

## Tackling Climate Change Repercussions on Africa: The Egyptian Perspective

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## سياسات معالجة تغيّر المناخ وتداعياتها على إفريقيا: منظور السياسات المصرية

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## **Tackling Climate Change Repercussions on Africa: The Egyptian Perspective**

### **Abstract**

The focus of this paper is to study the root causes of climate change and its effects on Africa, and Egypt's approach to addressing these issues both domestically and on a continental level. The paper uses an analytical research methodology, and a mixed-method approach, gathering empirical data on the impacts of climate change on the global South through correlation matrixes based on secondary data sources and qualitative desk resources from the Egyptian perspective. The main finding is that there is a significant correlation between climate risks in Africa and factors such as peace, debt, terrorism, and hunger. The paper suggests that South-South cooperation and integration could create a pathway to address the challenges posed by climate change, such as through COP-27. The Egyptian climate diplomacy towards Africa has prioritized the African perspective, focusing on understanding the reasons for vulnerability to climate risks and working to address these issues.

**Keywords:** Climate change, climate vulnerability, climate diplomacy, Africa, Egypt

## Introduction

Climate change has negative impacts on a global scale, which could be catastrophic for vulnerable regions, such as the global South and developing countries. The problem is worsened by the fact these countries are facing other challenges as well. Due to the lack of climate justice, it is difficult for these countries to address the impacts of climate change repercussions, despite being the most affected by it, and the least contributing to its causes. Therefore, it is necessary to have international integration to provide green funds and undertake diplomacy action to ensure that the voices of Global Southern nations are heard and considered in the creation of global climate policies and action plans.

At the local level, acting to address climate change could worsen the already existing socioeconomic challenges, particularly for vulnerable groups, due to the associated costs and burdens. Therefore, climate actions must be designed to be both environmentally sustainable and socioeconomically inclusive. As a result, the measures taken to address the impacts of climate change could put a significant burden on governments' public spending, subsidy programs, and social protection schemes, especially for vulnerable populations. This burden could be even more severe in countries facing fragility and conflict.

Addressing the effects of climate change within the global south context and in developing countries requires a unique perspective that considers their specific needs and challenges. It is important to adapt to their perspective instead of imposing the Global North model. Moreover, it necessitates a holistic approach that considers the intersection between domestic and foreign climate action policies.

To provide solutions to help the African continent combat climate injustice and related internal challenges, the paper focused on the Egyptian approach as a case study to analyze how Egypt deals with the challenges and repercussions of climate change locally, in addition to studying the Egyptian climate diplomacy approach towards enhancing South-South integration and international cooperation. Egypt has a central vision to address climate change and its consequences at the local level. The country aims to ensure that vulnerable groups do not face unnecessary burdens, due to climate action, through social protection policies and national projects. On the continent level, Egypt hosted COP-27, in November 2022, which highlighted its climate diplomacy efforts towards Africa. The conference provided a platform for African countries to express their views on climate change and climate justice, participate in negotiations, and shape the global climate agenda to ensure that their perspectives and interests were considered on a worldwide scale.

The paper is organized as follows. The introduction is followed by theoretical and literature review; the African context: Reasons for climate vulnerability and its repercussions, Egypt domestic policies and strategies to address climate change and its socioeconomic consequences; and ends with the conclusions and policy recommendations.

The paper used a mixed-method approach to examine the impacts of climate change on Africa. It employed both descriptive and analytical methods. Analytical analysis was carried out using various indexes retrieved from different databases, while descriptive analysis was used to explain the Egyptian perspective through qualitative analysis.

The paper focuses on how climate change affects Africa across three dimensions: social, economic, and security. The social dimension is measured by the human development index, the economic category is measured by inflation, GDP growth rate, and debt service ratio to total exports political and the security category is measured by the fragile state index, peace index, and terrorism index. To determine the impacts of climate risks on Africa, the paper uses the climate risk index. The correlation method is adopted to describe the pattern of the relationship between climate risks and their effects on the political, social, and economic aspects of the African context, and to determine the significance of these correlations.

Data were collected from 54 African countries between 2008 and 2019. Due to missing data, the variables were not collected before or after this period. However, only data from 38 countries was analyzed for correlations after excluding those with many missing values.

### **Theoretical and Literature Review**

Climate change is widely recognized as one of the fast-growing global threats today. Studies suggest that it is intricately linked to human security, political, social, and economic factors. Climate risks are considered a multiple security threat with far-reaching impacts on various dimensions of human security, such as food security, water security, and health security. This has transformed climate change from being an environmental or developmental issue to a human security issue (UN, 2019; UNDP, 2022b). Climate change can also exacerbate armed conflicts and inter-state wars, hinder the government's ability to provide basic services, and increase fragility levels. Formal militaries may also face additional burdens in response to climate-related hazards (Mobjörk et al., 2020; UNHCR, 2022). Furthermore, climate change could contribute to widening gender gaps due to the higher vulnerability of women to the consequences of climate risks and their limited capacity to cope with them (Abbasi et al., 2019).

Climate change has significant economic consequences. The International Monetary Fund (IMF) warns that while the green transformation is costly, delaying action against climate change will negatively impact economic growth. Climate change could also lead to an increase in inflation rates (Carton & Natal, 2022). Additionally, it adversely affects natural resources such as water and energy and could also disrupt food production and other productive and developmental activities. This, in turn, could affect socio-economic development levels and vice versa (Wang et al., 2021), creating a circular linkage that could negatively impact the rest of the Sustainable Development Goals (SDGs) (Fuso et al., 2019; Munasinghe, 2003).

The negative impacts of climate change are felt most acutely by those who are already struggling financially. Food prices are rising, livelihoods are declining, and job opportunities are being lost, particularly in the agriculture sector, due to land degradation, deteriorating health and socioeconomic conditions, and forced displacement resulting from a lack of resilient infrastructure to withstand extreme weather events such as floods (Charles et al., 2019). According to the World Bank, climate change could have long-lasting implications for human capital at all stages of life, affecting well-being and economic productivity (Duflo, 2023). Climate action policies that are not designed inclusively could indirectly harm vulnerable groups, imposing additional financial burdens while threatening their economic activities and livelihoods by adopting green and transitional policies that lack social inclusion aspects to ensure that no one is left behind (World Bank, n.d).

Accordingly, it is important to address the issue of climate justice. Literature refers to it as the set of values and practices aiming to promote fairness and justice among different actors through global governance and dialogue mechanisms. The goal is to establish a stable climate regime for both developing and developed economies while also considering the needs of the developing economies to bring down the climate gaps (Ding et al., 2020). The paradox of climate justice can be addressed through climate diplomacy. This involves diplomatic and soft power policies aiming at reaching a common consensus and providing the needed support and influence on a global scale to overcome climate change and its repercussions, ultimately leading to a stable climate regime (Hristova & Chankova, 2020; Mabey et al., 2023). It is worth noting that climate change has exacerbated the climate justice dilemma due to the unequal distribution of climate-related impacts, whether domestically or globally, as a result of differences in the level of vulnerability to these hazards (UNFCCC, 2018). The Intergovernmental Panel on Climate Change (IPCC) defines climate vulnerability as *“The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity”* (Brooks, 2003).

Less developed countries need to get assistance to improve their levels of sustainable development, they also need more financing and institutional capabilities to implement mitigation and adaptation policies (Georgieva et al., 2022). These countries suffer from adaptation deficits due to their lower national income levels. Empirical studies found a positive correlation between the increase in the national income (and the GDP per capita) and the ability to reduce the economic damages from climate disasters (Fankhauser & McDermott, 2013). In addition, the technology and knowledge gap, along with the higher levels of illiteracy and the lower levels of skills, make it more challenging to tackle climate change in the less developed context. The limited access to climate literacy and knowledge worsens matters concerning the awareness of making better decisions to adapt and recover from crises resulting from climate change (Akrofi et al., 2021). Their weak infrastructure makes it difficult to tackle climate disasters, such as drought, floods, and rising sea levels (UNCTAD, 2022b). Furthermore, the outbreak of COVID-19 has deteriorated the fiscal ability to provide the needed resources for mitigation and adaptation, as the pandemic has contributed to the increase in the debt burdens of these vulnerable economies, causing more vulnerability to climate risks (UN, 2020).

Overall, the impact of climate change is mostly felt by countries in the Global South, even though they have contributed less to industrialization and emissions compared to the Global North. This has disrupted the pattern of the North-South international relations, especially with the rise of middle power and developing nations in the international system. As a result, global climate change policies are being reshaped to represent the Global South's perspective in all negotiations and diplomatic efforts (Hurrell & Sengupta, 2012). It is crucial to provide assistance to these countries and consider their perspective through international cooperation and multilateralism in addressing climate change, as climate change is a global security threat that requires a cooperative and diplomatic approach to address (Hannah, 2012). However, the lack of solutions to reduce climate injustice and address the priorities and repercussions of climate change on the Global South has led to contested North-South engagement in setting the climate policies agenda. Therefore, climate diplomacy is moving towards promoting South-South cooperation to reinforce their perspective,

advocate common priorities in negotiations to reshape the international agenda on climate action, and promote mutual interests through mutual solidarity and coordination (UNCTAD, 2022a).

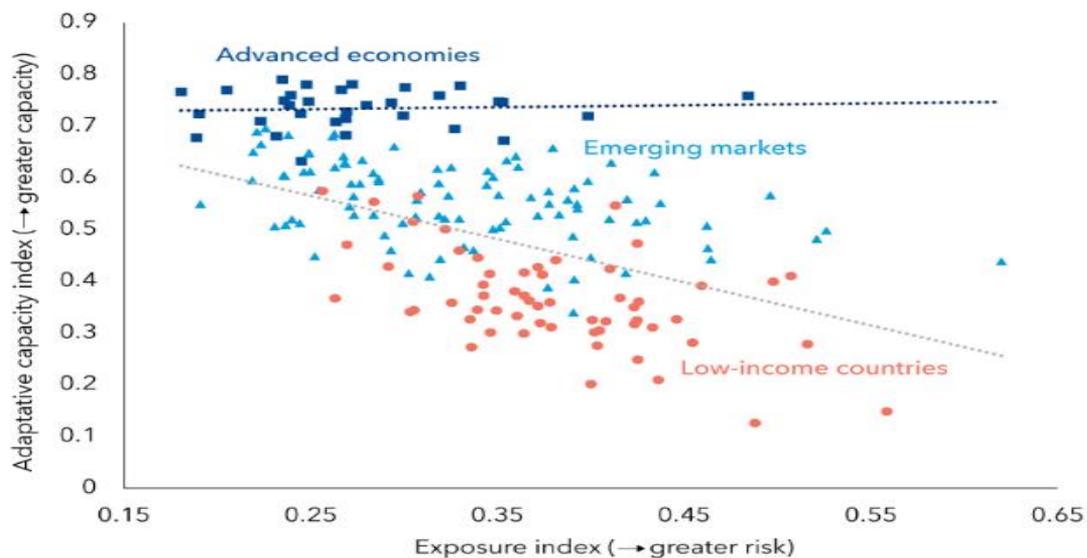
Based on the above, the main purpose of this paper is to examine the climate diplomacy originating from the South-South approach. Specifically, the focus is on Egypt's climate diplomacy towards Africa during the hosting of COP-27. This event provided an opportunity to amplify the African voice in the discussions around climate change and its impacts on the continent.

### The African Context: Reasons for climate vulnerability and its repercussions

According to the IMF, poorer and developing economies are bearing the brunt of the higher costs of climate change despite their limited contribution to emissions. This is illustrated in Figure (1). Therefore, it is crucial to provide these countries with the necessary assistance and support to cope with the challenges posed by climate change (Georgieva et al., 2022).

**Figure 1.**

#### *Unequal Costs of Climate Change*

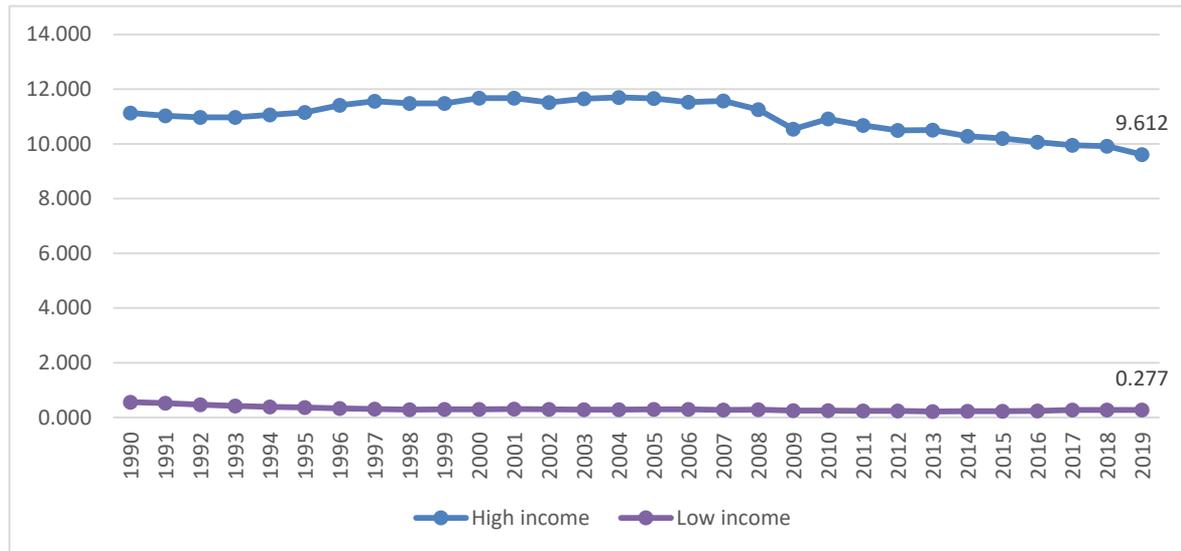


*Source:* Georgieva, et al., (2022).

Climate justice is closely tied to the issue of the ratio of responsibility for contributions to emissions globally and the paradox between those who are responsible for the emissions and those who are affected by climate risks. Figure (2) illustrates the gap between high- and low-income economies and their contributions to CO<sub>2</sub> emissions. In 2019, high-income economies had CO<sub>2</sub> emissions of 9.612 metric tons per capita, while this ratio was only 0.277 metric tons per capita for the low-income economies, according to the World Bank.

**Figure 2.**

*CO2 Emissions (Metric Tons Per Capita) 1990-2019*

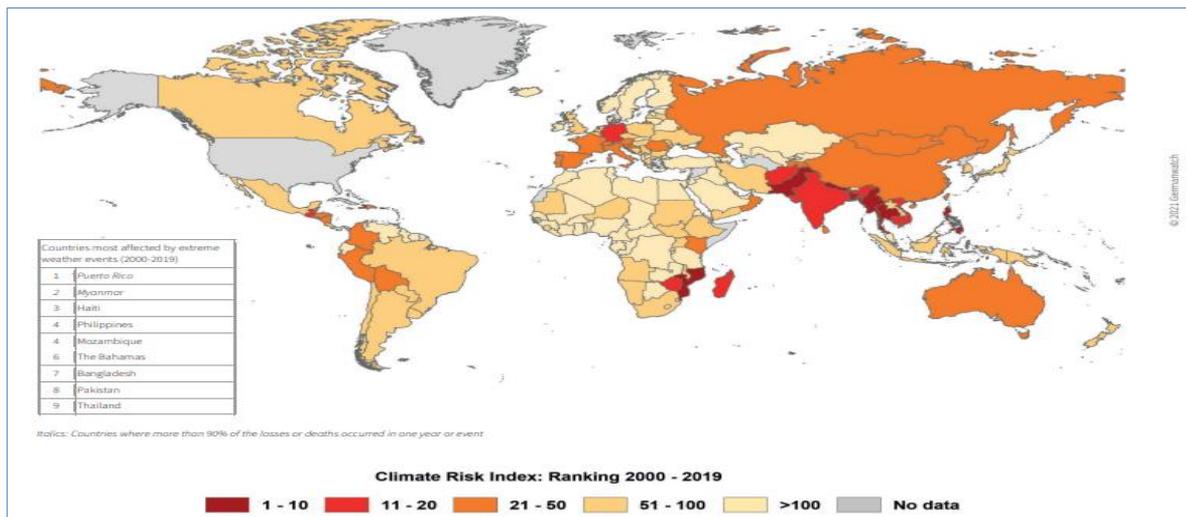


Source: World Bank, (2022a).

Figure (3) illustrates that low-income and developing economies are the most affected by climate risks. According to UNESCO, the average climate risk is higher in the most affected countries, such as Puerto Rico, Myanmar, and Haiti (Eckstein et al., 2021).

**Figure 3.**

*Climate Risk Index (2000–2019)*



Source: UNESCO. (2022, Sep).

Although all developing countries are at risk from the impacts of climate change, African countries are particularly affected (African Development Bank, 2011). A combination of factors make them more vulnerable and less able to adapt and mitigate their effects.

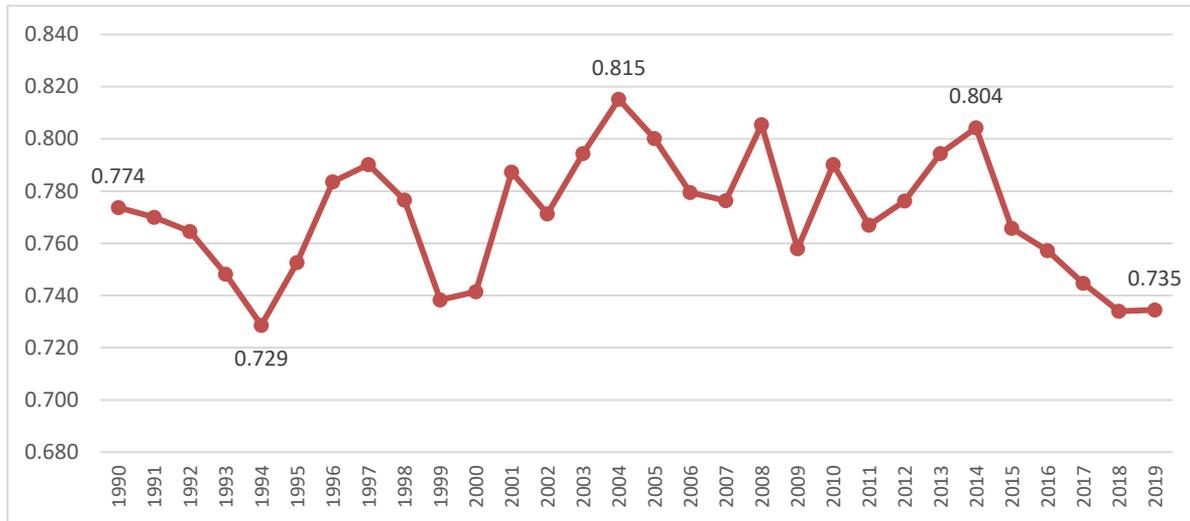
**Reasons for Climate Vulnerability and Its Repercussions**

Climate change is estimated to severely impact most African countries in various sectors due to their embedded vulnerability (UNFCC, 2007). Accordingly, climate justice is a critical issue for Africa despite its limited CO<sub>2</sub> emissions. Figure (4) shows Sub-Saharan African countries' CO<sub>2</sub> emissions during 1990-2009; the total contribution ratio was only 0.735 MT/ capita in 2019. The

related cost make African countries have to choose between promoting development and addressing the implications of climate change (Davies-Venn, 2022).

**Figure 4.**

*CO<sub>2</sub> Emissions (Metric Tons Per Capita) Sub-Saharan Africa, 1990-2019*



*Source:* World Bank. (2022a).

According to the Global Center on Adaptation (GCA), Africa is mostly affected by severe frequency of natural hazards related to climate change, such as floods, wildfires, storms, and droughts. As a result, more than 54 million people in Africa were affected by these natural disasters between January 2021 and September 2022 (Global Center on Adaptation, 2022). The World Meteorological Organization (WMO) estimates that about 80% of African countries are expected to suffer from the inability to have sustainably managed water resources by 2030 (WMO, 2022b). In this regard, the International Crisis Group (ICG) has estimated that the risks of armed conflict could increase by 10-20% of 0.5°C in local temperatures (Malley, 2020).

It is important to note that many African economies are characterized by severe weaknesses, such as low levels of development and GDP, higher levels of poverty, and state and institutional fragility. These weaknesses make it difficult for African countries to mitigate and adapt to climate change (Welborn, 2018). Additionally, the rising food prices and water shortage could lead to a decline in developmental outputs, along with waves of armed conflicts, wars, and socio-political unrest in the African region (Maunganidze, 2021). In this regard, reference could be made to the armed conflict in Darfur, which was the prime example of how climate change can lead to armed conflict, as droughts and famine devastated the livelihood of people who mainly relied on agriculture and pastoralism as their economic activities (Jeffrey, 2009; Sova, 2020).

Africa needs more institutional capacity to tackle climate change. The continent suffers from state fragility and a shortage of early warning systems (Maino & Emrullahu, 2022). According to WMO, the LDCs do not have sufficient early warning coverage for their people; 60% of African people lack these systems, making them more vulnerable to climate risks (WMO, 2022a). Moreover, the higher rates of climate change illiteracy in Africa hinder the efforts of tackling climate change issues. The socioeconomic context contributes to the increase of the illiteracy rates due to the low quality of education, higher rates of poverty, and gender gap. This is reflected in the lower awareness of climate risks among women (Simpson et al., 2021). The challenges facing climate finance and green funds put additional burdens on the African country's ability to tackle

climate change and its repercussions. This is due to the lack of governance and the African institutional inability to access these funds, as outlined by the International Monetary Fund (IMF, 2020).

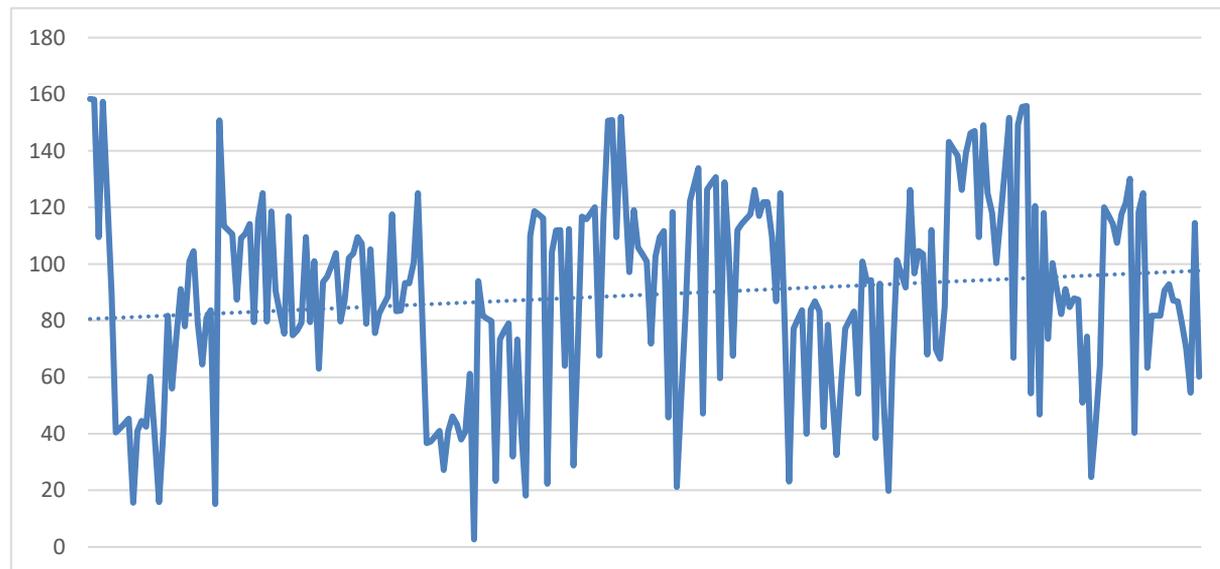
In conclusion, Africa suffers from various challenges causing its vulnerability to shocks and hazards arising from climate change. Therefore, it is crucial to provide the needed support and various types of assistance to the continent to enhance its ability to mitigate and adapt to climate change.

### **African Vulnerability to Climate Change: Empirical Insights**

Figure (5) illustrates the levels of climate risks in Africa between 2008 and 2019, with the index values ranging from 2.67 to 170.5. This indicates the varying degrees of vulnerability across the African continent. The mean value for this index was 97.57, and the standard deviation was 33.88.

**Figure 5.**

*Values of Climate Risk Index in Africa (2008-2019), Panel Data for 38 Countries*



**Source:** Climate Risk Index, German Watch, 2021, <https://www.germanwatch.org/en/cri>

The correlation matrix shows a significant correlation between climate risks on the one hand and peace, debt, terrorism, and hunger on the other hand. Accordingly, there is a negative correlation between the level of climate risks and hunger. However, the higher levels of climate risks are interlinked with the higher levels of hunger because the lower values of climate risks reflect favorable situations, unlike the values of the hunger variable. It is the same reason for interpreting the negative correlation between climate risk value and the debt, terrorism, and peace variables. So, these negative correlations statistically refer to a positive correlation logically, indicating the nexus between climate risks and their repercussions on the political, social, and economic aspects.

Interestingly, the African vulnerability to climate risks could be illustrated through this matrix in Table (1). It reflects the severe weakness in the African context due to the interlinkage between state fragility and human development, terrorism, inflation, debt, and peace, as all these variables have significant correlation with climate risk across all Africa.

It is also indicated that impacts of climate change on socioeconomic and political aspects could be determined according to the geographical region, due to the variance on the sub-regional level.

**Table 1.**

*The Correlation Matrix Between the Main Variables all over Africa*

	zclimate	zhdi	zhung	zfragile	zgdp	zterr	zinfl
zclimate	1.0000						
zhdi	0.0868 0.0644	1.0000					
zhung	-0.2348* 0.0000	-0.5723* 0.0000	1.0000				
zfragile	-0.0134 0.7757	-0.5928* 0.0000	0.4568* 0.0000	1.0000			
zgdp	0.0005 0.9923	-0.0725 0.1224	-0.0882 0.0604	-0.0193 0.6819	1.0000		
zterr	-0.2568* 0.0000	-0.0012 0.9798	0.0734 0.1185	0.3442* 0.0000	-0.0532 0.2576	1.0000	
zinfl	-0.0849 0.0706	-0.0132 0.7783	0.1462* 0.0018	0.1728* 0.0002	-0.0650 0.1661	0.0645 0.1698	1.0000
zdebt	-0.1339* 0.0042	0.0963* 0.0400	0.1087* 0.0205	-0.1095* 0.0194	-0.0290 0.5373	0.0382 0.4159	-0.0006 0.9894
zpeace	-0.1100* 0.0189	-0.1668* 0.0004	0.0802 0.0878	0.6195* 0.0000	-0.0861 0.0667	0.6602* 0.0000	0.1540* 0.0010
		zdebt	zpeace				
zdebt		1.0000					
zpeace		-0.1158*	1.0000				

*Source:* Compiled by the researcher.

In both northern and southern African countries, there was a significant correlation between climate risk and the level of human development, hunger, terrorism, debt service, and peace. So, the climate risk interlinks with most of these countries' social, economic, political, and security aspects, as shown in Table (2).

**Table 2.**

*The Correlation Matrix Between the Main Variable in North and South Africa*

	climat~k	hdi	hunger	fragil~e	gdp	terror~m	inflat~n
climate_risk	1.0000						
hdi	0.3264*	1.0000					
hunger	-0.2268*	-0.5419*	1.0000				
fragilestate	-0.1404	-0.5023*	0.4120*	1.0000			
gdp	0.0910	-0.0363	-0.1764*	-0.0633	1.0000		
terrorism	-0.1858*	0.1916*	-0.1568	0.3335*	-0.1554	1.0000	
inflation	-0.0411	-0.0677	0.2798*	0.3197*	-0.1332	0.1557	1.0000
debt_service	-0.2969*	-0.0610	0.3049*	0.1324	-0.1175	0.0382	0.0508
peace	-0.2198*	-0.0667	-0.0348	0.6717*	-0.0934	0.6493*	0.2359*
		debt_s~e	peace				
debt_service		1.0000					
peace		-0.0420	1.0000				

*Source:* Compiled by the researcher.

In Eastern and Central African countries, there were significant correlations between levels of climate risks and levels of human development, GDP growth, and terrorism, reflecting climate change's impacts on socioeconomic and security aspects.

**Table 3.**

*The Correlation Matrix Between the Main Variables in East Africa*

	climat~k	hdi	fragil~e	gdp	terror~m	inflat~n	debt_s~e
climate_risk	1.0000						
hdi	0.3624*	1.0000					
fragilestate	-0.1071	-0.7477*	1.0000				
gdp	-0.1844*	-0.0220	-0.1208	1.0000			
terrorism	-0.2174*	-0.2898*	0.5292*	-0.0017	1.0000		
inflation	-0.1070	-0.2945*	0.1749	0.0333	-0.0376	1.0000	
debt_service	-0.0021	0.6468*	-0.6116*	0.1185	-0.0233	-0.1979*	1.0000
peace	-0.0041	-0.3100*	0.6939*	-0.2231*	0.6840*	0.0245	-0.2941*
		peace					
peace		1.0000					

On the other hand, the countries in West Africa witness only a significant correlation between climate risk and terrorism, which means that the climate security nexus was evident in that region, and it ensures that the terrorism risk is a priority for this sub-region, as illustrated in Table (4).

**Table 4.**

*The Correlation Matrix Between the Main Variable in West Africa*

	climat~k	hdi	hunger	fragil~e	gdp	terror~m	inflat~n
climate_risk	1.0000						
hdi	0.1065	1.0000					
hunger	-0.1167	-0.3518*	1.0000				
fragilestate	0.1449	-0.4441*	0.3711*	1.0000			
gdp	0.0571	0.1211	-0.1562*	-0.0360	1.0000		
terrorism	-0.3172*	-0.1431	0.1579*	0.2797*	-0.0500	1.0000	
inflation	-0.0251	0.2443*	-0.1365	-0.1803*	0.0572	-0.1455	1.0000
debt_service	-0.0615	-0.0982	0.1580*	-0.0475	-0.0034	0.0246	-0.0518
peace	-0.0314	-0.1931*	0.0431	0.5256*	-0.1114	0.7360*	-0.1942*
		debt_s~e					
debt_service		1.0000					
peace		-0.1702*	1.0000				

*Source:* Compiled by the researcher.

In summary, the micro correlation results show these different patterns of nexus between climate risks and security, political, social, and economic aspects in Africa, and remarkably, display the variation in levels of vulnerability to climate risks across the continent.

### **The Need for Solutions: The Egyptian Perspective**

Being a country in the African continent, the Egyptian context is reasonably similar to the African one when it comes to factors causing the vulnerability to climate risks. Egypt has existing challenges that are expected to worsen due to climate change. This section discusses the climate risks in Egypt and their repercussions on various aspects.

#### **Potential Impacts of Climate Change on Egypt**

According to the UNDP's Human Climate Horizons report, Egypt is expected to face higher temperatures in the coming years under two different scenarios. If the emissions continue to increase, the average number of days with temperatures exceeding 35°C could be 120 days annually. Alternatively, under moderate emissions, this number could be 106 days. These changes in climate will have a profound impact on all aspects of life in Egypt. The country is classified as at extremely high risk for exposure to climate and environmental shocks, with the highest level regionally. As per UNICEF, an estimated 5.3 million children are exposed to heat waves, which can negatively affect their health, nutrition, education and social protection. Egypt has the highest level of children's exposure to climate and environmental shocks in the MENA region (UNDP, 2022a; UNICEF, 2022a, 2022b).

Climate change may have severe implications for the Egyptian economy due to deteriorating air quality and environmental conditions. This could lead to a decline in tourism as a result of damage to the coral reefs in the Red Sea, as well as harm to historical heritage and ancient treasures (UNDP, 2018). The agricultural sector could also suffer losses of EGP 40 to 234 billion and face a production decline of 8% to 47% by 2060. Employment in this sector could decrease by 39%, and there could be a rise in food prices by 16% to 68%. Climate change is also estimated to cause 2,000 to 5,000 tolls annually (UNDP, 2013). The Nile Delta and the opposite Northern coast are especially at risk due to rising sea levels, which could lead to erosion of fertile lands and threaten food security, causing waves of internal displacement (World Bank, 2021).

#### **Domestic Policies to Tackle Climate Change Repercussions on Egypt**

Due to the vulnerability to climate change and the potential impacts of climate risks on various aspects, Egypt has adopted a holistic approach to enhance its ability to mitigate and adapt to climate change, solving the side effects of climate actions, together with dealing with all other existing challenges in the Egyptian context to promote sustainable and comprehensive development.

Egypt has made significant efforts to ensure food and water security by developing effective irrigation methods and adopting climate-smart agriculture (CSA) techniques. These efforts have been made while taking into consideration the human aspect and needs of small farmers and rural inhabitants. The Egyptian government has prioritized promoting social justice, social protection, and rural development to achieve inclusive and sustainable development. In this regard, mention could be made to the "*Hyāt Kārymāh*," or Decent Life initiative, which aims to improve living standards, especially in rural and peripheral areas, and provide better opportunities for vulnerable groups. This initiative is aimed at achieving overall development and progress in Egypt (Haya Karima 2019; World Bank 2022b).

The Egyptian government has implemented energy pricing reforms to encourage the usage of clean and renewable energy while reducing the usage of non-renewable energy resources. This has

been achieved by lifting subsidies from fossil fuels and providing more incentives for the production and usage of renewable energy (J-PAL MENA 2022; El-Zalat 2022). This transition towards clean and renewable energy acts as an approach to promote social justice and poverty reduction by creating more job opportunities in these related fields (Elsayad, 2019; Ibrahiem, 2022).

In 2022, Egypt launched the Nexus of Water, Food, and Energy (NWFE) Program; a nationwide platform that aims to achieve the national climate agenda 2050 by mobilizing climate finance and investments in the fields related to the green transition and the interlinkages between climate action and development efforts (Ministry of International Cooperation 2022a, 2022b)

In summary, the Egyptian strategy for dealing with climate change involves focusing on humanitarian, economic, and environmental factors to enhance the capacity of all sectors to address the impacts of climate change and minimize the vulnerability of at-risk communities. However, these policies are still insufficient in fully addressing the negative effects of climate change in Egypt. Therefore, a significant amount of effort is required to deal with the complexity of the Egyptian context (Climate Action Tracker, 2022).

### **The Egyptian Climate Diplomacy Towards Africa**

Egypt has taken an active climate diplomacy approach towards Africa, believing it can play a leading role in combating climate change by mobilizing the needed financial, scientific, and diplomatic support. Hosting COP-27 has been a paradigm shift in global climate diplomacy, allowing the global South to express their views and present the negative impacts of climate change on them to mobilize global support for their efforts to mitigate and adapt to climate change. This section illustrates Egyptian climate diplomacy's policies and programs towards Africa, mainly through COP-27, also known as the African COP.

It should be noted that Egypt has implemented several initiatives and programs to address climate change and its impacts in Africa. These efforts are geared towards promoting climate justice and providing technical and financial assistance to help Africa overcome its vulnerability to climate risks, through COP-27, such as:

- **Friends of Greening National Investment Plans.** This initiative aims to identify the gaps between efforts and needs concerning tackling the impacts of climate change on the African economies, to provide guidance for planning and policymaking.
- **Reducing the Cost of Green and Sustainable Borrowing.** The United Nations Economic Commission for Africa has launched an initiative aimed at reducing the cost of green and sustainable borrowing. The initiative aims to provide grants and low-cost financing through different mechanisms such as access to grants from Multilateral Development Banks (MDBs), Green, Social and Sustainability (GSS) Bonds, and the Sustainability Sovereign Debt Hub (SSDH)
- **Decent Life Initiative for a Climate Resilient Africa.** Similar to the domestic initiative, this one aims at tackling the negative socioeconomic impacts of climate change on vulnerable African people, particularly those in rural areas. The initiative seeks to achieve this by integrating climate action into sustainable rural development policies in Africa.
- **Sustainable Debt Coalition Initiative.** It aims to facilitate African countries access to green finance, as well as strengthen debt-for-climate swaps.

- **Africa Just & Affordable Energy Transition.** The main object of this initiative is to assist African economies in achieving the SDG7. This will be accomplished by providing the needed support for the establishment of modern, resilient, and sustainable energy systems across the continent, in line with the strategic objectives outlined in the African Union's 2063 Agenda.
- **African Women's Climate Adaptive Priorities (AWCAP).** This initiative aims to tackle the gender gap and empower African women to tackle climate change through the transformations towards clean energy, water management, and modern agriculture and irrigation techniques.

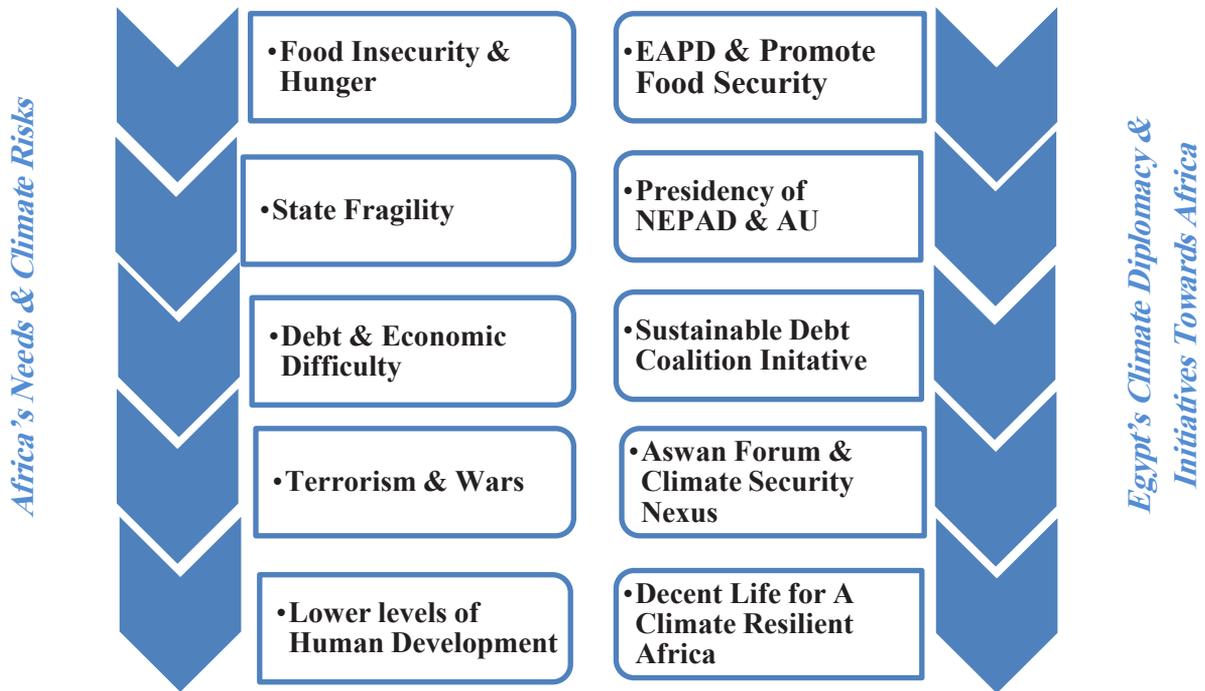
From a wider perspective, Egypt is taking a multisectoral approach to address the root causes of climate risks in Africa. To this end, it has adopted a development agenda that includes its vision for Africa during its presidency of the African Union in 2019 and its presidency of the New Partnership for Africa's Development Agency (NEPAD) from 2023 to 2025 (State Information Service 2023, 2022a). Egypt has also worked on providing a model for other African countries to follow in terms of tackling climate change, such as NWFE, which is an integrated model that uses mobilizing and sustaining climate finance methodology (Al-Mashat, 2022). Additionally, the Egyptian Agency of Partnership for Development (EAPD) is actively promoting sustainable development in Africa, particularly in the areas of food security and sustainable agriculture (FAO, 2023).

It is also indicated that Egyptian climate diplomacy towards Africa is prior to the hosting of COP-27 in 2022, as Egypt has adopted various initiatives, such as launching the Africa Adaptation Initiative (AAI) during COP-21; aiming to enhance the continent's coordination and coherence concerning their efforts related to climate actions (Africa Adaptation Initiative (AAI), 2015). The different versions of the Aswan forum tackled the issue of the repercussions of climate change on Africa. Furthermore, Egypt has been actively involved in various diplomatic fora concerning the dilemma of climate change in Africa, whether regionally or globally, as Egypt keeps on representing the continent's voice, advocating its rights, and mobilizing attention to the catastrophic related repercussions and challenges (State Information Service, 2022b).

On the other hand, the security perspective remains on the table of Egyptian climate diplomacy towards Africa, through shedding light on the climate security nexus, in addition to focusing on the water security issue, which is considered a severe threat to the Egyptian national security and the regional peace and stability. Thus, Egyptian climate diplomacy has raised the issue of the Great Renaissance Ethiopian Dam (GRED) from the perspective of the climate–water security index and its impact on disturbing peace and stability in Africa. In this regard, Egypt has launched the Action on Water Adaptation or Resilience (AWARe) initiative to promote cooperation to address water-related challenges and reach solutions through climate actions (COP-27, 2022).

**Figure 5.**

*The Coherence Between Africa's Needs and Related Climate Risks and the Egyptian Climate Diplomacy and Initiatives Towards Africa*



*Source:* Compiled by the researcher.

**Conclusion**

Previous analyses found that the impact of climate change on developing and less developed countries, particularly in Africa, is devastating. Empirical evidence highlights the complexity of the situation, which is evident in Africa's vulnerability to climate risks. Despite significant efforts to address climate change, Africa still has a long way to go in terms of reducing its vulnerability to climate risks.

Africa needs more enhanced coordination and collaboration with both regional and global actors to receive adequate support for developing its capacity to mitigate and adapt to climate change. In this regard, South-South cooperation and integration can potentially offer a solution to Africa's climate change challenges. It is noteworthy that the COP-27 conference was remarkable in terms of global south climate diplomacy, particularly with regards to Africa.

This paper found that Egyptian climate diplomacy towards Africa has prioritized addressing the African challenges and vulnerabilities of African countries concerning the repercussions of climate change, the climate change–security nexus, and reasons for vulnerability to climate risks for the sake of promoting peace, stability, and sustainable development. Additionally, Egypt has taken a balanced approach towards climate policy, considering the trade-offs between climate action, green transition, social justice, economic resilience, and growth. Egypt is also working to represent its climate policy approach to other African countries.

In conclusion, Africa has the potential to transform the plight of the implications of climate change into an opportunity for economic growth, resilience, and sustainable development by enhancing its capacity for both mitigation and adaptation, as well as by receiving the needed assistance from the international community to address the root causes of vulnerability to climate risks. The Egyptian climate diplomacy towards Africa has paved the way for a green, resilient, and prosperous future for the continent in its efforts to combat climate change.

### Policy Recommendation

Literature refers to some policy recommendations to speed up Africa's climate actions, illustrated as follows:

- **Sustainable finance.** It plays a crucial role in advancing climate action initiatives in Africa by facilitating eco-friendly investments, setting up local funding mechanisms such as taxes and private investments, and improving access to green funds from donors and developmental banks at both regional and global levels through cooperation and partnerships (Cairo International Center for Conflict Resolution, 2022; African Development Bank 2023; Richmond et al., 2022).
- **Protection, inclusion and participation.** Climate policies must prioritize the protection, inclusion, and participation of vulnerable groups such as women, informal workers, migrants, indigenous peoples, and people with disabilities (Africa NDCs Hub, 2022).
- **Agriculture and food production resilient systems.** It is important to transform agriculture and food production systems to be more resilient to climate change and water scarcity. Additionally, the social protection approach must consider nutrition, food safety, and rural development (Cochrane et al., 2021).
- **Financial and technical support.** Africa also needs more financial and technical support for transition to clean and renewable energy resources while considering the economic and industrial variances among African countries (Alemayehou et al., 2021; Müller et al., 2017; Nsafon et al., 2023).
- **Planning and designing resilient infrastructure.** In Africa, promoting resilience against climate risks and reducing emissions in climate-sensitive sectors should consider the impact of climate change (Cervigni, et al., 2015).

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## سياسات معالجة تغير المناخ وتداعياتها على إفريقيا: منظور السياسات المصرية

### مستخلص

تناولت الدراسة إشكالية تغير المناخ وتداعياتها المختلفة على إفريقيا، مع التركيز على نهج السياسات المصرية للتعامل مع تلك القضية. وتم تبني أدوات التحليل الكمي والكيفي لدراسة الإشكالية البحثية وتفنيدتها، حيث اتبعت الورقة المنظور التحليلي لدراسة أسباب وتداعيات تغير المناخ على إفريقيا ومصر، مع دراسة وتحليل السياسات المصرية لمعالجة تداعيات تغير المناخ داخلياً، وإقليمياً على الصعيد الإفريقي، بالإضافة لتحديد التداعيات السلبية لتغير المناخ على إفريقيا باتباع أساليب التحليل الكمي؛ لدراسة العلاقة بين المتغيرات محل الدراسة، والمستقاة من مصادر ثانوية، وقواعد بيانات منشورة. وخلصت مصفوفة الارتباط إلى وجود علاقة ترابط بين المخاطر المناخية في إفريقيا وتدني السلام، وتزايد الديون، وتفاقم خطر الإرهاب والجوع. ومن المثير للاهتمام أن المصفوفة تظهر بعض جوانب ضعف إفريقيا أمام مخاطر المناخ، بينما على المستوى الجزئي أظهرت نتائج مصفوفة الارتباط أنماط ترابط مختلفة بين المخاطر المناخية والجوانب الأمنية والسياسية والاجتماعية والاقتصادية في مختلف الأقاليم الجغرافية في القارة، كما يلاحظ التباين في مستويات التعرض لمخاطر المناخ في جميع أنحاء القارة. وخلصت الورقة كذلك إلى أن إفريقيا تحتاج مزيداً من التعاون الإقليمي والدولي؛ للحصول على المساعدة اللازمة لتعزيز قدرتها على التخفيف من تغير المناخ، والتكيف معه. ولذلك، فإن التعاون والتكامل الإقليمي بين دول الجنوب يمكن أن يخلق طريقاً للخروج من معضلة تغير المناخ الأفريقية، ولعل أفضل مثال على ذلك هو استضافة مصر لمؤتمر المناخ (COP-27)، كما أعطت الدبلوماسية المناخية المصرية تجاه إفريقيا الأولوية لمعالجة التحديات ونقاط الضعف التي تواجه القارة، فيما يتعلق بتداعيات تغير المناخ، وأسباب التعرض للمخاطر المناخية.

**الكلمات الدالة:** تغير المناخ، القابلية للتأثر بتغير المناخ، دبلوماسية المناخ، مصر، إفريقيا