The Implications of the Climate Crisis in the Middle East

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The climate crisis has been emerging as one of the most significant forces shaping the Middle East, a region increasingly recognized as a climate hotspot that is warming at twice the global average rate. As the crisis deepens as manifested very clearly by the severe drought in the region this year (the winter of 2024-2025), its influence on the region becomes more pronounced. This impact manifests through a variety of phenomena, including sea level rise, an increase in extreme weather events such as sandstorms, floods, and wildfires, a reduction in annual precipitation, and rising temperatures. These developments have far-reaching implications for agriculture, economic stability, public health, tourism, and natural ecosystems. They also exacerbate internal tensions and inter-state conflict potential, as exemplified by the Syrian civil war, in which prolonged drought played a contributing role. The response and preparedness of Middle Eastern countries can be categorized into three groups: (1) Countries with resources and comprehensive climate strategies, such as the Gulf states, Morocco and Israel, which recognize the severity of the challenge and have begun implementing adaptation strategies; (2) Countries with limited resources and partial preparedness, such as Egypt and Jordan; Fragile or failed states, such as Yemen, Syria, Lebanon, Sudan and Libya, which currently lack any significant climate preparedness. Strengthening regional climate resilience and developing regional cooperation mechanisms are essential. Given the transboundary nature of climate challenges, it is imperative to foster regional preparedness through cooperative efforts both within the region and with international partners. Israel has promoted and actively participated in several such initiatives.

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INTRODUCTION: THE IMPACT OF CLIMATE CHANGE ON THE MIDDLE EAST

Climate change is a global phenomenon increasingly evident in the form of extreme weather events, sea level rise, glacial melt, heatwaves, and more frequent and prolonged droughts. These changes are exerting growing pressure on economies, governance systems, social structures, and international relations. As such phenomena become more frequent and severe, the understanding of climate change as an unprecedented challenge is becoming more deeply embedded in public discourse and among policymakers—both globally and, to a growing extent, in the Middle East.

Addressing this enormous challenge demands not only national-level preparation but also international coordination and cross-border cooperation, given the global nature of the climate crisis. This article seeks to outline the key implications of the climate crisis for the Middle East, focusing on its effects on both natural and human systems—affecting society, economy, governance, agriculture, and daily life in the region. The article also reviews the extent of national preparedness and explores the development of shared regional climate resilience.

The Middle East and the eastern Mediterranean basin are considered climate hotspots, characterized by a rate of warming significantly above the global average. In fact, second only to the Arctic, this region is experiencing the fastest rate of temperature increase globally. The Middle East is inherently arid, with limited rainfall and hot climatic conditions. The effects of the climate crisis are already visible in the region and are expected to intensify further as the crisis escalates. All Middel Eastern countries share more or less the same impacts of climate change, but also have their own uniqueness.

KEY PHENOMENA OF CLIMATE CHANGE IN THE MIDDLE EAST

Rising Temperatures

Temperatures across the region have been steadily increasing. The regional average temperature rise since the start of the Industrial Revolution is approaching 2°C—compared to a global average increase of approximately 1.5°C by the end of 2024 (Zittis et al., 2022; Abdil Malic et al., 2024). In some cases, temperature increases have been extreme. For example, recent summers in the Persian/Arabian Gulf region have seen temperatures exceeding 50°C. According to various climate scenarios and models, including those of the IPCC (Intergovernmental Panel on Climate Change), this trend is expected to intensify in the coming decades.

It is important to note that the Middle East is not warming uniformly. Certain areas are experiencing significantly faster temperature increases than others. For example, according to climate models, parts of the Arabian Peninsula are projected

to warm by as much as 9°C by the end of the century. Inland areas tend to warm more rapidly than coastal zones due to the ocean's moderating influence on temperature. However, sea surface temperatures themselves are also rising—including in the Mediterranean, the Red Sea, and the Persian Gulf. In the eastern Mediterranean basin, the rate of ocean warming is approximately 1°C per decade. This trend has major implications for marine ecosystems, fish populations, rainfall intensity, lightning frequency, and extreme weather events.

The region is also witnessing the emergence of heatwaves that are increasing in both intensity and duration, and, in some cases, are occurring in rapid succession. These extreme heat events pose severe risks to public health, economic activity, agriculture, and livestock. Additionally, sharp temperature fluctuations between high and low extremes are becoming more common.

Increase in Extreme Weather Events

The frequency and intensity of extreme events such as floods, wildfires, and dust and sandstorms have risen markedly, posing significant challenges to daily life across the region. These phenomena disrupt air traffic, hinder ground transportation, and result in tens of thousands of hospitalizations due to respiratory issues. One telling example is the growing frequency and severity of dust storms in Iraq, which have at times brought entire regions to a standstill (The Guardian, 2022). Likewise, the rising occurrence of wildfires in the Middle East is a clear indicator of the worsening impact of climate change. This trend is evident in the growing number of forest fires in Israel (The MA'ARAG Program, 2022), as well as in other parts of the Mediterranean, such as Greece, Cyprus, and Italy, which have experienced devastating fires in recent years—resulting in significant human and material losses, as well as setbacks to tourism and the broader economy.

There has also been an increase in the intensity of lightning storms in the eastern Mediterranean basin, which poses a serious threat to infrastructures—both terrestrial and maritime—and must be considered in climate adaptation planning. At the same time, an anomaly has been observed in the rainfall patterns across the region. The rainy season is shortening, while rainfall events are becoming more concentrated over shorter periods and occurring in unpredictable seasons, such as heavy rains in Saudi Arabia in August.

Sea Level Rise

One of the clearest manifestations of the climate crisis in the region is the rise in sea levels. This is evident in the collapse of coastal cliffs, such as those in Israel, and the retreat of shorelines in the eastern Mediterranean, the Red Sea, and the Arabian Gulf. Particularly vulnerable areas include the Nile Delta (El Safty & Saafan, 2022), the low-lying coastal zones of Libya, Tunisia, and Algeria, the Shatt al-Arab Delta in Iraq, and the Gulf states. Sea level rise threatens millions of people in the region and

is expected to become increasingly severe over time. The city of Alexandria in Egypt, which is struggling with encroaching seas, is a salient case in point.

Additional consequences of sea level rise include the intrusion of saltwater into inland areas, such as the salinization of aquifers due to seawater infiltration and the degradation of fertile agricultural land—as already observed in the Nile Delta. According to climate models, with an average sea level rise of half a meter—projected around the middle of this century—the Nile Delta is expected to lose approximately 1,800 km² of land, an area currently home to more than three million people. A one-meter rise would flood 4,500 km², displacing over six million people (Grid-Arendal, 2006).

It is essential to emphasize that sea level rise is not solely measured by long-term average increases. Temporary but significant surges can occur due to storm surges, high tides, wind-driven waves, and shifts in barometric pressure. As climate change accelerates, both the frequency and intensity of such events are increasing. Thus, the real-world impacts of sea level rise are likely to be far more severe than average projections alone suggest.

Decrease in Precipitation

The decline in precipitation is already evident across much of the Middle East, particularly—but not exclusively—in the Fertile Crescent. The decrease in rainfall, coupled with rapid population growth, has already led—and will continue to lead—to a significant reduction in per capita water availability. The World Bank and the United Nations currently classify the Middle East as the most water-scarce region in the world. According to a 2023 World Bank report, per capita water availability in the Middle East is now less than one-fifth of the global average, with half of the region's population experiencing chronic water shortages. This situation is expected to worsen. Projections for 2050 indicate that per capita water availability will drop by an additional 50%, due to further reductions in rainfall alongside continued population growth.

Moreover, the decline in precipitation is exacerbated by rising temperatures, which increase evaporation from vegetation, soil surfaces, and bodies of water such as lakes, rivers, and streams. The nature of rainfall is also changing. A growing pattern is emerging in which precipitation occurs in intense bursts over short periods, with longer dry intervals between events. As a result, a larger share of rainfall fails to percolate into the ground or recharge aquifers due to evaporation or strong surface runoff. This has serious implications for agriculture and water availability for human consumption, ecosystems, and livestock. Compounding this situation is the construction of numerous dams on major rivers in the region—such as the Nile, the Euphrates, the Tigris' tributaries, the Yarmouk, and the Jordan—which reduce natural water flow and contribute to water losses through evaporation from artificial reservoirs.

Desertification

For decades, the Middle East has been undergoing an intense process of desertification, leading to soil degradation and the loss of agricultural and grazing lands on a large scale. This process, driven by human activity—including unsustainable agricultural practices, overgrazing, and deforestation—intensifies the effects of climate change, which in turn accelerates desertification. This creates a self-reinforcing cycle of environmental degradation. For example, soil erosion and desertification lead to vegetation loss and rising temperatures, which in turn increase the frequency and severity of dust and sandstorms. The death of forests and woodlands due to drought or fires releases stored carbon dioxide into the atmosphere, raising greenhouse gas concentrations and further fueling the climate crisis.

Desertification negatively affects livestock farming, a key livelihood for rural populations in the Middle East, by reducing pasture availability and exacerbating water shortages for drinking and irrigation.

Droughts

Droughts are another deep concern phenomenon in the Middle East. While drought is a recurring and familiar condition in the region—as evidenced throughout the Bible—they are becoming more frequent and severe. A severe drought in the Middle East can lead to significant regional destabilization in the absence of advance planning and international assistance for the affected countries. The winter of 2024–2025 was particularly dry, with "extreme" drought conditions officially recorded in Israel, the Palestinian Authority, Jordan, Syria, and Lebanon. Iraq and Iran have also experienced a significant reduction in precipitation this winter. It is important to note that droughts in the Middle East tend to last for several consecutive years. Therefore, there is a high likelihood that the current drought will persist. Without access to alternative water sources such as desalination or underground reservoirs, the consequences for unprepared countries could be severe.

The Locust Threat

The locust problem is a recurring yet increasingly pressing challenge in the Middle East, exacerbated by the climate crisis. In recent years, the region has experienced outbreaks of locust swarms that have caused extensive damage, both locally and beyond. Shifts in rainfall patterns in parts of the Arabian Desert have led to abnormal precipitation levels, creating favorable breeding conditions for large locust swarms that have migrated across the region—and even beyond, to Africa and as far as India. The likelihood of locust plagues is rising due to climate change, making it another serious threat facing the region (Malik, 2021).

Population Growth

Alongside the climate crisis, the region is experiencing rapid population growth, which increases the pressure on the already depleted resources of the area. The more people there are, the more food and water are required for consumption and agriculture. This intensifies the pressure on natural resources; over-extraction of groundwater is depleting and salinizing aquifers; trees are being cut down to make room for homes and agricultural fields; pasturelands are under stress due to decreased available precipitation, and the grass that grows there is less abundant and of poorer nutritional quality, which significantly harms populations in the region that rely on livestock farming. Projections for population growth in the Middle East remain high, with the most vulnerable countries to the climate crisis expected to see a significant increase in their populations. For example, the United Nations predicts that by 2100, Egypt's population will grow from approximately 111 million to 205 million, Iraq's population will grow from 44 million to 112 million, and Yemen's population will grow from 34 million to 74 million. In general, the population growth expected in Arab countries will make the Middle East one of the most densely populated regions in the world (Clawson, 2022). A large proportion of the population will reside in megacities like Cairo, Bagdad and Teheran, which will present new challenges for the region's countries in managing large, densely populated urban centers.

Economic Challenges

In addition, the Middle Eastern oil and gas-producing countries will most probably face enormous economic challenges due to the global shift towards renewable energy, driven by increasing pressure to stop the use of fossil fuels: oil, gas, and coal. This shift is expected to result in a significant reduction in their income, while the challenges they face because of the climate crisis, as mentioned earlier, only intensify. This pressure is expected to grow as the climate crisis becomes more apparent worldwide and countries transition to renewable energy sources. Consequently, oil and gas exporters in the Middle East need to increasingly diversify their economies, such as by developing green hydrogen energy, in order to maintain income and economic and political stability. Indeed, the Gulf countries are adopting long-term strategies for the development of green hydrogen production as an alternative to oil and gas exports. From their perspective, it is crucial to diversify their economies and prepare for the end of fossil fuel use. Their vast desert areas, which receive strong sunlight year-round, offer them significant advantages for green hydrogen production, alongside their relative proximity to Europe, a major energy consumer.

Consequences and Social Unrest

These challenges are already leading to a wide range of problems in the region, including increasing harm to agriculture, land abandonment, internal migration from rural to urban areas, migration between countries in the region and beyond,

public health impacts from heat, dust, and food insecurity, among others. These problems are causing social unrest. For example, we have witnessed repeated protests in Iraq and Iran due to increasing water shortages. The lack of water is also harming hydroelectric power plants, such as in Iran, leading to power outages, discontent, and civil unrest (World Health Organization, 2022). Cold waves in Iran, another climate-related consequence, have caused power shortages, and during the winter of 2024-2025, large mountainous areas of the country were left without electricity. The increasing frequency and severity of dust storms is disrupting both air and land transportation and causing respiratory problems that lead to widespread hospitalizations. The pressure to migrate from affected rural areas to large cities, and from there to other countries, is growing—both within the region and towards European countries. It is expected that there will be significant numbers of displaced people and migrants trying to reach more stable countries within the region or migrate to Western nations. Internal migration is already quite evident in countries such as Syria and Iraq, where farmers are abandoning thousands of acres of fertile land, now barren, in search of livelihood and a more stable future in large cities. (Anchal, 2021)

Government Responses

The governments of the region are not blind to the climate crisis's impact on them, nor to the climate projections that position them at the frontline of those affected. While some countries, such as Egypt, Morocco, Jordan, and the Gulf states, are taking certain internal measures to prepare for the crisis, others have made no progress due to ongoing internal political crises, such as in Syria, Libya, Yemen, and Lebanon. These countries have been embroiled in civil wars and violent internal conflicts for many years. This situation prevents them from preparing for the climate crisis, creating a coherent policy, and effectively implementing it. They lack governance and the ability to address various internal issues, including proper preparation for dealing with the climate crisis, which requires long-term vision and planning.

Potential for Increased Instability

Climate change has the potential to severely undermine security in the region, strengthen terrorist organizations and crime, and create centers of instability, with the export of terrorism and refugees on a global scale. This is not a hypothetical scenario, and there is already a regional precedent in the form of the Syrian Civil War, which broke out in 2011 as part of the larger context of the collapse of Arab regimes during what became known as the Arab Spring. The war in Syria broke out also due to four years of severe drought, which caused the abandonment of hundreds of villages and the creation of around 1.5 million displaced persons who left rural areas and moved to cities in search of livelihoods. The discontent that accompanied

this, along with the lack of aid from Syria's Assad's regime, was an important factor, among others, that contributed to the outbreak of the rebellion in Syria and the rise of various terrorist organizations, most notably ISIS, and the resulting civil war with numerous casualties, displaced persons, and refugees. Additionally, instability in Yemen and Somalia, which was also caused by the effects of climate change, such as increasing and frequent droughts, extreme weather events, and more, exacerbates this situation. These factors strengthen extremist groups, weaken central governments, whose stability is already challenged, and increase the lack of governance—a phenomenon also seen in the Sahel region, neighboring the Middle East (Behar & Koren, 2020).

Water Shortages and Regional Tensions

The increasing water scarcity, coupled with the growing population, is causing tensions between the region's countries that share the same water sources, such as the Nile Basin countries, particularly Egypt and Ethiopia, over the construction of the Grand Ethiopian Renaissance Dam on the Blue Nile. Similarly, there are conflicts between the countries through which the Tigris and Euphrates rivers flow: Iran, which controls many tributaries of the Tigris, is in dispute with Iraq over its waters, and Turkey is diverting large amounts of Euphrates water, which previously flowed to Syria and Iraq.

Present and Future Climate Change in the Middle East

Climate change in the Middle East is not a future phenomenon—it is a present, evolving issue that is intensifying as global efforts to reduce greenhouse gas emissions and transition to renewable energy fail. The consequences of climate change, as outlined above, are vast, varied, and long-term, remaining with us for decades to centuries, depending on the maximum level of temperature rise and when global greenhouse gas emissions are reduced to zero. For instance, sea-level rise is expected to continue for generations, even if no further greenhouse gases are emitted. Other phenomena will persist for decades—uncertain periods of time—such as reduced precipitation, more frequent extreme weather events like heatwaves and dust storms, soil erosion, flooding, and more. The Middle East, as we know it today, will be vastly different in the coming decades: drier, more desert-like, dustier, and hotter, among other changes.

Long-term Economic and Social Impacts

These significant and long-term changes already have, and will continue to have, repercussions on the economy, tourism, public health, agriculture, food security, and more. For example, agriculture, which is a central sector in the Middle East, will deteriorate further. Entire regions will become arid, including the Fertile Crescent, thereby intensifying the phenomenon of dust and sandstorms from areas

where agricultural activity will cease. The Middle East's reliance on food imports will increase and, in turn, be affected by the climate crisis's impact on agricultural production in food-exporting countries. Examples of the negative impacts of this reliance on food imports from external sources were again seen during the Arab Spring, when droughts among several major wheat-exporting countries led to a sharp rise in bread prices in Egypt (the world's largest wheat importer), which triggered mass protests in Cairo and ultimately contributed to the ousting of President Hosni Mubarak. The countries in the region are aware of this, and as part of the lessons learned from the COVID-19 pandemic and the Russia-Ukraine war, which caused a global rise in food prices, they have decided to increase domestic food production. For example, the UAE has adopted a food security strategy, aiming to produce 50% of its food locally by 2050 (Alsayed, 2024). The UAE has also appointed a special minister for this task and places significant importance on ensuring its food security. Other countries, such as Saudi Arabia, have purchased or leased land and agricultural production means in Africa and the U.S. as a means of bolstering their food security.

Impact on Tourism

Another sector impacted by climate change is tourism. Intense and frequent heatwaves, forest fires, sudden floods, and other extreme events are affecting Mediterranean countries that rely on tourism. Without proper adaptation, the tourism sector is expected to suffer significantly. One possible adaptation strategy can be shifting the summer vacations from the hot summer months in July – August to the cooler months of September – October.

HOW MIDDLE EASTERN ARAB COUNTRIES ARE PREPARING FOR THE CLIMATE CRISIS

Preparation of Middle Eastern countries for the climate crisis can be roughly divided into three main groups:

Group 1: Prepared Countries with Means to Build Resilience

This group consists of the Gulf states and Morocco. These countries recognize the problematic nature of the climate crisis they face, both in terms of worsening living conditions and deepening existing crises and challenges, as well as the need to reduce dependence on fossil fuel exports while identifying economic opportunities that arise, such as transitioning to becoming reliant on electricity generated from solar energy and green hydrogen exports.

Group 2: Countries Aware of the Crisis but with Partial Preparation

This group includes countries that understand the impacts of the climate crisis, are already affected by it, but are only partially prepared due to economic weaknesses, lack of budgetary resources, and organizational challenges given the scale and intensity of the crisis. Among these countries are Egypt, Jordan, Tunisia, and Algeria, among others.

Group 3: Failing States with Limited Governance

This group consists of countries that struggle to function effectively or lack effective internal governance entirely due to civil wars and the disintegration of state structures. These countries include Syria, Iraq, Lebanon, Libya, Yemen, and Sudan. These states are already significantly affected by the climate crisis, and over time, their resilience to cope with the crisis is expected to be minimal. These countries – unless stabilized – will continue to be centers of long-term internal, regional, and international instability, posing security threats to the region and the international community. They will also become sources of climate migrants both within the region and to other countries.

The Gulf states and Morocco are keenly aware of the risks and opportunities that the climate crisis presents to them, and accordingly, they are developing long-term policies and strategies that include economic diversification, the creation of additional income sources, and climate-adapted development, such as the planned Saudi megacity of NEOM along the Red Sea. All Gulf states have plans for planting mangrove trees that grow in the Red Sea, the Indian Ocean, and the Arabian Gulf. These are ambitious programs aiming to plant hundreds of thousands, even millions, of trees in the warm waters of the region. Mangrove forests are known for their high carbon dioxide absorption capacity and for being rich habitats for a variety of species, including fish, mollusks, and birds. Saudi Arabia has initiated a regional climate crisis program, including the planting of 10 billion trees, protecting 30% of land and marine areas, and transitioning to a circular economy, among other measures (Saudi Press Agency, 2024). Some argue that this Saudi program still requires proof through its actual implementation. The Gulf states have significant plans to electrify rail and industrial systems, transition to renewable energy, restore natural systems, reintroduce wildlife into nature, and strengthen urban preparation for climate change, among other initiatives.

Morocco, for example, is advancing significantly in solar energy production. Its proximity to Europe allows it to produce green electricity through underwater cables. Europe is hungry for this energy, both to increase its energy security and diversify its energy sources and due to its commitments to reducing greenhouse gas emissions. Morocco is also preparing for the negative impacts of the crisis and has developed a new national water strategy. The steps Morocco is taking are supported by legislation, the establishment of new institutions to help achieve its goals, citizen

and private sector involvement, and international cooperation. In this regard, Morocco can serve as a model for other countries in the region on how to initiate a vision and implement it in practice.

REGIONAL COOPERATION IN CLIMATE AND ENVIRONMENTAL AREAS

Countries that are preparing for the climate crisis and have the necessary governance tools and economic resources serve as anchors of regional stability in general, but also as a foundation on which to build regional climate resilience. By *regional climate resilience* we mean that the Middle East and the Eastern Mediterranean, as a region, will be resilient to the impacts of the climate crisis, as we outlined above, or at the very least, will know how to mitigate the crisis's impact on it, adopt principles of climate adaptation, and prepare for the main challenges. To achieve this, it is crucial to create regional collaborations and view the Middle East as a shared climatic-geographical space, both for its own countries and for the Mediterranean countries, especially the Eastern Mediterranean basin. Such a shared outlook will enhance the ability of each country individually and of all countries collectively to address the climate crisis.

It is worth noting that regional preparation for the climate crisis is a relatively new concept. Except for the European Union, there is almost no significant regional preparation of this kind elsewhere in the world, making regional preparation a tremendous challenge on any scale, let alone in the Middle East, which suffers from ongoing internal instability in many of its countries. It is also important to emphasize that recognition of the need for regional preparation only began to seep into the thinking of the UN Climate Convention after the decision to convene annual regional climate meetings in several areas of the world, one of which is the Middle East and North Africa – MENA Climate Week (The United Nations Framework Convention on Climate Change, 2021). The first two MENA Climate Week meetings were held in Dubai in 2022 and Riyadh in 2023, where discussions took place on ways to address the climate crisis at the regional level, along with presentations of regional and international climate forecasts and scenarios. In recent years, COP (Conference of the Parties) climate meetings have also taken place in the Middle East: COP 27 was held in Sharm El Sheikh, Egypt, in 2022; COP 28 took place in Dubai, UAE, in 2023; and COP 29 was held in Baku, Azerbaijan, in 2024. These meetings have contributed to raising regional awareness of the need for common climate action.

Regional preparation, which considers the various advantages of each country, strengthens the capabilities of each nation, increases the effectiveness of actions taken at the national level, and reduces the costs required for adaptation as well as the costs and investment in the most important aspect of addressing the climate crisis—reducing greenhouse gas emissions. Therefore, regional climate cooperation,

given the condition that there is a willingness for such preparation and cooperation, is more efficient, cost-effective, and significant than each country preparing independently for the crisis. It is undoubtedly an important additional pillar for national resilience and preparation and complements global climate preparation, whose foundations were laid in the 2015 Paris Agreement.

In recent years, several regional initiatives for climate cooperation have been developed in the Middle East and are gaining ground, with more new initiatives emerging. Israel attaches great importance to these initiatives and seeks to be an active player in them. The efforts in this direction are primarily led in Israel by the Ministry of Foreign Affairs, with its activities receiving added emphasis through the Abraham Accords. Environmental cooperation agreements signed with Abraham Accords countries have also paved the way for broad bilateral climate and environmental cooperation on various issues, such as water, agriculture, renewable energy, food security, and more. It is worth noting that much of this cooperation is carried out through the private sector and business activities between private companies. This is an important dimension that deepens climate cooperation between Israel and its neighbors in the region. The "Iron Swords" war (The Gaza War) has interrupted some of this cooperation. At the same time, climate cooperation is developing with non-Arab countries in the eastern Mediterranean basin: Cyprus, Greece, and the Balkan states.

Among the regional initiatives, we can mention Cyprus's initiative for climate cooperation in the Eastern Mediterranean and the Middle East. This initiative, led by the Cypriot government, has seen several regional climate meetings in recent years (EMME-CCI). The Prosperity Green and Blue initiative is an important move that was initiated before the Iron Swords war but was halted due to it. Its key points include selling 200 million cubic meters of desalinated water from Israel to Jordan and purchasing solar electricity from Jordan to Israel. The UAE is a partner in the initiative, and its role is to establish solar fields in Jordan. Another potential framework for action could be between Israel, Greece, and Cyprus, with other countries joining in the future. Another initiative is the regional preparation of Middle Eastern countries for rising sea levels. Currently, the rate of rise is approximately 4.5 millimeters per year, and as mentioned earlier, this rate is increasing. The basic idea is to create regional cooperation, share information and models, exchange best practices such as the construction of sea walls in the Nile Delta or measures for strengthening coastal cliffs in Israel, methodologies for policy-making, guidelines for coastal construction, and regional coastal development to address sea level rise in the Mediterranean. These initiatives already have support from the partner countries, and they could move to practical implementation quite quickly, provided there is a decision on shared action directions, concrete actions, and agreement on joint projects. There are also initiatives led by civil society for regional climate cooperation, such as those by the Arava Institute and the EcoPeace organization in Israel (Environmental Diplomacy; Water Energy Nexus).

Regional Cooperation: Enhancing the Effectiveness of Climate Action

It is clear to the countries of the region that regional cooperation provides additional and better tools than any tool available to each country individually. For example, in the field of weather forecasting, it is evident that sharing information, weather forecasts, computational capabilities, and so on, increases the accuracy of weather predictions and enhances forecasting tools in an era where climate change is causing increasingly frequent extreme events that are difficult to predict. The same applies to building climate models and long-term climate forecasts. The more data is received from more countries in the region, and the greater the regional computational capabilities are, allowing for broader climate model runs, the more accurate and precise the creation of regional climate models will be.

Regional cooperation also allows for the integration of capabilities among the countries of the region, creating a "whole that is greater than the sum of its parts." The previously mentioned Prosperity Green and Blue initiative is a good example of an initiative where the capabilities of different countries complement each other, creating climate resilience that could not have been achieved without this combined effort or would have required much greater resource investment (Ranj, 2022). Regional cooperation requires a look inward within the countries of the region to examine how cooperation can be achieved, overcoming past grievances, rivalries, and conflicts that have characterized the region for generations. A spatial-regional perspective emerges from this, recognizing the need to cooperate in the face of the great challenge, and sometimes even a shift in foreign policy.

The deteriorating climatic reality requires cooperation to create *regional climate resilience*. This resilience is a guarantee for political stability and economic development. In the absence of climate cooperation, the likelihood that the Middle East will fall into increasingly severe crises with far-reaching consequences for life in the region grows. Therefore, it can be said that the countries of the Middle East are facing a new situation: Considering the climate crisis, cooperation between them is not just an advantage for each of them but a matter of existential necessity. In the realm of climate and environmental quality, cooperation between neighboring countries does not only provide advantages to the partners but is an existential imperative without which effective defense against the challenges of global warming will be very difficult. A particularly promising field is the joint preservation of ecosystems, nature protection, and even their restoration, such as the creation of cross-border marine nature reserves. Establishing a regional voluntary carbon emissions trading market is another economic opportunity that could strengthen the region's economies (Taff-Seker, 2020).

SUMMARY AND CONCLUSIONS

The harsh reality that is becoming clearer considering the consequences of the climate crisis and the even darker forecasts presented by global climate models,

especially those for the Middle East, necessitates that the countries of the region build national and regional resilience plans. The climate crisis is evolving and constantly changing, with unknown impacts continuously appearing, shaking existing natural and human systems. Such resilience can only be achieved through building national resilience, implementing long-term flexible preparation plans, and creating cooperation between the countries of the region in the main areas affected by the climate crisis—water, food security and agriculture, renewable energy, restoration of natural systems, and health. In each of these areas, Israel has proven practical advantages, both globally and regionally. Israel's experience in these fields is invaluable, having been acquired through great effort under the unique geographical and climatic conditions of the country. Therefore, Israel currently possesses both the tools and the capabilities that are highly regarded both locally and globally, offering it valuable opportunities to build stable, long-term regional relationships with its neighbors and strengthen its ties with them. At the same time, Israel can learn much from the countries of the region, such as the UAE, Saudi Arabia, Morocco, and Bahrain, in areas where they are ahead of Israel, for example, in the production of green hydrogen and attracting private investments for climate projects.

It is worth noting that regional climate resilience must include the creation of an open and accessible data repository for all, including meteorological information, climate models, weather forecasting, and more. It should also include the use of satellites for forecasting and detecting fires, detecting desertification processes, providing alerts for extreme weather events, especially floods and storms, sand and dust storms, heat waves, and so on. Regional climate resilience also requires investment in expanding information collection, evaluation, and analysis capabilities, and using new tools such as drones, remote sensing via satellites, and big data.

Regarding regional preparedness plans and future cooperation such as in the critical area of sea level rise or regional preparedness for heatwaves, it is important to promote a preparedness plan for all Mediterranean countries, and in the context of sea level rise we can already give it a name: *Mediterranean Sea Level Rise Preparedness Plan*. Therefore, regional cooperation in climate action has shifted from a need to an imperative, as this is a very serious threat that requires coordination and a collective effort from all the countries in the region.

The Middle East, in a few decades, will be a completely different place from what we know today. It will continue to change for decades, if not for centuries, to come. This change poses a significant risk but also presents opportunities to improve the quality of life and establish regional peace and cooperation. Ultimately, the future will be determined by the decisions, policies, strategies, and vision made today. The desired future scenario should be imagined before us now, and we must work systematically and consistently toward its realization, despite the well-known and inherent challenges of the Middle East.

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