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UN Economic and Social Council (ECOSOC)

Topic Area B

Enhancing the climate resilience of developing countries infrastructure



UNITED NATIONS ECONOMIC AND SOCIAL COUNCIL (ECOSOC)

STUDY GUIDE

Topic Area 2:

“Enhancing the climate resilience of developing countries infrastructure”



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1. MANDATE OF THE UN ECOSOC

The United Nations Economic and Social Council (referred to hereafter as ECOSOC) was established in 1945 and is one of the Organisation's six principal organs.

Its duties are described in Chapter X of the UN Charter. Among other things, it may undertake or initiate studies and reports, recommendations, resolutions and draft conventions, always in accordance with the matters falling within its competence, i.e. international economic, social, cultural, educational and health matters. ECOSOC is inextricably linked to the purposes of Article 1, para. 3 in the UN Charter and therefore as the main organ for achieving these goals.

ECOSOC is in constant interaction with civil society in order to achieve these goals. It is a global forum for productive dialogue between politicians, parliamentarians, scientists, foundations, business, youth and more than 3,200 registered NGOs. ECOSOC's current objective is to promote the three dimensions of sustainable development.

There are fifty-four (54) members of ECOSOC, with the possibility of re-election and with only one representative per Member State. Each Member has one vote and decisions of the Council shall be taken by a majority of the members present and voting.

ECOSOC brings together and provides overall guidance and coordination for a wide range of subsidiary bodies and UN agencies committed to sustainable development. These include regional economic and social committees that facilitate intergovernmental discussions on major global issues, expert panels that develop key global standards, and specialized agencies, programmes and funds that operate around the world to translate development commitments into real changes in the lives of people.

Reforms over the past decade have strengthened ECOSOC's leading role in identifying emerging challenges, promoting innovation and achieving balanced integration of the three pillars of sustainable development - economic, social and environmental - in particular through General Assembly resolutions 68/1, 72/305 and 75/290A. The 2021 review, which was conducted together with the resolutions on the High-Level Political Forum on Sustainable Development (HLPF), reinforced ECOSOC's Charter mandate as a coordinating, convening and specialized body for political dialogue, policy-making and consensus-building to implement the 2030 Agenda for Sustainable Development and other major UN conferences and summits under its purview, as well as to respond to the COVID-19 pandemic and to address other major global challenges and emerging issues. In this way, resolution 75/290A has strengthened the co-ordinating role of the Council and has also reinforced its consultative nature. In addition, resolutions 75/290A and 75/290B strengthened coordination between the work of ECOSOC and the HLPF¹.

¹ [High-level Political Forum :: Sustainable Development Knowledge Platform](#)

2. INTRODUCTION

It is a well-known fact that in the last few decades the planet Earth has suffered significant damage to its ecosystems and structure in general, which has forced catastrophic events to occur on a more regular global scale. These events are the result of what we would call climate change. Climate change and its worrying consequences are the result of many misuses of the Earth's natural resources, the most important of which are gas emissions from many different sources (cars, industrial plants, etc.) and the cutting down of trees, among others.

Despite the discovery of many alternative resources using science and technology, the problem of climate change still exists and continues to cause devastating consequences, ranging from natural disasters such as tsunamis and earthquakes to major impacts on the world's economy and society. The need to address the issue of climate change is becoming more and more apparent, as its consequences can be extremely harmful, even to the very existence of the Earth.

Many countries around the world have spent countless hours researching and building the infrastructure necessary to protect themselves from the devastating impacts of climate change. Yet there is still a significant number of countries, the so-called developing nations, that lack the resources to build the right infrastructure to deal with climate change and its impacts. These countries can suffer in many ways, making it almost impossible for them to improve the resilience of their current infrastructure, let alone build new, reinforced ones.

Climate change can cause numerous predicaments for any country in the world, making it imperative to find the most effective and appropriate solutions to tackle this issue. This is especially true for developing countries, for whom the improvement of climate change infrastructure remains an issue of paramount importance.

3. DEFINITIONS OF KEY TERMS

Developing country:

According to various sources, a developing country is “one with comparatively low economic output”². There has been a lot of debate as to where to draw the line between a developed country and a developing one, which can be seen by the lack of one single meaning for the term. The United Nations has some rules for distinguishing between developed and developing countries. The World Bank has stopped using these terms in favor of others, such as “low-income” or “lower-middle-income” economies, based on gross national income (GNI) per person.

Developed country:

A developed country—also called an industrialized country—has a mature and sophisticated economy, usually measured by gross domestic product (GDP) and/or average income per resident.

² [What Is a Developing Country?](#)

Developed countries have advanced technological infrastructure and have diverse industrial and service sectors. Their citizens typically enjoy access to quality health care and higher education³.

Least developed country:

Least developed countries (LDCs) are low-income countries confronting severe structural impediments to sustainable development. They are highly vulnerable to economic and environmental shocks and have low levels of human assets. There are currently 46 countries on the list of LDCs which are reviewed every three years by the Committee for Development (CDP). LDCs have exclusive access to certain international support measures in particular in the areas of development assistance and trade⁴.

Climate change:

Climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, such as through variations in the solar cycle⁵. Since the 1800s, human activities have been the main driver of climate change, primarily due to burning fossil fuels like coal, oil and gas.

Resilience infrastructures:

A resilient infrastructure means “adequate engineering design built to robust metrics to withstand storms and other natural disasters of a predetermined magnitude”. In addition, according to experts Dan Ginolfi and Howard Marlowe, the designs should be simplistic, yet complex enough to allow modifications to be made over time as necessary as current conditions change⁶.

Renewable energy:

Renewable energy is “energy derived from natural sources that are replenished at a higher rate than they are consumed. Sunlight and wind, for example, are such sources that are constantly being replenished. Renewable energy sources are plentiful and all around us”⁷.

Non-renewable energy:

Non-renewable energies are derived from sources that will run out or not be replenished in our lifetimes - or many generations to come. According to National Geographic, most non-renewable energy is provided by fossil fuels such as coal, oil and natural gas. Carbon is the main element in fossil fuels⁸.

Gross National Income (GNI):

³ [What is a developed country | BDC.ca](#)

⁴ [Least Developed Countries \(LDCs\) | Department of Economic and Social Affairs](#)

⁵ <https://www.un.org/en/climatechange/what-is-climate-change>

⁶ [Resiliency in Infrastructure Part 1: What it Means and Why Now?](#)

⁷ [What is renewable energy? | United Nations](#)

⁸ [Non-Renewable Energy](#)

GNI is the total amount of money earned by a nation's people and businesses. It is used to measure and track a nation's wealth from year to year. The figure includes the nation's Gross Domestic Product (GDP) plus the income it receives from overseas sources.

UN Climate Change Conference (COP):

The United Nations Framework Convention on Climate Change (UNFCCC) came into force on 21 March 1994. Today it has near-universal membership. The 198 countries that have ratified the Convention are called Parties to the Convention. The ultimate objective of the UNFCCC is to prevent hazardous human interference with the climate system. Its supreme decision-making body, the Conference of the Parties (COP), meets annually to assess progress in dealing with climate change. These conferences are the foremost global forums for multilateral discussion of climate change matters and have an incredibly busy schedule. The conferences, which rotate annually among the five United Nations regional groups, serve as the formal meetings of the Conference of the Parties (COP), the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) and the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (the CMA).

Parties to the Kyoto Protocol (CMP):

The Conference of the Parties, the supreme body of the Convention, shall serve as the meeting of the Parties to the Kyoto Protocol. All States that are Parties to the Kyoto Protocol are represented at the “Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol” (well-known with the short form CMP), while States that are not Parties participate as observers. The CMP oversees the implementation of the Kyoto Protocol and takes decisions to promote its effective implementation.

Conference of the Paris Agreement Parties (CMA):

The Conference of the Paris Agreement Parties, the supreme body of the Convention, shall serve as the meeting of the Parties to the Paris Agreement. All States that are Parties to the Paris Agreement are represented at the “Conference of the Parties serving as the meeting of the Parties to the Paris Agreement” (well-known with the short form CMA), while States that are not Parties participate as observers. The CMA oversees the implementation of the Paris Agreement and takes decisions to promote its effective implementation.

European Investment Bank:

The EIB is the majority shareholder of the European Investment Fund (EIF), which finances small and medium-sized enterprises (SMEs) through venture capital and risk finance instruments. The other shareholders are the European Commission and financial institutions from across Europe. Established in 1994, the Fund operates in all EU countries, candidate countries, Liechtenstein and Norway.

GreenHouse Gas (GHG)⁹:

GreenHouse Gas, any gas that has the property of absorbing infrared radiation (net heat energy) emitted from the Earth's surface and radiating it back to the Earth's Surface, thereby contributing to

⁹ [Greenhouse gas | Definition, Emissions, & Greenhouse Effect | Britannica](#)

the greenhouse effect. Although greenhouse gasses make up only a fraction of all atmospheric gasses, they have a profound effect on the energy balance of the Earth system. Over the course of Earth's history, concentrations of GHGs have fluctuated considerably, and these fluctuations have caused significant climate change over broad time scales. In general, greenhouse gas concentrations have been particularly high during warm periods and low during cold periods.

Exxon Valdez Oil Spill:

On 24 March 1989, the Exxon Valdez oil tanker ran aground in Prince William Sound, Alaska, spilling 11 million gallons of oil. The spill was one of the largest environmental disasters in US history due to the ecologically sensitive location, time of year and size of the spill.

RE technologies:

“Renewable energy technologies” is an umbrella term that stands for energy production using a renewable energy source like solar, wind, water (hydro and tidal), biomass (biofuels and wastes), and geothermal heat.

The International Energy Agency (IEA):

The International Energy Agency (IEA) is an international intergovernmental organization based in Paris that was established in 1974. Its stated mandate is to maintain the stability of the international oil supply, although its mission has expanded in recent years to emphasize the promotion of renewable energy sources.

The World Meteorological Organization:

The World Meteorological Organization (WMO) is a specialized agency of the United Nations that promotes international cooperation in atmospheric, climatological, hydrological and geophysical sciences. The WMO has its origins in the International Meteorology Organization, an NGO founded in 1873 as a forum for the exchange of weather data and research. Suggestions for reforming the status and structure of the I.M.O. led to the 1947 World Meteorology Convention, and the WMO was officially established the following year as an intergovernmental organization within the UN system.

Global Climate Change Fund (GCF):

The Global Climate Change Fund (GCF) is a unique global platform for investment in low-carbon and climate-resilient development responding to climate change. and help vulnerable societies adapt to the inevitable impacts of climate change. The GCF has been charged with making an ambitious contribution to a unified global response to climate change.

Climate Investment Funds (CIF):

The Climate Investment Fund is one of the world's largest multilateral funds for climate change adaptation and mitigation in low- and middle-income countries. It has supported more than 370 projects in 72 countries since 2008, channeling funds from government donors and the private sector. It was created because world leaders recognised that climate change and development are inextricably linked, and that to realize the green growth opportunities set out in the United Nations Sustainable Development Goals, it will be necessary to invest in climate action at scale.

Coalition for Disaster Resilient Infrastructure:

The Coalition for Disaster Resilient Infrastructure is an international coalition of countries, United Nations agencies, multilateral development banks, the private sector, and academic institutions, that aims to promote disaster-resilient infrastructure.

Disaster Risk Reduction:

Disaster Risk Reduction, sometimes called disaster risk management, is a systematic approach to identifying, assessing and reducing the risks of disaster. It aims to reduce socio-economic vulnerabilities to disaster as well as dealing with the environmental and other hazards that trigger them.

UN 2030 Agenda for Sustainable Development:

Unanimously adopted by all UN Member States in 2015. The UN 2030 Agenda for Sustainable Development provides an agreed plan for peace and prosperity for people and the planet. This is a global partnership of developed and developing nations that is calling for urgent action.

Sustainable Development Goals (SDGs):

The UN 2030 Agenda includes the 17 Sustainable Development Goals (SDGs). They are a universal call to action to end poverty, protect the planet and make sure everyone can enjoy peace and prosperity by 2030. The 17 SDGs are integrated, namely they recognise that action in one area will have an impact on outcomes in others, and that development must be a balance between social, economic and environmental sustainability. They've committed to prioritizing progress for those left furthest behind. Among others, the SDGs aim to end poverty, hunger and HIV/AIDS, as well as to improve health and education, reduce inequalities, promote economic growth, tackle climate change and protect the oceans and forests.

4. HISTORICAL BACKGROUND

As stated before, during the past couple of decades, the phenomenon of climate change and its devastating effects have grown in a significant and worrying amount. In order for the issue to be dealt with more successfully, the first thing that we should emphasize on is the historical procedure of climate change. In that way, it can be easier to understand how this issue started to grow in size, as well as identify which parts of the world suffer the most from climate change.

First and foremost, it should be well-known that the effects of climate change have increased in numbers and magnitude due to various activities conducted by humans, with the most noticeable one being the significant increase of greenhouse emissions. These activities are the main reason climate change and its consequences have reached such worrying status. In addition to that, it should be understood that the developing countries are the ones being impacted on a greater level compared to more developed ones. There have been some attempts by various international committees to find ways tackling the issue, however the results from such attempts have not been satisfying. More specifically, at the 2015 Paris Climate Summit, countries signed an agreement recognizing the need to address loss and damage. But developed countries pushed to include language that specified it did not "provide a basis for any liability." They feared that admitting responsibility for their share of heat-

trapping pollution would expose them to paying developing nations every time a disaster hit¹⁰. This agreement, although it showcased signs of heading towards the right direction, also provided some serious concerns in regards to who is to take more blame in climate change-related incidents, as well as how fruitful a cooperation between both developed and developing countries could be.

In addition to all of the above, recent developments in the history of climate change and the procedures taken in order for this issue to be resolved. More specifically, some measures and achievements in regards to the enhancing of climate change resilience have been taken by countries globally in a state of cooperation, through COP26¹¹. In that conference, COP26 addressed some of the most important problems climate change can cause, as well as acknowledging some of its most crucial achievements. The first of them was securing net zero nearly all over the world, enhancing the mitigation methods of countries globally. Another important achievement of COP26 has to do with addressing the adaptation and loss and damage procedures for all countries involved. Additionally, the COP26 conference presented its results regarding financing, claiming that the goal of developing countries investing a combined sum of 100 billion dollars for tackling the issue is likely to be achieved by this year. Last but certainly not least, the conference highlighted the importance of collaboration between all countries involved moving forward, in order for the ideal results to be more fruitful and achieved as soon as possible.

Between 1991 and 2005, nearly 90% of disaster-related deaths and 98% of people affected by disasters were in developing nations. Future adaptation to the increasing impact of weather-related natural disasters due to global climate change will also be more costly in these countries. Developing countries are more vulnerable to natural disasters because people live in areas at high risk from natural disasters (e.g., unsafe urban areas), the housing is poorly built and can be easily damaged in the event of a disaster, countries are not equipped with early warning systems, and they have few assets and a weak social safety network to help them cope with disasters.(could be used elsewhere, as intro or discussion)

Mentioned below are some of the deadliest natural disasters that occurred in the past 20 years, with 4 out of the 5 most detrimental taking place in countries falling under the definition of “developing countries”¹².

- **Haiti with 222,570 fatalities**

Haiti is one of America's most impoverished countries. Over the past two decades, it has also suffered the highest number of disaster-related deaths. Most of those killed died in the devastating 2010 earthquake.

Haiti has never recovered from the 2010 earthquake because of poor governance and poverty. It was unprepared for Hurricane Matthew, which hit the nation last week. At least 473 people have died and hundreds of thousands need urgent food and medical aid.

¹⁰ [Developing countries call for climate change compensation at COP26 : NPR](#)

¹¹ [COP26-Presidency-Outcomes-The-Climate-Pact.pdf \(ukcop26.org\)](#)

¹² [Five deadliest natural disasters of the last 20 years](#)

- **Indonesia with 165,708 fatalities**

It was 00:58 local time in Indonesia on December 26, 2004. A mega earthquake in the Indian Ocean, off the coast of Sumatra, triggered a series of devastating tsunamis. It was the third largest earthquake ever to be recorded and caused the entire planet to vibrate as much as 1 centimeter. The Boxing Day Tsunami, as it's also called, affected 14 other countries. However, Indonesia's death toll in the catastrophe was the highest - 130,736 and the reason that Indonesia is on this list.

- **Myanmar with 138,366 fatalities**

Cyclone Nargis hit Myanmar in 2008 and resulted in 138,000 deaths. The remote coastal region was ill-prepared for such an event. It forced the country's government to commit to a national disaster plan and to educate the population on the importance of preparing for worst-case scenarios.

- **China with 87,476 fatalities**

China ranks in the world's top five because of the regular occurrence of natural disasters in the country. In total, China experienced 554 disasters during the two decades, including floods, storms and earthquakes.

- **Pakistan with 73,338 fatalities**

A horrendous earthquake in October 2005 caused the greatest number of deaths in Pakistan. More than 73,000 people were killed, 128,000 wounded and around 3.5 million were left homeless. Flooding, caused by heavy rains in the region, are also common and contribute to the total number of fatalities.

Conclusion: Developing countries will be hardest hit by the COVID-19 pandemic. They are facing an unprecedented health and economic crisis, with potentially extreme economic, social and sustainable development consequences that may reverse decades of development progress and further jeopardize efforts to achieve the 2030 Agenda for Sustainable Development.

5. INTERNATIONAL FRAMEWORK

5.1. UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (1992)

It is well-known that, in order for any issue of international magnitude to be dealt with, certain criteria on how the issue is going to be tackled, as well as solidified provisions in regards to the whole procedure and actions taken for the matter should be identified and agreed upon. The easiest and most binding way of achieving that is through the signing of international treaties. When it comes to dealing with climate change issues, the international committee has signed multiple agreements, with the most important one being the United Nations Framework Convention on Climate Change, signed in 1992.

According to Article 2, 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. Such a level should be achieved 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.

5.2. KYOTO PROTOCOL (1997)¹³

The Kyoto Protocol was adopted on 11 December 1997. Owing to a complex ratification process, it entered into force on 16 February 2005. Currently, there are 192 Parties to the Kyoto Protocol.

In short, the Kyoto Protocol operationalizes the United Nations Framework Convention on Climate Change by committing industrialized countries and economies in transition to limit and reduce greenhouse gasses (GHG) emissions in accordance with agreed individual targets. The Convention itself only asks those countries to adopt policies and measures on mitigation and to report periodically.

The Kyoto Protocol is based on the principles and provisions of the Convention and follows its annex-based structure. It only binds developed countries, and places a heavier burden on them under the principle of “common but differentiated responsibility and respective capabilities”, because it recognizes that they are largely responsible for the current high levels of GHG emissions in the atmosphere.

5.3. 2015 PARIS AGREEMENT¹⁴

To tackle climate change and its negative impacts, world leaders at the UN Climate Change Conference (COP21) in Paris reached a breakthrough on 12 December 2015: the historic Paris Agreement.

- The Agreement sets long-term goals to guide all nations: substantially reduce global greenhouse gas emissions to limit the global temperature increase in this century to 2 degrees Celsius while pursuing efforts to limit the increase even further to 1.5 degrees;
- review countries’ commitments every five years;
- provide financing to developing countries to mitigate climate change, strengthen resilience and enhance abilities to adapt to climate impacts.

The Agreement is a legally binding international treaty. It entered into force on 4 November 2016. Today, 194 Parties (193 States plus the European Union) have joined the Paris Agreement. The Agreement includes commitments from all countries to reduce their emissions and work together to adapt to the impacts of climate change, and calls on countries to strengthen their commitments over time. The Agreement provides a pathway for developed nations to assist developing nations in their

¹³ [What is the Kyoto Protocol? | UNFCCC](#)

¹⁴ [The Paris Agreement | United Nations](#)

climate mitigation and adaptation efforts while creating a framework for the transparent monitoring and reporting of countries' climate goals.

In addition to the aforementioned agreements regarding the issue of climate change, it is worth talking about the Intergovernmental Panel on Climate Change (**IPCC**). More specifically, IPCC constitutes the United Nations' body for assessing the science related to climate change. The IPCC's main goal is to provide governments at all levels with scientific information that they can use to develop climate policies, while the reports given by this body can play an essential part in negotiations regarding international climate change. It is important noticing, however, that the IPCC's work is powered and monitored by 195 member states of either the United Nations or the World Meteorological Organisation, meaning that the IPCC lacks the necessary jurisdiction and ability to conduct its own research.

6. DISCUSSION OF TOPICS

6.1. Current infrastructures in developing countries

As mentioned above, the current state of climate resilient infrastructure in developing countries is worrying. Financial difficulties are the main challenge facing these countries and are a major impediment to their efforts to improve such infrastructure. In addition, it is well known that some developing countries are still governed by corrupt regimes, most of which are dictatorships, thus preventing the improvement of resilient infrastructure.

These are among the main reasons why climate resilience facilities in developing countries are still alarmingly underdeveloped. Long-term financing of critical infrastructure in developing countries, such as energy schemes, water and sanitation, and transport, is therefore essential for economic growth. In particular, to help meet the 2015 Paris targets, the European Investment Bank has provided a record €20.6bn in climate finance (26.8% of all Bank loans) across the 28 EU Member States and in projects from Nicaragua to Nepal¹⁵.

Such actions highlight the worrying state of infrastructure in developing countries, making it imperative that other countries must also contribute in improving it. The state of current infrastructures in said countries and its imminent need of enhancing consists of an issue of utmost importance, making the improvement of the situation a target of some of the Sustainable Development Goals (SDGs). More specifically, SDGs no. 9 and no. 11 has a more solid focus on achieving sustainability and resilience on a worldwide basis, showcasing a significant connection with the climate in order for such targets to be achieved. It should be noted that a maximizing of the interlinkages between the 2030 Agenda and the Paris Agreement could be extremely beneficial for achieving both agendas and guaranteeing a livable future for next generations all over the world, especially for those of people in need. In fact, tackling the issue of climate change resilience infrastructures can open an easier path in dealing with other important issues that fall into the 2030 Agenda, such as world hunger, poverty, access to water and many more.

¹⁵ [Climate action and infrastructure in developing countries](#)

6.2. The use of emissions and fossil fuels and their role in climate change

To further understand the reasons why the state of climate change has reached its most concerning point/level to date, we have to look at the key elements causing that rise.

These key elements consist of nothing more than the emissions we generate in our daily lives, as well as the fossil fuels we use and the effects they have on our planet. In particular, emissions can be generated by many activities or items that the average individual uses in everyday life.

More specifically, the use of cars, any form of public transport, even cooking with wood are some of the main sources that produce large amounts of fumes on a daily basis. These amounts are much greater in developing countries, as they lack the necessary technological means and are therefore forced to use older means of transport and to work with older, unrefurbished equipment, which leads to the production of alarming amounts of fumes.

In addition to that, the impact fossil fuels have on the environment and climate change in general is undoubtedly concerning. There is an undeniable link between fossil fuels and the environment, and this is presented in those chemicals and compounds which make up fossil fuels. The presence of carbon, methane, and the like in excessive quantities makes it difficult to ignore, as the impact on the environment is clear.

Take plastics, for example, which are made from fossil fuels and are biodegradable. These plastics are made from fossil fuels and are biodegradable. The production of such plastics affects our environment in many fundamental ways—firstly in terms of cleanliness, and secondly, because they are biodegradable, they will eventually break down and release their chemicals into our atmosphere and waterways. It has been estimated that eight million tonnes of plastic enter our oceans every year, and while the use of fossil fuels has some benefits, it also has harmful effects on many different parts of the environment¹⁶.

First and foremost, fossil fuels use plays a massive role in land degradation. The impact of fossil fuels specifically on land is both direct and indirect. It can occur in a number of ways, including land clearing for the purpose of establishing facilities and networks that enable the processes needed for the extraction, transportation, and processing of fossil fuels. The fossil fuel industry requires a large portion of land to develop infrastructure such as wells, pipelines, access roads, as well as facilities for processing, waste storage, and waste disposal¹⁶.

This could even involve scraping and blasting to expose underground coal or oil. With regard to surface mining, which involves removing the overlying soil to access the coal beneath the earth, this has both short term and long term implications. In the short term, large amounts of soils and rock deposits are dumped into such mediums as valleys and streams, which affects the ecosystems and offsets the natural flow of streams. In the long term, the soil is weak and only able to support a limited amount of crops¹⁶.

These effects cut across other aspects of land clearing. Usually, in the process of setting up drilling facilities for extraction of oil, a substantial amount of land is cleared first; depending on the area, this

¹⁶ [The Impact of Fossil Fuels on the Environment - FossilFuel.com](https://www.fossilfuel.com)

may disrupt ecosystems, and affect the soil upon which the drill is inserted. It also has a ripple effect in that, in areas surrounded by forest cover, such cover (trees and plants) is meant to capture GHGs, preventing them from accumulating in the atmosphere and warming our planet. Therefore, in a bid to facilitate the extraction and utilization of fossil fuels, clearing land only serves to facilitate the advent of the effects of such situations as climate change.

Another harmful effect of fossil fuel use is water pollution¹⁶. Fossil fuels affect water in a number of ways and, as opposed to land, the fuels can be mixed with a substance that is continuously flowing. This mixes harmful chemicals with the fresh water that provides a source of water for consumption. In addition, fossil fuels affect marine wildlife and the ecosystem by contaminating the water, which ultimately affects the people and animals that depend on the marine ecosystem. In this sense, fossil fuels cause water pollution. Water pollution arises when harmful substances (usually chemicals) contaminate a body of water, such as a stream, river, lake, ocean or aquifer, degrading the quality of the water and making it hazardous to humans or the environment. This pollution can occur in a number of ways. One prominent form that countries around the world still struggle to control is oil spills.

The world has seen a plethora of oil spills that have released millions of gallons of oil into the oceans. There was the Exxon Valdez oil spill, a man-made disaster that occurred when an oil tanker spilled 11 million gallons of crude oil into Alaska's Prince William Sound on 24 March 1989. The Exxon Valdez oil spill covered 1,300 miles of coastline and killed hundreds of thousands of seabirds, otters, seals and whales. Even today, traces of crude oil persist in some places. Another issue is fracking. Fracking is a process in which water and various chemicals are pumped down an oil or gas well under high pressure, fracturing rock and shale to allow oil to be extracted from deep within the rock. The process of injecting chemicals underground can cause groundwater contamination.

Finally, another implication of the widespread use of fossil fuels that ought not to be overlooked is air pollution. Fossil fuels, perhaps more ostensibly, have the greatest impact on the atmosphere because of the nature of the chemicals from which they are made. For example, carbon dioxide, which is released into the atmosphere when fossil fuels are burned, and methane, which is emitted during the production and transport of fossil fuels, are both greenhouse gasses (GHGs), and this fact is crucial. This is because GHGs undergo a phenomenon known as the greenhouse effect¹⁶. The greenhouse mechanism is a natural process that warms the Earth's surface. When energy from the sun reaches the Earth, some of it is absorbed and re-emitted by greenhouse gasses. Essentially, this is what keeps the Earth at a certain temperature. So if there are more greenhouse gas emissions, there will be more gasses trapping heat from the sun, raising the average world temperature. This in itself leads to climate change, affecting weather patterns in the short term and changing climate patterns altogether in the long term.

All the aforementioned facts showcase how detrimental the use of emissions and fossil fuels can be for the environment, playing a crucial role in the worsening of the climate change issue. Although it was reported in 2020 that there was a temporary reduction of CO₂ emissions in 2020, global energy-related CO₂ emissions rose by 6.0 per cent as demand for coal, oil and gas rebounded with the economy in 2021. Based on current national commitments, global emissions are set to increase by almost 14 per cent over the current decade. This statistics prove that immediate actions must be taken in order for these numbers to be restrained and the devastating consequences of climate change to be

avoided. This, however, constitutes a challenging task, which demands fruitful cooperation between all member states involved in this committee.

6.3. The introduction of renewable and alternative energy

There is no doubt that the use of fossil fuels and the emissions caused by everyday activities have had a devastating impact on the environment. This necessitates immediate action. Many experts and scientists believe that the discovery and implementation of alternative and renewable energy sources is the best way to limit these effects on climate change. The most prominent examples of renewable energy include solar, wind, geothermal, biomass and low-impact hydropower. In fact, for the second year in a row, developing countries have added more clean energy capacity than fossil-fuelled power plants, according to Bloomberg New Energy Finance (BNEF).

However, this momentum is being challenged by a growing and potentially toxic waste problem because the materials used in RE technologies are similar to those used in many electronics-cadmium by-products, copper by-products, lead, hexafluoroethane, polyvinyl fluoride, tin, lithium and silicon tetrachloride - which can be highly toxic to humans and the environment. The jury's not in on the leaching potential and effects of toxic substances, but there's a good chance that anything dumped in open dumps or landfills will have some form of crushing under the weight of bulldozers and other equipment. Toxic materials will leach into the environment, it's just a matter of how much and the potential for exposure to nearby communities¹⁷.

Landfilling renewables removes valuable materials from the economy, in addition to potential impacts on human health and the environment. The rapid growth of the RE market has led to an exponential increase in the demand for raw materials, such as rare earths. Reserves are limited and are often sourced from countries that lack adequate environmental and social safeguards. Extracting these valuable materials for reuse in other products maximizes their lifespan and promotes a circular economy¹⁷.

Although there are still some disadvantages to using renewable energy, it is well known that the use of alternative energy resources also has some significant advantages. First and foremost, the most important advantage of using renewable energy is the fact that it can always be reused. While fossil fuels will be depleted within 40 to 60 years, the sun will always be shining, the wind will always be blowing and the earth will always be providing geothermal power. If not, we will have bigger problems than running out of energy.

Speaking of our planet, we should also mention the second benefit: the environmental benefits of renewable energy. More specifically, we need to protect it as much as possible because we only have one planet to live on. Fossil fuels produce greenhouse gasses and pollutants. Increasing the use of fossil fuels means increasing the use of noxious gasses that cause respiratory and cardiovascular disease and, most importantly, global warming. Going green is good for us and good for the planet- so the health and environmental benefits of renewable energy are undeniable.

¹⁷ [The Good, Bad, and Ugly about Renewable Energy in Developing Countries](#)

Another major benefit of using alternative and renewable energy is economic: renewable energy is not only good for the environment, but also for the economy of any country that uses it. Firstly, renewable energy installations require less maintenance. Second, because they use the sun, wind, steam and biomass, they don't need to be refueled. Thirdly, countries that use them do not have to rely on foreign sources of energy. Renewable energy makes it possible for you to be independent when it comes to energy resources.

When it comes to alternative resources, a system worth mentioning is the one of adaptation. More specifically, adaptation refers to adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects. It refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change. In simple terms, countries and communities need to develop adaptation solutions and implement actions to respond to current and future climate change impacts. Adaptation can range from building flood defenses, setting up early warning systems for cyclones, switching to drought-resistant crops, to redesigning communication systems, business operations and government policies, with all of these actions ranging in forms, depending on the status of the country. In addition to that, not only the governments, but all local, regional and national communities, as well as international organizations, among many others, should cooperate and complete any duties this system may provide to them, in order for the adaptation system to be successful. Parties acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, considering vulnerable groups, communities and ecosystems. Adaptation should also be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into socioeconomic and environmental policies and actions.

As of 31 March 2021, 125 of 154 developing countries were taking measures related to national adaptation plans and prioritizing formulation and implementation of national adaptation plans in their adaptation efforts. Six of the least developed countries (including three small island developing States) and an additional four small island developing States had completed a national adaptation plan. Most of the least developed countries had prepared a draft national adaptation plan and were on track to complete and submit it in line with the vision of all least developed countries having their national adaptation plan by 2021.

6.4. Climate-resilience of seaports

Climate change has the potential to cause significant and costly damage, disrupt operations and cause delays throughout the global supply chain, which will have a major impact upon international trade and the sustainable development prospects of the most vulnerable nations. There is a growing urgency for timely and effective adaptation action. For developing countries, a significant increase in capacity and funding is critical and time is short.

These include heatwaves, which pose a risk to human health and significantly increase energy demand and costs, extreme winds, which threaten crane and dock operations, and heavy rainfall, which leads to flash flooding. However, a particularly important and growing threat of coastal flooding is the rise in mean sea level and the associated extreme sea levels.

For ports adapting to climate change, these projections have important implications. Ports are infrastructure assets with long lifetimes and design horizons, and changing sea level extremes will make them significantly more vulnerable to inundation. This risk must be urgently assessed and effectively addressed before any major effects occur. In the face of what is at stake, inaction is not an option, and effective action is a necessity.

Effective adaptation requires making local and institutional risk assessment processes "fit for purpose", filling potential data and knowledge gaps, and developing appropriate technical and management solutions that reduce exposure and enable decision making under uncertainty. There has been some recent progress, with climate change adaptation increasingly incorporated into national policy and planning tools, and into some legislation.

Given that developing countries will be most affected by climate change, with limited capacity to adapt and increasing debt burdens, it is essential that adaptation finance for infrastructure is made more available and accessible. A major concerted effort and shift in focus by policy makers and development partners will be required.

Given these stakes, building resilience, adaptation and disaster risk reduction for ports and other critical transport infrastructure should be seen as an extremely valuable investment for a sustainable future. There are important co-benefits for both mitigation and adaptation from exploiting synergies with energy efficiency, decarbonisation and renewables. It can reduce energy demand, costs and increase security.

This is particularly important for developing countries like Small Island Developing States, which are on the frontline of climate change, yet face rising energy prices. Policy coherence and synergies between climate change, DRR, sustainable development and COVID-19 recovery strategies and plans could bring significant benefits, especially for the most vulnerable communities.

6.5. Concerns and consequences of climate change

While climate change has had and will continue to have a detrimental effect on the environment, it is worth noting that a worryingly small number of people are paying enough attention to the issue. According to research by The Guardian, concern about climate change has waned around the world in the past year, with less than half of respondents in a new survey believing it poses a "very serious threat" to their country over the next 20 years. Just 20% of people in China, one of the world's largest emitters of greenhouse gasses, thought climate change was a very serious threat, down three percentage points from the last Gallup World Risk Poll in 2019. Worldwide, the number dropped 1.5 percentage points to 48.7%. The survey is based on more than 125,000 interviews in 121 countries. The Covid-19 pandemic and concerns about more immediate issues such as health and livelihoods may partly explain the decline, according to the survey's authors. The regions facing the greatest environmental threats are on average the least concerned about climate change, with only 27.4% of people in the Middle East and North Africa and 39.1% of people in South Asia concerned about the risks.

It is important to note that climate change can also have devastating effects on various aspects of life. Specifically, climate change has been shown to play a significant role in the increase in natural

disasters, including high temperatures, floods and droughts. Climate change can also have a worrying impact on human health, with both summer and winter temperature-related mortality and disease increasing at a worrying rate. Finally, it is important to note that the people who suffer most from the effects of climate change are the most vulnerable. People living in poor urban areas with poor infrastructure and, in general, those with lower income and wealth are more exposed to climate impacts but have less capacity to cope. Women can be disproportionately affected by climate change and are disadvantaged when costly adaptation measures are needed.

At the same time, women are key actors in adaptation and more generally in sustainable practices. The unemployed and socially marginalized are among the most vulnerable to climate risks. Europe's aging population, disproportionately affected by reduced mobility or health problems, will result in a higher proportion of the population being vulnerable to the impacts of climate change. Climate change is also already having an impact on displacement and migration. Although climate is only one of several drivers of displacement and migration, many partner countries are among the most affected as they move towards sustainable development. The people living there are often highly dependent on their natural environment and have the least resources to cope with a changing climate.

In line with the above, a study of 228 countries and territories by the Institute for Economics and Peace found that 750 million people worldwide are now undernourished, and that climate change, rising inflation and Russia's war in Ukraine will all exacerbate food insecurity in the future. The study also showed that more than 1.4 billion people in 83 countries face extreme "water stress", defined as more than 20% of the population lacking access to safe drinking water. Several European countries, including Greece, Italy, the Netherlands and Portugal, are expected to face critical shortages of clean water by 2040, the report found, while most of sub-Saharan Africa, the Middle East and North Africa will be affected. In result of these detrimental consequences of climate change, COP 19 established the Warsaw International Mechanism for Loss and Damage. Since then, it has been serving as the main catalyzer under the UNFCCC process for enhancing knowledge, coherence, action and support to avert, minimize and address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change¹⁸.

6.5. The impact of COVID-19 on climate change

As mentioned above, there are many issues and actions leading to the worsening of the climate change situation. However, it is important for us to mention that the shocking and unprecedented rise of the global pandemic of COVID-19 has played its part in climate change and its devastating consequences, and has caused both short term and long term effects. As a result of the effects of the COVID-19 pandemic, there has been a slowdown in global economic growth, the real economy has been affected by both the pandemic and the financial market turmoil, and global economic development is subject to greater uncertainty. The severe slowdown in global production and consumption caused by the pandemic will have a profound impact on global energy, environmental and carbon emissions that cannot be ignored.

¹⁸ [FCCC/CP/2013/10/Add.1](https://www.unfccc.int/documents/1365202/1365202/FCCC/CP/2013/10/Add.1)

Specifically, carbon emissions have been significantly reduced and environmental quality improved by the near shutdown of non-essential economic activities in the short term. In particular, a near shutdown of non-essential economic activities for a short period of time has substantially reduced carbon emissions and improved environmental quality. The International Energy Agency (IEA) reports that global CO₂ emissions fell by 5.8% in the first quarter of 2020 compared with the same period in 2019, with China's emissions falling by 10.3% in the first quarter.

Global energy demand fell by 3.8%, including an 8% fall in coal demand (IEA, 2020a¹⁹), with the overall impact exceeding that of the 2008 financial crisis. The reduction in human activity is also improving environmental quality by reducing carbon emissions, resulting in cleaner air and clearer rivers. In China, the average number of days of "good" air quality was 6.6 percentage points higher in the first three months of 2010 than in the same period of 2009, and PM_{2.5} levels were 14.8 percentage points lower than in the same period of 2009 (Ministry of Environmental Protection, 2020b).

However, as production picks up and the stimulus programme is implemented, pollution and carbon emissions could rise again quickly. History has shown that without a change in the growth model, any reduction in emissions brought about by an economic downturn is only temporary. In the US, fossil fuel emissions fell by 10% in 2009 compared with 2007 as a result of the financial crisis, only to rebound in 2010 as the economy recovered, quickly offsetting the earlier decline and causing global carbon emissions to rise by 5% (Osaka, 2020)²⁰. It is clear that such emissions reductions, which are not in themselves a transition to low-carbon development, are actually detrimental to sustained resolve and action to tackle climate change.

Since the beginning of the pandemic, the Climate Investment Funds (CIF) have been supporting countries. The CIF supported the restructuring of existing CIF projects to support the COVID-19 pandemic response as an immediate response to the COVID-19 pandemic. The US \$25 million initiative supports countries through many activities, including project preparation, project-related assessments, including for green jobs and just transition, knowledge sharing on climate risks and vulnerabilities, and outreach to the private sector on emerging green investment opportunities. Drawing on its wealth of experience and analytical capacity, the CIF has published a learning note on how climate finance can help countries maximize the economic, social, environmental and institutional benefits of investing in climate action, and a report with examples, policy lessons and principles on how to promote just transition through green recovery.

Green Climate Fund (GCF) is taking a threefold approach to support developing countries in maintaining their climate ambition under COVID-19. First, through proactive adaptive management, GCF works with partners to mitigate pandemic impacts on its existing portfolio. This will reduce delays in implementation and allow projects to continue to be disbursed during the pandemic. Second, the GCF's Readiness Programme provides "rapid support" to help countries design green, climate-resilient recovery activities, explore new types of financial structures to finance these activities without increasing debt, and integrate Nationally Determined Contributions (NDCs) into recovery

¹⁹ [Global Energy Review 2020 – Analysis - IEA](#)

²⁰ [Grist.org: Climate. Justice. Solutions. | Grist](#)

packages. Third, the GCF has accelerated its efforts to approve transformative projects aimed at mitigating and adapting to climate change with strong socio-economic benefits. Based on a public-private partnership business model for the investment and operation of small-scale green mini-grids, it will support the creation of jobs and the provision of healthcare in support of the reconstruction efforts of COVID-19.

In terms of longer-term impacts, the pandemic was found to have objectively weakened countries' policies and actions to address climate change, and the global long-term incentive to reduce emissions is insufficient. Compared to the pandemic's short-term impact on emissions, prevention and control of pandemic disease and economic recovery are receiving more attention from policymakers, and long-term consequences of marginalizing climate change are not negligible.

The combined risks of climate change and the COVID-19 pandemic, including the economic consequences of the pandemic, are particularly acute for developing countries. These countries urgently need access to long-term, affordable finance to undertake climate-resilient reconstruction that will avoid locking in emissions and vulnerabilities for decades to come.' The Multilateral Climate Funds have a critical role to play in catalyzing climate action that can accelerate recovery from the pandemic by providing innovative and scaled-up financing that can unlock economic resilience, improve health and create the next generation of green jobs.”

At the same time, the COVID-19 pandemic has had a significant impact on the operations of the climate funds and will continue to do so in the future.

In order to maximize the impact of each Fund's programmes in supporting the recovery of developing countries, the Funds have also intensified their cooperation to promote complementarity and synergy. The following priority areas of action will be used by the Funds to achieve this:

- Increasing and blending funding: Identifying ways to scale up climate finance, including joint programming, which uses our collective advantages to support countries' most urgent recovery needs. Explore ways in which we can sequence our funding and use complementary and innovative financial tools for scaling up our operations.
- Outputs, indicators, monitoring and assessment: A platform for cooperation between the Funds on results, indicators and the measurement of impact is being set up. This platform is a key focal point for exchanging information and identifying areas for future joint action and reporting to enhance climate action and green growth.
- Share learning: Exploring opportunities to share our wealth of experience and knowledge across the portfolio, providing important lessons on how climate-focused investments can contribute to the recovery of the COVID-19. We will also explore opportunities to share our experience and knowledge across the portfolio, providing important lessons on how climate-focused investments can contribute to the recovery of the COVID19.
- Engaging stakeholders: In recognition of their value in providing information on how to rebuild in a climate-resilient way, which manages environmental and social risks in an equitable way, and on the priorities, constraints and solutions for an ambitious rebuilding effort, we shall continue to ensure that the various stakeholders are actively involved in the operation and governance of the Fund.

- **Planning:** The Climate Fund will continue to invest in a number of projects, including the Great Green Wall, the COVID-19 technical assistance initiative for green and climate-resilient reconstruction, electric mobility.

7. CONCLUSION

It is undoubtedly clear that climate change is having an even more devastating impact on developing countries worldwide, which do not have adequate resources, facilities and infrastructure to deal with climate change and its consequences. This situation leads to a significant increase in both the magnitude and the impact of climate change in these countries. In addition to all the effects that are already occurring, it is proven by science that if the situation is not addressed, such consequences are very likely to occur in the very near future, with possibly even more devastating consequences.

In other words, our planet is in imminent danger, and it needs to be addressed. The UN ECOSOC Members are entitled to address the challenging issue of climate change and its impact on the world, especially on the least developed countries. This challenge can be properly addressed through constructive dialogue and deliberations among all UN ECOSOC Member, as well as by prioritizing assistance to the underdeveloped countries that are more affected by the events of climate change, with emphasis on improving the infrastructure of these countries to withstand climate change

8. POINTS TO BE ADDRESSED

- How can the infrastructures of developing countries be enhanced, in order to improve their climate change resilience?
- What can be done in order to successfully reduce emissions, while gaining independence from fossil fuels use?
- How can the UN ensure the resources needed in order to implement their course of action especially regarding least developed countries?
- Addressing climate change effects in developing countries in the aftermath of COVID-19?
- How can investment in green recovery and Regional Action to boost regional financing, including emergency funds be used, in order for debt sustainability and debt standstill to be achieved?

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