts And priority must now be given to the most vulnerable people who have the least resources to cope with climate risks, The rate of return may be high. For example, disaster early warning systems save lives and property. It has achieved benefits up to 10 times the initial cost.

References:

1-Mr. Hassan Khalid, Climate Change and Global Sustainable Development Goals, Climate Change and Global Sustainable Development Goals, Books House for National Documents, 2021.

2-Kharfan Saaddin, Climate Change and the Future of Energy: Problems and Solutions, Publications of the Ministry of Culture - Syrian General Commission for Writers, 2009, Syria, p. 33.

3- Suleiman Sarhan, Economic Study of Climate Change and Its Effects, Egypt, 2015.

4-United Nations, Sustainable Development Goals Report 2019, United Nations publication, 2020, New York, United States.

5- World Bank, updated estimates of the impact of the coronavirus pandemic, World Bank publications, 2020, Washington.

6- World Bank, Global Economic Outlook, World Bank publications, 2021, Washington.

7- IMF, Global Economic Outlook, IMF publications, 2020, Washington.

8- Sandy Sabri and others, green economy and its impact on sustainable development: case study of Egypt, International Journal of Economic Studies and Arab Democratic Center for Strategic, Economic and Political Studies, Egypt 2008, p. 5 4.

9- Green Inclusive, Mohammed Ahmed bin Fahd, Chairman of the Supreme Committee of Zayed International Environmental Foundation - This publication was prepared for the United Nations South-South Development Expo hosted by the United Nations Environment Programme (UNEP) in Nairobi, Kenya, from 28 October to 1 November 2022, Chapter 1 is a general introduction to the green economy, renewable energies and sustainable development.

10-Alexandros .Gasparatos AND ALL . 2017. Renewable energy and biodiversity Implications for transitioning to a Green Economy

11- AygülenKayahan. Karakul , Educating labour force for a green economy and renewable energy jobs in Turkey: A quantitave approach2016.

12-Lingyun .He2019 .and green economy development: Empirical analysis based on 150 listed companies of China.

13-Green Economy and Renewable Energy Focusing on the Biomass Energy Source. 2016. Mohammed Hussien .

14-PAUGAM, A., RIBEIRA, T., TUBIANA, L., & PACHAURI, K. (2015). Regards sur la Terre 2015. Construire un monde durable. Paris: Armand Colin .

15-Alfred Kammer, Jihad Azour, Abebe Amru Selassie ,2022, the war in ukraine and its repercusssions across the world , ilan goldfein and chang yong rhee.

16-Ministry Of Regional Planning And The Environment 2012, National Environment And Sustainable Development Observatory Report Of The European Environment Agency.

17-K.M., Strzepek; Quosy, D.N.Yates and D.E.El ,1996 , Vulnerability assessment of water resources in Egypt of climate change in Nile basin , climate research, p 89 .

18-UNITED NATION,2015 , Sustainable Development Goals;17 goals to transform our world,

19-United Nations Framework Convention on Climate Change (UNFCCC). (2011). «Fact sheet: Climate change science - the status of climate change science today». February 2011.

20-Alhamdany, R . Akhudhur,W. 2019, the mass media and its roles in achieving the continuing , development from viewpoint of unirersities in structors, Social science journal , edition 6.

21- Chazee, L ,2017, Local planning a tool for Environmental Sustain Abi laity, The case of Mediterranean wet lands, New media ,p16.

22- Akparova.A, Toktabayev.A ,Diar.S ;2014, Green Economy , Innovation Based Developent Of Kazekhsten,.

23-IPCC, Intergovernmental Panel on climate change,2013 , The Phisical Science Basis . Summary For Policymakers, Contribution To The Fifth Assessment Repport Of The Iinterngovernmental Panal On Climate Change.