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IMPLICATIONS OF CLIMATE CHANGE ON THE MIDDLE EAST AND NORTH AFRICA REGION (MENA): CURRENT PRESSURES AND FUTURE CHALLENGES

Daša Židuliaková

SUMMARY AND RECOMMENDATIONS

- The MENA is one of the most vulnerable regions to climate change. As a result, multiple adverse climate change effects in the form of natural disasters are already being seen across the region including severe droughts, aggressive heatwaves, devastating floodings and more frequent sand and dust storms.
- Climate-related extreme events not only cause physical destruction but also have significant socio-economic and political consequences on the MENA population, triggering displacement, migration, political instability, and conflict over natural resources.
- Global climate change summit, COP27, taking place in Egypt this year, followed by the United Arab Emirates in 2023, is likely to bring the MENA region into focus, particularly regarding the challenges it faces in transitioning to clean energy as well as the question of climate compensations paid by developed countries to less-resourced countries.

INTRODUCTION

As the global average temperature compared to pre-industrial times is going up above 1.1°C, climate change has become a global phenomenon and the main concern worldwide. However, in terms of vulnerability to climate change, the MENA has been one of the most at-risk regions, warming up and drying up twice as fast as the rest of the world, with severe consequences for the health and well-being of the roughly 400 million people who live in the region (Tsui 2022). The average temperature in the region is projected to increase by up to 4.8 °C. Maximum temperature will rise by up to 7°C, causing harsher and more frequent heat waves (Friedrich Ebert Stiftung 2021). In addition to that, the region's arid landscapes and water scarcity make it more vulnerable to extreme weather events such as drought. According to researchers, a regionally sensitive understanding of the severity of global warming in the MENA is therefore crucial.

As a result, multiple adverse climate change effects in the form of natural disasters are already being seen on the ground across the region bringing the global warming issue into the limelight like never before. In 2020, storms and heavy rain brought widespread flooding to Egypt, Tunisia and Iran resulting in significant damage and fatalities (Al Jazeera 2020). In 2021, forest fires raged in Turkey, Syria and Lebanon (Al-Monitor 2021). The images of sand storms hitting the Middle East earlier this year, particularly in Iraq, point to the rising frequency and intensity with which they have continued to increase in recent years. Since April 2020, more than eight sand storms have hit Iraq. From serious threats to human health and respiratory problems to the reduced economic growth of the MENA countries, the repercussions of the sand and dust storms phenomenon are major (Guardian 2022). Due to the severe sand storms and the lack of visibility, the country was forced to close its airspace, and the airports of Baghdad, Najaf, and Erbil in Kurdistan suspended all their flights. Interruption of activities as well as many adverse effects on agriculture including soil erosion, obstruction of irrigation canals, and deterioration of the quality of water in rivers, cause the countries like Iraq enormous economic loss. According to the UN, the MENA countries lose approximately 13 billion of their GDP annually due to dust and sand storms

(Sauvage 2022). The UN Environment Programme (UNEP) predicts that Iraq could witness 300 dust events in a year by 2050 (BBC 2022). The deadly floodings across Iran earlier this year are another example of extreme weather amplified by climate change (Motamedi 2022). On top of that, sustained droughts continued to diminish water resources from river systems and crippling heatwaves persisted over long durations of this summer season. While the summer temperatures used to be between 40 and 50 °C in the Gulf, they have exceeded that level. They have gone up to 53 and 54°C from Saudi Arabia, Oman, the UAE and Iraq (Al-Shamani 2022). Aggressive heatwaves and severe droughts are compounding the current challenges and making the MENA region the most water-stressed region in the world. According to UNICEF, of the 17 most water-scarce countries in the world, 11 are in the Middle East or North Africa (UNICEF 2021).

On the occasion of the World Government Summit held in March 2022, the Managing Director of the International Monetary Fund (IMF), Kristalina Georgieva warned that the risk of climate-related disasters is rising faster in the Middle East and Central Asia than anywhere in the world pointing to the fact that the list of disasters is quickly getting longer (IMF 2022a). According to a recent study published by the IMF entitled "Feeling the Heat: Adapting to Climate Change in the Middle East and Central Asia" climate catastrophes in the MENA are also likely to increase in severity and frequency, posing a major threat to growth and prosperity of the region (IMF 2022b).

COP27: BRINGING THE MENA REGION INTO FOCUS?

As Egypt is hosting the United Nations climate change conference (COP27) in the Red Sea resort town, Sharm el-Sheikh between 6 and 18 November 2022, followed by the United Arab Emirates next year, MENA observers point to the fact that holding global climate negotiations in the hottest and driest part of the world can bring the MENA region more into focus, particularly regarding the challenges it faces in transitioning to clean energy (Mahoozi 2022). The transition toward renewable energy systems will be costly and difficult to be undertaken globally. The task is even more challenging for the MENA oil and gas producers given that they depend heavily on fossil fuels for energy supply. Certain sources indicate that oil

and gas account for almost 95% of electricity generation in the MENA region. (Al-Saffar 2022).

The pressing need to decarbonize the energy sector in the MENA region and to move from fossil fuels to renewable energy is going to take a massive kind of transformation. Although most MENA countries are committed to the 2015 Paris climate agreement, which aims to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels, green financing opportunities are not equal across the region. Some wealthy countries such as Saudi Arabia and the UAE have already submitted their decarbonisation plans. On the contrary, for countries like Iran, the seventh biggest carbon polluter in the world (Climate Trade 2022), the development of its renewable sector is hindered by US sanctions. Similarly, war-torn countries such as Syria, Iraq and Yemen lack the necessary financial resources for investments in the energy transformation, related infrastructure and mitigation and adaptation measures. Due to the different financial opportunities of individual states in the MENA region, simultaneous commitment to the Paris Agreement timeframe cannot be expected and prescribing identical solution measures is wrong (Mahoozi 2022).

The final energy mix will differ from country to country and will depend on a range of factors including individual political economy considerations, access to financial capital and available renewable resources. Renewables such as solar and wind have been considered possible alternatives. However, given the well-established supply chain and existing infrastructure and the EU's plan to reduce its dependency on Russian gas and search for alternatives, natural gas seems to be the option to bridge the gap in the world's and MENA's energy transition for now. Egypt and Israel have already signed an energy agreement with the EU earlier this year to boost deliveries of liquified natural gas (LNG) to the European markets (Financial Times 2022).

CLIMATE COMPENSATIONS ON THE AGENDA OF COP27: A NEW WAY OF FINANCING THE CLIMATE CHANGE MITIGATION AND ADAPTATION MEASURES IN THE MENA?

At COP27, Egypt as a middle-income, African, and Middle Eastern country hosting the event has a significant role to voice the demands and expectations of the global south, including the MENA region. Several issues will likely take priority from Egypt's and the MENA's perspective: expansion of climate financing and investment funds to support climate and adaptation in developing countries, a greater focus on climate adaptation and a discussion of whether rich countries should pay compensation for losses and damages to poorer nations most vulnerable to climate change (Middle East Institute 2022).

Decision-makers in the MENA region point to the fact that it's unfair to think that they will take the burden of transition to clean energy by themselves while developed economies such as the US, the EU and China have historically contributed most to global CO₂ emissions. Therefore, stakeholders at COP27 are expecting to witness a higher political willingness of countries with global expertise and resources to catalyze technical assistance to less-resourced countries and strengthen their access to capacity-building as well as grants, loans and private investment to support their adaptation and mitigation measures (IOM 2022).

For the first time in history, climate reparations were adopted in the climate summit's agenda. Developing countries had been pushing for a long time to hold discussions of whether developed countries should provide "loss and damage funds" to the most vulnerable nations. The issue that had received a lot of pushback from Western countries is now driving climate talks and according to the UN Secretary-General Antonio Guterres, the international community has to recognise climate compensation and create an institutional framework to deal with it. The costs from loss and damage are estimated to be from \$290bn to \$580bn in 2030 and reach more than \$1 trillion per year by 2050 (Middle East Eye 2022). However, many developed countries are reluctant to mobilise finance. So far, a small number of European countries have offered up what they say are "loss and damage".

Among them are Scotland (\$5.7m), Denmark (\$13.5m), Germany and Austria. On the contrary, former UK Prime Minister Boris Johnson said that due to a lack of financial resources, the UK cannot afford climate reparations for the amount of CO₂ it has emitted (Middle East Eye 2022).

DISPLACEMENT AND CONFLICT: SOCIAL AND ECONOMIC CONSEQUENCES OF CLIMATE CHANGE IN THE MENA

The MENA region is not only one of the most hardly hit geographical zones in terms of climate vulnerability but also one of the most vulnerable places to the social and economic consequences of climate change. Firstly, the poverty rate in the MENA is one of the highest in the world. Secondly, the region has one of the highest inequality rates in the world. Thirdly, most MENA countries have limited fiscal space to provide a robust welfare system and to develop adequate mitigation plans and reactions to climate change shocks (Atlantic Council 2022). It is therefore inevitable to analyse in detail the interlinkages between climate action and economic growth, poverty, inequality as well as displacement, migration and political instability.

According to "Global Report on Internal Displacement 2022", the world's leading source of data and analysis on internal displacement, published by the Internal Displacement Monitoring Centre (IDMC), the climate crisis has profound implications for human mobility. In 2021 alone, natural disasters led to 23.7 million internal displacements (IDMC 2022). According to World Bank statistics, over 216 million people could become internal climate migrants by 2050, including millions of people at risk of climate displacement in the MENA region (World Bank 2021). In April 2021, the UN High Commissioner for Refugees (UNHCR) published data showing how disasters linked to climate change such as droughts, flooding, and other extreme weather events have a negative impact on poverty, hunger and natural resources, triggering instability, violence, displacement and migration. The report reveals that "roughly 90 per cent of refugees come from countries that are the most vulnerable and least ready to adapt to the

impacts of climate change" (UNHCR 2021). Among the countries on the list are also Afghanistan, Syria, Iraq and Yemen.

In a recent policy brief "Opportunities for action climate change and migration in Iraq" published by the International Organization for Migration in August 2022, Iraq has been named the fifth-most vulnerable country to climate breakdown, affected by a series of climate-related extreme events including insufficient and diminishing rainfall, soaring temperatures, intensified droughts, sand and dust storms, desertification and flooding. On top of that, as a result of water policies in neighbouring countries, vital water sources have been shrinking, while the country is experiencing rapid population growth. According to the report, at the end of 2021, approximately 20,000 people were displaced due to water scarcity (looking only at 10 of Iraq's 19 governorates), while a 2018 study by the Norwegian Refugee Council (NRC) found that 1 in 15 households had a family member forced to migrate in search of work in drought-affected areas (IOM 2022). The decline in agricultural production due to increased temperatures, heatwaves and demand for freshwater is one of the reasons behind an exodus from the countryside to urban areas, whether internally or across borders. For instance, in southern Iraq, many families have sold their belongings and relocated to such urban centres as Basra, the region's largest city, to work in the industry (France24 2022). However, as the Government of Iraq does not recognize climate migration as a risk or identify actions to prepare for, mitigate, potentially benefit from, or leverage the contributions of migrants themselves in the framework of its "Green Paper", a national net-zero transition plan, the efforts to the allocation of resources and actionable commitments to mitigate and address climate migration and strengthen urban preparedness and resilience against the influx of climate migrants remain undermined (IOM 2022).

Early and concerted climate and development action is needed to avert the emerging crisis associated with climate migration. As the international community gathers for COP27, the UNHCR is calling on world leaders to address the impact that climate change and natural disasters have on the displacement of people and to understand how climate change and climate migration are contributing to new or existing conflicts. In another scenario,

climate migration can increase pressure on natural resources and trigger social tensions and violent conflict in the MENA region where agriculture currently accounts for 22 per cent of employment (France24 2022).

The climate change discourse has generated considerable international debates and stereotypes operating in media tracing links between climate change and the instability affecting the countries in the MENA region. Such an emerging narrative, primarily in Western media, policy circles and academia revolves around the idea of identifying climate change as a driving force of the conflict in the MENA region (Daoudy 2022). According to many observers, climate change and food insecurity are alleged to have played an important role in fuelling the political unrest in 2011 and the outbreak of the uprisings that became known as the Arab Spring. There is a tendency to explain how major droughts and rising food costs in Syria from 2006 to 2010 paved the way for the Syrian civil war. Undoubtedly, climate change and its consequences on agriculture and food prices are factors reinforcing the conditions for sparking new social tensions, but according to certain observers, they do not automatically lead to new revolts. Several surveys carried out across the Arab world identified several aspects considered central factors as the cause of a social revolt. Among them are corruption, high unemployment, income inequality and lack or absence of democracy (IREMMO 2022).

As explained in the article "Scorched Earth: Climate and Conflict in the Middle East" published in Foreign Affairs earlier this year, it is dangerous to attribute the root of the region's illness to climate change and thus overshadow multiple social, economic and political factors contributing to regional challenges including socio-political unrests and migration. Such a simplified explanation of the problem which remains complex risks "promoting deceptively simple conflict-resolution measures and limiting the ability of policymakers to lay the groundwork for real change" (Daoudy 2022).

RECOMMENDATIONS

While climate change talks tend to focus primarily on decarbonisation and green energy transition, certain analysts emphasize that water management must also be addressed when holding a discussion on clean energy in the MENA (Middle East Eye 2022). For instance, in Iraq, "20 per cent of the country's freshwater could disappear if the world warms by "one additional degree" and rainfall decreases a further 10 per cent. A third of agricultural land could be deprived of irrigation, creating acute shortages for the country's population of 42 million" (France24 2022). Regional policymakers should understand that natural resources governance reform and accountable management of natural resources can help regional political authorities ensure more sustainable practices on the ground and protect their populations. The MENA political authorities are blamed for ineffective and uncontrolled irrigation methods and the cultivation of water-intensive crops. Failure to adopt sustainable water management results in socioeconomic drought, in terms of employment loss for thousands of people working in agriculture.

While political authorities and researchers across the MENA point to renewable energy as a priority in the fight against climate change, other actions can be also taken, including investment in non-motorized and public transport. However, transformation is not just a matter of energy transition and adoption of concrete measures, it is a matter of profound political and socioeconomic transformation - a phenomenon disrupting the existing status quo and old equilibriums and thus not welcomed by autocratic regimes across the MENA region (Lazard, Young 2020).

Given the similar environmental, geographical, and ecological features, the MENA countries could benefit from technical, research and knowledge-sharing and the development of innovative adaptation and mitigation measures. Regional cooperation is essential in mitigating climate change and its negative repercussions. Unfortunately, the MENA region has seen a long period of instability, proxy wars, regional rivalries and economic decline undermining the possibilities for deeper regional cooperation and long-term aspirations.

The development of effective environmental decision-making needs to integrate all key economic sectors and be open to the participation of civil society actors, including local communities negatively affected by climate change and NGOs. A new wave of the climate movement, as a recent phenomenon, points to the rise of activism in civil society and its revendications.

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