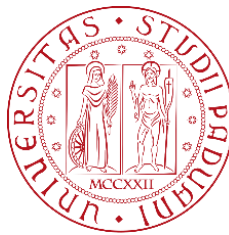


UNIVERSITÀ DEGLI STUDI DI PADOVA

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**Master's degree  
in Human Rights and Multi-level Governance**



**MIDDLE EAST AND NORTH AFRICA REGION'S  
CLIMATE ADAPTATION BY CLIMATE  
FINANCE.VULNERABILITY AND GENDER-BASED  
PERSPECTIVES**

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## **ABSTRACT**

In this paper, the main subjects will be the struggles of women and selected marginalized communities in the Global South due to climate change. Middle East and North Africa (MENA) will be tackled as a geographical focus.

The first chapter will examine the fundamental causes underlying the susceptibility of the MENA region to climate change. The second chapter will focus on the vulnerability notion with gender and minority perspectives (ethnic minorities and BIPOC). The third chapter will elaborate on the pivotal role of climate finance in climate resilience with a gender-based perspective.

**Key Words:** Adaptation, BIPOC, Climate Change, Climate Finance, Gender, Marginalized Communities, Vulnerability, MENA.

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## **ABBREVIATIONS**

ACHPR: African Charter on Human and Peoples' Rights  
AF: Adaptation Fund  
BIPOC: Black, Indigenous, and People of Color  
CBD: Convention on Biological Diversity  
CBIT: Capacity-building Initiative for Transparency Trust Fund  
CDM: Clean Development Mechanisms  
COP: Conference of Parties or United Nations Climate Change Conference  
CTF: Clean Technology Fund  
ETS: Emissions Trading System  
FAO: Food and Agriculture Organization  
FGM/C: Female Genital Mutilation/Cutting  
FIP: Forest Investment Program  
GBFF: Global Biodiversity Framework Fund  
GBV: Gender-Based Violence  
GCC: Gulf Cooperation Council  
GCF: Green Climate Fund  
GEF: Global Environment Facility  
GFSG: G20 Green Finance Study Group  
GHG: Greenhouse Gas  
HIV/AIDS: Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome  
HRW: Human Rights Watch  
ICESCR: International Covenant on Economic, Social and Cultural Rights  
ICSID: International Centre for Settlement of Investment Disputes  
IDA: International Development Association  
IDP: Internally Displaced People  
IEA: International Energy Agency  
IFC: International Finance Corporation  
IOM: International Organization for Migration  
IPCC: Intergovernmental Panel on Climate Change  
ISFD: Islamic Solidarity Fund for Development  
JI: Joint Implementation  
LDC: Least Developed Countries  
LDCF: Least Developed Countries Fund  
LGBTQIA+: Lesbian, gay, bisexual, transgender, queer, intersex, asexual, and other diverse sexual orientations and gender identities  
MDB: Multilateral Development Bank  
MENA: Middle East and North Africa  
MIGA: Multilateral Investment Guarantee Agency  
NAPs: National Adaptation Plans  
NDCs: Nationally Determined Contributions  
NPIF: Nagoya Protocol Implementation Fund  
OCHA: UN Office for the Coordination of Humanitarian Affairs  
ODA: Official Development Assistance  
ODI: Overseas Development Institute  
OECD: Organisation for Economic Co-operation and Development

OHCHR: Office of the United Nations High Commissioner for Human Rights  
POPs: Stockholm Convention on Persistent Organic Pollutants  
PPCR: Pilot Program for Climate Resilience  
R&D: Research and Development  
RENEW MENA: Regional Network in Energy for Women in the Middle East and North Africa Region  
SCCF: Special Climate Change Fund  
SCF: Strategic Climate Fund  
SDGs: Sustainable Development Goals  
SGI: Saudi Green Initiative  
SIDS: Small Island Developing States  
SMEs: Small and Medium-Sized Enterprises  
SRHRs: Sexual and Reproductive Health and Rights  
STIs: Sexually Transmitted Infections  
UAE: United Arab Emirates  
UN: United Nations  
UNCCD: UN Convention to Combat Desertification  
UNDP: United Nations Development Program  
UNDPPA: UN Department of Political and Peacebuilding Affairs  
UNEP: United Nations Environment Program  
UNFCCC: United Nations Framework Convention on Climate Change  
UNOPS: United Nations Office for Project Services  
UNFPA: United Nations Population Fund  
WASH: Water, Sanitation, and Hygiene  
WBG: World Bank Group  
WFP: World Food Program  
WHO: World Health Organization  
WMO: World Meteorological Organization

## **METHODOLOGY**

Mixed methods are used for this thesis since there are four main focuses: climate change, vulnerability, gender equality, and climate finance. Because the subject geography MENA, consists of all these focuses. For sustainable climate resilience at national and regional levels, these focuses must be handled and elaborated.

Giving historical background is one of these methods. Without mentioning the colonial past of the MENA countries, it can be perceived that climate change isn't a rooted problem for the region. The colonial past has still consequences and has a role in the climate crisis since its focus was the exploitation of the land and natural resources of the MENA region. Food insecurity and energy insecurity, for example, aggravate the vulnerability of the region before climate change their roots come from colonial rule.

The case study is one of these methods. To explain and show how MENA countries are vulnerable in climate change context and different dimensions, vulnerability cases were selected from different countries for different topics. For instance, during Chapter 2 the vulnerability of ethnic minorities and BIPOC communities in the region against climate change will be discussed and cases will be given from various populations like Amazigh, Bedouins, Ahwari, etc. Thus, the observation is used as a qualitative method to reflect on the vulnerability of women and LGBTQIA+ communities in the region; how they are hindered by the other members of society and are affected much more severely by the climate crisis.

Moreover, the rulings at national, regional, and international levels are used to emphasize how the governments and decision-makers in the region succeed or fail in climate action before the environment and the populations within the country. The impact of the ratification or non-ratification of these rulings on the populations is questioned during the thesis. For example, ICESR, Paris Agreement, Declaration on the Rights of Indigenous Communities, ILO Convention 169, African Charter on Human and People's Rights, Arab Charter on Human Rights, etc.

Lastly, the qualitative method is used. Statistics are given either inside paragraphs or as graphics. This method is substantial, especially for Chapter 3 when climate finance will be discussed. Statistics clarify the role of climate finance policies and climate funding in the climate adaptation and resilience of MENA countries. Indeed, they will indicate how the role of the international climate finance mechanism like the World Bank Group, and OECD is pivotal for the MENA countries.

## INTRODUCTION

The existence of climate change or global warming or more comprehensively the climate crisis is undeniable. All the continents and countries are affected by facing several consequences of this crisis. Even though it is a global and widespread phenomenon, its influences, and impacts aren't witnessed equally and proportionally. This inequality leads us to the well-known and more general separation of the groups affected by climate crisis than more exclusive levels -regional or local for example-: Global North and Global South.

Generally, the term Global North defines the part of the world where States have developed quantitative and qualitative capitals and capacities in various aspects. In the climate change scope, this term refers to the States that have developed sufficient capacity and resources to mitigate the climate crisis and to adapt to the new climate. On the other hand, the term Global South is the totally opposite of it: it refers to the States with less-developed economies and very limited capacities-in some cases no capacity- to mitigate the climate crisis. This important difference between the two parts brings to the fact that the Global South is very open to being affected by the negative impacts of the climate crisis and it's much more vulnerable than the Global North due to insufficiency of the capacity and capital -as mentioned above- and other socioeconomic reasons which will be tackled with more details in the further sections. According to some research, more than 1 billion people have been facing those impacts, most of which are global southern populations.

Despite the capacity and capital gap between the two parts, climate resilience is a must to respond to climate change/crisis for everyone. There are two ways to be climate resilient: climate mitigation and climate adaptation. Climate mitigation covers the policies and practices adopted by States and other effective actors in the State to reduce the negative impacts of climate change. Climate adaptation also consists of the policies and practices of the States and other effective actors in the State. However, when it comes to adaptation, the main aim is different. Adaptation refers to adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects.<sup>1</sup>

The contents of the climate mitigation and adaptation show, once again, the importance of having sufficient and developed capacity and capitals for climate resilience in country and local community-based. In that direction, Global North and South choose one of the approaches for their climate resilience. As expected, mitigation is matched with the Global North. For the Global South, adaptation is more compatible for their climate resilience.

In order to tackle and emphasize better the severity of the negative impacts of climate change and the vulnerability of the populations, Global South is selected as the broad geographical focus. To deeply understand the climate resilience of the Global South, one region is selected as an example from there: Middle East and North Africa (MENA).

The MENA region isn't a challenging region only due to the climate crisis. Indeed, there are pre-existing challenges which make the region already vulnerable, other than the climate crisis. Those

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<sup>1</sup>United Nations Climate Change, Adaptation and Resilience, <https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction>



challenges aren't new, they have existed for centuries in the region and they make populations more vulnerable to climate crises. They have numerous dimensions such as economic, social, and political.

There will be three chapters to discuss the climate change context in the MENA region. The first chapter will give information about the general causes of the severity of climate crisis in the region by answering which aspects contribute to the vulnerability of the region and why. The second chapter will elaborate more the notion of vulnerability by focusing on specific populations: women, LGBTQIA+ communities, ethnic minorities and BIPOC communities. The chapter will highlight the living conditions of these populations in climate crisis context and the factors that affect their vulnerability level. The third and last chapter will focus on climate resilience of the region by climate finance: the definition and perception of climate finance, the actors from different backgrounds with their own contributions, climate finance policies of the governments and the participation of women to climate finance in MENA.

## **CHAPTER 1: WHY IS THE MIDDLE EAST NORTH AFRICA(MENA) ONE OF THE MOST VULNERABLE REGIONS TO CLIMATE CHANGE?**

As several research and international society actors stated, the consequences of climate change are intensely visible in the MENA region. The struggles of the populations from those consequences accelerate in the short term and they make people more vulnerable, defenceless.

Why is the climate crisis visible that much in the region? One of the main issues is the amount of the population there. MENA emerges as one of the most densely populated areas on a global scale. This demographic characteristic underscores the prevalence of various vulnerable groups. Consequently, the region stands as a noteworthy beneficiary of support and aid, extending beyond humanitarian considerations to encompass the domain of climate action, with the World Bank being a notable contributor. Notwithstanding this support, it is noteworthy that the MENA region remains the smallest recipient of climate change finance worldwide. The coexistence of pre-existing vulnerabilities and persistent conflicts further compounds the strain on the resources of numerous countries in the region.

For instance, nature and human activities since the Industrial Revolution and the colonialist era are pre-existing vulnerabilities of the region. Those components make climate crisis mitigation more complicated and challenging. As stated in a report by Greenpeace Research Laboratory, the region is getting warmer day by day, nearly two times more than the worldwide average. It is also now clear that the region is warming fast under a climate-changing world, with an accelerated rate of 0.4 °C per decade since the 1980s.<sup>2</sup> On the other hand, as human activities from the Industrial Revolution and colonialism era, the usage of fossil fuels and deforestation should be considered to better understand the contribution of the MENA countries to climate change. Those countries don't significantly cause climate change, but their natural sources are damaged to provide diverse capital to the Global North. In other terms, they aren't principal actors, which increases the negative impacts of climate change due to their less-developed industrial and technological capacity and infrastructure, so less consumption of greenhouse gas emissions. Including the colonial past, several aspects make the MENA population vulnerable in the context of climate resilience.

### **1.1. Socio-Political Instability: Conflict and Displacement by Force**

Despite the rise of civil society with their contributions to national and international politics, States are still maintaining their position as primary decision-makers and principal actors that shape politics on various levels. It means that the socio-political status quo of a country is within its realm of authority. The functioning of this realm of authority depends on the situation of the national status quo. Two major concepts determine this dependency: peace and conflict/war or socio-political stability and instability more broadly. Why not just political but socio-political, emphasizing the social component? Because the social component is connected with the citizens of the States, the subjects that are affected directly and indirectly from, for instance, initiating or

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<sup>2</sup>Greenpeace Research Laboratories, *Living on the Edge- the implications of climate change for six countries in the Middle East North Africa region*, 2 November 2022, <https://www.greenpeace.org/static/planet4-mena-stateless/2022/11/b57fcf2f-greenpeace-living-on-the-edge-full-english.pdf>

being part of a conflict/war or ending it and starting the peacebuilding process and continuing with the peacekeeping process by the decision-makers, representatives of the States.

In the climate change scope, the above-mentioned realm of authority is also valid. States are competent to consider peace and conflict/war decisions with a climate change perspective. Especially during the wars and conflicts this competence is critical for climate due to the determination of the usage of national capitals, technology. Unfortunately, this kind of determination is against the environment and societies. Here is why. Wars and conflicts constitute significant contributors to the climate crisis, primarily due to their intensive reliance on fossil fuels and resultant environmental degradation. This situation severely affects the populations so the social component of the socio-political stability in numerous aspects.

The MENA region is an actual example to elaborate the connection between socio-political (in)stability and the climate crisis. The region continually grapples with the adverse environmental repercussions of armed conflicts, which, in turn, impede the sustainable maintenance of socio-political stability at both national and regional levels. Notably, the MENA region has experienced recurrent coups and governmental changes, particularly since the onset of the Arab Uprisings in the early 2010s.

As a very actual example, the ongoing invasion of Palestine since 7 October 2023 by Israel, is another serious contributor to the socio-political instability and climate crisis in local and regional levels. For this reason, Palestine will be discussed first as a concrete example. After that, the Arab Uprisings in the early 2010s will be deepened.

Like other countries in the region, Palestine struggles with the impacts of the climate crisis due to its geographical position: It is exposed to climate change severely and rapidly. Even though this exposition, Palestine cannot prioritize climate resilience due to ongoing political instability since the foundation of Israel in 1948. For the Palestinians, being active in climate action is “luxury” because of the continuous humanitarian context in their territories. Their first-generation rights such as property rights, freedom of religion, freedom of expression, and the right to a fair trial and even the right to life are deprived of systematic mechanisms of protection. In this context, it’s a must to highlight that the beginning of the Israeli army attack on 7th October 2023 accelerated the cost of the conflict and climate change to the Palestinian people and their livelihood and scholars proves the immensity of this cost with the research and analysis. For example, a collective research from the beginning of 2024 stressed that the projected emissions from the first 60 days of the Israel-Gaza war were greater than the annual emissions of 20 individual countries and territories.<sup>3</sup> Moreover, the previously indicated data from January 2024 dated research and the UN Resolution 47/24 Human Rights and Climate Change<sup>4</sup> adopted by the Human Rights Council in July 2021 shouldn’t misguide us about the beginning of climate oppression. It isn’t a brand-new phenomenon for least-developed countries and vulnerable

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<sup>3</sup>Benjamin Neimark, Patrick Bigger, Frederick Otu-Larbi, and Reuben Larbi, *A Multitemporal Snapshot of Greenhouse Gas Emissions from the Israel-Gaza Conflict*, SSRN, 9 January 2024, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4684768](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4684768)

<sup>4</sup>A/HRC/RES/47/24, <https://documents.un.org/doc/undoc/gen/g21/199/69/pdf/g2119969.pdf?token=Ej3p71M74TWcfgmYIV&fe=true>

communities like Palestinians. In the Palestinian case, climate oppression has existed for a very long time and the report of OHCHR published in November 2021<sup>5</sup>, to extend and contribute to the Human Rights and Climate Change Resolution, is one of the recent and concrete proofs of this specific oppression. The OHCHR report stresses with examples and international human rights law-related arguments how Israel is the principal actor of the climate oppression against Palestine and uses it as a tool for intensifying and sustaining the apartheid and colonial regimes. The emphasis of the violations of the relevant UN General Resolution and relevant article of ICESCR in the report are the examples from the international human rights law framework: Israel's water exploitation, with its induced consequences on the availability of water in both quality and quantity, impinges upon the right to water and sanitation recognized by the United Nations General Assembly Resolution 64/292, but also on the right to the highest attainable standard of physical and mental health, protected under Article 12(1) of the ICESCR.<sup>6</sup> Back to the apartheid and colonial regimes executed by Israel, the 2006 conflict in Gaza Strip is one of the turning points in 21st-century Palestine. This conflict, also called Operation Summer Rains, had a crucial consequence as part of climate oppression for Palestinians to increase their vulnerability against the colonial regime. It hindered the development of the necessary infrastructure to provide water for Palestinians. In other terms, the conflict in the Gaza Strip took the opportunity to establish sustainable water systems for Palestinians in the climate crisis scope. Civil populations suffer with the severity of the global warming both by nature-based events like droughts and by Israeli illegal intervention to their natural resources and exploitation of them. Israel's multilayered apartheid policies and practices have exacerbated climate change vulnerabilities while hampering Palestinians' capacities to adapt, therefore enhancing a system of colonial domination as per Article 1 of the Declaration on the Granting of Independence to Colonial Countries and Peoples<sup>7</sup>.

In order to extend the discussion about the intersection between the severity of the climate crisis and socio-political instability, the MENA countries which were the subjects of the Arab Uprising in the early 2010s, will be tackled. In this humanitarian context, Syria is one of the most vulnerable countries in the region to resist the climate crisis and its vulnerability can't have decreased until today. Since March 2011, when the civil war started in Syria, the environment and populations have been damaged in several aspects. Although there are several negative consequences of this civil war, the following ones have to be mentioned and analyzed to better understand the intersection between climate crisis and socio-political instability in the MENA region: ongoing conflicts since the 2011 civil war, forcibly displacement and economic regression. Those three factors grow the climate crisis threat for the Syrian people. The first factor, the serial conflicts, cause the damages that even future governments and decision-makers cannot fix very quickly. Destroyed infrastructures are one of the exemplary damages in the Syrian humanitarian context. Why does this kind of damage become prominent in the climate crisis scope? The infrastructures are essential for the socio-economical functioning of the countries, they provide services to the citizens. Water and sanitation services are provided by the

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<sup>5</sup> Submission to the Office of the High Commissioner for Human Rights (OHCHR) Pursuant to Human Rights Council Resolution 47/24 "Human Rights and Climate Change", July 2021

<sup>6</sup> Ibid

<sup>7</sup> Ibid

infrastructures for instance and these services determine the resilience of a country against climate crisis. Because they are basic services for the survival of the populations. In Syria's case, infrastructures are either completely destroyed or severely damaged due to the 2011 civil war and serial conflicts afterwards. Two-thirds of Syria's water facilities suffered extensive damage during the conflict, and only one water station is unaffected.<sup>8</sup> This deficit makes Syria more defenceless in the face of the climate crisis and diseases. In comparison to the Palestine case, there isn't any colonial or apartheid regime in the Syrian case. Because the vulnerability of Syria in the face of climate change increased with the civil war, not an external force or colonial mindset and aims. Notwithstanding this difference, there is a causal similarity contributing to the vulnerability of Syria in natural resources extent: the control of natural resources. In Palestinian case, it's obvious that Israel maintains the vital sources of Palestinians like water and land, especially the ones for pursuing agricultural activities. In the Syrian case, on the other side, there is also a control of vital sources but not from an external power. This control doesn't include only the blockage but also the destruction of the infrastructure. Attacks on water pipes, sanitation and desalination plants, water treatment, pumping and distribution facilities, and dams have occurred in Syria, Libya, and Yemen during civil wars.<sup>9</sup>

Yemen is another country in the region that experienced significant political upheaval during the Arab Uprisings of the early 2010s. Similar to Syria, Yemen is beset by ongoing conflicts. The Yemeni civil war, which began in 2014, persists to this day. This protracted conflict has resulted in severe consequences, including extreme poverty, malnutrition, food insecurity, inadequate healthcare, and widespread displacement. These conditions exacerbate Yemen's vulnerability to the climate crisis. Considering climate resilience in such a dire humanitarian context is exceedingly challenging.

While political dynamics have historically been influential, climate-related issues have also served as catalysts for conflicts and even for protests, particularly concerning water and food insecurities. The situation in Yemen is convenient for these circumstances also. In other terms, the exacerbation of the climate crisis is both the cause and the consequence-as explained in the previous paragraph- of the conflicts in Yemen. The scarcity of the natural resources especially related to the water provokes the armed groups in Yemen to occupy them. They keep killing many civilians to control water resources and to gain profit as much as possible. In 2010, the Yemeni government estimated that about 4000 people were killed on an annual basis due to conflicts concerning water or land.<sup>10</sup>

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<sup>8</sup>OCHA, *Syria: Facing the dual challenge of climate change and conflict*, November 2023, <https://unocha.exposure.co/syria-facing-the-dual-challenge-of-climate-change-and-conflict#:~:text=to%20Syria's%20future-.Environmental%20risks%20and%20climate%20change%20pose%20a%20serious%20threat%20to,homes%20and%20rebuild%20their%20lives.>

<sup>9</sup> Kyungmee Kim and Tània Ferré Garcia, *Climate Change and Violent Conflict in the Middle East and North Africa*, International Studies Review, Volume 25, Issue 4, December 2023, <https://academic.oup.com/isr/article/25/4/viad053/7420704>

<sup>10</sup>Stockholm International Peace Research Institute, *Climate, Peace and Security Fact Sheet: Yemen 2023*, June 2023, [https://www.sipri.org/sites/default/files/2023-06/2023\\_sipri-nupi\\_fact\\_sheet\\_yemen\\_june.pdf](https://www.sipri.org/sites/default/files/2023-06/2023_sipri-nupi_fact_sheet_yemen_june.pdf)

Iraq is another country in the Middle East that the climate crisis makes the country more unstable socio-politically and economically. The United Nations says Iraq is one of the five countries in the world worst affected by climate change.<sup>11</sup> Migration, mostly as forcibly displacement, is the negative outcome of the extinction of the natural resources -especially water sources- by climate change. It's necessary to highlight that the Iraqi governments, decision-makers already haven't been able to control the regularity of the migration for more than one decade neither in long-term humanitarian context nor in climate crisis context. This lack of ability makes many Iraqi people forcibly displaced and so more vulnerable to protect themselves and their families from the brutality of the climate crisis. Indeed, forcibly displacement and its consequences aren't limited only for the communities in rural areas or less-developed/industrialized cities of Iraq; even the capital of Iraq, Baghdad and one of other biggest cities of Iraq, Basra have to deal with the forcibly displacement and so climate crisis. In other words, migration within the climate crisis scope connects two different levels of development within the country. The connection makes displacement one of the country-based problems, not community-based and some recent statistics prove this point. A spokesperson from the UN's International Organization for Migration, or IOM, in Iraq, told DW that between June 2018 and June 2023, it had identified at least 83,000 people displaced "due to climate change and environmental degradation across central and southern Iraq."<sup>12</sup> These statistics indicate how critical the displacement due to the climate crisis is. Populations from Iraqi rural areas, the principal subjects of the displacement, who have the capability in terms of qualification or skills have to migrate to the big cities like the indicated two ones to find a job and so to possess capital for themselves and their families/communities. Of course, this motivation for migration isn't new or valid only for Iraq; owning assets and having reliable capital have been always good motivations to migrate. In the climate crisis in Iraq, however, displacement and migration provoke tension and conflicts between migrant communities and local communities. This circulation makes the local communities of the big cities ignore the fact that migrants can have their own traditions and habits and they can bring them to the place where they resettle. From locals' perspectives, the newcomers aren't respectful of their cultural aspects and their lives. Newcomers are accused in the first place and easily commit crimes, damage the cities and so they seem like they are the main risk to the security of the city populations. This perspective, as expected, increases conflicts and decreases the chance of having sustainable effective local politics.

The protests in Iran in 2021, triggered by water shortages and mismanagement, serve as a recent illustration of this phenomenon. Long-standing concerns persist throughout Iran, notably in Khuzestan province, regarding the mismanagement of water resources and pollution resulting from oil development. The response of Iranian police forces to these protests was marked by violence and a significant number of arrests. In essence, the exacerbation of water shortages escalated internal conflict and violence within the country.

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<sup>11</sup>Cathrin Schaer, *How climate change causes culture clashes in Iraq's cities*, DW, 24 July 2023, <https://www.dw.com/en/when-the-farmers-come-to-town-climate-change-causes-culture-clashes-in-iraqs-cities/a-66331373#:~:text=Drought%20is%20forcing%20thousands%20of,cities%20like%20a%20Baghdad%20and%20Basra.>

<sup>12</sup>Ibid

From the Iraqi and Syrian examples, it's easy to conclude that migration and mostly displacement isn't a new problem for the MENA region. People have been displaced mostly because of internal or external conflicts, and climate change has been added as an additional reason for it in local and regional socio-politics. Given that agriculture serves as a primary source of livelihood for much of the MENA populace, the exacerbation of water and food insecurity has further marginalized communities and contributed to unemployment like previously explained in Iraq case. Consequently, pre-Arab Uprising governments faced diminishing authority and legitimacy in the eyes of their citizens, precipitating a shift in the status quo that engendered forced migration and internal displacement. MENA has the highest population of displaced people compared to the other regions worldwide. The region is home to over 16 million refugees and internally displaced persons (IDPs), has contended with the presence of armed non-state actors such as the Islamic State of Iraq and Syria (ISIS), and is actively enduring protracted conflict in Syria, Yemen, Sudan, and elsewhere.<sup>13</sup> In the climate crisis framework, on the other hand, a new concept appears: environmental migration. The IOM defines "environmental migrants" as persons who "predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are forced to leave their places of habitual residence or choose to do so, either temporarily or permanently, and who move within or outside their country of origin or habitual residence" (IOM, 2019: 64).

Besides the armed conflicts and forcible displacement, there are other components which contribute to the socio-political instability of the MENA region: corruption and mismanagement in public and private decision-making areas. Corruption and mismanagement in the government and public sector are other crucial reasons for the political instability, and they significantly impact the climate crisis resilience. The powerful local elites are the actors of this situation. They can easily control water sources and efficient agricultural lands and use this power against vulnerable communities, especially in rural areas. For this reason, those people become more vulnerable to water scarcity and food insecurity, which is why there is a climate crisis. There are communities in the MENA countries like Yemen and Iraq who suffer from this illegitimate authority of those elites. Water and land are the main factors in the conflicts between the tribal elites in Yemen; they fight for the occupancy and governance of these resources, which become more critical with extreme weather events like droughts. In southern Iraq, the elites exacerbate the ratio of water scarcity by illegally distributing an essential amount of water to their commercial farms.

Besides civil wars and interstate conflicts, there is one major external factor that must have to be mentioned in the socio-political instability of the region: Illegal full-scale invasion of Ukraine by Russia. Subject full-scale invasion has been ongoing since February 2022. Since there is significant interaction in economic terms between MENA countries and two sides of the invasion, the negative impact of the invasion on MENA economy on each country and regional

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<sup>13</sup> Marwa Daoudy, *Climate Change and Regional Instability in the Middle East*, Council on Foreign Relations, October 2023, [https://cdn.cfr.org/sites/default/files/report\\_pdf/Climate%20Change%20and%20Regional%20Instability%20in%20the%20Middle%20East.pdf](https://cdn.cfr.org/sites/default/files/report_pdf/Climate%20Change%20and%20Regional%20Instability%20in%20the%20Middle%20East.pdf)

basis is inevitable. Grains are one of the primary assets for the trade between two parts due to the affordable product price and advantage of the geographical distance between MENA and its grain suppliers. The market share of the two countries has been particularly high in Egypt, Sudan and Lebanon. Saudi Arabia is a major importer of barley from the Black Sea region for its livestock industry, primarily sheep.<sup>14</sup> This commercial relation affects the food security of the region and the importer countries. Because, agriculture is an asset for the economy and nutrition of the region's populations. For this reason, the other relevant consequences of the interrupted, damaged grain trade will continue to be discussed in the food security subtitle of this chapter. The trade between two sides isn't limited only with grains. Fuel is another capital which is traded among two sides. Since fuel has an important role in the energy issues of the region like energy security, fuel trade will be discussed in detail in the "energy insecurity" section of this chapter. Overall, about the illegal invasion of Ukraine, since its beginning, it's obvious that it has impacted the global economy and MENA region economy very negatively by causing an increasing global inflation in addition to the humanitarian crisis.

In summary, political instability in the MENA region hinders the development and implementation of sustainable climate change resilience policies and strategies at both national and regional levels. Intrastate and interstate conflicts, civil wars, and illegal invasions over the past decades have exacerbated the vulnerability of populations and livelihoods throughout the region.

## **1.2. Extreme Weather Events and Water Scarcity**

An extreme weather event is rare at a particular place and time of year, with unusual characteristics in terms of magnitude, location, timing, or extent.<sup>15</sup> In the MENA region, extreme weather events are characterized by high temperatures and their associated impacts, including droughts, storms, floods, wildfires, and extensive transboundary dust storms. Both high temperatures and droughts exacerbate the region's water-stress levels, intensifying the water scarcity challenges faced by each country.

MENA is the most water-stressed region in the world.<sup>16</sup> More than 80% of the MENA populations aren't able to access water resources due to several reasons. The most water-stressed regions are the Middle East and North Africa, where 83% of the population is exposed to extremely high-water stress, and South Asia, where 74% is exposed.<sup>17</sup>

Water scarcity or water stress involves more than the mere quantity or efficiency of water resources within a country or region. Within the context of climate change and vulnerability

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<sup>14</sup>Eckart Woertz, *How the Ukraine War Has Disrupted the MENA Region, One Year On*, Italian Institute for International Political Studies - Institute for Middle East Studies 24 February 2024, <https://www.ispionline.it/en/publication/how-the-ukraine-war-has-disrupted-the-mena-region-one-year-on-117984>

<sup>15</sup> WMO, *Extreme Weather*, <https://wmo.int/topics/extreme-weather>

<sup>16</sup> Johan Schaar, *Addressing Climate-Related Security Risks in the Middle East and North Africa*, UNEP, UNDPPA, 2021, [https://dppa.un.org/sites/default/files/200624\\_mena\\_report\\_final\\_0.pdf](https://dppa.un.org/sites/default/files/200624_mena_report_final_0.pdf)

<sup>17</sup>Samantha Kuzma, Liz Saccoccia and Marlena Chertock, *25 Countries, Housing One-quarter of the Population, Face Extremely High Water Stress: Which Countries Face the Worst Water Stress*, World Resources Institute, 16 August 2023, <https://www.wri.org/insights/highest-water-stressed-countries>



frameworks, it encompasses insufficient or non-existent access to clean and potable water, as well as the inability to sustain daily hygiene practices. Having limited groundwater and rainfall are the natural contributors of climate change and water scarcity in the region. It means the population of the MENA region suffer from the insufficiency of freshwater resources. However, this suffering of the population is related to themselves also not just to the freshwater resources. The rapid and continuous population growth in the MENA region exacerbates water scarcity within the context of the climate crisis. Population expansion amplifies water demand not only within households but also across various water-dependent sectors, including rain-fed agriculture and the broader domestic and regional economy. Among all the water-needed contexts and sectors, the household is at the minimum level. Household level usage contains more than the demand for drinking water, it has broader scope. Household populations serve as primary demand drivers, utilizing water for essential daily activities such as drinking, cooking, cleaning, and irrigation. Household water demands are influenced by several factors, including household size, proximity to water sources, frequency of water availability, and individual consumption patterns. These factors collectively contribute to the overall water stress experienced within residential communities across the region.

Other two components for water demand, industry and agriculture, create bigger impacts on water scarcity and the growing population doesn't help it. Although the household level has minimal impact on water scarcity, the increase of the demand at this level is the fastest one compared to the industry and agriculture. Indeed, the ratio of the demand varies on each country's population growth. The fastest population growth is occurring among Yemenis and Palestinians, who are the least equipped economically and technologically to address the challenges of water scarcity.<sup>18</sup>

In industrial settings, water is required for manufacturing processes and cooling purposes. However, the magnitude of water usage varies depending on each country's economic structure. In countries like Kuwait, where agriculture and industrial sectors have limited significance, household consumption often constitutes the highest proportion of water usage. In such instances,

Furthermore, water scarcity is not a recent phenomenon in the region; its origins precede the onset of the climate crisis. This enduring issue has posed significant challenges to the populace over many years, spanning even centuries, with the exacerbation by the climate crisis being a notable recent development.

The severe disadvantages faced by the region stem from two primary sources: natural factors and human activities. While human activities are a more significant contributor to the climate crisis than natural factors, it is essential to consider natural factors to gain a comprehensive understanding of the region's vulnerability to extreme weather events and water scarcity. As for human activities, urbanization is another critical issue for water scarcity. North Africa has the highest population in the cities in the whole African continent: more than 75% of people live in the cities in the region. Although there is a high population in North African cities and the

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<sup>18</sup>Farzaneh Roudi-Fahimi, Liz Creel, and Roger-Mark De Souza, *FINDING THE BALANCE: Population and Water Scarcity in the Middle East and North Africa*, Population Reference Bureau, January 2021, [https://www.prb.org/wp-content/uploads/2021/01/FindingTheBalance\\_Eng.pdf](https://www.prb.org/wp-content/uploads/2021/01/FindingTheBalance_Eng.pdf)

demand keeps increasing, there isn't well-constructed infrastructure to regulate the water demand of all citizens yet.

While water scarcity presents a common challenge across all countries in the MENA region, its manifestation and impact vary significantly on a national scale as mentioned in the water demand by different sectors. Different from the water demand related paragraph, in this paragraph, the variety is tackled with the emphasis of the vulnerability concept. The variance in water vulnerability among countries within the region is closely associated with the extent of access each nation possesses to a spectrum of water resources, encompassing both freshwater and nonconventional supplies. For example, access to renewable supplies from surface water systems (such as rivers) can place nations at an advantage to countries that have limited ability to draw on freshwater sources (which also include groundwater extracted from subsurface aquifers).<sup>19</sup>

Other than a high rate of population growth, Palestine is one of the most vulnerable countries facing water scarcity due to the Israeli occupation since October 2023. Israeli forces continuously and systematically steal Palestinians' water sources and damage their infrastructures. It means that the leading cause of Palestine's water scarcity isn't just climate change but also the direct impact of the invasion of Israel. As Human Rights Watch stated in November 2023, since the beginning of the invasion, the Israeli government shut off the pipes that supply Gaza with water.<sup>20</sup> Thus, the situation of Sudan is similar to Palestine. The war in Sudan has continued constantly since April 2023 and Sudanese people are trying to survive in this humanitarian situation. They are struggling with the shortage of significant sources and services including access to water. Indeed, the humanitarian situations and the water scarcity aren't new notions for Sudan. Darfur is the well-known water scarce region of Sudan. The drought so the water scarcity experience is dated back to the 1970s in this region of Sudan. Hence, the first climate-change related conflict of the world occurred since the rains were decreasing from the 1980s in Sudan as the former UN Secretary General Ban Ki-moon emphasized it during his statement about the War in Darfur 2003.<sup>21</sup>

Compared to other countries, Morocco is one of the most affected countries in the region by the drought because a big part of the Moroccan economy relies on agriculture. Also, like Tunisia, its freshwater resources would be reduced from 40% to 80 %, as is indicated in the 2023 dated report of the Cities Alliance, which cooperated with UNOPS.<sup>22</sup> In addition, water demand in these countries isn't increasing, not only due to internal factors. External factors especially

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<sup>19</sup>Mohammed Mahmoud, *The Looming Climate and Water Crisis in the Middle East and North Africa*, Carnegie Endowment For International Peace, 19 April 2024, <https://carnegieendowment.org/research/2024/04/the-looming-climate-and-water-crisis-in-the-middle-east-and-north-africa?lang=en>

<sup>20</sup>HRW *Israeli Authorities' Cutting of Water Leading to Public Health Crisis in Gaza*, 16 November 2023, <https://www.hrw.org/news/2023/11/16/israeli-authorities-cutting-water-leading-public-health-crisis-gaza>

<sup>21</sup>Ban Ki-moon, *A Climate Culprit in Darfur*, 16 June 2007, <https://www.un.org/sg/en/content/sg/articles/2007-06-16/climate-culprit-darfur>

<sup>22</sup>Cities Alliance, *Empower a Woman with Water, and She Can Change Her City: A Focus on MENA*, March 2023, [https://www.citiesalliance.org/sites/default/files/202304/cities\\_alliance\\_full\\_version\\_empower\\_a\\_woman\\_with\\_water\\_marchhttps://www.iwmi.cgiar.org/Publications/Books/PDF/water\\_reuse\\_in\\_the\\_middle\\_east\\_and\\_north\\_africa\\_a\\_sourcebook-chapter-1.pdf\\_2023.pdf](https://www.citiesalliance.org/sites/default/files/202304/cities_alliance_full_version_empower_a_woman_with_water_marchhttps://www.iwmi.cgiar.org/Publications/Books/PDF/water_reuse_in_the_middle_east_and_north_africa_a_sourcebook-chapter-1.pdf_2023.pdf)

agriculture-related trade relations have significant effects on the acceleration of water demand and water scarcity. The growing demand for water-intensive products, as seen in other parts of the world, has increased the demand for irrigation in many MENA countries such as Tunisia, Egypt and Morocco, as these countries are major exporters of many fruits and vegetables.<sup>23</sup>

Moreover, Iraq is another country in the region that should be talked over. The geostrategic position of the country makes it worth mentioning the water scarcity situation in Iraq. The two largest rivers of Asia, Tigris and Euphrates, are the essential water sources for the populations who live in the territories of Iraq. However, these two rivers aren't just vital for Iraq. They are important water resources for other countries also: Turkey, Iran, Syria. The transboundary nature of Iraq's water resources means Iraq is largely reliant on cooperation from upstream riparian governments, namely Turkey and Iran, for regular flows from the Tigris and Euphrates.<sup>24</sup> This dependency affects mostly the South of Iraq because this is the least developed so the poorest part of the country. The poorer and least developed southern parts of Iraq, which already suffer from inadequate quantities of quality water, are the most vulnerable to climate change effects such as increased water scarcity and higher temperatures.<sup>25</sup> This vulnerability against climate change provokes ecopolitical tensions among the beneficiary countries of the rivers. This tension prevents the collaboration opportunities to manage these two rivers as efficient water resources. As tensions, conflicts between tribes due to water scarcity are the consequences of the mismanagement of water resources in Iraq.

To sum up this part, MENA is very vulnerable due to water scarcity and this vulnerability depends on nature-based causes and human activities. Indeed, the level of vulnerability proves that a country is capable or incapable of managing water resources. The consequences of mismanagement in the region are first of all water scarcity and displacement, agricultural inefficiency and conflicts between different groups. All these consequences make the region vulnerable for climate resilience and increase the level of water scarcity.

### 1.3. Rising Sea Levels

Even though the drought and water scarcity get the attention in the first place when the water supply and demand are discussed in the MENA region, the rise of sea level is also problematic for the region. Sea-level rise (SLR) projections for the MENA region constitute a particular challenge due to the semi-enclosed nature of both Mediterranean and Red Sea basins.<sup>26</sup>

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<sup>23</sup> Nisreen Lahham, Javier Mateo-Sagasta, Mohamed O.M. Orabi, and Youssef Brouziyne, *Chapter 1: Context and drivers of water reuse in MENA*, Water Reuse in the Middle East and North Africa: A sourcebook, International Water Management Institute, [https://www.iwmi.cgiar.org/Publications/Books/PDF/water\\_reuse\\_in\\_the\\_middle\\_east\\_and\\_north\\_africa\\_a\\_sourcebook-chapter-1.pdf](https://www.iwmi.cgiar.org/Publications/Books/PDF/water_reuse_in_the_middle_east_and_north_africa_a_sourcebook-chapter-1.pdf)

<sup>24</sup> Norwegian Refugee Council, *Inadequate and inequitable: water scarcity and displacement in Iraq*, November 2023, <https://www.nrc.no/globalassets/pdf/reports/water-scarcity-and-displacement-in-iraq/water-scarcity-and-displacement-in-iraq---english.pdf>

<sup>25</sup> World Bank, Iraq Country Climate and Development Report, 3 November 2022, <https://documents1.worldbank.org/curated/en/099005012092241290/pdf/P1776390cfceae0d908ff8073b7e041bea6.pdf>

<sup>26</sup> Katharina Waha et al, *Climate change impacts in the Middle East and Northern Africa (MENA) region and their implications for vulnerable population groups*, Springer-Verlag Berlin Heidelberg, 21 March 2017,

Like the drought, sea level rise damages livelihoods because they cause coastal floods and erosions. The coastal floods and erosions influence social and economic lives of the populations. Displacement, mostly in evacuation form, is one of the consequences of these extreme weather events. For example, Oman, is a coastal Middle East country that has to deal with sea level rises and related natural disasters. Cyclone Gonu, which reached Oman's coast in 2007 with fierce winds and torrential rains, led to floods in Muscat and forced thousands of people to evacuate their homes.<sup>27</sup> Since that date, other coastal countries in the region have had to deal with rising sea levels and evacuation-a form of forcible displacement. The World Bank estimates that sea level rise alone could displace millions of people along MENA's populated coasts and notes that North Africa could have up to 19.3 million internal "climate migrants" by 2050.<sup>28</sup>

About seven percent of the total population lives in areas where elevation is less than five meters above sea level and a large share of economic activities, major urban centers, agriculture and population is concentrated in coastal areas which are exposed to increasing risks of flooding, inundation, land erosion and salinization.<sup>29</sup> This comprehensive economic risk brings another component: port cities. There are many of them in MENA and some of them are crucial for the economic sustainability of the region such as Tangier (Morocco), Manama (Bahrain), Dubai (United Arab Emirates), Alexandria (Egypt). The World Bank estimates that the sea level rise could affect 43 port cities in the region, including Alexandria which could experience devastating effects, with more than 2 million people displaced in the case of a 0.5-metre rise.<sup>30</sup>

Alexandria has been a significant player in international trade for centuries, maintaining its role irrespective of regime changes in the Mediterranean region and adjacent areas. Presently, it stands as one of the largest cities in Egypt, following Cairo and Giza, and is distinguished as the sole port city among them. Additionally, the Port of Jebel Ali in Dubai plays a crucial role in the international trade of the region, providing access to the Gulf, the Indian subcontinent, and African markets. Fishing and agriculture are the economic activities that are threatened by sea level rises other than trade depending on port cities. They are more particular than trade at port cities because they are production-based activities. The intrusion of saltwater into freshwater systems and soil due to rising sea levels adversely affect agricultural productivity. This is especially concerning for countries in the MENA region that are heavily dependent on agriculture, such as Egypt and Morocco. Rising sea levels have increased the salinity of aquifers

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<https://research.csiro.au/foodglobalsecurity/wp-content/uploads/sites/63/2017/12/Waha-et-al-2017-Climate-change-impacts-in-the-Middle-East-and-Northern-Africa-MENA-region-and-their-implications-for-vulnerable-population-groups.pdf>

<sup>27</sup>Héla Miniaoui, *Climate Change in the Middle East and North Africa: Between the Repercussions of a Lived Reality and the Opportunities for a Brighter Future*, ERF Policy Brief, No:109, April 2023,

[https://erf.org.eg/app/uploads/2023/04/1681168817\\_594\\_520971\\_pb109.pdf](https://erf.org.eg/app/uploads/2023/04/1681168817_594_520971_pb109.pdf)

<sup>28</sup> Carmela Godeau, *Changing Climate: Gender equality today for a sustainable tomorrow and the call for inclusive responses to climate change and forced migration in the MENA Region*, IOM MENA, 12 March 2022,

<https://mena.iom.int/news/changing-climate-gender-equality-today-sustainable-tomorrow-and-call-inclusive-responses-climate-change-and-forced-migration-MENA-region>

<sup>29</sup>Simone Borghesi and Elisa Ticci, *Climate Change in the MENA Region: Environmental Risks, Socioeconomic Effects, and Policy Challenges for the Future*, European Institute of the Mediterranean,

<https://www.iemed.org/publication/climate-change-in-the-mena-region-environmental-risks-socioeconomic-effects-and-policy-challenges-for-the-future/>

<sup>30</sup>Ibid

near the coast, leading to water supply deterioration and agricultural production decline<sup>31</sup> It's exactly what's happening in the Nile Delta. Agricultural and fishing activities become almost impossible over there. The Nile Delta is one of the world's most vulnerable areas when it comes to sea-level rise, extreme weather conditions, and other factors worsened by climate change.<sup>32</sup>

#### 1.4. Food Insecurity and Agriculture

Before observing food insecurity in the MENA region, it's better to indicate the general definition of food security with its dimensions. There are four dimensions which create the notion of food security: food availability, food access, utilization and stability. These dimensions gain acceptance from both many international society actors like FAO and many scholars despite their different methodologies. According to FAO, four dimensions have their definitive factors as below:

**Food availability:** The availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid).

**Food access:** Access by individuals to adequate resources (entitlements) for acquiring appropriate foods for a nutritious diet. Entitlements are defined as the set of all commodity bundles over which a person can establish command given the legal, political, economic and social arrangements of the community in which they live (including traditional rights such as access to common resources).

**Utilization:** Utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all physiological needs are met. This brings out the importance of non-food inputs in food security.

**Stability:** To be food secure, a population, household or individual must have access to adequate food at all times. They should not risk losing access to food as a consequence of sudden shocks (e.g. an economic or climatic crisis) or cyclical events (e.g. seasonal food insecurity). The concept of stability can therefore refer to both the availability and access dimensions of food security.<sup>33</sup>

In addition to above-mentioned detailed concept definitions with its dimensions, there is a briefer definition of food security that was declared and accepted for the first time in the World Food Summit 1996 as following: Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life<sup>34</sup>. This comprehensive and brief definition was one of the components of the World Food Summit Plan of Action, the solid outcome of the

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<sup>31</sup>Report on Migration, Environment and Climate Change in Yemen, IOM Regional Office For Middle East and North Africa, 2021, <https://environmentalmigration.iom.int/sites/g/files/tmzbd11411/files/documents/2024-03/yemen-desk-review.pdf>

<sup>32</sup> UNSDG, *When the waters rise: Managing flood risk in the MENA Region*, 15 December 2021, <https://unsdg.un.org/latest/stories/when-waters-rise-managing-flood-risk-mena-region>

<sup>33</sup>FAO, Policy Brief, Food Security, Issue 2, June 2006, [https://www.fao.org/fileadmin/templates/faotaly/documents/pdf/pdf\\_Food\\_Security\\_Cocept\\_Note.pdf](https://www.fao.org/fileadmin/templates/faotaly/documents/pdf/pdf_Food_Security_Cocept_Note.pdf)

<sup>34</sup> World Food Summit Plan of Action, 13 November 1996, <https://www.fao.org/4/w3613e/w3613e00.htm>

summit. However, some participant countries put some reservations for this Plan of Action and most of these countries were MENA countries. Iraq, Iran, Lebanon, Libya, Qatar, Saudi Arabia, Syria and UAE. Religious values and Islamic Law were their main argument for their reservations. Because, according to those countries, some parts of the World Food Summit Plan of Action were contradictory to their religious values and Islamic Law.

Putting reservations for a global action plan to fight against food insecurity doesn't change the reality that the MENA region is one of the locations in the world where populations rely on food security in many aspects and suffer severely from the lack of food security. Food insecurity constitutes a significant concern within the MENA region, given its fundamental importance to individual well-being and its integral role in regional and national economies. Agriculture serves as the predominant source of livelihood for a considerable portion of the region's populace, with the notable exception of the Gulf Cooperation Council (GCC) countries, which diverge from this reliance due to their oil-centric wealthy economies. Being the wealthiest countries in the region, food security in Gulf countries is reinforced by adequate agricultural infrastructure, in addition to well-funded food safety net programmes compared to other MENA countries.<sup>35</sup>

The challenges arising from the climate crisis further exacerbate efforts to sustain both agricultural production and food security. Notably, the disproportionate impact of these challenges is keenly felt by small-scale producers engaged in agriculture-related professions, such as small-scale farmers, agropastoralists, and fisherfolk. Decreasing market profitability and crop quality compound these challenges for such producers. The climate change-based cause related to the low-quality crop is the extreme heat events, especially long-term droughts in the MENA countries. In other terms, the inconsistency of the rains makes the crops as low-quality products and makes the rain-fed agriculture unstable. Under these circumstances, it is an expected outcome that the indicators determined by the IPCC to observe the rain-fed agriculture are indicated with very dark red color and have high scores in the MENA countries in IPCC Climate Change 2022: Impacts, Adaptation and Vulnerability report - Global to Regional Atlas. These indicators are hazard and exposure indicator score, drought risk index and vulnerability index. Drought hazard indicator is defined as the ratio of actual crop evapotranspiration to potential crop evapotranspiration, calculated for 24 crops.<sup>36</sup> Risk index is calculated by multiplying hazard/exposure indicator score and vulnerability index.<sup>37</sup> Another agricultural-based and significant indicator for the MENA countries is the loss of food production since the mid-20th century. The IPCC report shows that the frequency of food production loss hasn't stopped

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<sup>35</sup> Dina Mohyee Eldin, Mohamed Abdelraouf and Rania Alaa Eldin Ahmed Khedr, *Climate security nexus: Climate inequality and food security between Middle East & North African Countries*, Research Gate, March 2024, [https://www.researchgate.net/publication/378708653\\_Climate\\_security\\_nexus\\_Climate\\_inequality\\_and\\_food\\_security\\_between\\_Middle\\_East\\_North\\_African\\_Countries/link/65e62462e7670d36abfd1e17/download?tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIiwicGFEnZSI6InB1YmxpY2F0aW9uIn19](https://www.researchgate.net/publication/378708653_Climate_security_nexus_Climate_inequality_and_food_security_between_Middle_East_North_African_Countries/link/65e62462e7670d36abfd1e17/download?tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIiwicGFEnZSI6InB1YmxpY2F0aW9uIn19)

<sup>36</sup> IPCC, 2022: Annex I: Global to Regional Atlas [Pörtner, H.-O., A. Alegria, V. Möller, E.S. Poloczanska, K. Mintenbeck, S. Götze (eds.)]. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegria, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2811-2896, [https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC\\_AR6\\_WGII\\_Annex-I.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Annex-I.pdf)

<sup>37</sup> Ibid

accelerating until the 2010s due to climate change. According to this report, the crops and livestock of the MENA countries have a high ratio of production loss and it's because of long-term droughts, one of the severe consequences of climate change in the region. As a result of this disadvantaged situation, the MENA region's food security and its economic sovereignty, particularly in terms of food production, become increasingly reliant on food imports from global northern countries.

Persistent gender inequality introduces an additional layer of complexity to the sustainability paradigm despite the indispensable role played by women in agricultural development and the overall status of food security. Women wield both direct and positive impacts on agriculture, engaging in activities such as conserving primary agricultural resources (soil and water), crop domestication, and afforestation to address the challenges posed by climate change. Hence, the undeniable influence of women encompasses all three facets of food security—namely, food availability (production), food access (distribution), and food utilization. This underscores the imperative of acknowledging and integrating gender dynamics in addressing the MENA region's intricate challenges, particularly in ensuring food security amidst the dual challenges of environmental sustainability and socio-economic disparities. Even though there are still other issue to be discussed about the intersection between food security and gender equality, it will continue to be discussed in the second chapter which is dedicated to climate change with a gender-based approach.

Furthermore, the deficiency in rural development within the region must be acknowledged as a formidable challenge to the establishment of climate change-resilient agriculture. This deficiency hampers communities from acquiring and accessing essential agricultural infrastructure and technology necessary for the promotion of sustainable food production and security. Notably, the adoption of modern agricultural methods and technology remains markedly limited in this context. Addressing this insufficiency in rural development is imperative for enhancing the resilience of agricultural practices to climate change impacts and ensuring the long-term food security of the communities in question.

Being a humanitarian-context country for a long time is another disadvantage to be more open to food insecurity and its consequences. Within the humanitarian context, certain nations stand out as the most food-insecure within the region. Illustrative examples of such countries include Yemen, Syria and Palestine. These nations, grappling with significant challenges, warrant careful consideration and targeted interventions to address their distinctive food security concerns. For instance, Yemen, is one of the most food insecure countries in the region due to its poverty index. Yemen is ranked 183 out of 191 countries in the Human Development Index with a score of 0.455 in 2021/2022.<sup>38</sup> The main reason for this terrible score is the Yemeni civil war that was mentioned in the socio-political instability section above. This war context makes Yemeni people extremely needy for humanitarian aid including food aid. Despite ongoing humanitarian assistance, nearly 16 million people wake up hungry every day.<sup>39</sup> This catastrophic picture of the

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<sup>38</sup> UN Yemen Country Results Report 2022, <https://yemen.un.org/sites/default/files/2023-04/UN%20YEMEN%20Country%20Results%20Report%202022%20-%20FINAL%20-RCO.pdf>

<sup>39</sup> UNDP, *Challenges in Yemen*, <https://www.undp.org/yemen/depth-0>

country is getting worse with extreme weather events like heavy rains. In 2022, the Yemeni population was exposed to heavy rains and flooding as a result. Heavy rains and extensive flooding throughout August had severe effects on the food security situation in Yemen, where the number of people reporting insufficient food consumption had increased by 2.7 million since May.<sup>40</sup>

In addition to all region-based causes mentioned until now, Ukraine's illegal invasion by Russia has undeniably had a strong impact on the food security of the region. MENA countries are the food importers and the two sides of the invasion are the producers and exporters as for other countries and regions. The first reason for needing this trade is the global loss of wheat production due to the influence of the climate crisis on the weather events. Higher temperatures enhance not only ozone production but also ozone uptake by plants, thus exacerbating yield loss and quality damage.<sup>41</sup> For example, the MENA obtains high scores in three indicators for measuring climatic and environmental stresses on global production of wheat in the IPCC 2022 report mentioned before within this section: aridity, heat stress and lastly pests and diseases. The second reason for this dependency is that Ukraine and Russia are major producers of the grains worldwide. In trade with MENA countries, there is an agricultural dependency to this import. For example, Lebanon imports 60% of its wheat from Ukraine, and Egypt imports nearly 85% from Russia and Ukraine, Tunisia over 47% from the two countries, with a high very reliance on Ukraine, Morocco imports nearly a quarter and Jordan imports over 34% from these countries.<sup>42</sup> These high percentages of imports by MENA countries mean that the fragile situation of regional and country-based food security opens up to be more vulnerable due to Russia's invasion. Conducted research during the invasion is capable of proving this vulnerability with some statistics. The number of food insecure people in the MENA countries has steadily increased during the first 3 months of the war, from 26 million in February to 28.3 in May 2022.<sup>43</sup>

### 1.5. Energy Insecurity and Colonial Past

Energy insecurity is not a new problem; it has persisted for decades and is not confined to the MENA region. However, scholars have yet to reach a consensus on a precise definition of energy security. This concept has been historically shaped by the political, sociological, and economic dynamics of international relations. In other words, the balance of power has been the primary determinant in defining the framework of energy security and insecurity. Several papers trace the origins of interest in energy security back to the oil shocks of the 1970s, and cite this as a reason for much of the energy security debate being focused on security of supply, and specifically the

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<sup>40</sup>WFP Hunger Map Live 2022 in Review, <https://static.hungermapdata.org/year-in-review/2022/Global.pdf>

<sup>41</sup> IPCC, 2022: Annex I: Global to Regional Atlas [Pörtner, H.-O., A. Alegria, V. Möller, E.S. Poloczanska, K. Mintenbeck, S. Götze (eds.)]. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegria, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2811-2896, [https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC\\_AR6\\_WGII\\_Annex-I.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Annex-I.pdf)

<sup>42</sup> OECD iLibrary, *Russia's aggression against Ukraine and impacts in the MENA region*, <https://www.oecd-ilibrary.org/sites/c4fce555-en/index.html?itemId=/content/component/c4fce555-en>

<sup>43</sup> Ibid



security of the oil supply (and more recently, gas) <sup>44</sup>. Despite the evolving nature of this definition, MENA countries have consistently been central to discussions on energy security, whether as beneficiaries or as affected parties.

In the current MENA context, energy security can be understood through two primary dimensions: reliable access to energy sources, including fuels, and affordable access to these resources. Additionally, the concept of vulnerability must be emphasized within the framework of regional energy security. Many MENA countries face heightened vulnerability due to prolonged conflicts and the impacts of climate change, which impede their efforts to secure reliable and affordable energy access.

Climate change exerts a profound impact on energy security, introducing an additional dimension to the vulnerability of the MENA region in the face of the climate crisis. This vulnerability extends beyond environmental considerations and the region's energy trade, encompassing the diversification of energy sources imported by individual countries. An illustrative example is observed in Morocco, where the escalating demand for cooling systems, driven by extreme heat waves, has led to a notable surge in imports according to the 2022 data from the International Energy Agency (IAE) <sup>45</sup>. Morocco's imports associated with this heightened demand reached a peak, underscoring the intricate interplay between climate change and energy security within the region.

Furthermore, it is imperative to approach oil not solely as an energy source within the region but also as a significant economic asset, particularly for national economies such as those of the Gulf Cooperation Council (GCC) countries. Oil serves as the primary capital underpinning their economies, particularly in terms of exports. Nevertheless, relying on an oil-centric export strategy proves unsustainable, particularly in regions highly vulnerable to the adverse effects of climate change. This approach exacerbates economic inequality and fosters a division between nations categorized as oil-rich and those reliant on agriculture. Iraq is one of the symbol Middle Eastern low-income countries that the economic inequality is strongly present to due to the dependence of oil. Iraq remains one of the least diversified and most oil-dependent economies in the world. <sup>46</sup>

Countries endowed with oil wealth can be likened to the Global North due to their elevated income levels, affording them the capacity for substantial investments in climate change mitigation. Paradoxically, despite this capacity, such investments are not prioritized in their national economic agendas. Consequently, the commitment to oil extraction and fossil fuel investments persists without a decline in these nations.

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<sup>44</sup> Owain Jones and Paul E. Dodds, *Chapter 2: Definitions of Energy Security*, A H2FC SUPERGEN White Paper, University College London, March 2017, [https://discovery.ucl.ac.uk/id/eprint/10087004/6/Dodds\\_IMPJ5213-H2FC-Supergen-Energy-Security-032017-Chapter%202.pdf](https://discovery.ucl.ac.uk/id/eprint/10087004/6/Dodds_IMPJ5213-H2FC-Supergen-Energy-Security-032017-Chapter%202.pdf)

<sup>45</sup> Jinsun Lim, Nadim Abillama, and Chiara D'adamo, *Climate resilience is key to energy transitions in the Middle East and North Africa*, International Energy Agency, 3 July 2023, <https://www.iea.org/commentaries/climate-resilience-is-key-to-energy-transitions-in-the-middle-east-and-north-africa>

<sup>46</sup> World Bank, *Iraq Country Climate and Development Report*, 3 November 2022, <https://documents1.worldbank.org/curated/en/099005012092241290/pdf/P1776390cfceae0d908ff8073b7e041bea6.pdf>

How does the colonial past continue to influence the energy policies of the MENA region? The concept of a colonial legacy is relatively recent for the MENA region, as many countries gained independence from their colonizers during the 1960s and 1970s. Consequently, these countries still grapple with the multifaceted impacts of colonialism, including significant environmental repercussions. These postcolonial legacies exacerbate the vulnerability of the MENA population to the effects of the climate crisis. The patterns of transitioning to green energy are also intricately linked to the former colonizers of the region. Scholars specializing in climate change and developing countries refer to this dynamic as "green colonialism."

During the colonial era, MENA countries were primarily exporters of oil and gas, and the disparities in the oil trade between these nations and their former colonizers persist. Within this context, it is crucial to underscore the economic disparities among the exporters themselves: the Gulf countries enjoy substantial economic wealth, while others remain low-income. This imbalance significantly influences the region's reliance on fossil fuels, in addition to the influence of former colonizers. These ex-colonizers continue to dominate the fossil fuel trade to their advantage and exert significant influence in other business sectors. For instance, they maintain a strong presence in agribusiness—a critical sector for the majority of the population and one of the most affected by the climate crisis. Moreover, their influence extends to sectors crucial for urban development, such as banking and finance, telecommunications, real estate, and logistics.

Despite the enduring priority of fossil fuel trade for the economic growth of Gulf countries, the undeniable reality of the climate crisis necessitates a transition to renewable energy in the MENA region. In light of this, it is pertinent to provide a comprehensive definition of green colonialism from a scholar within the Arab states. According to Hamza Hamouchene, green colonialism, or "renewable energy colonialism" can be defined as the extension of the colonial relations of plunder and dispossession (as well as the dehumanization of the other) to the green era of renewable energies, with the accompanying displacement of socio-environmental costs onto peripheral countries and communities, prioritizing the energy needs of one region of the world over another<sup>47</sup>

In addition to its susceptibility to the impacts of climate change, the MENA region holds substantial significance in global mitigation endeavors, owing to its extensive involvement in hydrocarbon resources. Although the region's populace has historically played a minor role in contributing to climate change as consumers of hydrocarbons, its significant fossil fuel production has positioned it as home to some of the world's highest per capita carbon emitters. This dual role underscores the region's complex relationship with climate change, necessitating a nuanced approach to mitigation strategies that address both consumption and production aspects of hydrocarbons.

Another reason for the energy insecurity of the MENA region is the full-scale invasion of Ukraine by Russia. The effects of this invasion couldn't remain limited to food insecurity; energy insecurity also rose. This insecurity looks paradoxical in the first place because MENA countries could be optimum alternatives as energy resource providers, and exporters for European

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<sup>47</sup>Hamza Hamouchene, *The Energy Transition in North Africa: Neocolonialism Again!*, Transnational Institute, 2023, <https://www.tni.org/en/article/the-energy-transition-in-north-africa>

countries. Gas and oil producer countries like Qatar, Saudi Arabia, and Kuwait had expectations about them being new energy trade partners of the European countries. Contrary, regional energy insecurity became a direct consequence of the invasion. Regional energy insecurity was getting worse with the inflation in energy and oil prices. The countries especially the ones that are oil and gas importers due to the shortages in their energy sources become the real victims of the energy insecurity in the MENA region. That inflation made space for high prices in other assets in the national economies. Under these circumstances, inflation in national economies and socio-economic instabilities would be unpreventable. Syria, Yemen, and Lebanon can be indicated as energy-insecure countries due to the lack of energy capacity and capital and the invasion of Ukraine. Even the basic services in two countries-Syria and Yemen- are interrupted at all because of the shortages of fuels and electricity. The compounded crisis trends in Lebanon, including the sharp increase in energy prices resulting from the Ukraine crisis, have the potential to push the country over the tipping point to become again a “Critical Crisis”.<sup>48</sup> On the other hand, there are some countries in the MENA that aren’t impacted negatively from this invasion: GCC Arab States. There is a reason for this immunity: being oil and gas exporters. They aren’t dependent on gas and oil imports from Ukraine, Russia or EU countries. The GCC Arab States are the beneficiaries of the invasion causing high prices of gas and oil. This increase contributes to their national wealth. In the case of targeting Russian exports by the West, gaining the Russian market share will create opportunities for countries like Qatar to increase exports and sign long-term contracts.<sup>49</sup>

## 1.6. Limited Adaptive Capacities of the Countries

Although both mitigation and adaptation strategies are essential interventions in addressing the climate crisis, they entail distinct approaches. Mitigation encompasses all actions, governmental decisions, and policies aimed at reducing greenhouse gas emissions. Examples include the promotion of renewable energy, adoption of eco-friendly technologies, and implementation of "net-zero" policies. Conversely, adaptation involves the transformation of individual, governmental, and industrial practices to align with the realities of climate change. Given the relentless rise in temperatures observed in the MENA region, effective climate change adaptation and mitigation efforts are imperative at both regional and national levels.

Numerous reports and scholarly analyses consistently highlight the MENA region's systemic shortcomings in effectively implementing sustainable solutions to address the challenges posed by the climate crisis, evident both at regional and country levels. While recognizing that underlying factors extend beyond mere financial constraints, it is apparent that economic wealth significantly influences the prioritization of climate change adaptation or mitigation efforts. Notably, the Gulf Countries emerge as the wealthiest entities within the region, possessing substantial capital and resources to develop comprehensive climate change strategies at a national scale. However, despite this advantageous position, their primary focus remains on the

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<sup>48</sup> IFRC MENA Regional Delegation, *The Impact of the conflict in Ukraine as a crisis multiplier in the Middle East and North Africa*, 8 June 2022, [https://www.ifrc.org/sites/default/files/2022-06/impact-ukraine-conflict-mena-EN\\_1.pdf](https://www.ifrc.org/sites/default/files/2022-06/impact-ukraine-conflict-mena-EN_1.pdf)

<sup>49</sup> Farzad Bonesh, *Ukraine Crisis: Its Present and Future Effects on the Middle East*, Al Bawaba, 26 April 2022, <https://www.albawaba.com/opinion/ukraine-crisis-its-present-and-future-effects-middle-east-1474870>

exportation of oil and gas to global northern countries, rather than prioritizing domestic climate change initiatives. Conversely, nations experiencing severe climate crisis repercussions, compounded by limited financial resources, demonstrate a pronounced willingness to engage in mitigation and adaptation endeavors.

Global platforms, such as conferences and forums, provide additional insights into the divergent approaches to climate action among MENA countries. The hosting of COP27 and COP28 conferences by MENA countries, Egypt and the United Arab Emirates, underscores this disparity. Despite hosting such prominent climate summits, it is challenging to designate these countries as "climate change adaptation or mitigation leaders." The contentious appointment of the president of COP28 by the UAE government serves as tangible evidence of this discrepancy, with the CEO of the Abu Dhabi National Oil Company assuming the role, despite conflicting with the anti-greenhouse gas emissions/fossil fuels agenda and the principles outlined in the Paris Agreement.

Regarding National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs), significant disparities persist among MENA countries. Before going deeper to the disparities, the definition of NAP and NDC determined by the Paris Agreement will be given. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change.<sup>50</sup> The NAP process seeks to identify medium- and long-term adaptation needs, informed by the latest climate science.<sup>51</sup> Worldwide, only 53 States developed and submitted their NAPs. This represents only 37% of the 142 developing country parties to the UN Framework Convention on Climate Change (UNFCCC).<sup>52</sup> The MENA countries that have NAPs belong to this very low percentage.

MENA governments continue to focus most of their resources on large-scale supply side projects, increasingly tapping fossil groundwater aquifers and building desalination plants.<sup>53</sup> Only a select few demonstrate a willingness to actively engage in mitigation efforts and align their actions with climate change adaptation goals. Of all the MENA countries, only Kuwait, Sudan and the Palestinian Authority have developed National Adaptation Plans (NAPs); all the rest are at various stages of developing their NAPs.<sup>54</sup>

While analyzing NAPs and NDCs, it would be better to repeat the non being a contributor status of the MENA countries to climate change as mentioned in the introduction part. Because this

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<sup>50</sup> UNFCCC, Nationally Determined Contributions, <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs>

<sup>51</sup> UNEP, National Adaptation Plans, <https://www.unep.org/topics/climate-action/adaptation/national-adaptation-plans>

<sup>52</sup> UNDP, Submission by UNDP in response to the call for submissions to the upcoming session of the Subsidiary Body for Implementation on the issue of National Adaptation Plans under the mandate of Decision 3/CP.26, para 3(a), 31 January 2024, [https://www.adaptation-undp.org/sites/default/files/resources/202401311204---UNDP%2520NAP%2520Submission\\_31%2520January%25202024%2520%25281%2529%2520%25281%2529.pdf](https://www.adaptation-undp.org/sites/default/files/resources/202401311204---UNDP%2520NAP%2520Submission_31%2520January%25202024%2520%25281%2529%2520%25281%2529.pdf)

<sup>53</sup> Jeannie L. Sowers, Avner Vengosh, and Erika Weinthal, *Climate change, water resources, and the politics of adaptation in the Middle East and North Africa*, Research Gate, February 2011, [https://www.researchgate.net/publication/225515217\\_Climate\\_change\\_water\\_resources\\_and\\_the\\_politics\\_of\\_a\\_daptation\\_in\\_the\\_Middle\\_East\\_and\\_North\\_Africa](https://www.researchgate.net/publication/225515217_Climate_change_water_resources_and_the_politics_of_a_daptation_in_the_Middle_East_and_North_Africa)

<sup>54</sup> Nadim Farajalla, *COP28: Where Does the MENA Region Stand on Climate Change?*, Issam Fares Institute for Public Policy and International Affairs, December 2023, <https://www.ispionline.it/en/publication/cop28-where-does-the-mena-region-stand-on-climate-change-156010>

status influenced the approach of the governments while they were preparing their countries' NAPs and NDCs. Under the UNFCCC framework, all countries in the MENA region are categorized as Non-Annex I Parties (developing countries), have no historical responsibility for human-made climate change, and have the right to benefit from the means of implementation provided by the UNFCCC financial mechanisms.<sup>55</sup> This justification from UNFCCC promotes the MENA governments to point out non-contribution clearly at their NDCs. For instance, Algeria is one of these countries. As a developing country, Algeria has no historical responsibility in terms of accumulation of greenhouse gasses<sup>56</sup>. Egypt is also another Northern Africa country that declares its non-responsibility of the worldwide spread of GHG in its NDC. During this declaration, the Egyptian government didn't forget to highlight their willingness to be part of the climate action by nation-based efforts. Thus, it reflects Egypt's ambitious contribution to the global efforts, despite of the country's negligible responsibility for the world's historical GHG emissions<sup>57</sup>.

Overall, there are different points of views in climate change politics and decisions between countries of the region when it comes to the adaptive capacity. It doesn't matter if they are even in the same area like North Africa, the Middle East or the Gulf. Even within the same area, sub-region, governments have their own priorities and they reflect it in their NDCs. Some of them prefer to reflect how they are "negligible" or "non-historically" contributors to the climate change by the GHG emissions or how they are dedicated to the Paris Agreement and SDGs to mitigate climate change and contribute ambitiously to climate action. However, the MENA countries failed in terms of NAPs due to the limited focus and prioritization. Only a few countries already submitted their NAPs -Kuwait, Palestine, and Sudan- as mentioned above. Other countries in the region limit their dedication to climate action and the Paris Agreement with NDCs.

To conclude this chapter, it's necessary to indicate that the MENA region is vulnerable against the negative impacts of climate change with multiple factors, reasons that were discussed during the whole chapter. This vulnerability keeps increasing day by day and human-based reasons have a major role for this increase. Indeed, human-based reasons aren't only limited by colonialism, conflicts and insufficient climate action and decisions by MENA governments; gender-inequality is also a crucial contributor to the climate crisis and the vulnerability of the MENA region. Gender-inequal mindset, practices and laws aggravate the extremity of the climate change-related consequences like food insecurity, water scarcity, insufficient adaptive capacity, extreme weather events in societies.

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<sup>55</sup> Saber Osman, *Assessing Climate Adaptation Plans in the Middle East and North Africa*, Carnegie Endowment For International Peace, 15 April 2024, <https://carnegieendowment.org/research/2024/04/assessing-climate-adaptation-plans-in-the-middle-east-and-north-africa?lang=en>

<sup>56</sup> UNFCCC, Nationally Determined Contributions Registry, *Intended Nationally Determined Contribution INDC- Algeria*, 3rd September 2015, <https://unfccc.int/sites/default/files/NDC/2022-06/Algeria%20-%20INDC%20%28English%20unofficial%20translation%29%20September%2003%2C2015.pdf>

<sup>57</sup> UNFCCC, Nationally Determined Contributions Registry, *Egypt's Second Updated Nationally Determined Contributions*, 26th June 2023, <https://unfccc.int/sites/default/files/NDC/2023-06/Egypt%20Updated%20First%20Nationally%20Determined%20Contribution%202030%20%28Second%20Update%29.pdf>

## **CHAPTER 2: VULNERABILITY OF MENA WOMEN AND OTHER DISADVANTAGED POPULATIONS IN THE CLIMATE CHANGE SCOPE**

The vulnerability of the MENA region within the climate change framework extends beyond the external, environmental, economic, and geographical factors discussed in the previous chapter. This vulnerability is deeply rooted in societal practices and entrenched mindsets that oppose equality and inclusivity. Many countries in the region lack the willingness or capacity to ratify and enforce laws, policies, or practices that promote equality and inclusivity for all segments of society.

When examining issues of equality in the MENA region, gender-based and racial inequalities are particularly prominent. These disparities are largely perpetuated by a patriarchal mindset and harmful societal practices that have persisted for decades if not centuries. In this context, wealth or nobility has not significantly mitigated these inequalities, especially for women and girls. Other than gender-based and racial inequalities, tribes are facing discriminatory or non-inclusive laws and policies by the governments. The trigger of the discrimination against tribes isn't related to race, ethnicity, or religion sometimes. Because some tribes like Bedouins share the same ethnic roots with the majority - Arab- and they identify their religious belief as the same as the majority of the society where they live with it - Islam. Their way of living, unfortunately, makes Bedouins the target for the discrimination by national law: nomadic or semi-nomadic lifestyle.

Climate change has exacerbated these inequalities, making them more visible and pronounced. Women and other disadvantaged, marginalized communities—including people with disabilities, children, refugees, forcibly displaced people, minorities, indigenous communities, LGBTQIA+ individuals, and people of color—suffer from gender-based and other forms of inequality more than men and the majority of society. These groups often cannot benefit adequately, or at all, from the positive outcomes of climate action, such as those outlined in SDG 13 (climate action). They struggle with limited or no access to the critical resources necessary for climate resilience, such as water, sanitation, and hygiene (WASH), nutrition, education, employment, and healthcare. Consequently, SDGs 5 (gender equality), 1 (no poverty), 2 (zero hunger), 3 (good health and well-being), 4 (quality education), and 8 (decent work and economic growth) remain out of reach for them. These populations are hindered by inequitable policies, laws, and patriarchal societal practices.

In this context, climate justice is the comprehensive notion and concept that makes the inequalities and discriminations more visible and concrete in the climate change framework in global southern countries including MENA countries. Although there isn't a unique definition adopted or agreed by related global civil society institutions like UNEP or UNFCCC and scholars for climate justice, the following concepts are stressed by civil society actors and institutions and relevant research as the building elements of climate justice: human rights, equality, non-discrimination and sustainable development. Without these four elements, which is the case for women and girls and other vulnerable communities in the MENA region, it's impossible to talk about inclusive, sustainable and successful climate action. Climate justice recognizes how climate change is more than an environmental crisis; it is also a social, economic and political crisis

whose impacts are not felt evenly.<sup>58</sup> Climate justice “recognizes humanity’s responsibility for the impacts of greenhouse gas emissions on the poorest and most vulnerable people in society by critically addressing inequality and promoting transformative approaches to address the root causes of climate change.”<sup>59</sup>

This chapter delves into the multifaceted vulnerabilities faced by women and other selected marginalized groups-ethnic minorities and people of color- in the MENA region within the context of climate change. By examining the intersecting dimensions of gender, socio-economic status, and environmental stressors, this analysis aims to illuminate the specific challenges these groups face and the broader implications for regional stability and development.

## 2.1. Gender Inequality and Climate Change

The intersection between gender inequality and climate crisis increases the vulnerability of women and girls worldwide. They are more the victims of extreme poverty and hunger than men with ongoing climate change. Climate change is set to leave 236 million more women and girls hungry by 2030, twice as many as men (131 million).<sup>60</sup> This intersection widely exists also in the MENA region. It means that female populations in the region are among these 236 million women and girls. This situation leads to the reality that the MENA region is one of the most gender-unequal regions worldwide. According to the World Economic Forum’s Global Gender Gap Report 2023<sup>61</sup>, the region is the furthest away from equality with a 62.6% parity score, suggesting it would take 152 years to fully attain parity at the current rate of progress.

The above-cited statistics about the disadvantaged situation of women and girls proves that climate change shouldn’t be perceived and scrutinized as a “gender-neutral” concern. Because gender inequality is a persistent and one of the most impactful problems for women and girls in social, economic and political aspects. Being a most impactful problem accelerates the vulnerability of the female population in the region in climate change scope. In other words, the female population of the region has become an easy target for both human and nature-based events, consequences of the climate crisis. They create an important quantity of the climate crisis victims in several categories.

Access to clean water and more extensively access to WASH, is the one of the categories that women and girls are challenged most. Many female populations in the region can either have

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<sup>58</sup>UNFPA and Queen Mary University of London, *Advocacy Brief- In Our Words: Voices of Women of African Descent for Reproductive and Climate Justice*, December 2022, <https://www.unfpa.org/sites/default/files/pub-pdf/UNFPA%20Climate%20Change%20Brief.pdf>

<sup>59</sup> Mandy Meikle, Jake Wilson and Tahseen Jafry, *Climate justice: Between Mammon and Mother Earth*, International Journal of Climate Change Strategies and Management, 18 March 2016, [https://www.researchgate.net/publication/306245188\\_Climate\\_justice\\_between\\_Mammon\\_and\\_Mother\\_Earth/link/5ca20ee7a6fdcc1ab5ba03fe/download?tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIn19](https://www.researchgate.net/publication/306245188_Climate_justice_between_Mammon_and_Mother_Earth/link/5ca20ee7a6fdcc1ab5ba03fe/download?tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIn19)

<sup>60</sup> UN Women, *1 in every 10 women in the world lives in extreme poverty*, 8 March 2024, <https://www.unwomen.org/en/news-stories/press-release/2024/03/1-in-every-10-women-in-the-world-lives-in-extreme-poverty>

<sup>61</sup> World Economic Forum, *Global Gender Gap Report*, June 2023, [https://www3.weforum.org/docs/WEF\\_GGGR\\_2023.pdf](https://www3.weforum.org/docs/WEF_GGGR_2023.pdf)

very limited access to them or cannot have access at all due to the several socio-economic and socio-political reasons in addition to the water scarcity, which is one of the most severe consequences of the climate crisis in the region. The convergence of climate change, persistent droughts, and depletion of natural resources, combined with recent conflicts and humanitarian crises, is exerting significant strain on delivering water and sanitation services. This pressure disproportionately affects women and girls. Climate change is exacerbating water scarcity, which increases the burden of water collection and treatment on women and girls.<sup>62</sup> They have to make long journeys for many hours to collect the water for their households due to the lack of infrastructure and public facilities like transportation. This journey is exhausting and time-wasting for them because they go on foot, no matter if it rains, there is a storm, or there is extreme heat. They find themselves in precarious circumstances where their well-being and health are at high risk. They emerge as primary targets for infectious diseases such as diarrhoea and respiratory infections, as well as various forms of both sexual and non-sexual violence, encompassing rape, abduction, kidnapping, harassment, and a spectrum of injuries.

The task of water collection is closely associated with the female workforce as can be deduced from the previous paragraph. This responsibility falls within the category of unpaid labor, akin to the routine domestic chores performed by women and girls on a daily basis. Aligned with traditional patriarchal social norms, women bear the exclusive burden of household duties, including water provision, cooking, cleaning, and caregiving for children, as well as sick and elderly family members. The agricultural sector serves as a paid employment domain for women, and its productivity is notably affected by heatwaves, drought, and water scarcity. This impact extends to livelihoods and communities. It is noteworthy that the largest proportion of female formal labor-force participation (26.9%)<sup>63</sup> in the MENA region is concentrated within the agriculture sector, encompassing activities such as fishery and forestry. Despite the availability of data on women's labor in the agriculture sector, accurately identifying or quantifying their genuine contribution is hindered by gender-biased laws and entrenched patriarchal attitudes and practices within society. Furthermore, women's lack of ownership of land for similar reasons contributes to their socio-economic insecurity.

In the climate change and water scarcity frameworks, sexual and reproductive health and rights (SRHRs), specifically menstrual hygiene, emerges as a critical concern as women's health becomes increasingly dependent on access to water. During their menstrual cycles, women require additional clean water and sanitary products. The prevalent water scarcity in the region compounds the already formidable challenges faced by women and girls, exacerbated by societal stigmatization. In this geographical context, menstrual hygiene remains a taboo subject, mirroring the societal attitudes towards other topics related to SRHRs, where menstruation is often misconstrued as an affliction. In such an environment, women and girls are compelled to seek

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<sup>62</sup> UN Women, *Feminist Climate Justice: A Framework for Action*, 2023, <https://www.unwomen.org/en/digital-library/progress-of-the-worlds-women>

<sup>63</sup> UNICEF and Karama, *Climate Change: Impact on Adolescent Girls*, October 2023, <https://www.unicef.org/mena/media/23806/file/Climate%20Change%20Impact%20on%20Adolescent%20Girls%20-%20Advocacy%20Brief%20.pdf>



solutions for their menstrual hygiene primarily on their own, even in circumstances that compromise their safety and well-being.

Speaking of SRHRs, women and girls in the region are also challenged to access SRHRs other than menstrual hygiene such as sexual education, pre and post maternal care services, abortion including safe abortion services and post-abortion care, prevention from STIs, HIV/AIDS treatment, contraceptive services. Climate injustice isn't the primary reason for this challenge. SRHRs have always been a taboo for the societies in the region due to the gender-unequal and patriarchal mindset and relevant practices. However, the ongoing climate change makes this topic much more challenging with climate injustice. Hormone and menstrual disorders and other reproductive health issues (e.g. breast cancer) were raised as an increasing concern due to climate change impacts such as extreme weather, along with a lack of adequate (affordable and accessible) services.<sup>64</sup>

Moreover, child marriage represents another gender-specific repercussion of the climate crisis. The adverse weather conditions, characterized by extreme heat and excessive rainfall, significantly disrupt the daily lives of girls. These weather-related challenges exacerbate the pre-existing gender-based obstacles, making it increasingly difficult for girls to attend school. Consequently, girls are confronted with additional hurdles, eventually leading to their withdrawal from educational pursuits. These conditions further amplify the entrenched patriarchal dominance within the region, particularly in rural areas, prompting child marriage to be perceived as a pragmatic "solution" for accessing new sources of income and meeting basic needs. Within these societies, the groom's family often provides monetary compensation or valuable assets, such as land or a home, to the family of the "bride." This transactional practice contributes to the normalization of child marriage within these communities. Across the MENA region, there are approximately 40 million child brides, most of them in Sudan, where nearly 27 percent of females were married before age 15, and Yemen, where 32 percent married before age 18.<sup>65</sup>

Within the realm of gender-based agricultural dynamics, women emerge as a disadvantaged group when compared to their male counterparts. Empirical evidence, as delineated by UNDP<sup>66</sup>, underscores this disparity through specific percentages:

- Women Landowners: Less than 20% of landowners are women.
- Women in World Food Production: Women contribute to the production of food on a global scale, ranging from 50% to 80%.
- Agricultural Extension for Women: A mere 5% of agricultural extension services are accessible to women.

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<sup>64</sup>OXFAM, *Climate Change and Women's Health and Rights : Women Voices from MENA*, December 2023, <https://oi-files-d8-prod.s3.eu-west-2.amazonaws.com/s3fs-public/2023-12/Climate%20change%20and%20women%E2%80%99s%20health%20and%20rights.pdf>

<sup>65</sup> Yara M. Asi, *Child Marriage and Female Genital Mutilation in the MENA Region*, Arab Center Washington DC, 1 July 2022, <https://arabcenterdc.org/resource/child-marriage-and-female-genital-mutilation-in-the-mena-region/>

<sup>66</sup> UNDP, *Gender, Climate Change and Food Security*, Policy Brief 3, 17 April 2017

- Potential Impact on Malnutrition: It is estimated that by providing women farmers with equivalent opportunities and access as their male counterparts, the number of malnourished individuals could be reduced by 12 to 17%.

These statistics serve as tangible indicators of the gender-based inequities prevalent in the agricultural domain, emphasizing the need for targeted interventions and policies to rectify the existing disparities and promote gender equality in agriculture. Regional statistics show that women in the MENA region have the least ownership rates for asset ownership in the world due to discriminatory laws and practices that prohibit or create barriers to their ability to own land,<sup>21</sup> with only 4 percent of women holding land titles<sup>67</sup>

GBV is another issue that has to be emphasized specifically and within the vulnerability of the women and girls in the MENA region. Climate change is both the reason and consequence of the GBV and other types of violences against women in the region. The child marriage is a type of GBV which appears due to harmful societal patriarchal norms and practices of society and also due to negative impacts of climate crisis like poverty and hunger by the loss of fertile lands and crops as mentioned before. In the aftermath of disasters, women and girls face a heightened risk of sexual assault and harassment, intimate partner violence, and child, early, and forced marriage.<sup>68</sup> Migration due to climate change is another contributor for the GBV in the region. Since the societies in the region have rooted and strict patriarchal norms and practices, the commonly accepted and adopted mindset is that only the man of the house should migrate to find a new job and earn money on behalf of his family. This mindset reflects that the woman is supposed to stay at home with her children and wait for her husband. However, this mindset doubles the vulnerability of the female individuals of the house after the husband/father migrates to a bigger city or another country. Because according to society, they are deprived from protection and so they are open to any danger or intervention. They become the target for psychological and physical assaults and abuses from for instance their neighbors, other relatives or any random man on the street when they want to go outside their home. For example, many women in Sudan are facing GBV after the male populations migrate to seek jobs and compensate for the economic damages of climate change. Women left behind face a precarious situation when remittances are not regular, and if men relatives go missing, die in dangerous irregular movement, or if ransom money is demanded by traffickers (often with threats to their security.)<sup>69</sup> Syrian women are living in the similar circumstance with Sudanese women as many women and girls in the region. They are suffering from the destructive effects of the climate crisis and forced migration of their male individuals. They are easily exposed to GBV during the absence of the working male individuals of their households. As men were primarily those leaving to find

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<sup>67</sup> UNICEF and Karama, *Climate Change: Impact on Adolescent Girls*, October 2023, <https://www.unicef.org/mena/media/23806/file/Climate%20Change%20Impact%20on%20Adolescent%20Girls%20-%20Advocacy%20Brief%20.pdf>

<sup>68</sup>IOM, *Effects of Climate Mobility on Women and Girls in the MENA region*, 2024, <https://mena.iom.int/sites/g/files/tmzbd1686/files/documents/2024-01/climate-mobility-women-girls-mena.pdf>

<sup>69</sup> UN Women Arab States, *Gender and Climate-Related Migration in Jordan and Sudan: Building Women's Economic and Social Resilience to Climate Risk and Migration for Survival within Sustainable Development*, September 2023, <https://arabstates.unwomen.org/sites/default/files/2024-02/awc-unw-publication-gender-cc-migration.pdf>

alternative sources of income, many women were forced to become heads of household, leaving many malnourished, without land in their names, exposed to GBV, and resulting in girls being taken out of school.<sup>70</sup>

Being taken out of school pattern leads to the access to education by girls in the region in climate crisis affected areas. The extreme weather events put a barrier to girls' education. It enhances the gender inequality in the societies. Education of girls has never been a priority for any country of the MENA region. The principal reason is patriarchy as like for other struggles facing by women and girls. According to the widely accepted and adopted patriarchal way of living, it would be better if the girls wouldn't go to schools after puberty, when their menstrual cycle starts. Because they aren't "children" anymore and they became "women" regarding societal patriarchy-based mentality. They should be responsible for domestic work, get married and give birth to as many children as possible -especially a boy- to protect their dignity as "women" and their families and to honor their husbands and their parents. Syria is the country where a large majority of children and young people reported the disproportionate consequences of climate change on girls, including education and nutrition.<sup>71</sup> Despite the disadvantaged situation of the girls for accessing education and connected services and facilities, boys are also affected severely from the climate crisis via the interruption of their right to education as girls. Because they are vulnerable like girls and so are every child. In gender unequal contexts like the MENA region, however, the discontinuation of girls' education happens more often compared to the boys. They are considered as an important additional workforce for their households including in the agricultural sector or potential brides to save their parents after the climate shocks. There are 48.7 million adolescent girls across the MENA region and today, more adolescent girls than ever before live in drought impacted communities; fearing walks to school during rainy season; and migrating to seek refuge from floods, fires, or water- or food scarcity.<sup>72</sup> Not accessing education also stands for climate illiteracy among young people especially girls. When girls aren't informed about climate change and its intersectionality with gender issues, it's almost impossible for them to be part of climate action in various segments like in decision-making, climate adaptation activities etc. This crucial illiteracy makes girls more vulnerable when they experience the severity of the climate crisis. In this environment, they have to rely on either their families or their future husbands that mostly are chosen by the male family members.

FGM/C is the least known category of GBV that has to be discussed separately and has connection with climate change in whole African continent and also MENA region. Before to discuss the relation between climate change and FGM/C, it's necessary to give the definition of the term and the general information about the presence of this traditional harmful practice in MENA region. Female genital mutilation (FGM) comprises all procedures that involve partial or

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<sup>70</sup>GBV AoR Helpdesk, *Climate Change and Gender-Based Violence : What are the Links?*, 19 March 2021, <https://gbvaor.net/sites/default/files/2021-03/gbv-aor-helpdesk-climate-change-gbv-19032021.pdf>

<sup>71</sup> World Vision Middle East and Eastern Europe region , *Growing Up in the Climate Crisis- The Impact of climate change on children and young people in Iraq, Jordan, Lebanon, Syria and West Bank*, November 2023, <https://www.wvi.org/sites/default/files/2023-11/Policy%20report%20COP28%20final.pdf>

<sup>72</sup> UNICEF, *Gender and Climate Change : The different impacts of climate change due to pre-existing gender inequality*, <https://www.unicef.org/mena/gender-and-climate-change#:~:text=There%20are%2048.7%20million%20adolescent,or%20water%2D%20or%20food%20scarcity.>

total removal of the external female genitalia, or other injury to the female genital organs for non-medical reasons.<sup>73</sup> This definition of WHO reflects that FGM/C isn't just a GBV also a serious human rights violation. In 1993, Declaration on the Elimination of Violence Against Women officially recognized FGM/C as human rights violence with the Article 2 section a : *Violence against women shall be understood to encompass, but not be limited to, the following: ( a ) Physical, sexual and psychological violence occurring in the family, including battering, sexual abuse of female children in the household, dowry-related violence, marital rape, female genital mutilation and other traditional practices harmful to women, non-spousal violence and violence related to exploitation.*<sup>74</sup> This human rights violation currently exists in the MENA region and it keeps affecting the physical and mental health so basically the life quality of millions of the girls there. Almost 50 million girls and women have undergone female genital mutilation in five practising countries in the Middle East and North Africa, accounting for one quarter of the global total.<sup>75</sup> FGM is highly medicalized in Egypt and Sudan where almost 8 in 10 girls are cut by medical personnel, whereas traditional practitioners are responsible for most cutting in Djibouti, Iraq and Yemen.<sup>76</sup> While this traditional practice is widely acknowledged to be deeply ingrained in cultural and social norms, the impact of climate change further compounds its prevalence through prolonged periods of drought. Consequently, vulnerable communities face increased challenges in discontinuing FGM/C, a practice recognized internationally as a violation of the human rights of girls and women and devoid of any health benefits. In certain societies, the erosion of livelihoods perpetuates the perpetuation of FGM/C. Girls in early adolescence undergo the procedure, marking their transition from girlhood to womanhood. Subsequently, they are considered eligible for marriage, often exchanged for a bride price that aids their families in enduring the hardships inflicted by prolonged droughts. Following the procedure, the initiation of a girl into this tradition frequently signals the termination of her educational pursuits and prospects for future career advancement. Consequently, she becomes susceptible to teenage pregnancies, early marriage, school dropout, and a spectrum of health hazards, including childbirth complications and heightened risks of infant mortality.

Furthermore, agriculture is another context in the region that reflects the intersection between gender inequality and climate injustice. The majority of the population of the MENA region including women and girls depends on agricultural activities with nutritional and economical dimensions. Since women and girls are restricted in many layers of social life- education, labor- due to patriarchal mindset, agriculture is one of few sectors that women aren't restricted that much for being a workforce. Instead, they are exploited as cheap labor. They are forced to work with very low salaries without social security and suitable work conditions. Indeed, the majority of women cannot be land owners even though they create more than 50 % of the agriculture workforce on a regional basis and the sector that contains the highest amount of women

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<sup>73</sup> WHO, *Female Genital Mutilation-Key Facts*, 5 February 2024, <https://www.who.int/news-room/fact-sheets/detail/female-genital-mutilation>

<sup>74</sup> OHCHR, *Declaration on the Elimination of Violence against Women*, Proclaimed by General Assembly resolution 48/104 of 20 December 1993, <https://www.ohchr.org/sites/default/files/eliminationvaw.pdf>

<sup>75</sup> UNICEF, *Female Genital Mutilation in the Middle East and North Africa*, February 2020, [https://www.unicef.org/mena/media/7096/file/FGM%20MENA%20Draft%202\\_6\\_High%20Res.pdf](https://www.unicef.org/mena/media/7096/file/FGM%20MENA%20Draft%202_6_High%20Res.pdf)

<sup>76</sup> Ibid

employment is agriculture in the region. The MENA region has the lowest level of women's landownership in the world, at just 5%.<sup>77</sup> Related to this disadvantage of women, food insecurity occurs inevitably. Mostly women are the more severe victims of food insecurity than men in the climate change scope. These unequal conditions embody the limited access to land, credit, and extension services of the female workforce. This hinders their productivity and ability to contribute to food security. Besides agriculture, possessing limited working economic opportunities puts another challenge for women to achieve food security. Limited economic opportunities reduce their ability to purchase adequate food and improve their household's food security. Speaking of household food security, societal norms subject women to food insecurity. These norms in the region dictate that men and boys receive more and better-quality food than women and girls. This unequal distribution exacerbates food insecurity among women and girls. Food insecurity and poor nutrition have significant health impacts, particularly for women and children. Women's health can be severely affected during pregnancy and breastfeeding, leading to long-term consequences for both mothers and children. Due to gender inequality, women often have less access to information, technology, and training related to climate change adaptation. This limits their ability to implement effective strategies to mitigate the impacts of climate change on food security.

Conflicts are the other aspects that should be elaborated within the intersection between gender equality and climate justice in the MENA region since many countries in the region have either ongoing conflicts or the consequences of the conflicts. Women and children are particularly vulnerable in conflict-affected areas, which are prevalent in parts of the MENA region. When it comes to the connection between climate change and conflicts, conflicts exacerbate the vulnerability of women's food security, access to WASH and many other daily basis needs/services and disproportionately affect women due to gender-based violence and exploitation. That's why women in conflict-affected areas cannot be part of climate adaptation strategies or not be able to protect themselves and their children from the destructive results of climate change like droughts, floods, extreme heat waves, thunderstorms and other natural disasters. They just try to survive from the conflicts. Climate resilience cannot be a priority for women in conflict affected areas. On the other side, some conflicts start due to climate change destruction and it adds a new pillar to the vulnerability of women in the region.

Furthermore, the COVID-19 pandemic is an additional factor exacerbating gender inequality and climate injustice in the MENA region. The intersection of COVID-19 and climate change has uniquely impacted women in the region by intensifying existing vulnerabilities and creating new challenges. The pandemic and climate crises have aggravated economic instability, disrupted healthcare systems, and heightened social inequalities, disproportionately affecting women. COVID-19 has led to significant economic downturns, resulting in job losses and reduced income, particularly for women who often work in informal sectors with limited job security and social protections. The increased economic strain has forced many women to take on additional caregiving responsibilities, further limiting their ability to participate in the workforce or pursue

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<sup>77</sup> International Center for Agricultural Research in the Dry Areas , *Four Ways of Strengthening Gender Equality in the Agricultural Sector in the MENA Region*, 6 March 2020, <https://www.icarda.org/media/blog/four-ways-strengthening-gender-equality-agricultural-sector-mena-region>

educational opportunities. The compounded pressures from climate change and the pandemic have also heightened food insecurity, disproportionately affecting women and children who are often the most vulnerable to nutritional deficiencies. The combined effects of COVID-19 and climate change have also deepened health disparities. Disruptions in healthcare services due to the pandemic have limited access to essential reproductive and maternal health services, increasing the risks of complications during pregnancy and childbirth. Additionally, the stress and uncertainty brought on by these crises have contributed to rising rates of gender-based violence, with women and girls facing greater risks of exploitation and abuse.

Although women and girls build one main category as vulnerable/disadvantaged group against climate change, they have their own subcategories also. Some dynamics and status are the contributors of the separation between women and girls among themselves. For example, being a citizen, refugee, migrant, IDPs, older, disabled, pregnant, LGBTQIA+ or minority-ethnic or linguistic. Besides being a citizen, other dynamics accelerate the vulnerability of women in the climate change context and in the MENA region. Women and girls from other groups than the majority, are discriminated more and so they become more vulnerable in the gender unequal and climate change intersected scope. For them, it's more difficult to access vital rights and services, and the outcomes of climate action due to the unwelcome and non-inclusive attitude of the majority or host communities in case of displacement, refuge, migration. This attitude hinders privacy first and then cultural empathy for them. For this reason, refugee, migrant and forcibly displaced women cannot access for example healthcare services properly, sometimes even they cannot access them at all. Water scarcity and access to WASH are other crucial struggles for refugee and migrant women. They are more deprived from adequate amounts of clean water and WASH than the women and girls who are part of the majority in their country. It means that their water collection journey is much more dangerous for their physical, sexual and physiological health. They have higher risk of exposure to GBV, kidnapping, murder, being injured etc. Jordan as one of the most water scarce countries in the MENA and one of the highest numbers of refugee host countries is a concrete example to see how climate change exacerbates the vulnerability of refugee women with uneasy access to water. Azrap Camp is one of the refugee camps in Jordan that contains an important amount of the refugee population. In the Azraq Camp, home to 35,752 refugees, the trek to water collection exposes women to sexual violence, forcing women to find safer routes and taking more time from school and work.<sup>78</sup> Besides refugee and migrant women, women with disabilities are another struggling category in the region even though their content of challenge differs. Indeed, it is important to keep in mind that every type of disability puts specific barriers for women with disabilities with and without climate change frameworks. The disabilities which limit or prevent the mobility skills of women don't allow for women to access significant facilities and services during their daily life and climate change context such as healthcare, humanitarian aid, education. When it comes to disabilities related to the senses, they reinforce barriers and stigmatization about the education-both formal and raising awareness about climate change- of women and girls in the region especially in rural areas and

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<sup>78</sup> Aya Kamil and Adele Malle, *Climate Change and Gender in Morocco and Jordan*, Sada by Carnegie Endowment for International Peace, 3 August 2023, <https://carnegieendowment.org/sada/2023/08/climate-change-and-gender-in-morocco-and-jordan?lang=en>

small communities that gender equality and climate justice don't make any sense. Continuing with barriers that rise from the intersection between gender-inequality, climate change and having disability, SRHR is another complexity with women with disabilities. Women with disabilities confront an additional range of barriers, including the widespread belief that women with disabilities are not sexually active or do not need access to SRHR information and services, leading to their exclusion.<sup>79</sup> Among mentioned vulnerable categories with gender lens, LGBTQIA+ people can be the most vulnerable in terms of dealing with the negative impacts of climate change. The main reason is their sexual orientation and identity disturb the societies of the region due to their strict dedication to the harmful traditional patriarchy and religion-based practices and point of views. According to this perspective, being LGBTQIA+ is unacceptable because it's against traditions and religion. In policy-makers and governmental sides of the region, the main argument is protecting public morality. With public morality motivation, being LGBTQIA+ is criminalized by law in many MENA countries. As a consequence, LGBTQIA+ communities aren't considered by national policies and laws as vulnerable and have to be protected from the negative consequences of the climate crisis like natural disasters for example. No country has mentioned about them in their NDCs even though they indicate that the gender-based perspective is part of their NDCs. In addition, forcibly relocation or displacement due to climate change related environmental events put another layer to the vulnerability of LGBTQIA+ people. They have to migrate or seek asylum and they are discriminated against by the authorities and citizens of the host country. They become a target for any kind of GBV and other types of violences when they have to stay in refugee camps for instance. This discrimination and maltreatment restrain their access to food, water and WASH, healthcare, SRHR, education etc. In other terms, the climate crisis and explained discriminatory mindset double the vulnerability of these people and they forcibly accept terrible living conditions just to survive in a new place after the climate-crisis related extreme environmental event.

In order to prevent or at least decrease the gender-based vulnerability before climate change, NDCs have a key role since they are national key instruments for climate resilience. In the MENA region, most of the countries who adopted their NDCs emphasize the notion of vulnerability by adding women among the other groups. Most NDCs (11) describe segments of their population as particularly vulnerable to the impacts of climate change, most commonly women, young people, older persons, persons with disabilities and displaced persons.<sup>80</sup> Indeed, more than 10 countries make a reference for gender in their NDCs. The problem is there isn't a comprehensive reference about gender. Those countries refer to the issue in general terms like either without detailed consideration or a focus of the national policies. This type of reference shows that gender issues haven't a prior place for the NDCs and national agendas and gender-climate change nexus isn't considered as a part of most NDCs. Only seven NDCs recognize

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<sup>79</sup> OXFAM, *Climate Change and Women's Health and Rights : Women Voices from MENA*, December 2023, <https://oi-files-d8-prod.s3.eu-west-2.amazonaws.com/s3fs-public/2023-12/Climate%20change%20and%20women%E2%80%99s%20health%20and%20rights.pdf>

<sup>80</sup> UNFPA, Queen Mary University of London, and International Development Research Centre Canada, *Taking Stock: Sexual and Reproductive Health and Rights in Climate Commitments-Arab States*, May 2024, <https://www.unfpa.org/sites/default/files/pub-pdf/2553-UNFPA-NDC-Arab%20States%20Report.pdf>

women as disproportionately vulnerable to climate change, and of these only Jordan, Somalia and the State of Palestine describe specific vulnerabilities.<sup>81</sup> In the region, Sudan is one of the exceptional countries that prepared its NDC with the awareness of the intersection between climate change and gender-based empowerment to succeed in climate action. The gender references of Sudanese NDCs are the followings: 1) Gender, environmental and social considerations 2) Women empowerment and promotion of gender mainstreaming approach in all interventions.; and 3) Convening of women groups to take advantage of income and food security opportunities (e.g., household gardens, diversified livelihood income sources).<sup>82</sup> Tunisia is another country in North Africa that placed gender issues in the climate change framework as part of its NDC. A section is dedicated for the gender topic in the Tunisian NDC. In this section the necessity of the contribution of women for climate action is indicated clearly with the following sentence: *women are entrusted with an important role in the fight against climate change.*<sup>83</sup> The gender emphasis isn't limited only with this sentence. Tunisia stressed about the gender-based perspective in different types of climate-related resilience such as water, food, and economics. Besides, the country identifies gender as one of the nine components of social resilience. The gender component is explained more in the social resilience priorities (SRP) section. Despite this gender highlighting positive image of Tunisia via vide gender-based content to mitigate with climate related vulnerabilities, there is no mention about LGBTQIA+ people as expected. Because, being part of this community is illegal in Tunisia like other MENA region countries. That's why they aren't considered as vulnerable groups for climate change like women and so a part of gender-based climate resilience.

## **2.2. Vulnerability of the Minorities and BIPOC in Climate Change Scope**

The BIPOC communities and minorities have always been challenged to access their rights by the authorities and decision-makers during their time. The historical roots of their vulnerability are more ancient than climate change.

The term "BIPOC" encompasses a diverse range of identities, including but not limited to Black, Indigenous, and People of Color, each with their unique historical, cultural, and socio-economic contexts. The most well-known geography with the vulnerability of BIPOC communities is the American continent due to the colonialism era since the discovery of America by the famous Christoph Colomb. Slavery trade to colonize the resources of the American continent, initiated the vulnerability of these communities. The people from the African continent forcibly be brought -more realistically be exported like a capital- to America with the aim of possessing cheap workforce in plantations created by big European kingdoms like Spain, Portugal, France, Britain etc. in that era. When it comes to kingdoms established by indigenous communities like Aztecs, Mayas, Inkas, they were also affected by the establishment of colonies by European kingdoms: their natural resources either were destroyed or stolen by colonial forces, communities

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<sup>81</sup>Ibid

<sup>82</sup>UNFCCC, Republic of Sudan, *First Nationally Determined Contribution under the Paris Agreement*, Updated October 2021, <https://unfccc.int/sites/default/files/NDC/2022-10/Sudan%20Updated%20First%20NDC-12102021.pdf>

<sup>83</sup> UNFCCC, Republic of Tunisia, *Updated Nationally Determined Contribution (NDC) Tunisia*, October 2021, <https://unfccc.int/sites/default/files/NDC/2022-08/CDN%20-%20Updated%20-english%20version.pdf>



were forced to work in plantations as a cheap labor and a great amount of their populations were massacred. Obviously, it was a genocide and ethnic cleansing with today's international human rights law by ratification of The Convention on the Prevention and Punishment of the Crime of Genocide in 1951. However, this massacre happened in between 12th-15th centuries so many centuries before the ratification and adoption of the Genocide Convention. For this reason, no one held accountable from this early era genocide. This brief historical context of colonialism also substantiates that the root of the BIPOC communities' vulnerability traces to many centuries ago; it's not a new problem that appears in the 20th century.

Within the MENA region, BIPOC communities may include ethnic and religious minorities, indigenous peoples, migrant workers, and refugees, among others as same as the American continent.

In human rights law perspective, the instruments and institutions-though permanent or session based -to protect the rights of these communities were developed at two levels-regional and international after the mid-20th century. The UN Declaration on the Rights of Indigenous Peoples adopted on 2007 and Indigenous and Tribal Peoples Convention - also known as ILO Convention 169- adopted in 1989 are that kind of instruments in benefit of these communities at international level. On the other hand, the African Charter on Human and Peoples' Rights (ACHPR) adopted in 1981 and entered into force in 1986 is the regional level instrument despite it not dedicating some of its articles explicitly to these communities. It's a significant mechanism that should be mentioned in the climate change context because of its emphasis on the protection of the ethnic groups, environment and natural sources. This protection appears from the very beginning of the ACHPR. When Article 2 of the ACHPR prohibits all forms of discrimination, it includes non-discrimination clause with explicit indication of ethnic group, race and color : *Every individual shall be entitled to the enjoyment of the rights and freedoms recognised and guaranteed in the present Charter without distinction of any kind such as race, ethnic group, colour, sex, language, religion, political or any other opinion, national and social origin, fortune, birth or other status.*<sup>84</sup> The forcible displacement, another component that aggravates the vulnerability of the minorities and BIPOC communities, is prohibited also by the ACHPR with Article 12 by stressing mass expulsion : *The mass expulsion of non-nationals shall be prohibited. Mass expulsion shall be that which is aimed at national, racial, ethnic or religious groups.*<sup>85</sup> To better analyze the living conditions of the subject communities in the MENA region by the intersection between human rights law and environmental protection, the Arab Charter should be also discussed. The non-discrimination principle exists in that charter as same as ACHPR and other international human rights law instruments. Even though there isn't an emphasis relevant to ethnicity in the discrimination context like ACHPR, other concepts are covered and they are useful for the BIPOC communities in Article 3 : *Each State party to the present Charter undertakes to ensure to all individuals subject to its jurisdiction the right to enjoy the rights and freedoms set forth herein, without distinction on grounds of race, colour, sex, language, religious belief, opinion, thought, national or social origin, wealth, birth or physical or mental*

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<sup>84</sup> African Charter on Human and Peoples' Rights, [https://au.int/sites/default/files/treaties/36390-treaty-0011 -\\_african\\_charter\\_on\\_human\\_and\\_peoples\\_rights\\_e.pdf](https://au.int/sites/default/files/treaties/36390-treaty-0011_-_african_charter_on_human_and_peoples_rights_e.pdf)

<sup>85</sup> Ibid

*disability*.<sup>86</sup>The protection of natural wealth and resources, the second protection area that is crucial for the ethnic minorities and BIPOC communities, are regulated by both ACHPR and Arab Charter on Human Rights. Article 21(1) of ACHPR regulates this protection in the African context though without consideration of ethnicity or being BIPOC: *All peoples shall freely dispose of their wealth and natural resources. This right shall be exercised in the exclusive interest of the people. In no case shall a people be deprived of it.*<sup>87</sup> In the Arab World framework, this protection is aligned with the right to self-determination via Article 2: *All peoples have the right of self-determination and to control over their natural wealth and resources, and the right to freely choose their political system and to freely pursue their economic, social and cultural development.*<sup>88</sup> As can be seen, again, there isn't a specific emphasis for ethnic and BIPOC communities. But absence of this emphasis doesn't mean that these communities cannot benefit from this protection. They have rights to their natural wealth and resources since they are part of the people's context.

Today, the oases of Southern Tunisia, Morocco and Algeria, reveal black populations ranging from as low as 3 percent of the total population to as high as 75 percent.<sup>89</sup> Although the international and regional human rights instruments-UDHR, ACHPR, Arab Charter, etc.- which were adopted and ratified by the MENA countries prohibit explicitly any kind of discrimination including the racial-based discrimination, racism puts an additional layer on the vulnerability of the ethnic minorities and BIPOC communities in the climate change context. For this reason, racism should be discussed with some details. Once again, the colonial past of the countries plays a significant role in the occurrence of this problem. Because the slavery and anti-black racism construct the source of the actual and ongoing racism. Thus, the influence of racism differs on the sub-regions. Slavery was crueller and more brutalizing, and contemporary anti-Black racism has been harsher in the southern Saharan zone than along the Mediterranean.<sup>90</sup>

The MENA region is characterized by its rich cultural diversity, encompassing a wide array of ethnicities, languages, and traditions. However, within this diversity lie deep-rooted disparities and inequalities, particularly concerning access to resources, opportunities, and decision-making processes. For example, in the intersection between migration and labor cases, deep-rooted disparities and inequalities relevant to the previously mentioned accesses appear. Often immigrant or "migrant" labor in North Africa and Middle East is rightly understood in the

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<sup>86</sup> Arab Charter on Human Rights, <https://www.ohchr.org/sites/default/files/Documents/Issues/IJudiciary/Arab-Charter-on-Human-Rights-2005.pdf>

<sup>87</sup> African Charter on Human and Peoples' Rights, [https://au.int/sites/default/files/treaties/36390-treaty-0011\\_-\\_african\\_charter\\_on\\_human\\_and\\_peoples\\_rights\\_e.pdf](https://au.int/sites/default/files/treaties/36390-treaty-0011_-_african_charter_on_human_and_peoples_rights_e.pdf)

<sup>88</sup> Arab Charter on Human Rights, <https://www.ohchr.org/sites/default/files/Documents/Issues/IJudiciary/Arab-Charter-on-Human-Rights-2005.pdf>

<sup>89</sup> Leon Carl Brown, *Color in Northern Africa*, Daedalus, Vol. 96, No. 2 Spring 1967, pp. 464-482, [https://www.jstor.org/stable/pdf/20027047.pdf?refreqid=fastly-default%3A1496ccdc8dc30cbbb50bc8ed77dcdd58&ab\\_segments=&origin=&initiator=&acceptTC=1](https://www.jstor.org/stable/pdf/20027047.pdf?refreqid=fastly-default%3A1496ccdc8dc30cbbb50bc8ed77dcdd58&ab_segments=&origin=&initiator=&acceptTC=1)

<sup>90</sup> Stephen J. King, *Anti-Black Racism and Slavery in Desert and Non-Desert Zones of North Africa*, Racial Formations in Africa and the Middle East: A Transregional Approach, POMEPS Studies 44, P.35-41, September 2021, [https://pomeps.org/wp-content/uploads/2021/09/POMEPS\\_Studies\\_44\\_Web-rev3.pdf](https://pomeps.org/wp-content/uploads/2021/09/POMEPS_Studies_44_Web-rev3.pdf)

context of the racialized and gendered domestic work, agricultural labor; and contractual and ostensibly temporary work is unequally structured through privileges of certain passports.<sup>91</sup>

Despite their diversity, these communities share common experiences of marginalization and exclusion, which intersect with the environmental challenges posed by climate change. Indigenous peoples are among the first to face the direct consequences of climate change, owing to their dependence upon, and close relationship with the environment and its resources.<sup>92</sup>

Regarding vulnerability to climate change, because Black, Indigenous, and People of Color (BIPOC) are more likely to live in poverty and in communities that lack adequate services, including informal settlements and disaster-prone areas, they are also more likely to experience the worst impacts of climate change — like living in areas with polluted air, rising sea levels, and longer droughts.<sup>93</sup> This general situation is valid also for the MENA region ; it isn't limited only to the American continents.

Indigenous communities within the MENA region are disproportionately affected by the ramifications of the climate crisis compared to the predominant ethnic group (Arabs), a trend observed in various indigenous populations globally. These repercussions manifest in multiple dimensions including limited access to WASH facilities, food insecurity, involuntary displacement, and heightened levels of poverty. BIPOC communities often bear the brunt of climate change impacts due to historical marginalization, socio-economic disparities, and systemic inequalities. In the MENA region, where many indigenous and marginalized communities reside, they are more vulnerable to extreme weather events, water scarcity, and food insecurity exacerbated by climate change.

In accordance with the 2021 statement commemorating the International Day of the World's Indigenous Peoples, the MENA region encompasses six distinct indigenous groups: Berbers (Amazighi), Ma'dan, Tuaregs, Copts, Assyrians, and Jahalin Bedouins.<sup>94</sup> Indigenous communities in the region often have strong cultural ties to their land. However, climate change-induced desertification, sea-level rise, and land degradation threaten their traditional livelihoods and force them to migrate, leading to loss of cultural heritage and identity.

Among these, Berbers or Amazighi constitute a significant indigenous population primarily concentrated in North African nations such as Algeria, Morocco, and Tunisia, with Morocco hosting the largest Amazighi community. The period following Morocco's attainment of independence in the 1950s witnessed a pivotal transformation characterized by the adoption of an Arab identity, a historical juncture synonymous with the systemic marginalization experienced by the Amazigh populace, evident both in political and social spheres. Despite grappling with

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<sup>91</sup> A. George Bajalia, *Waiting and Working: Shared Difference and Labors of Belonging in Immigrant Tangier*, Racial Formations in Africa and the Middle East: A Transregional Approach, POMEPS Studies 44, P.61-66, September 2021, [https://pomeps.org/wp-content/uploads/2021/09/POMEPS\\_Studies\\_44\\_Web-rev3.pdf](https://pomeps.org/wp-content/uploads/2021/09/POMEPS_Studies_44_Web-rev3.pdf)

<sup>92</sup>United Nations Permanent Forum on Indigenous Issues, *Background: Climate change and indigenous peoples*, 2008, [https://www.un.org/esa/socdev/unpfii/documents/background%20climate%20change\\_FINAL.pdf](https://www.un.org/esa/socdev/unpfii/documents/background%20climate%20change_FINAL.pdf)

<sup>93</sup>Women Deliver, *The Link Between Climate Change and Sexual and Reproductive Health and Rights- An Evidence Review*, January 2021, <https://womendeliver.org/wp-content/uploads/2021/02/Climate-Change-Report.pdf>

<sup>94</sup> Arab News, *6 Indigenous Groups in the MENA region*, <https://www.arabnews.com/node/1907181/6-indigenous-groups-mena-region>

heightened vulnerabilities stemming from the climate crisis and enduring discrimination, Amazigh communities persistently strive to mitigate its impact through the preservation of traditional practices and nomadic lifestyles. Their unwavering commitment to climate action often surpasses that of local or regional majorities, underscoring their profound awareness of environmental imperatives.

The next indigenous community, The Ma'dan, also known as the Marsh Arabs, predominantly inhabit the marshlands of Iraq, constituting a prominent indigenous community within the region. This demographic serves as a poignant contemporary illustration of the devastating ramifications droughts can inflict upon indigenous livelihoods in the MENA region, thereby imperilling their cultural heritage. The progressive salinization of their water sources exacerbates the precariousness of their situation, significantly compromising their food security as evidenced by the mortality of their livestock. Notably, it is imperative to underscore that the Ma'dan's struggle with drought is not a recent phenomenon; rather, it traces back to the 1990s, originating as a punitive measure enforced by governmental authorities. In the 1990s, Iraq's former strongman President Saddam Hussein drained the marshes – which were 20,000sq km (7,700sq miles) – to punish the Marsh Arabs, diverting the flows of the Tigris and Euphrates rivers away from the land.<sup>95</sup>

Libya is one of the other countries in the region that has indigenous populations. The major climate-crisis related problem for the indigenous communities in the country is the water scarcity since the country has been already struggling with sandstorms, droughts and severe decrease of annual rainfalls. One of the regions that has been struggling with water scarcity most is the Nafusa mountain region, where indigenous Amazigh communities reside.<sup>96</sup> The Tebus are other indigenous communities of Libya who suffered severely from Muammar Gaddafi's assimilative regime with the aim of eliminating indigenous cultures and languages. Many Tebu in Libya were deprived of citizenship, preventing them from getting healthcare, education and employment.<sup>97</sup>

Moreover, Bedouins are other minority communities in the region. The name "Bedouin" is derived from the term for nomadic desert or steppe dwellers (badawa).<sup>98</sup> They are living mostly in North African and Arabian Peninsula countries like Jordan, Palestine, Egypt, Kuwait, Iraq, Iran. They aren't considered as BIPOC or ethnic minorities. Because their ethnicity is also Arab like the majority of the countries where they live in. In spite of it, they are a minority due to their semi-nomadic lifestyle and the amount of their populations. According to some sources, they are also identified as nomadic Arab tribes who have been living in desert areas/regions since the early times of their history. They could catch the attention of the international society by their vulnerability in Occupied Palestinian territory due to Israeli attacks. They are one of the most

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<sup>95</sup>Aljazeera, *Iraq's marshes are dying, and so is a civilization*, 11 December 2023,

<https://www.aljazeera.com/gallery/2023/12/11/photos-iraqs-marshes-are-dying-and-so-is-a-civilization>

<sup>96</sup>Minority Rights Group International, *Libya: the impact of water scarcity on Amazigh communities in the Nafusa mountain region*, 20 June 2023, <https://minorityrights.org/resources/trends2023-water-justice-and-the-struggles-of-minorities-and-indigenous-peoples-for-water-rights-a-planetary-perspective-19/>

<sup>97</sup>Karlos Zurutuza, *Tebu cultural awakening: 'We may not be Arabs, but we are Libyan'*, Aljazeera, 13 October 2018, <https://www.aljazeera.com/features/2018/10/13/tebu-cultural-awakening-we-may-not-be-arabs-but-we-are-libyan/>

<sup>98</sup>Saeb Rawashdeh, *Nomadic traditions, modern realities — Exploring Bedouin culture*, Jordan Times, 1 April 2024, <https://jordantimes.com/news/local/nomadic-traditions-modern-realities-%E2%80%94-exploring-bedouin-culture>

vulnerable communities in the West Bank. Even though they are agriculturists due to their traditions and nomadic lifestyle, both Israeli occupation and climate change make it almost impossible to pursue an agriculture-based lifestyle. Due to poor access to water and electricity, Bedouins, although traditionally agriculturists, are now unable to farm effectively, and about 55 per cent are food insecure.<sup>99</sup> Their exclusion and marginalization from the Palestinian society puts another layer on their climate resilience. In parallel, Bedouins in Jordan are suffering from the climate crisis like in the Palestine ones. Because, firstly, Jordan is one of the most water scarce countries in the MENA region. Although there has been an increase in flood frequency in Jordan, this has not meant that people have had access to more water.<sup>100</sup> In addition to mentioned dimensions of the disadvantaged circumstances of Bedouins, an official and legal protection of their rights is almost impossible also due to non-ratification of ILO Convention 169 by any of the MENA countries. Why is the ratification of this Convention necessary for the Bedouins? First of all, the ratification will provide them with an official identification as a tribe by Article 1(2) : *Self-identification as indigenous or tribal shall be regarded as a fundamental criterion for determining the groups to which the provisions of this Convention apply.*<sup>101</sup> Secondly, they will have an immunity mechanism for all forms of the discrimination by Article 3(1) : *Indigenous and tribal peoples shall enjoy the full measure of human rights and fundamental freedoms without hindrance or discrimination. The provisions of the Convention shall be applied without discrimination to male and female members of these peoples.*<sup>102</sup> Thus, in favor of climate resilience, this Convention gives the responsibility to the State Parties to take precautionary measures for the damage or complete destruction of the livelihoods of the indigenous communities and tribes with Article 7(4) : *Governments shall take measures, in co-operation with the peoples concerned, to protect and preserve the environment of the territories they inhabit.*<sup>103</sup>

As discussed deeply the severity and inevitability of the water scarcity in the MENA countries in the first chapter and added an actual example to the previous paragraph from Libya in indigenous community context, this context is continued to be tackled with Iran. Baluch people are the indigenous communities who live in the territories of Iran-Baluchistan and Sistan- and they are struggling with water scarcity like Amazigh communities in Libya. However, their reason for struggle differentiates from Libya because the pushing element of this struggle is water management to Baluch people's disadvantage. This unfair water management comes from the marginalization of Baluch people because of their religious belief. They identify themselves as Sunni not Shi like the majority of Iran citizens. They are marginalized and stereotyped from the

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<sup>99</sup> UNDP, *Resilience Series- Bedouins in Occupied Palestinian Territory*, March 2017, <https://www.undp.org/sites/g/files/zskgke326/files/2022-11/internal-resilience-series-bedouins-in-the-opt.pdf?ref=longroadmag.com>

<sup>100</sup> Synne Furnes Bjerkestrand, *Jordan's Bedouins take on the struggles of climate change*, Al Jazeera ,26 May 2023, <https://www.aljazeera.com/news/2023/5/26/jordans-bedouins-take-on-the-struggles-of-climate-change>

<sup>101</sup> ILO, Normlex - Information System on International Labour Standards, C169 - *Indigenous and Tribal Peoples Convention*, 1989 (No. 169), [https://normlex.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:55:0::NO::P55\\_TYPE,P55\\_LANG,P55\\_DOCUMENT\\_P55\\_NODE:REV,en,C169,/Document](https://normlex.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:55:0::NO::P55_TYPE,P55_LANG,P55_DOCUMENT_P55_NODE:REV,en,C169,/Document)

<sup>102</sup> Ibid

<sup>103</sup> Ibid

majority of the society and this marginalization appears as another vulnerability factor after their extreme poverty. Being marginalized and living in extreme poverty don't help them to mitigate the climate crisis and its impacts like water scarcity and food insecurity. They are excluded from the climate resilience. Despite their vulnerability, they organized a protest with significant participation to defend their right to access to clean water. Massive protests have broken out in Sistan and Baluchistan as part of a wider protest movement known as the 'Uprising of the Thirsty', sparked by Arab minorities in the state of Khouzestan, who rose up against water poverty caused by the oil industry, and which led to a movement of solidarity for Arabs across the whole country and a nationwide call for water justice.<sup>104</sup>

Political marginalization is another important challenge for BIPOC when they are willing to adapt to climate as a climate resilience method. Because indigenous communities in the MENA region may face political marginalization, which hampers their ability to participate in decision-making processes related to climate adaptation and mitigation strategies. This lack of representation further exacerbates their vulnerability to climate change impacts. Tunisia is one of the countries that has actual and concrete proof of the political marginalization of these communities. It can be interesting that Tunisia has the marginalization problem of BIPOC communities because it was the first country in the region that abolished slavery. In 1846, Tunisia became both the first Arab and the first Muslim country to abolish slavery.<sup>105</sup> In spite of this leadership about legally preventing racism, these communities aren't represented properly in Tunisian political sphere. They are very underrepresented. There is only one black member of parliament (Ennahdha's Jamila Debbech Ksiksi).<sup>106</sup>

Parallel to the political marginalization, legal exclusion is another contributor for the acceleration of the climate change vulnerability of BIPOC communities in the region. In other terms, they aren't recognized in national legal regulations with their minority or indigenous status. Algeria is one of the practiser countries in North Africa for this legal exclusion against Amazigh communities. Officially, Algeria is still presented as an "Arab country" and anti-Amazigh laws are still in force (such as the 1992 Law of Arabisation).<sup>107</sup> Morocco has similar practices and regulations which are against the preservation and protection of the indigenous communities and their cultures. Like Algeria, Morocco also has an Arab centric governmental and legal structure that leads the assimilation of Amazigh society. The 2011 Constitution, however, officially recognises the Amazigh identity and language.<sup>108</sup> Even though it's an important step for Amazigh inclusion officially to the Moroccan governance system, the country still doesn't adopt and ratify two crucial international law instruments for indigenous people -that are highlighted in the beginning of the chapter-: ILO Convention 169 and the UN Declaration on the Rights of

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<sup>104</sup> Minority Rights Group International, *Iran : Baluch people running out of water due to unfair water management*, 20 June 2023, <https://minorityrights.org/resources/trends2023-water-justice-and-the-struggles-of-minorities-and-indigenous-peoples-for-water-rights-a-planetary-perspective-27/>

<sup>105</sup> Sharan Gereval, Brookings, *In another first, Tunisia criminalizes racism*, 15 October 2018, <https://www.brookings.edu/articles/in-another-first-tunisia-criminalizes-racism/>

<sup>106</sup> Ibid

<sup>107</sup> International Work Group of Indigenous Affairs, *The Indigenous World 2020*, 34th Edition, April 2020, [https://iwgia.org/images/yearbook/2020/IWGIA\\_The\\_Indigenous\\_World\\_2020.pdf](https://iwgia.org/images/yearbook/2020/IWGIA_The_Indigenous_World_2020.pdf)

<sup>108</sup> Ibid

Indigenous Peoples. However, Morocco isn't not the only country in the MENA region that hasn't ratified the ILO Convention 169 although it contains indigenous populations and tribal people. As mentioned in previous paragraphs, the other countries that contain indigenous populations and tribal people like Morocco haven't ratified this ILO Convention yet: Algeria, Egypt, Iraq, Jordan, Libya, etc. Non-ratification of the ILO Convention 169 increases their exposure to the climate crisis since there is a particular article dedicated to the environmental protection of these communities, which is the 1st paragraph of the Article 4 of the Convention : *Special measures shall be adopted as appropriate for safeguarding the persons, institutions, property, labour, cultures and environment of the peoples concerned.*<sup>109</sup> Additionally, the Article 7 of the Convention holds accountable State Parties for the protection of the environment where these communities live with its 3rd and 4th paragraphs. Article 7/3: *Governments shall ensure that, whenever appropriate, studies are carried out, in co-operation with the peoples concerned, to assess the social, spiritual, cultural and environmental impact on them of planned development activities. The results of these studies shall be considered as fundamental criteria for the implementation of these activities.*<sup>110</sup> Article 7/4: *Governments shall take measures, in co-operation with the peoples concerned, to protect and preserve the environment of the territories they inhabit.*<sup>111</sup> To strengthen this protection, the second part of the Convention is dedicated to the regulations of their lands which are in favor of indigenous communities and tribal peoples. Indeed, the fourth part of the Convention focuses on the development and empowerment of these communities by considering training, hand-made production and agricultural aspects which can be understood from the title of the part: vocational training, handicrafts and rural industries. At the first paragraph of Article 23 for example, the activities that are commonly practiced by indigenous communities and tribal people and directly connected with the climate are clearly highlighted as the crucial part of their sustainable economic growth: *Handicrafts, rural and community-based industries, and subsistence economy and traditional activities of the peoples concerned, such as hunting, fishing, trapping and gathering, shall be recognised as important factors in the maintenance of their cultures and in their economic self-reliance and development.*<sup>112</sup> As international environmental protection measures, the Convention regulates this protection by Article 32 : *Governments shall take appropriate measures, including by means of international agreements, to facilitate contacts and co-operation between indigenous and tribal peoples across borders, including activities in the (..) environmental fields.*<sup>113</sup> In the intersection between Indigenous rights and the environment framework, the UN Declaration on the Rights of Indigenous Peoples hasn't been ratified neither from Morocco-as indicated earlier-nor from other MENA countries Again, this non-ratification policy or decision by the governments aggravates the exposure of the indigenous and tribal peoples to the climate crisis. Because the Declaration provides protection for these people by recognizing how the

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<sup>109</sup> ILO, Normlex - Information System on International Labour Standards, *C169 - Indigenous and Tribal Peoples Convention*, 1989 (No. 169), [https://normlex.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100\\_INSTRUMENT\\_ID:312314:NO](https://normlex.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312314:NO)

<sup>110</sup> Ibid

<sup>111</sup> Ibid

<sup>112</sup> Ibid

<sup>113</sup> Ibid

environment is important for their social, cultural and economic scopes of their livelihoods. This provision starts from the very beginning of the Declaration ; from the preamble via the following sentences : *Recognizing that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment.*<sup>114</sup> After the preamble, Article 29 recognizes and identifies the right to property within the indigenous lands and their environment scopes by entitling States responsible from the protection of this right : *Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States shall establish and implement assistance programmes for indigenous peoples for such conservation and protection, without discrimination*<sup>115</sup>. The second paragraph of the same article stresses about the pollution of the indigenous territories and how the State should take necessary cautions to hinder and prohibit it : *States shall take effective measures to ensure that no storage or disposal of hazardous materials shall take place in the lands or territories of indigenous peoples without their free, prior and informed consent.*<sup>116</sup> Besides these articles, there are specific emphasis related to the natural resources including water and lands of the indigenous communities in the Declaration. These emphases are substantial for climate resilience. Article 26, for instance, gives the competence to govern and use the lands and resources by these communities themselves like their older generations. The State was also included to enforce the protection of the right of owning and using lands and resources by the owner communities for generations.

As highlighted in the first chapter and previous title of this chapter, conflict and displacement can be both the reason and the consequence of climate change for the populations facing extreme environmental events and their livelihoods are under the risk. Climate change amplifies existing conflicts over scarce resources such as water and arable land in the MENA region, leading to displacement and refugee crises. BIPOC communities are often disproportionately affected by these conflicts and subsequent displacement, facing additional challenges in accessing humanitarian aid and resettlement assistance. Amazigh population, the indigenous communities of North Africa, already started to be affected from the disproportionate intersection between the displacement and the climate change in Morocco for example. They have to fight against Moroccan Nomadic Saharan tribes to benefit from their right to property. The main reason for the nomadic tribes' migration towards Amazigh's lands is desertification and other environmental impacts of climate change. These tribes are now competing with the Amazigh populations of the south of Morocco for use of their lands, water and argan trees for their herds.<sup>117</sup>

On the other side, the BIPOC communities in Egypt create an example for the intersection between displacement and socio-economic marginalization. Ethnic minority groups include Turks, Greeks, Abazas and Bedouin Arab tribes in the Sinai Peninsula and the deserts to the east

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<sup>114</sup> The United Nations, *Declaration on the Rights of the Indigenous Peoples*, Resolution adopted by the General Assembly on 13 September 2007, [https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2019/01/UNDRIP\\_E\\_web.pdf](https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2019/01/UNDRIP_E_web.pdf)

<sup>115</sup> Ibid

<sup>116</sup> Ibid

<sup>117</sup> International Work Group of Indigenous Affairs, *The Indigenous World 2020*, 34th Edition, April 2020, [https://iwgia.org/images/yearbook/2020/IWGIA\\_The\\_Indigenous\\_World\\_2020.pdf](https://iwgia.org/images/yearbook/2020/IWGIA_The_Indigenous_World_2020.pdf)



of the country, as well as the Siwis (also known as Berbers or Amazighs) in the Siwa Oasis, and the Nubian people in the Upper Nile region.<sup>118</sup> Despite the anti-discriminatory law in the Egyptian Constitution, these groups are facing racial discrimination often. The forcible displacement of the Nubian people with the purpose of structuring their lands as military zones by the governmental authorities aggravates their socio-economic vulnerability and marginalization against climate crisis for example. They become the victims of the water scarcity and food security with this issue. It has meant they are often no longer able to work in agriculture as they were forcibly moved from their old villages on the banks of Nile River to desert areas that lacked the necessary water and fertile soil.<sup>119</sup>

In addition to all above explained challenges, cultural heritage loss also makes the BIPOC and minorities more vulnerable even though it isn't a topic that is perceived as crucial as a negative outcome of the climate crisis for the first time. Climate change threatens the cultural heritage of BIPOC communities in the MENA region, including historic sites, traditional knowledge, and practices. Rising temperatures, sea-level rise, and extreme weather events pose risks to archaeological sites and cultural artifacts, erasing important aspects of indigenous identity and history. For instance, the archaeological heritage of Yazidis in Iraq is at high risk due to the negative impact of the climate crisis in the country. Heat, prolonged droughts and sandstorms are destroying Babylonian monuments such as the ruins of Umm Al-Akarib in Dhi Qar province, Shungal and the dilapidated Yazidi Temples.<sup>120</sup>

On the other hand, gender-based vulnerability is intersecting with being the member of an indigenous community all around the world and also in the MENA region. Indigenous women are particularly vulnerable to multiple forms of discrimination and exploitation from both within and outside their communities.<sup>121</sup> Bedouin women are examples of the gender-based vulnerability within their tribes, communities. There are two main reasons: patriarchy-based community practices such as polygamy and living as extended families. Besides Bedouin women, there are Ahwari women or Iraqi women in marshlands who are affected disproportionately from the negative impacts of climate change due to gender inequality within the Ahwari community. Ahwari women in Southern Iraq marshlands are the first to suffer from climate change that caused crops to fail, and limited access to water which made it difficult for them to raise and earn a livelihood and support their families, perpetuating the cycle of poverty and inequality.<sup>122</sup> In addition to the indicated disadvantages, they are suffering from other ones because they are

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<sup>118</sup> Equal Rights Trust, *A Past Still Present: Addressing Discrimination and Inequality in Egypt*, The Equal Rights Trust Country Report Series: 12, December 2018,

[https://www.equalrightstrust.org/ertdocumentbank/Egypt\\_EN\\_online.pdf](https://www.equalrightstrust.org/ertdocumentbank/Egypt_EN_online.pdf)

<sup>119</sup> Amnesty International, *Egypt: Release 24 Nubian activists detained after protest calling for respect of their cultural rights*, 12 September 2017, <https://www.amnesty.org/en/latest/press-release/2017/09/egypt-release-24-nubian-activists-detained-after-protest-calling-for-respect-of-their-cultural-rights/>

<sup>120</sup> Mlêti Êzidi, *Climate change destroys Yazidi historical monuments in Iraq*, Cultural Center of Caucasian Yazidis, 17 May 2023, <https://yazidis.info/en/news/4907/climate-change-destroys-yazidi-historical-monuments-in-iraq#:~:text=Iraqi%20archaeologists%20and%20Yazidi%20activists,slowly%20buried%20under%20the%20sand.>

<sup>121</sup> ILO, *Indigenous peoples and Climate Change: From victims to change agents through decent work*, 2017, <https://ilo.org/media/425376/download>

<sup>122</sup> Ghiwa Nakat, *Climate justice and social justice: Two sides of the same coin*, Greenpeace Middle East and North Africa, 20 February 2023, <https://www.greenpeace.org/mena/en/climate-justice-and-social-justice/>

working like the men in their community and extreme weather conditions make their productivity harder. Iraqi women in the marshland region are the first to suffer from water shortage caused by climatic changes and temperature rises, as the dry weather impacts buffalo herding, causing the animals to look for water sources farther afield.<sup>123</sup>

Despite the serious vulnerability of BIPOC, they are also key actors of the solutions to decrease the negative impacts of the climate crisis. That capacity of them are emphasized clearly in the 5th paragraph of Article 7 of Paris Agreement : *Parties acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should 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 relevant socioeconomic and environmental policies and actions, where appropriate.*<sup>124</sup> This article proves that the knowledge of indigenous communities are valuable and they should be used as a resource for climate adaptation. Preamble of the Paris Agreement mentions the indigenous communities also but from the rights perspective, not their being a significant asset for a climate adaptation and climate action generally : *Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity,(..).*<sup>125</sup>

To summarize this chapter, it's substantial to emphasize that there are many vulnerable groups in the MENA region who are severely open to the exposure from the climate crisis. The main causes of the high number of vulnerable populations are the consistent population growth, social injustice, gender-inequality, discriminatory laws and practices against minorities and BIPOC communities. Indeed, non-ratification of international instruments for the protection of minorities, indigenous communities and tribal peoples is another big problem. This policy and decision don't help the protection of the mentioned population in the severe climate crisis context region. Speaking of international instruments, not well-inclusion of these communities in climate adaptation and climate action by the Paris Agreement contributes to the increasing vulnerability of the indigenous communities.

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<sup>123</sup> UNDP, *Ahwari women-the beating heart of the Iraqi marshes*, 8 March 2021, <https://www.undp.org/iraq/stories/ahwari-women-beating-heart-iraqi-marshes>

<sup>124</sup> UNFCCC, Paris Agreement text English,2015, [https://unfccc.int/sites/default/files/english\\_paris\\_agreement.pdf](https://unfccc.int/sites/default/files/english_paris_agreement.pdf)

<sup>125</sup> Ibid.

## CHAPTER 3: CLIMATE RESILIENCE WITH REGIONAL AND GENDER- BASED CLIMATE FINANCE

### 3.1. Definition of Climate Finance with Different Perceptions and Priorities

Climate finance refers to local, national or transnational financing—drawn from public, private and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change.<sup>126</sup> This definition delineates two distinct dimensions of climate finance: one capable of financing climate adaptation and mitigation, and the other lacking adequate resources to address these challenges effectively. This dichotomy is evident between the global north and south, representing both major contributors to the climate crisis and the most vulnerable populations to its impacts. Therefore, climate finance assumes a critical role in shaping adaptation and mitigation strategies for both parts. It serves as an essential catalyst for promoting climate action and resilience by facilitating investment and improvement in vulnerable areas.

When climate resilience- either as mitigation or adaptation- is tackled with an economy-based perspective and solutions, climate finance, green finance and sometimes even sustainable finance are perceived as the synonyms of each other and they guide climate action actors to the same direction in the climate resilience framework. However, this similarization isn't correct although these three categories of finance are related notions. Indeed, there aren't commonly accepted and adopted definitions for three notions even among the state parties of Paris Agreement and UNFCCC. The criteria that determine the definitions vary on the country, region or international society actors. For instance, EU institutions prefer to focus on the interaction and correlation among the three notions when they work on finance in climate change framework as can be realized in the following definition : Climate finance provides funds for addressing climate change adaptation and mitigation, green finance has a broader scope as it also covers other environmental goals (e.g. biodiversity protection/restoration), while sustainable finance extends its domain to environmental, social and governance factors (ESG).<sup>127</sup> As an international civil society actor that has a key role in climate action OECD gives a priority to green finance promotions and investments for low and middle-income/developing countries by defining the issue with the term green growth together. Green growth means fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies.<sup>128</sup> The G20 Green Finance Study Group (GFSG) is another international institution that focuses on the green finance implementations and their progress. As understood from its name, it was founded by G20 member countries. GFSG aims to define green finance with the emphasis of the intersection between environment and economy. Green finance can be understood as the financing of investments that provide

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<sup>126</sup> UNFCCC, Introduction to Climate Finance, [https://unfccc.int/topics/introduction-to-climate-finance?gad\\_source=1&gclid=Cj0KCCQjw5cOwBhCiARIsAJ5njuZfIC6G46GfqXsRTkdum8xauI133nWbkOdnYmdz0ZigRtxmQorAo7AaAhBVEALw\\_wcB](https://unfccc.int/topics/introduction-to-climate-finance?gad_source=1&gclid=Cj0KCCQjw5cOwBhCiARIsAJ5njuZfIC6G46GfqXsRTkdum8xauI133nWbkOdnYmdz0ZigRtxmQorAo7AaAhBVEALw_wcB)

<sup>127</sup> Stefano Spinaci, *Briefing-Green and Sustainable Finance*, European Parliamentary Research Service , February 2021, [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/679081/EPRS\\_BRI%282021%29679081\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/679081/EPRS_BRI%282021%29679081_EN.pdf)

<sup>128</sup> OECD, *Green Growth Studies-Towards Green Growth*, 25 May 2011, [https://read.oecd-ilibrary.org/environment/towards-green-growth\\_9789264111318-en#page11](https://read.oecd-ilibrary.org/environment/towards-green-growth_9789264111318-en#page11)

environmental benefits in the broader context of environmentally sustainable development, and will require tens of trillions of dollars in the coming decade.<sup>129</sup>

Beyond mere financial transactions, climate finance encompasses capacity building and technology transfer, integral components for enhancing climate resilience. However, despite its importance, loans constitute a significant portion of climate finance, highlighting the complex financial dynamics involved in addressing climate change challenges. To streamline the allocation of climate finance, the UNFCCC established a robust financial mechanism aimed at supplying financial resources to developing country Parties. This mechanism extends its support to both the Kyoto Protocol and the Paris Agreement, ensuring coherence in addressing climate finance needs across international climate frameworks.

Moreover, climate finance mechanisms extend beyond the involvement of international funding entities and their support for countries affected by the climate crisis. The sources of climate finance are diverse, encompassing more than just international contributions. It entails cooperation across multiple dimensions, providing both monetary and non-monetary capital to enhance climate adaptation and mitigation policies and practices. The comprehensive landscape of climate finance includes public sector, private sector investments, multilateral development banks (MDBs), and carbon market mechanisms.

### **Public Sector**

Public sector plays a pivotal role in climate finance, serving as a crucial catalyst for mobilizing and directing financial resources towards climate-related initiatives. Its pivotal role can be articulated through several key dimensions. Policy and regulatory frameworks build the first dimension of this role. Because the public sector is instrumental in creating and enforcing policy and regulatory frameworks that encourage investments in climate-friendly technologies and practices. This includes setting emissions targets, implementing carbon pricing mechanisms, and providing tax incentives for renewable energy projects. Without suitable policy and regulatory frameworks, countries and their governments cannot secure climate finance investments in appropriate ratios regardless of their level of vulnerability from climate change. National and sub-national governments, therefore, have a crucial role to play in creating the policy and institutional environment that will incentivise private sector investments in low carbon projects and programmes.<sup>130</sup> After this dimension, provision of baseline funding is necessary. Governments allocate substantial public funds to support climate adaptation and mitigation projects, establishing a foundation for broader climate action. This baseline funding is essential for initiating projects that might not attract immediate private sector investment due to perceived risks or lower initial returns. In order to possess capacity for these two dimensions, capacity-building and technical assistance is requisite. This third dimension has to be a priority specifically for the developing countries for effective utilization of climate finance. Since the capacity-

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<sup>129</sup> G20 Green Finance Study Group (GFSG), *Green Finance Progress Report*, July 2017, [https://g20sfwg.org/wp-content/uploads/2021/07/Green\\_Finance\\_Progress\\_Report\\_2017.pdf](https://g20sfwg.org/wp-content/uploads/2021/07/Green_Finance_Progress_Report_2017.pdf)

<sup>130</sup> Jessica Brown and Michael Jacobs, *Leveraging private investment: the role of public sector climate finance*, ODI, April 2011, <https://www.cbd.int/financial/climatechange/g-privateclimate-odi.pdf>

building and technical assistance include training, knowledge transfer, and the development of institutional frameworks; the public sector should invest in capacity building and provide technical assistance to enhance the ability of its institutions for climate adaptation or climate mitigation. Research and Development(R&D) support for new climate technologies is another dimension that enhances the pivotal role of public sector. Government support for R&D can accelerate innovation, reduce costs, and facilitate the deployment of cutting-edge solutions for climate adaptation and mitigation.

## **Private Sector**

The contributions of the private sector are undeniable in climate finance and they vary on the development index of each country. However, these contributions cannot succeed or cannot be improved without the partnership or cooperation with the public sector. For example, by providing initial capital, guarantees, or subsidies, the public sector can de-risk investments, making climate projects more attractive to private investors. Public finance can thus act as a lever, multiplying the impact of available funds by mobilizing additional private sector capital. Besides the advantages of public and private sectors partnerships, the private sector has separate qualities for more sustainable climate funding. More extended mobilization of capital compared to the public sector is one of these qualities. The private sector has access to vast financial resources that significantly exceed public sector funding capacities. Mobilizing private capital is essential for meeting the substantial investment needs required for climate mitigation and adaptation efforts. Private investments accelerate the implementation of large-scale projects such as renewable energy infrastructure, sustainable agriculture, and green buildings. Market-based mechanism-either as developer or participant- is another comparative advantage of the private sector from the public sector. These mechanisms provide financial incentives for reducing emissions and investing in sustainable projects, thereby aligning economic interests with environmental goals. For example, climate-related insurance products are market-based mechanisms and Allianz Group is one of the private sector entities that developed these products. In Egypt, Allianz have worked in collaboration with Planet Finance, Surety Fund and a number of European reinsurers to develop a pilot project offering death and disability insurance to more than 30,000 customers.<sup>131</sup> On top of that, private sector involvement helps diversify the sources of climate finance, reducing the reliance on public funds. By sharing the financial risks associated with climate projects, the private sector can make these projects more viable and attractive. Private investors bring expertise in risk assessment and management, which is essential for the successful implementation of complex and long-term climate initiatives. In the field of investing, impact investing is a private sector dominated initiative and provides benefits for climate finance. Impact investing is where investors seek both financial returns and positive environmental outcomes. Impact investors provide critical funding for projects that address climate change while also generating social and environmental benefits.

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<sup>131</sup> UNFCCC, *Allianz Group: Insuring against climate impacts and rewarding sustainable business practice*, Private Sector Initiative-Showcasing Good Practice, <https://unfccc.int/topics/resilience/resources/adaptation-private-sector-initiative-showcasing-good-practice#allianz>

## Multilateral Development Banks

Other than public and private sectors, MDBs are significant resources for climate finance in low- and middle-income countries. A multilateral development bank (MDB) is a development bank, created by a group of countries, that provides financing and professional advice to enhance development.<sup>132</sup> They focus on funding projects that aim to reduce poverty, promote sustainable development, and foster economic growth with the objective of enhancing development. From this brief definition, essential key criteria for being a MDB can be inferred. International membership is the first criterion. Because they are formed by a group of countries, often including both donor countries (which provide funding) and recipient countries (which receive funding). The second criterion is development focus due to their primary objective: promote decent work and economic growth and reduce poverty in developing nations through various financial services and development programs. The most obvious and the third criterion is resourcing financial services. They provide loans, grants, and technical assistance for a wide range of projects compatible with the needs of developing countries such as infrastructure development, education, health, and environmental sustainability. As a last criterion, non-profit orientation can be added. Because MDBs generally operate on a non-profit basis, reinvesting any profits into further development projects. This four-dimension criteria proves that MDBs play a crucial role in mobilizing financial resources and expertise to address global development challenges and support SDGs. In the intersected developing and climate change context, they support SDG 13- Climate Action and SDG17-Partnerships for the Goals in broad sense. Other than these two, below SDGs are supported by MDBs: 1-No Poverty; 7-Affordable and Clean Energy ;8-Decent Work and Economic Growth; 9-Industry, Innovation and Infrastructure; 11-Sustainable Cities and Communities; 12-Responsible Consumption and Production; 14-Life Below Water; 15-Life on Land. Examples of prominent MDBs include The World Bank Group (WBG), The African Development Bank, The Inter-American Development Bank, The European Bank for Reconstruction and Development, Islamic Development Bank.

The WBG is the most comprehensive and the oldest MBD for developing countries and regions including the MENA. Its official functioning as a MBD is dated to 1947 by giving loan to France to reconstruct the damaged infrastructure due to World War II. Since then, the Bank has continued to extend its sources and partnerships around the world. Current number of member countries is 189. With 189 member countries, staff from more than 170 countries, and offices in over 130 locations, the World Bank Group is a unique global partnership: five institutions working for sustainable solutions that reduce poverty and build shared prosperity in developing countries.<sup>133</sup> These founding five institutions are International Bank for Reconstruction and Development (IBRD), International Development Association (IDA), International Finance Corporation (IFC), Multilateral Investment Guarantee Agency (MIGA) and International Centre for Settlement of Investment Disputes (ICSID). These institutions were established in different dates and by targeting different sectors. The IBRD was the oldest and leading institution of the Group. In 1944, at the end of World War II, IBRD was established by the winning side of the

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<sup>132</sup> InforMEA, Multilateral Development Bank, <https://www.informea.org/en/negotiators-toolkit/glossary/multilateral-development-bank>

<sup>133</sup> World Bank Group, Who we are, <https://www.worldbank.org/en/who-we-are>

war with the purpose of rebuilding and helping European countries. IFC was established in 1956 as a private sector focused branch of the WBG. The IDA was established later than IFC, in 1960, with the motivation of providing loans and credits to the low-level credit worth members of the WBG. To regulate disagreements and problems linked to the investments and loan, ICSID was created in 1966 by the adoption and ratification the Convention on the Settlement of Investment Disputes between States and Nationals of Other States-shortly ICSID Convention. The ICSID Convention was ratified by 158 States. ICSID facilitates the resolution of disputes through conciliation, mediation, arbitration, or fact-finding. Its processes are tailored to address the unique aspects of international investment disputes and the specific needs of the involved parties, ensuring a balanced consideration of both investor and host State interests. The World Bank expanded its group by establishing its last institution, MIGA, in 1988. MIGA was designed to offer political risk insurance and credit enhancement to investors and lenders. Despite having history back to the 1940s, the WBG took into account the environmental focus in its investment projects later. The first loan for the environment was in 1971 for pollution control in Brazil, and the Bank subsequently built environmental safeguards into its process.<sup>134</sup>

### **Carbon Market Mechanisms**

Carbon market mechanisms were created for the first time at the end of 20th century by Kyoto Protocol in 1997. Other than Kyoto Protocol, the effective functioning of carbon market mechanisms can be correlated with the Paris Agreement due to its recommendation to the State Parties for the practical and regulatory efforts diminution and elimination of GHG emissions. This recommendation is placed in Article 6(4)(a) of the Paris Agreement *A mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable development is hereby established under the authority and guidance of the Conference of the Parties serving as the meeting of the Parties to this Agreement for use by Parties on a voluntary basis(...)and shall aim to promote the mitigation of greenhouse gas emissions while fostering sustainable development.*<sup>135</sup>

Carbon market mechanisms are essential tools in climate finance, designed to reduce GHG emissions cost-effectively and to mobilize financial resources for climate action. These mechanisms create a market-based approach for allocating and trading carbon emission allowances or credits, encouraging reductions in emissions where it is most economically efficient. As can be seen from this brief explanation, there are two principal components underlie the creation of carbon markets: emissions trading systems or schemes (ETS) and crediting mechanisms. An emissions trading system, also known as emissions trading scheme and abbreviated as ETS, is a market mechanism that allows those bodies (such as countries, companies or manufacturing plants) which emit (release) greenhouse gases into the atmosphere, to buy and sell these emissions (as permits or allowances) amongst themselves.<sup>136</sup> The EU ETS is

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<sup>134</sup> World Bank Group, Explore History, 1968-1981 The World Bank Confronts Poverty, <https://www.worldbank.org/en/archive/history#>

<sup>135</sup> UNFCCC, Paris Agreement text English, 2015, [https://unfccc.int/sites/default/files/english\\_paris\\_agreement.pdf](https://unfccc.int/sites/default/files/english_paris_agreement.pdf)

<sup>136</sup> Eurostat, *Glossary: Emissions trading system*, [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Emissions\\_trading\\_system\\_\(ETS\)#:~:text=An%20emissions%20trading%20system%2C%20also,as%20permits%20or%20allowances\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Emissions_trading_system_(ETS)#:~:text=An%20emissions%20trading%20system%2C%20also,as%20permits%20or%20allowances))

the first example but not the most comprehensive one due to geographical coverage. This carbon market system is applicable only to EU members and some member countries of the European Economic Area (Iceland, Liechtenstein and Norway). The second carbon market mechanism is the crediting mechanism called baseline-and-credit system. Under a baseline-and-credit system, there is no fixed limit on emissions, but polluters that reduce their emissions more than they otherwise are obliged to can earn ‘credits’ that they sell to others who need them in order to comply with regulations they are subject to.<sup>137</sup>

Apart from above-explained carbon market components, there is also joint implementation (JI). JI is another product of the Kyoto Protocol as a flexibility mechanism. The problem about JI is that it is often confused with the other product of the Kyoto Protocol because of their GHG emissions reduction missions: clean development mechanisms (CDM). JI stimulates investment in emission reduction projects, while giving industrialized countries and economies in transition some flexibility in how they meet their emission reduction or limitation targets.<sup>138</sup> Like CDM, JI is part of UNFCCC. As the largest regulatory project-based mechanism, the CDM offers the public and private sector in high-income nations the opportunity to purchase carbon credits from offset projects in low or middle-income nations (non-Annex 1).<sup>139</sup> The CDM is also meant to deliver sustainable development benefits to the host country. CDM projects generate emissions credits called Certified Emission Reductions (CERs), which are then bought and traded.<sup>140</sup>

On the whole, carbon market mechanisms play a crucial role in mobilizing private sector investment, driving innovation in low-carbon technologies, and supporting sustainable development. They help align economic incentives with environmental goals, making it financially viable for businesses and countries to transition towards a low-carbon economy.

### **3.2. Climate Finance in the MENA Region**

Africa continues to face a significant development financing gap, exacerbated by issues such as illicit financial flows, the debt crisis and difficulties in accessing climate change financing<sup>141</sup>. This problem isn’t limited to Africa itself; it is valid for MENA countries as well due to similarities in development levels of countries, vulnerabilities and their absolute need of financial support for climate resilience.

Since most countries of the MENA region are in the developing country category as stated in several reports by the significant and active civil society actors in climate action like OECD, World Bank, these countries are the important subjects of the external investments and other actions in the climate finance framework. Stressing the economic development status of the

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<sup>137</sup> OECD, *Emissions Trading System*, Environmental Policy Tools and Evaluation, <https://www.oecd.org/env/tools-evaluation/emissiontradingystems.htm>

<sup>138</sup> UNFCCC, Joint Implementation (JI) General Information, May 2013, [https://cdm.unfccc.int/newsroom/factsheets/docs/JIFactSheet\\_General\\_English.pdf](https://cdm.unfccc.int/newsroom/factsheets/docs/JIFactSheet_General_English.pdf)

<sup>139</sup> Carbon Offset Guide, *Clean Development Mechanisms(CDM)*, <https://www.offsetguide.org/understanding-carbon-offsets/carbon-offset-programs/united-nations-offset-mechanisms/clean-development-mechanism-cdm/>

<sup>140</sup> Ibid

<sup>141</sup> ACHPR, 54th and 55th Activity Reports of the African Commission on Human and Peoples' Rights - Presented in accordance with Article 54 of the African Charter on Human and Peoples' Rights, March 2024, <https://achpr.au.int/sites/default/files/files/2024-03/eng-54th-55th-activity-reportachpr.pdf>



region by the sentence most countries don't mean that the countries other than those ones are less important and useless for climate finance. It means that developing countries need more financial support and investment to implement climate finance and green finance practices in their countries due to lack of necessary capital - monetary and technical.

Furthermore, there is a more vulnerable country category that requires more climate finance investment than the developing countries: least developed countries (LDC). The LDC category was established by the UN General Assembly in 1971 as an acknowledgment by the international community that special support measures were needed to assist the least developed among the developing countries.<sup>142</sup> In spite of the establishment by the UN General Assembly, being included to the LDC list isn't compulsory. The subject country should give its consent for this inclusion. In addition to this consent criteria, the UN determined three components to apply the LDC status to a country: income, human assets, economic and environmental vulnerability. The last one is clearly and undeniably connected with climate finance.

- Income: Countries must have an average per capita income of below USD\$1,018 for inclusion, and above USD\$1,222 for graduation;
- Human Assets: Countries must also have a low score on the Human Assets Index, a tool that measures health and education outcomes, including under-five mortality rate, maternal mortality, adult literacy rate and gender parity for secondary school enrolment;
- Economic and Environmental Vulnerability: Countries must score high on the Economic and Environmental Vulnerability Index, which measures factors like remoteness, dependence on agriculture and vulnerability to natural disasters.<sup>143</sup>

Some of the MENA countries are part of the LDC list with very low ranking such as South Sudan (37), Sudan (38), Yemen (44). These three countries are also indicated as LDC in the OECD framework due to adoption of LDC criteria of the UN by OECD. This status makes them eligible for receiving official development assistance (ODA) by OECD. They are also identified as low-income countries. Other countries in the region are ODA recipients despite not having LDC status. For example, Syria is one of those countries and it's a low-income country like South Sudan, Sudan and Yemen but it isn't categorized as LDC. On the other hand, Algeria, Egypt, Iran, Jordan, Lebanon, Morocco and Tunisia are identified as lower middle-income countries and territories. The rest of ODA receivers in the region- Iraq, Libya, Turkey- are identified as upper middle-income countries and territories. Unsurprisingly, GCC countries and Saudi Arabia aren't in the list since they are upper income countries in the region. This situation clarifies that the vulnerability of their territories before the impacts of climate change isn't an effective condition to receive ODA. However, they still have to implement climate finance and green finance for their climate resilience by climate adaptation.

The categorization of the MENA countries regarding their economic development by two important international institutions-the UN and OECD- is a good start for having climate finance in their governmental agenda. However, the country-based dedicated amount of climate finance investments is disproportionate. A significant portion of the funding approved for MENA by the

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<sup>142</sup> UN, Least Developed Countries Category, <https://www.un.org/ohrlls/content/l dc-category>

<sup>143</sup> Ibid

three major global climate funds is predominantly allocated to Morocco, Egypt, Tunisia, and Jordan, accounting for 86% of the region's approved climate funding.<sup>144</sup>

Moreover, most of the MENA region still doesn't prioritize transition to green finance due their dependency on the trade of fossil fuels. They showed their unwillingness for instance during COP28. The host country was the UAE, a MENA country that is vulnerable with extreme heat and related consequences but at the same time one of the big fossil fuel exporters. As explained in the first chapter, these countries are dependent on oil export to keep their economic growth in the regular path. Fossil fuels average 50% of exports for the GCC, Iraq, Libya, Iran.<sup>145</sup> Nevertheless, the energy sector is placed with a significant ratio of climate funding in the region. According to a 2021 report from the U.N. Environment Program, more than 75% of all international finance flows went to mitigation programs in the energy, transportation, and infrastructure sectors, while less than 15% went to water and sanitation initiatives.<sup>146</sup>

Other than the dependency of oil trade, the other external factors make it difficult for the region countries to be part of climate action with the financial emphasis. MENA is the smallest recipient of climate finance in the world.<sup>147</sup> The below chart reflects this situation.

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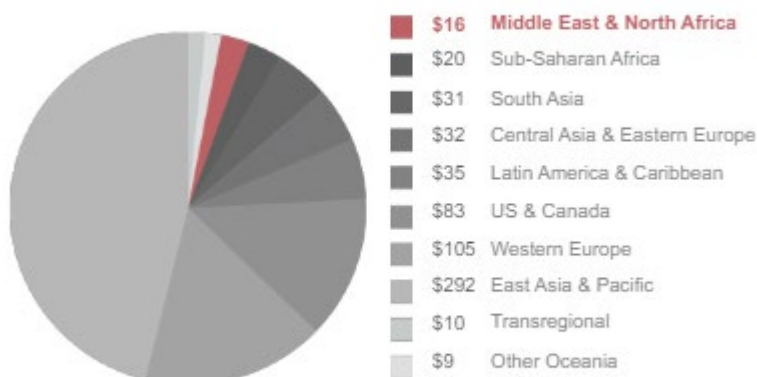
<sup>144</sup> Jessica Obeid and Alice Gower, *The great financing gap: The state of climate funding in MENA*, Middle East Institute, 22 March 2024, <https://www.mei.edu/publications/great-financing-gap-state-climate-funding-mena#:~:text=A%20significant%20portion%20of%20the,approved%20for%20projects%20in%20MENA>.

<sup>145</sup> World Bank Group, *Middle East and North Africa Climate Roadmap (2021-2025)- Driving transformational climate action and green recovery in MENA*, 25 January 2022, <https://thedocs.worldbank.org/en/doc/6f868d4a875db3ef23ef1dc747fcf2ca-0280012022/original/MENA-Roadmap-Final-01-20.pdf>

<sup>146</sup> Menna Mahmoud, *Climate Finance Worldwide and in the MENA region: Challenges, Opportunities and Way Forward*, Central Bank of Egypt-Egyptian Banking Institute, March 2024, <https://masrafeyoun.ebi.gov.eg/wp-content/uploads/2024/03/Climate-Finance-Worldwide-and-in-the-MENA-Region.pdf>

<sup>147</sup> Ibid

**DOMESTIC AND INTERNATIONAL CLIMATE FINANCE FLOWS BY REGIONS**  
(USD BILLIONS)



Source: Climate Policy Initiative

In spite of being the smallest recipient of climate finance worldwide, the MENA countries can benefit from different funds to improve their climate adaptation. In other terms, the OECD and the World Bank aren't only funders of the region for their climate adaptation. The Global Environment Facility (GEF) is another initiative that provides climate fundings to the MENA countries. Because this initiative also is aware of the fact that the region covers mostly LDCs and developing countries. Which means that a majority of countries cannot adapt to climate change by their national capacities or regional capacity. The GEF serves as a "financial mechanism" to five conventions: Convention on Biological Diversity (CBD), United Nations Framework Convention on Climate Change (UNFCCC), Stockholm Convention on Persistent Organic Pollutants (POPs), UN Convention to Combat Desertification (UNCCD), and Minamata Convention on Mercury.<sup>148</sup> Being a financial mechanism to the crucial international law instruments of sustainable climate action requires two components : being multilateral and obtaining various funding resources-family of funds. The GEF is compatible with these criteria by comprising six funds: the Global Environment Facility Trust Fund, Global Biodiversity Framework Fund (GBFF), Least Developed Countries Fund (LDCF), Special Climate Change Fund (SCCF), Nagoya Protocol Implementation Fund (NPIF), and Capacity-building Initiative for Transparency Trust Fund (CBIT).

The GEF Trust Fund increases its capital donation basis. There are 40 donor countries that include some MENA countries even though they are developing countries and they have serious problems and gaps to achieve a sustainable climate adaptation due to the vulnerability of the region in the climate change context. For example, Egypt is the case. Thus, the LDCF and SCCF are specific funds that are dedicated to the climate adaptation aim of the least developing and developing countries. These both funds were established in 2001 to serve the objectives of the

<sup>148</sup> GEF, Who we are, <https://www.thegef.org/who-we-are/organization>

Paris Agreement. As part of GEF Programming Strategy, the three strategic objectives for the SCCF are: 1) Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation 2) Mainstream climate change adaptation and resilience for systematic impact 3) Foster enabling conditions for effective and integrated climate change adaptation.<sup>149</sup> Indeed, the SCCF has broader funding capacity; it doesn't limit its fundings only to the ODA eligible countries. All vulnerable and developing countries-even in different levels- are competent to receive climate funding from SCCF. This broadness doesn't signify that the SCCF isn't acknowledged about the differentiations among the climate change vulnerability levels of the countries or the regions. In other terms, the most climate crisis affected with least climate adaptation capital and capacity areas are the funding priority for the SCCF such as Africa, Asia, and the Small Island Developing States (SIDS). This prioritization shows that the MENA region is included and needs more climate finance and relevant resources to succeed in long-term and sustainable climate adaptation.

According to some recent data and statistics, the number of active funds for climate finance relevant projects in the MENA region is 14. The biggest climate finance funding mechanism among these fourteen is the Clean Technology Fund (CTF) because of the approved amount in USD to implement projects in the region. The largest contributions are from the CTF, which has approved a total of USD 824 million for nine projects in Morocco and Egypt and one regional project.<sup>150</sup>

Other thirteen funding mechanisms/entities are as below table.<sup>151</sup>

Fund	Amount approved	Projects approved
Clean Technology Fund (CTF)	824.2	10
Green Climate Fund (GCF-IRM, GCF-1)	335.7	8
Global Environment Facility (GEF-4, 5, 6, 7, 8)	163.3	62
Adaptation Fund (AF)	101.2	17
Least Developed Countries Fund (LDCF)	44.1	9
Special Climate Change Fund (SCCF)	37.3	7
Global Energy Efficiency and Renewable Energy Fund (GEEREF)	16.6	1
Adaptation for Smallholder Agriculture Programme (ASAP)	14.6	4
Forest Investment Program (FIP)	12.0	1
Global Climate Change Alliance (GCCA)	11.6	2
Partnership for Market Readiness (PMR)	10.2	6
Millennium Development Goals Achievement Fund <sup>5</sup> (MDG-F)	7.6	2
Pilot Program for Climate Resilience (PPCR)	3.1	3
Scaling up Renewable Energy Program in Low Income Countries (SREP)	0.9	2

<sup>149</sup> Climate Funds Update, *Special Climate Change Fund*, <https://climatefundsupdate.org/the-funds/special-climate-change-fund/#:~:text=The%20Special%20Climate%20Change%20Fund,relative%20to%20a%20development%20baseline>.

<sup>150</sup> Charlene Watson, Liane Schalatek, , and Aurélien Evéquo, *Climate Finance Regional Briefing: Middle East and North Africa*, Climate Finance Fundamentals 9, ODI, Heinrich Böll Stiftung Washington, February 2024, <https://us.boell.org/sites/default/files/2024-03/cff9-2024-eng-mena-digital.pdf>

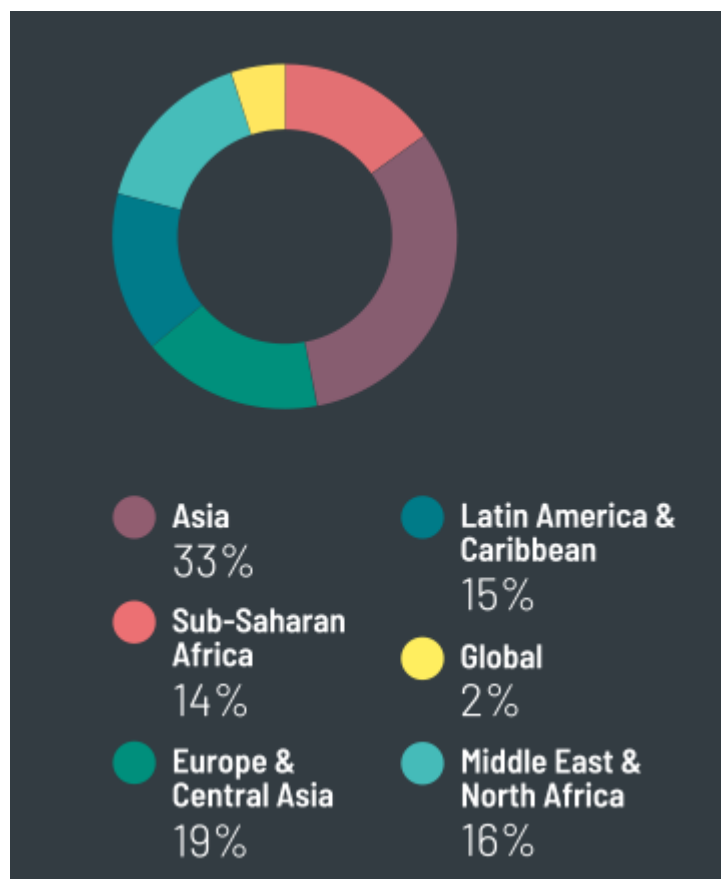
<sup>151</sup> Table1 Climate funds supporting the MENA region (2003–2023, USD millions), Ibid

The below conclusions can be deduced from the table containing data of climate funding for the MENA region:

- Although the CTF is the biggest climate finance sponsor of the MENA, the number of the climate action related projects that were approved within the CTF budget, isn't the highest; only 10 projects were approved. It's in third place with the number of its projects.
- The mechanism that obtains the most projects is GEF with 62 projects. The second one is the Adaptation Fund (AF) with 17 projects.
- The region could get support from the LDCF with 9 approved projects in spite of having only 3 LDCs-South Sudan, Sudan, Yemen- in the region. Among these three LDCs and all other MENA countries, the funding was approved for Yemen by LDCF and Pilot Program for Climate Resilience (PPCR) at the same time.
- The number of projects doesn't proportionate with the funding amount. The CTF is the biggest climate finance sponsor but with the third highest number of the projects. The GEF is in first place with the number of the projects but in third place with the dedicated amount of its fundings (USD 163,3 million). Green Climate Fund (GCF) is the second biggest climate finance contributor with USD 335,7 million but the number of GCF projects is in the first three highest numbers. It has only 8 projects approved for the MENA countries.
- The projects can be the same for different funds no matter what the approved contribution to the MENA countries is. For instance, 9 projects by CTF and LDCF; 2 projects by Global Climate Change Alliance (GCCA), Millennium Development Goals Achievement Fund, and Scaling Up Renewable Energy Program in Low Income Countries (SREP); 1 project by Forest Investment Program (FIP) and Global Energy Efficiency and Renewable Energy Fund (GEEREF).
- Tunisia is the only recipient of FIP in the MENA region; above-mentioned one project belongs to Tunisia.
- The renewable and eco-friendly energy focus in climate adaptation funding doesn't seem like a priority. Because there are only 2 funding mechanisms dedicated clearly with this focus and with 2 funds: GEEREF and CTF-which will be explained in further paragraphs. It is an inevitable result due to high dependency on the fossil fuels trade of the MENA countries with other countries in the world as discussed comprehensively in the first chapter. Being part of the Paris Agreement, hosting COP27 by Egypt and hosting COP28 by UAE or mentioning the efforts for the GHG reduction in the NDCs doesn't have any concrete influence on giving priority to the fossil fuel trade.

Since CTF was allocated the biggest amount of funding to the MENA region, it's better to give information about what is the function and mandate of this fund. CTF is one of two establishing funds of the Climate Investment Funds (CIF). The other subject fund is Strategic Climate Fund(SCF) and since it hasn't any investment to the MENA region it won't be explained with details. As can be understood by its name, CTF aims to contribute to climate action by promoting and supporting sustainable eco-friendly energy and progress in GHG reduction to transform unsustainable energy practices and policies in low- and middle-income countries. The climate

fundings of MENA countries creates 16% of CTF investments as the third biggest distribution after Asia and Europe&Central Asia ones as it is indicated in below data chart.<sup>152</sup>



CTF makes its climate finance investments both on a country basis and regional basis. In the country-basis funding case, some countries of the region can benefit from these investments. The choice depends on CTF and its collaboration goals with countries. This case is applicable for the MENA region. Those countries are Egypt, Jordan, Morocco, and Tunisia. The 10 projects that are approved for the region cover the two countries-Egypt and Morocco- as mentioned earlier and 1 regional-basis project. Since it's unique to a country or a region, there is a particular focus of investment for each country by considering the needs of the country or region for climate resilience and the existing capacity in the targeted investment area. As a country basis focus for instance, solar energy was chosen as a funding focus for Jordan and Tunisia by CTF. Motivated by objectives of energy security, climate change mitigation, and regional integration in the Mediterranean, this investment is done through the \$490-million Middle East and North Africa (MENA) region's concentrated solar power (CSP) initiative.<sup>153</sup> In Egypt, the motivation and invested energy sector is different than Jordan and Tunisia. The focuses of the CTF investments in Egypt are wind energy and transportation infrastructure. The motivation of the investments in these areas are the great potential of the country with wind energy and supporting the eco-

<sup>152</sup> Climate Investment Funds, CTF Regions, Data as of 31 December 2022, <https://www.cif.org/topics/clean-technologies>

<sup>153</sup> CIF, Tunisia, <https://www.cif.org/country/tunisia>

friendly transportation to facilitate the transformation to low-carbon transports. Indeed, Egypt was the only country that was selected from the MENA region to be part of the Nature, People and Climate (NPC) Investment Program. It's another initiative of CIF and it focuses on local empowerment in rural areas and the livelihoods of the indigenous communities with the motivation of natural resources' preservation within climate change mitigation and adaptation frameworks. Back to the CTF countries in the MENA, Morocco is funded to implement projects to promote and increase the usage of wind and solar energy instead of fossil fuels. Even though mentioned four countries receive funding from CTF as climate financing, some other countries in the region are still part of CIF without receiving funds from CTF. They benefit from the CIF via technical assistance due their lack of knowledge and capacity in sustainable green energy. These countries are Algeria, Libya. Yemen is the last MENA country that benefits from CIF without receiving technical assistance or fundings for green energy implementations. Yemen is supported with a special initiative of CIF -PPCR- as indicated in the table related to the climate funding allocations. The aim of PPCR is decreasing the vulnerability of the highly vulnerable countries and regions in the climate change context due to the environment and their lack of capacity to mitigate the climate crisis. Since Yemen is a LDC, it fits very well to this criteria. It needs support and assistance for even daily basis issues such as access to water and food, so agriculture. That's why, CIF uses its resources and capacity to increase the climate resilience of Yemen by helping the improvement of its climate adaptation policies and practices.

The second biggest climate funding mechanism for the MENA region is GEF as indicated with the funding table and relevant deductions. The GEF was established before the 1992 Rio Earth Summit as a single entity to address global environmental challenges including biodiversity loss, climate change and pollution.<sup>154</sup> There are six funding entities that are structuring GEF which were handled within the functioning of OECD-based climate funding. Compared to CTF, GEF is a more comprehensive mechanism. Because GEF provides climate funding to some countries that are recipients of CTF and different ones in addition to these common ones. The different ones are Bahrain, Iran, Iraq, Kuwait, Lebanon, Oman, Saudi Arabia, South Sudan, Sudan, and Syria. The common recipients are Algeria, Egypt, Jordan, Libya, Morocco, Tunisia and Yemen. Although Egypt receives fundings from both CTF and GEF, it's also one of forty donor countries of GEF as indicated in previous subtitle tackling climate finance with the general aspects. Besides, GEF projects are implemented both at national and regional levels as same as with CTF projects.

And what's more, the public sector and governments of the MENA countries have a great impact on climate finance as like other climate funding receiver countries. Although there is variability between countries, in general, rising energy demand, policy support, and in some cases a good investment environment has resulted in significant growth of the renewable energy and green building sectors, which is expected to continue in the coming years.<sup>155</sup> Within the public sector context, the influence of ministries on climate finance shouldn't be forgotten. The main reason is their diversified capacity and competence of policy making and implementation linked to their

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<sup>154</sup> GEF Secretariat, The GEF at a Glance, 17 June 2024, [https://www.thegef.org/sites/default/files/documents/2024-06/GEF\\_at\\_a\\_Glance\\_2024\\_06.pdf](https://www.thegef.org/sites/default/files/documents/2024-06/GEF_at_a_Glance_2024_06.pdf)

<sup>155</sup> IFC, *Climate Investment Opportunities in Emerging Markets-An IFC Analysis*, 2016, <https://www.ifc.org/content/dam/ifc/doc/mgrt/3503-ifc-climate-investment-opportunity-report-dec-final.pdf>

field. In other terms, not only the ministry of finance matters for an efficient and sustainable climate finance. Other ministries like ministry of energy, environment, transport, and agriculture are pivotal for climate action overall and climate finance. However, the problem about ministries is that the ministry of finance has been considered as secondary or even after than secondary, an important entity for climate action until the launch of the Coalition of Finance Ministers for Climate Action in April 2019 with the adoption of Helsinki Principles. It's important to mention that each member country can choose to adopt any principle from the Helsinki Principles. Among 90 member countries of the Coalition, only 4 of them are from the MENA countries: Bahrain, Egypt, Iraq, Morocco. There are five of Helsinki Principles and the first one assigns duties to the finance ministries for climate action. Key actions and deliverables under Helsinki Principle 1 include: Reviewing the existing body of long-term transition strategies in select countries, providing comparative analysis of related challenges and opportunities, and delivering country case studies; Examining transition implications more broadly to cover the economic impacts and opportunities on citizens, businesses, and economies in order to help inform policy actions. The effort will benefit from ongoing work of Institutional Partners in mapping out the various policy instruments for decarbonization and adaptation that are relevant to Finance Ministries<sup>156</sup>. Among four member MENA countries, two of them adopted this principle, Bahrain and Egypt.

Other than ministries, government related or established initiatives contribute to climate action and climate finance in the MENA region. The government of Saudi Arabia, for instance, is the leader of two initiatives, one is national and other is regional. The national initiative is called the Saudi Green Initiative (SGI) and the Middle East Green Initiative (MGI). Inaugurated in 2021, SGI unites environmental protection, energy transition and sustainability programs with the overarching aims of offsetting and reducing emissions, increasing afforestation and land restoration, and protecting the Kingdom's land and sea.<sup>157</sup> 80 projects were implemented with the purpose of environmentally friendly national economic growth under SGI. MGI is a regional climate action initiative led by Saudi Arabia and endorsed by international partners; not only by Middle East countries. United States, France, Italy, Sweden and United Kingdom are some of the endorsing countries outside of the Middle East. Under the Middle East Green Initiative, Saudi Arabia seeks to unify stakeholders across the region to prevent, mitigate and adapt to the risks posed by climate change.<sup>158</sup>

Likewise, the NDCs of countries in the region embody the great impact of the public sector on the determination of climate finance model and usage. The model within this scope signifies the actors and decision-makers of climate finance: only the public sector, only private investors or a blended model via the partnership of the two sectors. The climate finance strategies of Jordan match with the blended model for example. Over the past 15 years, the government has engaged in wide-scale privatization, including in the energy and transportation sectors, pointing to further

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<sup>156</sup> Coalition of Finance Ministers for Climate Action, Helsinki Principle 1: Align Policies with the Paris Agreement, <https://www.financeministersforclimate.org/align>

<sup>157</sup> Saudi Green Initiative, <https://www.greeninitiatives.gov.sa/about-sgi/>

<sup>158</sup> Middle East Green Initiative, <https://www.greeninitiatives.gov.sa/about-mgi/>



opportunities in Jordan for climate-smart infrastructure projects via public-private partnerships.<sup>159</sup>

Although there are some attempts to empower the influence of the public sector in climate finance like the Saudi Arabian initiative, MENA countries rely on international climate funding, aid, and support with the highest amounts. Accordingly, the private sector has stronger capacity and sources than the public sector in the region. Nevertheless, the public and private sectors in the MENA region face several challenges in receiving climate funding. These challenges can hinder the effective mobilization and utilization of financial resources needed to address climate change. Political and economic instability is the first and maybe most impactful challenge for the public sector. Political instability, conflicts, and economic volatility increase the perceived risk for investors, making them hesitant to commit to long-term climate projects. In this case, resource allocation can't be in favor of climate change investments. Governments may prioritize immediate socio-economic issues over climate action due to political and economic pressures. The second challenge is regulatory and institutional barriers. Lack of clear policies and institutional weaknesses such as engrained corruption are the constructive components of this challenge. Inconsistent climate policies and regulatory frameworks are the long-term problem of the MENA countries though their efforts to determine goals for the 2030 Agenda, including climate action, deter investment by creating uncertainty. The cause of this inconsistency is the limited institutional capacity to design, implement, and monitor climate projects hampers the effective utilization of funds in the MENA governments. The third challenge is the financial constraints. Public sectors often face budget constraints, limiting their ability to co-finance climate projects or provide the necessary financial guarantees. High upfront costs are another category of financial constraints. Many climate projects, especially in renewable energy, require significant upfront investments which can be a barrier for both public and private sectors. The third challenge is the technical and human resources gaps that include a lack of skilled personnel and technical expertise for climate projects and insufficient investment in research and development for new technologies. Limited access to international funding is the fourth challenge for the MENA. Even though there are 14 active international climate funds as explained in previous paragraphs, they cannot compensate for the vulnerability of the region before the negative impacts of the climate crisis. They still need more climate fundings. Complex application processes and meeting the eligibility criteria and compliance requirements of international donors and financial institutions limit their access to more fundings. Additionally, private sector engagement is a challenge for climate finance in the region. High perceived risks, lack of incentives, and insufficient guarantees make the private sector cautious about investing in climate projects. In parallel, limited awareness and understanding of the benefits and opportunities in climate finance result in low engagement from the private sector. As like any kind of investment, data availability and transparency are essentials and MENA countries cannot ensure these two essentials for climate funders. Ensuring transparency in the use and reporting of climate funds is crucial for maintaining donor confidence and accountability. Lack of reliable and comprehensive data on climate risks, vulnerabilities, and impacts hinders effective planning and

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<sup>159</sup> IFC, *Climate Investment Opportunities in Emerging Markets-An IFC Analysis*,2016, <https://www.ifc.org/content/dam/ifc/doc/mgrt/3503-ifc-climate-investment-opportunity-report-dec-final.pdf>

decision-making. The last challenge can be elaborated for the MENA climate financing is inadequate coordination and collaboration between public and private actors of the countries. Lack of coordination between different governmental agencies, as well as between the public and private sectors, lead to fragmented and inefficient efforts. Public and private sector partnerships are the solution of this problem but establishing effective public-private partnerships is difficult due to mistrust or misaligned objectives and priorities. Undeniably, the source of the mistrust or misaligned objectives are the conflict of socio-political and socio-economic interest of the countries. Addressing these challenges requires concerted efforts from both public and private sectors, including enhancing institutional capacities, improving regulatory frameworks, fostering collaboration, and leveraging international support to create an enabling environment for climate finance in the MENA region.

### **3.3. Gender-Responsive Climate Finance in the MENA region**

In the climate finance framework, the gender-responsivity aspect is substantial to fulfil a complete and an inclusive climate action. Since climate change isn't a gender-neutral phenomenon, climate finance shouldn't be considered as a gender-neutral subject either. Gender-based challenges including inequalities exist in climate finance as a climate adaptation method. These challenges make more complicated and non-functional climate adaptation strategies in national, regional and international levels. Gender-responsive climate finance means financing projects that support entire communities, including women and women who experience multiple and intersecting inequalities, thereby transforming communities as a whole to become climate resilient and gender equitable.<sup>160</sup>

To operationalize climate finance effectively, several global funding mechanisms were established as some of them explained in the previous subtitle like GEF, GCF, SCCF, LDCF, and AF. However, its role in climate finance transcends these domains, as it also addresses gender considerations, which are crucial for climate mitigation and adaptation efforts in the MENA region. Notably, the MENA region is among the 90 countries where women face obstacles in accessing and possessing equal rights to land ownership, primarily due to prevailing gender inequality and climate injustice, as discussed in previous chapters. Recognizing this intersectionality, GEF established Gender Partnerships in 2016 to address gender disparities within the context of climate finance and resilience-building initiatives. By December 2018, each of these funds had an explicit gender policy and/ or gender action plan, a gender specialist focused on the implementation of the policy and/or action plan, and increasing accountability mechanisms integrating gender equality principles.<sup>161</sup>

While above-mentioned international entities play a crucial role in climate finance, it's important to highlight that a critical aspect of climate action is enhancing the capacity of women to assume leadership roles within their communities. The incorporation of a gender perspective remains

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<sup>160</sup> Leia Achampong, *Gender-responsive climate finance: The key to just climate action and tackling inequalities*, UN Women, November 2023, <https://www.unwomen.org/sites/default/files/2023-11/achampong.pdf>

<sup>161</sup> Women's Environment and Development Organization, *Women's Organizations and Climate Finance: Engaging in processes and accessing resources*, 20 June 2019, [https://wedo.org/wp-content/uploads/2019/06/WomensOrgsClimateFinance\\_EngaginginProcesses.pdf](https://wedo.org/wp-content/uploads/2019/06/WomensOrgsClimateFinance_EngaginginProcesses.pdf)

inadequately addressed. The involvement and active participation of grassroots women, women's organizations, and gender experts in every stage of climate finance processes, spanning from design and decision-making to implementation and monitoring, are still significantly constrained. Climate transition risks are greater for women-led businesses because persistent gender gaps in the entrepreneurial ecosystem mean they are less likely to gain from climate related opportunities, investment, and venture capital.<sup>162</sup>

Sectors receiving the most climate investment are also the sectors where women are least represented in business leadership, and without intentional action to address the pre-existing economic gaps between women and men, climate action is likely to reinforce or deepen gender divides.<sup>163</sup>

In terms of women in the MENA region, being part of climate finance either contributor or climate funding receiver is much more challenging. As covered with details in the previous chapter, women and LGBTQIA+ communities are more vulnerable in the climate crisis context due to patriarchal societal harmful practices and they are supported by national laws. Within this context, it's very difficult, sometimes it's impossible to reach the national climate finance initiative. Not just receiving money but also the necessary training or information material about the topic and promotion from the government and public authorities. Especially the women and LGBTQIA+ communities who live in rural areas cannot be part of climate finance and related climate action components most of the time. The under-presentation of MENA women in decision-making processes, institutions and policies is the root cause of their struggles to access climate finance as contributor or receiver as reflected on the below table.<sup>164</sup>

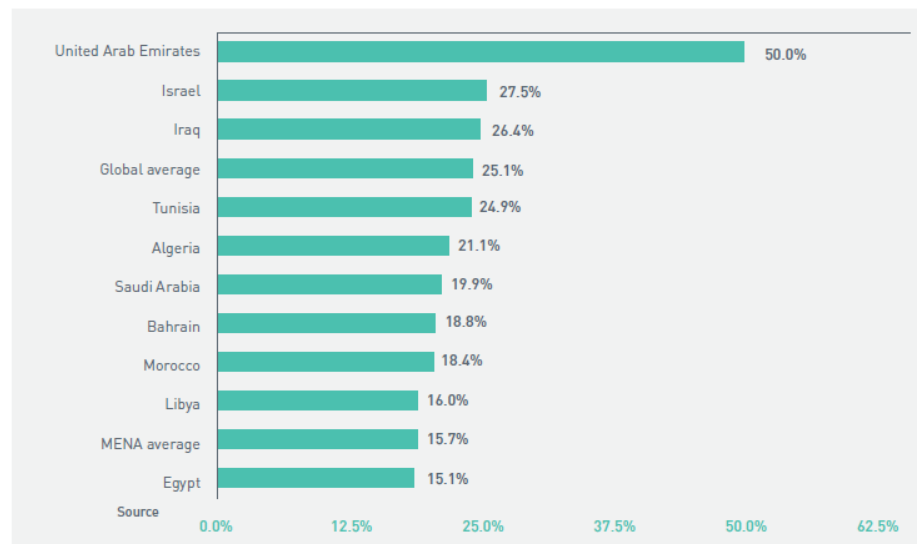
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<sup>162</sup> IFC, *Exploring Opportunities for Women Entrepreneurs Driving Climate Solutions-A Discussion Note*, December 2023, <https://www.ifc.org/content/dam/ifc/doc/2023/exploring-opportunities-for-women-entrepreneurs-driving-climate-solutions.pdf>

<sup>163</sup> IFC, *Gender x Climate: Pursuing Gender-Inclusive Climate Investments*, 2024, <https://www.ifc.org/content/dam/ifc/doclink/2024/pursuing-gender-inclusive-climate-investments.pdf>

<sup>164</sup> WISER, *Gender Inclusion and Climate Change in MENA: Advancing Gender-equality for a Resilient Future*, 18 January 2024, <https://masdar.ae/-/media/corporate-revamp/downloads/wiser/arab-women-leaders-summit--gender-inclusion-and-climate-change-in-mena.pdf>

Share of parliament or consultative body seats held by women in the Middle East and North Africa region in 2020, by country



Despite this negative reality, there are also positive developments about climate finance with a gender-based perspective in the region. The number of women entrepreneurs who focus on eco-friendly business as a climate adaptation keep increasing. Here are some examples from increasing women entrepreneurship in the region. For instance, Salma Bougarrani, the co-founder and CEO of GREEN WATECH in Morocco, specializes in employing energy-efficient methods to purify wastewater, addressing water scarcity exacerbated by worsening droughts.<sup>165</sup> Solar energy, recycling in irrigation, training and capacity building are some services that the company provides to its customers. Rather the variety of services, the main focus of the company is creating solutions for diminishing the disadvantages of water scarcity in Morocco. The company elaborates its motivation to mitigate water scarcity by four arguments: decentralized sites, unsuitable technologies, high water bill and water stress. Similarly, Rana El Kaliouby from Lebanon established Affectiva, leveraging AI to enrich customer interactions and advocate for conscientious consumption.<sup>166</sup> As woman-led entrepreneurship in the green energy sector, KESK (means “green” in Kurdish) in Iraq is a good example. It’s the first Green-Tech company in Iraq. It means that the company is unique with the two innovative elements: first example in the sector at national level and led by a woman. Basima Abdulrahman is the founder and CEO of KESK. In 2017, she founded KESK, Iraq’s first initiative dedicated to green building, offering design and consulting service<sup>167</sup>. Currently the company offers three products and services: green energy engineering services, smart solar PV products, and remote monitoring services.

<sup>165</sup> WAMDA, *Women's role in Mena's green economy*, 18 March 2024, <https://www.wamda.com/2024/03/women-role-mena-green-economy>

<sup>166</sup> Ibid

<sup>167</sup> TIME, *Eight Young Leaders on How They Want to Shape the Decade Ahead*, 2019, <https://time.com/collection/davos-2019/5502593/making-change-young-leaders/>

Apart from that, the efforts of women-led and/or women-majority organizations entrench gender-based perception in climate finance in the region that gender inequality has been embodied in social, economic and political spheres since centuries. Community kitchens in Egypt create a concrete example for this entrenchment. They are other women-led climate resilience initiatives in the region. The root of this initiative goes back to the beginning of the 20th century. They were established with the motivation of providing affordable and healthy meals for groups or individuals who were struggling with poverty-related hunger and other vulnerabilities. In other terms, they weren't established with an environmental protection mission. Nevertheless, this initiative contributes to climate action with several aspects such as food security, women's economic empowerment, waste management, and effective energy consumption. Currently there are three active community kitchens in Egypt: Dawar, Nawaya and Al-Zahraa. The (i) Dawar kitchen, a social enterprise that provides employment for Syrian refugees and Egyptian women; (ii) Nawaya community kitchen which trains rural women to start their food-based businesses; and (iii) Al-Zahraa community kitchen which promotes female empowerment through economic, social, and agricultural local community development.<sup>168</sup>

However, women's exclusion from venture capital and early-stage startup support is equally alarming: just 7% of venture capital (VC) supports women-led businesses in emerging markets, and less than 10% of climate tech VC funding globally goes to female founders.<sup>169</sup> These percentages are much lower for women founders in MENA countries. To ameliorate these very low percentages, the emergence of global climate finance initiatives with the gender included perspective like Regional Network in Energy for Women in the Middle East and North Africa Region (RENEW MENA) is indispensable. RENEW MENA is a feminist climate finance initiative launched by the World Bank in June 2022. The initiative has three pillars, focusing on: 1. The transition from STEM education to work; 2. Recruitment, retention, and advancement; 3. Entrepreneurship and financial inclusion with a focus on renewables and new technology.<sup>170</sup> These three pillars embody the devotion to the SDGs (1-no poverty, 5- gender equality, 8-decent work and economic growth, 13-climate action) of the initiative. Currently, RENEW MENA have 24 partners to promote and support women-led green businesses. In addition to the partners, it has gender focal points in different countries of the region. For instance;

- Basima Abdulrahman, the founder and CEO of KESK, is the Iraq gender focal point of RENEW MENA.
- Rasha Abu-Marar is the gender focal point of Jordan. She is currently working at the Ministry of Energy and Mineral Resources of Jordan

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<sup>168</sup> National Center for Social Research, *Combatting the Gendered Impacts of Climate Change in the MENA Region: Opportunities, Challenges and Trade-Offs*, Workshop Report, November 2023, <https://naticen.ac.uk/sites/default/files/2023-12/Combatting%20the%20gendered%20impacts%20of%20climate%20change%20-%20November%202023.pdf>

<sup>169</sup> Nathalie Gabala, *What Are The Climate Solutions That We're Leaving On The Table? Ask Women Entrepreneurs*, Entrepreneur Middle East, 12 January 2024, <https://www.entrepreneur.com/en-ae/women-entrepreneur/what-are-the-climate-solutions-that-were-leaving-on-the/468203>

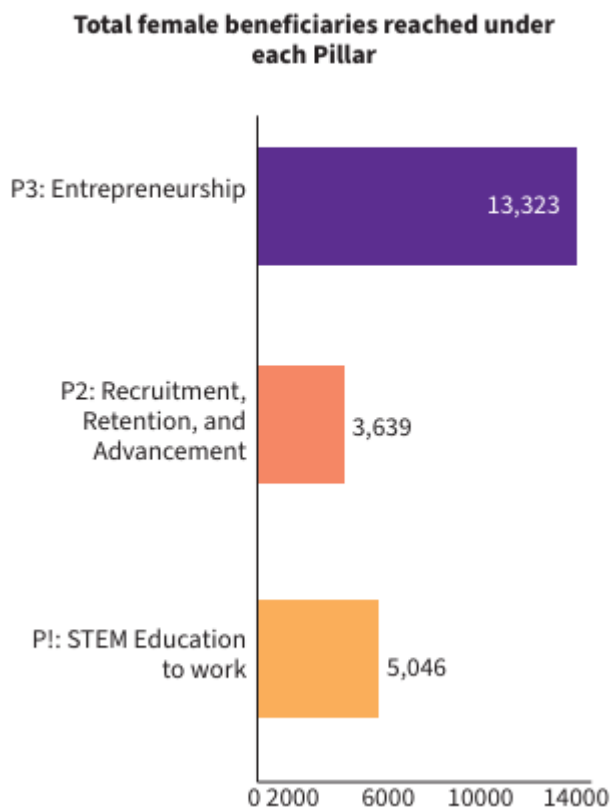
<sup>170</sup>RENEW MENA, <https://collaboration.worldbank.org/content/sites/collaboration-for-development/en/groups/renew-mena.html>

- Lamia Ghazouani is the gender focal point of Tunisia. She is the Head of International Cooperation, Ministry of Industry, Mines and Energy of Tunisia.
- Nisreen Qirat is the gender focal point of Yemen. She is currently working at the Ministry of Electricity.

The variety of the RENEW MENA partners are justified with the above examples of focal points from different sectors and backgrounds. Institutional partners, strategic partners and individuals are the partners of the initiative.

RENEW MENA could reach more than 20.000 female beneficiaries in very short time as given data in its 2023 Annual Report<sup>171</sup> that includes also data in the below figure:

Figure 6



What’s more, other attempts for securing the place of women in climate finance mechanisms and services are coming from the existing regional entities. The Islamic Solidarity Fund for Development (ISFD) is one of these few entities which functions under the mandate of the

<sup>171</sup> RENEW MENA Annual Report 2023, [https://collaboration.worldbank.org/content/usergenerated/asi/cloud/attachments/sites/collaboration-for-development/en/groups/renew-mena/documents/jcr:content/content/primary/blog/renew\\_mena\\_annualreport2023-JSZI/RENEW%20MENA%20Annual%20Report%202023.pdf](https://collaboration.worldbank.org/content/usergenerated/asi/cloud/attachments/sites/collaboration-for-development/en/groups/renew-mena/documents/jcr:content/content/primary/blog/renew_mena_annualreport2023-JSZI/RENEW%20MENA%20Annual%20Report%202023.pdf)

Islamic Development Bank. The Fund is dedicated to promoting socio-economic development and reducing poverty in the member countries of the Organization of Islamic Cooperation.<sup>172</sup> It added gender inclusivity in its scope by building a partnership in 2024. The Islamic Solidarity Fund for Development announced a new partnership with UN Women to boost women employment by 5% by the year 2030 in green, care and science and technology sectors, to bolster national targets and drive regional economic growth in the Middle East and North Africa (MENA) region.<sup>173</sup>

At the end of the climate finance discussion with a gender-based perspective, the MENA governments and other climate finance connected institutions have many duties and responsibilities for much more inclusive and sustainable climate funding. There are still too many obstacles before women to reach climate funding. For example, deeply rooted gender inequality and socio-cultural norms, economic barriers, educational disparities, lack of gender-sensitive policies, underrepresentation in institutions, weak advocacy, lack of gender-disaggregated data, labor market segmentation, and limited entrepreneurship opportunities. To overcome these challenges, the MENA governments should address the exclusion of women in climate finance. The following tools and methods are essential for women's inclusion in MENA climate finance: policy reforms, capacity building, designing inclusive financial instruments, strengthening advocacy efforts, improvements for the research and data collection about this vulnerable situation of women entrepreneurs, and ensuring women's active participation in climate finance governance and decision-making at all levels.

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<sup>172</sup> <https://isfd.isdb.org/>

<sup>173</sup> ISFD, *ISFD Join Forces with UN Women to Empower Women in MENA Region*, 13 May 2024, <https://isfd.isdb.org/news-and-events/news/isfd-join-forces-un-women-empower-women-mena-region>

## CONCLUSION

The Middle East and North Africa region faces significant vulnerabilities to climate change, exacerbated by socio-political instability, extreme weather events, water scarcity, rising sea levels, food insecurity, energy insecurity, and limited adaptive capacities. These factors make climate adaptation in the MENA region not just an environmental necessity, but a socio-economic imperative. Furthermore, within this broad context of vulnerability, women and other disadvantaged groups face disproportionate impacts, necessitating a gender-responsive approach to climate finance.

The first chapter of this thesis delves into the reasons behind the MENA region's heightened vulnerability to climate change. The complex interplay of socio-political instability, including conflict and forced displacement, alongside the region's natural predisposition to extreme weather events and chronic water scarcity, creates a precarious situation. Rising sea levels threaten coastal communities, while food and energy insecurities compound the region's challenges. The historical context, including the remnants of colonial infrastructure and policies, further complicates adaptive efforts. Additionally, the limited adaptive capacities of many MENA countries underscore the urgent need for targeted climate finance to build resilience.

The second chapter shifted the focus to the specific vulnerabilities of women and other disadvantaged groups within the MENA region. Gender inequality exacerbates the impacts of climate change on women, who often have less access to resources, education, and decision-making power. This chapter highlights how climate change disproportionately affects women and minorities, such as the BIPOC communities, by increasing their exposure to environmental hazards and reducing their capacity to adapt. Understanding these dynamics is crucial for developing effective and inclusive climate adaptation strategies.

The last chapter explored how climate finance can enhance climate resilience in the MENA region, particularly through gender-responsive approaches. Climate finance, as defined in this chapter, encompasses a range of perceptions and priorities, reflecting the diverse needs and contexts of the region. The analysis of climate finance in the MENA region reveals both opportunities and challenges, emphasizing the need for tailored financial mechanisms that consider regional specificities. Importantly, the chapter advocates for gender-responsive climate finance, arguing that incorporating gender perspectives not only promotes equity but also enhances the overall effectiveness of climate adaptation efforts.

In conclusion, addressing the climate vulnerabilities of the MENA region requires a comprehensive and inclusive approach. Climate finance must be strategically deployed to tackle the unique challenges of the region, considering both the broad environmental threats and the specific needs of vulnerable populations. Gender-responsive climate finance emerges as a critical component, ensuring that women and disadvantaged groups are not left behind in the pursuit of climate resilience. By integrating gender perspectives into climate finance, the MENA region can foster more equitable and effective adaptation strategies, ultimately contributing to sustainable development and social stability.



The findings of this thesis underscore the importance of targeted, inclusive, and context-specific climate finance in building resilience in the MENA region. Policymakers, international donors, and local stakeholders must collaborate to create and implement financial mechanisms that address the multifaceted vulnerabilities of the region. Only through such concerted efforts can the MENA region hope to mitigate the impacts of climate change and secure a sustainable future for all its inhabitants. For this collaboration, the steps should be initiated from inside the society so, capacity building and technical assistance are crucial. Climate illiteracy is still a huge problem for the region even though there is an increase in climate action-related efforts on a community basis and government basis. Policymakers have the biggest responsibility because if the national legal framework isn't compatible, it's impossible to spread awareness about climate literacy and so necessity of sustainable climate action. It also signifies that local stakeholders cannot put in very significant efforts. They need the support of policymakers. As predictable, without convenient national regulations, international donors cannot prioritize their investments in this area. They need assurance and incentives from the governments. Civil society would be the key to enhancing this multi-layered cooperation through their advocacy work, lobbying, and capacity-building activities in climate justice and human rights. They would form the public opinion and they would have an impact on policy makers. Other than that, gender-inclusive policies and practices are crucial for completely successful climate action. As discussed in the second chapter, gender inequality puts a big barrier to climate adaptation. The policymakers in the MENA should realize immediately the interrelation of climate justice and gender equality. For instance, the participation of women in decision-making and management processes in their country should increase and governments should promote it to influence society. Additionally, women should benefit from more climate funding for the acceleration of women's leadership and entrepreneurship. Once again, the governments should promote the inclusion of women in climate finance. More comprehensive NDCs would be the answer for many issues like gender inequality, sustainable and realistic policies, and investments for climate action.

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