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The 'Climate-Energy- Health Nexus'

An Entry-Point for Environmental Cooperation in West Asia and the Arabian Peninsula

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Introduction

Within the last two to three years, competing parties in West Asia and the Arabian Peninsula (WAAP)¹ have shifted from escalation and confrontation to dialogue and rapprochement in order to preserve regional security, economic stability,

¹ West Asia and the Arabian Peninsula subsumes the six GCC member states, plus Yemen, Iraq and Iran.

Executive Summary

Climate change poses an existential challenge for all countries of West Asia and the Arabian Peninsula (WAAP). In this region, recent regional efforts to engage in political and diplomatic reconciliation provide a window of opportunity to foster regional cooperation in the fields of climate action and environmental sustainability. Therefore, the prospects for cross-border environmental engagement on an inclusive political, academic, societal and entrepreneurial level in the climate-energy-health nexus have improved, although challenges such as the lack of coordination, data gaps and political mistrust remain and will take time to overcome. Against this backdrop, regional stakeholders could create ownership by developing collective projects that initially focus on regional awareness-raising campaigns or educational exchange formats. Within a regional context that is more conducive to cross-border cooperation, such regional initiatives might also be able to generate financial support from donors in the region.

political legitimacy and social resilience. The agreement between Iran and Saudi Arabia to restore diplomatic ties, signed in March 2023, is the most prominent example of this regional trend to date. Earlier, the blockade of Qatar by Saudi Arabia, the United Arab Emirates (UAE), Bahrain and Egypt officially ended at the January 2021 Al-Ula summit. Turkey has normalized its ties with Saudi Arabia as well as the UAE. These significant regional developments indicate a shift towards pragmatism and de-escalation in times of multiple global crises.

As a follow-up to the March agreement, the Iranian and Saudi foreign ministers have met in Beijing, Tehran, Riyadh and New York while an exchange between defense officials of both countries took place in Moscow. At an even higher level, Saudi Crown Prince Mohammad bin Salman and Iranian President Ebrahim Raisi not only held their first ever phone call in October 2023 regarding the escalation of the Israel-Palestine conflict, but also met personally for bilateral talks a few weeks later on the sidelines of the extraordinary joint Arab-Islamic summit in Riyadh on 11th November 2023. To further the Iran-Saudi diplomatic reconciliation, fields of joint cooperation have been discussed, including trade, economic partnerships and cultural exchange. Importantly, other regional players such as Oman, Kuwait, the UAE, Qatar and Iraq have welcomed the Iran-Saudi agreement, as they all maintain good relations with both countries and see détente between Tehran and Riyadh as beneficial for the entire region.

Against this backdrop, various WAAP stakeholders from policy circles, academia, media and non-governmental organizations (NGOs) have started to identify potential areas of cooperation – particularly in areas where cross-border challenges can only be addressed through collective action. Highest priority is being given to joint climate action and regional environmental cooperation, as climate change poses one of the region's main transborder challenges. Ongoing regional reconciliation on the political level provides a potential window for climate-related cooperation that could serve as an integral element in the nascent and fragile regional reconciliation process. To date, this reconciliation process is mainly driven by tactical assessments, national priorities and persistent mutual distrust. Ideally, the political will behind this reconciliation process could enable regional actors to utilize climate action and 'green diplomacy' to deconstruct misperceptions on both sides and turn a primarily tactical approach into strategic commitment.

The Anthropocene as an Existential Challenge for WAAP

The impact of human life on the planet's climate and ecosystem – referred to as the 'Anthropocene' as a proposed geological epoch² – can be observed in a severe form in the WAAP region. Rapid economic and population growth in recent decades have had a worrying impact on the ecological balance. The Intergovernmental Panel on Climate Change (IPCC) reports a continuous increase

2 See: Crutzen, Paul J. and Eugene F. Stoermer (2000): 'The 'Anthropocene'', in: *Global Change Newsletter* 41, pp. 17, 18.

of the average temperature and a decrease of the annual precipitation for the whole WAAP region during the last years. By mid-century, it is expected that parts of the WAAP region will become uninhabitable due to an increase of the average summer temperature by 4°C.³ Countries such as Bahrain, Qatar, the UAE, Iraq and Yemen are particularly vulnerable to heat waves and rising temperatures. One of the already visible consequences is an increased occurrence of sand and dust storms. In the first quarter of 2022 alone, Iraq was hit by eight sandstorms. The number of fatalities due to heat waves across the region is expected to increase from 5,000 annually in the 2000s to 15,000 by the 2050s. Additionally, water availability in the region is expected to decline by up to 50% by 2050. In light of water scarcity, seawater desalination plants have gained prominence. However, they are extremely energy-intensive and mainly use fossil fuels to operate.

Climate-related developments, including extreme heat, floods and storms, have a significant impact on public health in the region, via (chronic) illness and increased mortality rates. Between 30% and 40% of the impacted population suffer from post-traumatic stress disorder (PTSD) secondary to climate change-related natural disasters.⁴ Even more challenging are the indirect consequences that occur over a longer period of time and often emerge insidiously, such as the spread of zoonotic infectious diseases, like the recent COVID-19 outbreak, or malnutrition due

to droughts. The long-term emotional consequences of the environmental changes, such as ecological grief and solastalgia,⁵ should also not be underestimated. Mourning the loss of ecosystems, landscapes, species and livelihoods is likely to become increasingly common worldwide. These distressing emotions can lead to mental health problems. As well, social cohesion and family networks are being weakened by dispersion of communities and reduction of community interaction, which lays the ground for conflict and violence. These challenges add to other alarming social pressures this region already suffers: such as unemployment, particularly among the youth; political tensions and armed conflict; and an overall high level of inequality that particularly affects vulnerable groups such as women, children, the elderly and minorities associated with low income or displacements.

In recent years, a growing number of WAAP states appear to be willing to tackle climate related challenges and adopt new policies; for example, in the renewable energy sector and water management. Some countries on the Arabian Peninsula, such as Saudi Arabia or the UAE, have announced renewable energy and net-zero targets, in addition to including climate action and mitigation measures into their political portfolio and ongoing energy and economic diversification efforts. Additionally, there is a growing discussion around the implications of environmental challenges and climate change

3 Hergersberg, P. (2016): *Hot Air in the Orient*. Max Planck Research 4/16.

4 Neria, Y., A. Nandi and S. Galea (2008): 'Post-traumatic stress disorder following disasters: a systematic review', in: *Psychological Medicine*, pp. 467–80.

5 Solastalgia is a term used to describe a distressing sense of loss caused by environmental change, such as from climate change, natural disasters, extreme weather conditions and/or other negative or upsetting alterations to one's surroundings or home. Albrecht, Glenn (2005): 'Solastalgia: a new concept in human health and identity', in: *PAN (Philosophy, Activism, Nature)*, pp. 41–55.

on stability, peace and security. During the United National Climate Change Conference (UNFCCC COP28) in Dubai in November/December 2023, for instance, one thematic day is dedicated to 'health/relief, recovery and peace', which puts an emphasis on health as an integral driver for climate security. As 70% of all crisis-torn countries are seriously suffering from climate change implications,⁶ the interdependence between environmental challenges and security, stability and social cohesion is clearly obvious. As such, it will be argued here, the energy-climate-health nexus provides a suitable conceptual lens to promote regional cooperation in times of growing political reconciliation.

The 'Climate-Energy-Health Nexus' as a Driver for Sustainable Development

The notion of the climate-energy-health nexus is based on a holistic understanding of 'sustainability'. Various dimensions of the term sustainability can be viewed as complementary to each other. Sustainability has certainly become a popular buzzword but remains a vague concept, as various related terms simultaneously raise ambiguities about its meaning. Growing attention attributed to sustainability across the WAAP region has not yet led to a shared understanding concerning its relevance.⁷ In many instances, sustainability tends to be utilized as a blurry concept

for soft power preservation, nation branding efforts, economic diversification or identity construction.⁸ Acknowledging the contested nature of this concept, the aim should be to follow a more inclusive approach that reflects on all dimensions in an equal way.

In this paper, the term sustainability is based on long-term deliberations and exchanges within the 'Tafahum wa Tabadul' initiative, implemented by CARPO and the Gulf Research Center Foundation (GRCF) since 2018. These deliberations have been led by experts from policy circles, academia, business and environmental education, convened by CARPO and GRCF. Their definition of sustainability entails the following three dimensions: (1) environmental protection, (2) economic growth and (3) social inclusion. All three dimensions are reflected in the Sustainable Development Goals (SDGs). As all WAAP countries are signatories, the SDGs provide a good entry point for discussions on the current state of sustainability management in the region. Thus, sustainable economic growth means achieving economic prosperity without causing irreversible environmental changes and damaging the health of current and future generations. At its center is the acknowledgment that only a responsible and sustainable exploitation of natural resources will assure long-term growth and development. At the same time, balanced human interaction with surrounding ecosystems is a prerequisite for good health and well-being. Recent crises

6 Rüttinger, Lukas (2020): *Climate-Fragility Policy Paper: Climate Change in the United Nations Peacebuilding Commission and Fund*. Berlin: Climate Security Expert Network.

7 Scoones, I. (2016). 'The politics of sustainability and development', in: *Annual Review of Environmental Resources* 41, pp. 293–319. Available at <https://doi.org/10.1146/annurev-environ-110615-090039> (28.11.2023).

8 Connelly, S. (2007). 'Mapping sustainable development as a contested concept', in: *International Journal of Justice and Sustainability* 12/3, pp. 259–78. Available at <http://dx.doi.org/10.1080/13549830601183289> (28.11.2023).

such as the COVID-19 pandemic have clearly shown the interrelation of health, the economy and the environment.

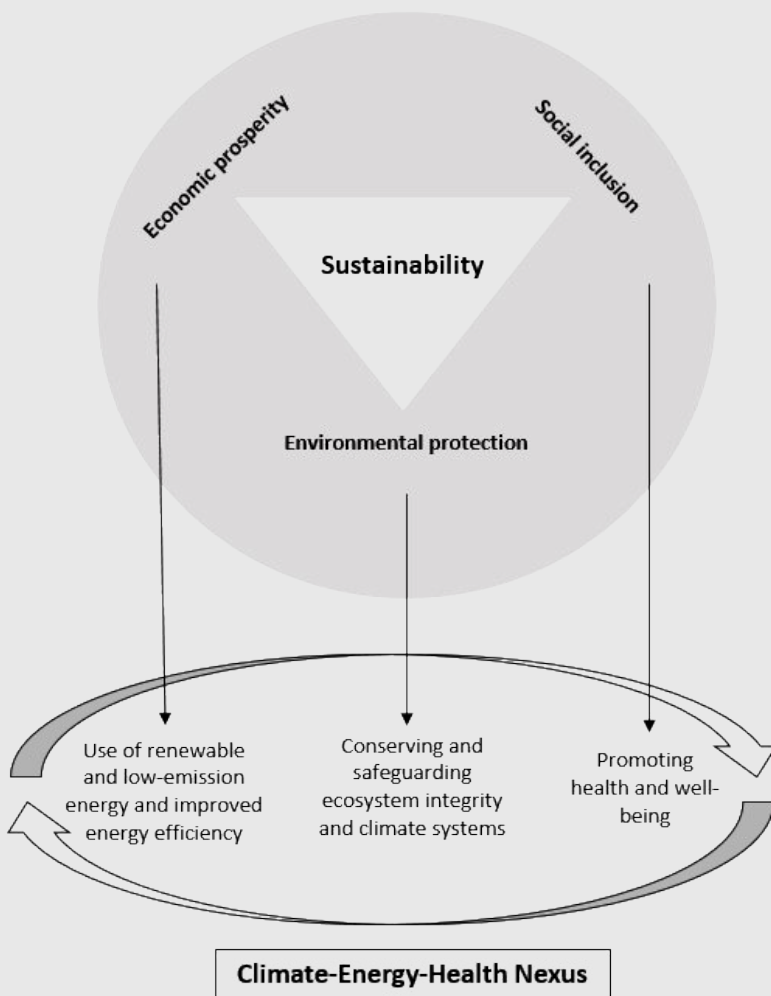
Within sections of WAAP, governmental and public projects, as well as private and societal initiatives, are increasingly aware of the climate-energy-health nexus; but concrete transborder actions, legal frameworks, comprehensive policy regulations and public debates are still in their infancy. Nevertheless, sustainability already features prominently in the public sphere of WAAP societies, as

mitigating the impacts of climate change have emerged as substantial cornerstones of their respective economic diversification efforts. Environmental protection, health resilience and climate change are no longer simply considered as soft security issues, but rather as existential threats that require greater and more sustained policymaking attention. The climate-energy-health nexus serves as a suitable concept to promote not only a more comprehensive understanding of sustainability, but also to push for broader regional security cooperation efforts in

WAAP.⁹ To this end, it is important to take an integrative and transformative human-environment approach into consideration: by (1) increasing the usage of renewable and low-emission energy to promote economic growth and energy diversification; (2) safeguarding ecosystem integrity and environmental protection; and (3) promoting health and well-being as substantial elements of a sustainable eco-system (see Figure 1).

Figure 1: Sustainable development and its varying axes¹⁰

Source: Author's compilation inspired by Connelly 2007¹¹



Energy Transition as a Driver for Economic Prosperity and Diversification

With the outbreak of COVID-19, all WAAP countries had to cope with the 'dual shock' of the pandemic and the

⁹ Soubrier, E. (2020): *Redefining Gulf Security Begins by Including the Human Dimension*. AGSIW Issue Paper 9. Available at https://agsiw.org/wp-content/uploads/2020/11/Soubrier_Gulf-Human-Security_ONLINE.pdf (28.11.2023).

¹⁰ Figure developed by Sina Winkel and Tobias Zumbrägel.

¹¹ Connelly, S. (2007): 'Mapping sustainable development as a contested concept', in: *International Journal of Justice and Sustainability* 12/3, pp. 259–78. Available at <http://dx.doi.org/10.1080/13549830601183289> (28.11.2023).

resulting economic fallout. This included a drop in the price of oil, national lockdowns (e.g. curfews and quarantines) as well as costly economic recovery measures. While many of the COVID-19-related measures have now come to an end and the region has witnessed a resurgence in the global demand of oil and gas – in part due to the Russian war on Ukraine – energy transition remains a prominent feature of policy debates in the WAAP.

In fact, there is a noticeable new understanding and paradigm shift with regards to energy security and energy diversification in the region. The UAE, for example, has made climate diplomacy a key component of its foreign policy approach, tying it to ambitious energy targets. The UAE aims to achieve net-zero emissions by 2050, with estimates to increase the production capacity of clean energy, including solar and nuclear, to 14 GW by 2030, up from 2.4 GW in 2020. As host of the COP28, the UAE sees itself in a position to take the regional lead in the fight against climate change. Saudi Arabia is equally making energy transition a key focal point, having hosted the second Middle East and North Africa Regional Climate Week (MENACW 2023) in October 2023. Many of the GCC states, such as Oman, have increased their investment in renewable energy projects, including the promotion of alternative energy sectors such as hydrogen.

A core goal in this regard is to reduce emissions associated with energy production through the use of new technologies. Specific examples include the recently announced net-zero targets by countries in the WAAP, as already mentioned regarding the UAE. COP28 President Sultan al-Jaber addressed

major companies, stating: “For too long, this industry has been viewed as part of the problem, that it’s not doing enough and in some cases even blocking progress. This is your opportunity to show the world that, in fact, you are central to the solution.” According to Jaber, more than 20 oil and gas companies have responded to the pre-COP28 call to move towards net zero by 2050 and to eliminate methane emissions and routine flaring by 2030. Furthermore, Oman is committed to net-zero emissions by 2050 and Saudi Arabia, Bahrain and Kuwait by 2060. Saudi Arabia has further stated its aim to generate 50% of its energy from renewables by 2030, whereas the UAE seeks to achieve 44% by 2050, Oman 30%, Kuwait 15% and Qatar 20% by 2030. Sustainability in terms of energy diversification is largely considered a promising business opportunity and a driver for job creation in the renewable energy or energy efficiency sector. In particular, countries such as Saudi Arabia, Oman, Iraq and Iran consider the alternative energy sector as a potential market to absorb young talents in their context of high rates of youth unemployment.

Regional integration and cross-border collaboration could further promote some of these socio-economic objectives. Interestingly, promotion of low-carbon development is a new area of cooperation. Saudi Arabia’s concept of a ‘circular carbon economy’, which was promoted by the kingdom in 2019 when it was chairing the presidency of the G20, is one example of how hydrocarbon-wealthy countries are seeking to transform their economies. In addition, Saudi Arabia has launched the Middle East Green Initiative (MGI) that aims to promote reforestation efforts and climate action across

the region. The MGI could potentially also include Iran.¹² The expansion of the power grids between the Gulf monarchies to neighboring countries such as Iraq¹³ or Yemen,¹⁴ as well as the construction of joint wind farms between Qatar and Iran should also be seen as opportunities for advancing regionalism. Jordan, Egypt and Iraq have announced the completion of their trilateral power link project, while the electricity interconnection between Saudi Arabia and Jordan is expected to become commercially operational in the second half of 2025, with a capacity of 1 GW.

Environmental Protection as an Interface between Energy, Economy and Health

In addition to energy transition, the field of environmental protection holds potential for bringing about greater regional collaboration. The vulnerability of a country's people and economic system to climate change is best exemplified in the largest Yemeni governorate, Hadhramawt. This region is particularly affected by desertification, as well as natural hazards such as flash floods and cyclones, most recently in October 2023. Flash floods transport byproducts from the oil industry and other wastes over long distances, contaminating groundwater and cropland at distant locations.¹⁵ This leads not only to

contamination of drinking water and other health hazards, but also to significant economic losses for the population. Field infertility due to the impact of pollutants and persistent drought further leads to crop yield losses and thus to supply shortages. As a result of the conflict in Yemen, essential infrastructure such as bridges and roads have been destroyed, thereby interrupting supply lines.¹⁶

In order to place the WAAP region on a more positive trajectory regarding environmental protection, concepts such as 'Planetary Health' or 'One Health' should be considered. These are collaborative, multisectoral and transdisciplinary approaches to promote optimal health and well-being for humans, animals and plants interacting in a shared environment. The key objective here is to reduce the existing carbon footprint while at the same time also increasing the carbon handprint, i.e. implementing policies whereby companies and products along the entire value chain could contribute towards a more positive climate impact.

Given that such concepts do not yet feature on WAAP policy agendas, discussions have to focus on emerging business opportunities in the climate-energy-health nexus in sectors such as transportation, tourism, construction and energy production. This can be done in

¹² Interview with a Saudi energy expert, 9 March 2023, Bonn.

¹³ See, for instance: Amwaj.media (2022): 'Deep data: GCC electricity and Iraq's reliance on Iran', in: *Amwaj.media*. Available at <https://amwaj.media/article/electricity-deal> (18.05.2023).

¹⁴ See, for instance: El-Katiri, Laura (2018): *Regional Electricity Cooperation in the GCC*. EDA Insight, Emirates Diplomatic Academy.

¹⁵ Al-Wadaey, Ahmed, Tobias Zumbärgel and Ali Alamudi (August 2023): *Energy Injustice and Its Role for Environmental Peacebuilding. Evidence from Hadhramawt Governorate, Yemen*, CARPO Report 12. Available at <https://carpo-bonn.org/en/energy-injustice-and-its-role-for-environmental-peacebuilding-3/> (28.11.2023).

¹⁶ Zabara, Bilkis and Tobias Zumbärgel (March 2022): *The Role of the Environment in Peacebuilding in Yemen*, CARPO Report 09 / CARPO Sustainability Series 04. Available at <https://carpo-bonn.org/en/the-role-of-the-environment-in-peacebuilding-in-yemen/> (28.11.2023).

several ways; First, diverse grassroots initiatives need to be highlighted and promoted. Specifically, those initiated by research institutions and non-governmental actors from specific WAAP countries that aim to promote environmental advocacy to improve dialogue with their respective governments and to implement inclusive instruments for good climate action governance. In Iraq, for instance, the non-governmental organization *Humat Dijlah* has introduced a zero-waste strategy. The youth-led non-profit *AlManakh* works on a climate education program for youth in Kuwait to promote sustainability and environmental awareness and provide work opportunities in the field. In Bahrain, the think tank *Nuwat* offers environmental education and research on a national, regional and international level. In November 2023, *Nuwat* contributed to the first biodiversity data diplomacy conference, held in Qatar, to strengthen biodiversity data sharing and data diplomacy in the Gulf region.

Promising sectors such as ecotourism also require attention and support. Ecotourism offers an interesting opportunity as it addresses the ongoing efforts of WAAP countries to diversify their economies and to promote sustainable tourism as an integral part of their business models. Oman, for example, is highlighting tourism programs that specifically promote environmental sustainability and ecological travel options. Saudi Arabia's push in its domestic tourism sector focuses on climate and environmental protection under the umbrella of the Saudi Green Initiative (SGI), including the establishment of the Sustainable Tourism Global Center (STGC) and the Ocean Exploration Foundation. The SGI is launching several biodiversity initiatives to protect endangered species, developing

541 km² of green urban space such as the King Salman Park Project in Riyadh, and planting more than 4 million mangrove trees. Besides its potential to push socio-economic diversification and job creation, ecotourism offers huge potential to raise awareness of environmental protection as well as promote a sense of geographic and regional belonging.

Second, employing nature in reducing emissions must be emphasized and nature-based solutions (NBS) sought. Conserving mangrove ecosystems and planting trees are two NBS that are currently pursued in the Gulf. Tree planting campaigns, such as the Saudi Green Initiative's roadmap to plant 10 billion trees, do not appear to be an optimal solution for carbon offsetting in a region classified as one of the most water stressed in the world. Rather, regional solutions should be sought that incorporate the local environments, such as permanently mineralizing carbon dioxide (CO₂) within rock formations. The conservation of mangrove forests in Iraq, Iran or the UAE offers potential against deforestation. Mangrove swamps are important sinks of organic carbon and are of increased interest within the region for greenhouse gas mitigation. Such coastal NBS not only have a mitigation effect, but also an adaptation function as they provide significant annual flood protection.

Third, the true costs of environmental degradation have to be taken into account, as is currently not the case regarding the environmental and social costs of fossil fuel production. Renewable energy sources (RES) are not sufficiently attractive as long as fossil fuels continue to be subsidized. Looking at the health sector, the costs of environmental factors such as air pollution and climate

change, alongside rapid urbanization and dietary transitions, need to be taken into consideration. Their direct impact on non-communicable diseases (NCDs), such as diabetes, cancer, respiratory diseases, cardiovascular disease and mental health conditions, lead to reduced performance in the labor market and an increase in DALY (disability-adjusted life years). Decarbonization is therefore a transformative move towards a healthier environment and, at the same time, towards economic prosperity through renewable energies. However, the current lack of awareness, differing priorities and mismanagement at the political level continue to negatively impact sustainable outcomes of the climate-energy-health nexus.

Promoting Health and Well-Being as Substantial Elements of a Sustainable Eco-System

Demographic changes are taking place within many WAAP countries, including a decline in infant mortality and the extension of life expectancy. Yet many of the consumption patterns remain the same, such as the excessive use of nutrient-poor foods in combination with a lack of physical activity, in part due to prolonged periods of heat. As a result, **obesity** and diabetes are two common ailments that put a burden on WAAP societies: In Kuwait, 37.9% of the society are suffering from obesity according to 2023 data, followed by Saudi Arabia with 35.4%, the UAE

with 31.7%, Bahrain with 29.8%, Iraq with 30.4% and Iran with 25.8%. Combined with environmental challenges, such as air and noise pollution, there is a significant impact on physical as well as mental health, which in turn leads to increased aggressive behavior, violence and wider conflicts.¹⁷

Many other factors have impact on the health of the regional population. Due to climate change phenomena, such as soil and wind erosion, migration movements have also intensified in affected WAAP countries, creating additional burdens both for the people on the move as well as the governmental structures that deal with the consequences. In Iran, the displacement of 41,000 people occurred in 2021 alone, as a result of weather extremes, including sand and dust storms (SDSs), floods and droughts, among others.¹⁸ In Iraq, the long-term impact of military conflicts can be seen in the city of Fallujah, where birth defects are on the rise due to the toxic legacy of the Iraq war. This poses a risk to both future generations and the environment.¹⁹ Throughout the region, increased urbanization has resulted in the phenomenon of **urban heat islands (UHI)** – higher temperature in cities due to human activities and the design of the built environment.

Health professionals, who enjoy a high level of public trust, can play an essential role in developing climate-resistant healthcare systems by promoting awareness of the interconnectedness between environmental

¹⁷ Lu, J. G., Lee, J. J., Gino, F. & Galinsky, A. D. (2018). 'Polluted morality: Air pollution predicts criminal activity and unethical behavior', in: *Psychological Science*, 29/3, pp. 340–55. Available at <https://doi.org/10.1177/0956797617735807> (28.11.2023).

¹⁸ Keynough, Banafsheh (30.01.2023): 'Iran's growing climate migration crisis', in: *MEI*. Available at <https://www.mei.edu/publications/irans-growing-climate-migration-crisis> (21.06.2023).

¹⁹ See further: Rubaii, Kali (2020): *Birth Defects and the Toxic Legacy of War in Iraq*. Middle East Report Online. Available at <https://merip.org/2020/09/birth-defects-and-the-toxic-legacy-of-war-in-iraq/> (28.11.2023).

change and health. For example, health specialists in urban centers can address topics such as green urban planning or livable cities as demonstrated by 'healthy urbanism'.²⁰ As urbanization is rapidly growing across the region and beyond, such concepts should be comprehensively incorporated into the design of health care systems, environmental education and respective policymaking.

The potential of strengthening regional cooperation in the health sector was demonstrated during the COVID-19 pandemic in WAAP. A variety of collaborative measures were taken to respond to the health crisis and mitigate the impact of the pandemic in the region. These included the sharing of information and coordination of activities between various governments and health authorities in the GCC. Best practices and guidelines to contain the pandemic were shared. Saudi Arabia, as the most affected state, was able to draw on its prior experience in containing MERS, a virus transmitted to humans through infected camels, first reported in 2012, and thus contribute to better regional preparedness for COVID-19. There were joint efforts to procure and distribute medical protective equipment, medical supplies and COVID-19 tests. The UAE was an early supporter of Iran in their fight against the pandemic with medical supplies and equipment, including thousands of surgical masks, gloves and protective equipment. Coordinated efforts were also made via humanitarian assistance and support for disadvantaged populations to provide access to health services for vulnerable communities. For example, Saudi Arabia has provided financial humanitarian assistance to address the emergency needs

in Yemen in several humanitarian sectors, including medical, food and shelter assistance. Also, the interaction between Iran and Iraq highlights health diplomacy as an area that can deepen relations: The two countries signed a memorandum of understanding in July 2023 to strengthen exchange in medical education and treatment. Saudi Arabia and Iran joined the WHO Regional Committee for the Eastern Mediterranean in October 2023, seeking to collaborate on medical science, research and education, with particular focus on the field of infectious diseases. Such collaborations provide opportunity to focus more on holistic concepts such as One Health; to see human, animal and environmental health in context; and to better prevent pandemics. Addressing the lack of data and funding for research, particularly in the area of environmental change and its impact on human health, will be crucial for the success of these collaborations.

Green Development Assistance as an Instrument for Transregional Cooperation

The above identifies areas for cooperation in times of regional reconciliation and growing political and public interest in environmental awareness and the climate-energy-health nexus. However, institutional drivers for cross-border and inter-regional cooperation are also needed to create a momentum for enhanced partnership. Development cooperation could provide such an instrument for regional integration in environmentalism. Gulf Arab monarchies have emerged in recent decades as significant providers of

²⁰ See further: Pineo, Helen (2022): *Healthy Urbanism. Designing and Planning Equitable, Sustainable and Inclusive Places*, Singapore.

financial assistance and humanitarian aid. Between 1973 and 2008, Saudi Arabia, the UAE, Kuwait and Qatar provided on average 1.5% of their gross national income (GNI) as official development assistance (ODA), significantly exceeding the UN target of 0.7% of GNI, contributing a total volume of USD 272 billion. In 2022, Saudi Arabia's ODA contributed 0.76% of GNI with a volume of USD 6 billion; followed by Qatar with 0.46% of GNI (USD 820 million); the UAE with 0.33% of GNI (USD 1.4 billion); and Kuwait with 0.15% of GNI (USD 256.3 billion).²¹

Table 1: Main donors of Arab ODA (1973–2008)

Donor Country	Aid Volume (in billion USD)	Overall Share of Arab ODA (%)
Kuwait	44.3	16.3
Saudi Arabia	172.9	63.6
UAE	31.4	11.5
Qatar	23.4	8.6

Traditionally, the vast majority of aid has been channeled by Saudi Arabia, the UAE, Kuwait and Qatar on a bilateral level in sectors such as infrastructure, energy, or agriculture in the form of concessional loans, grants and budget support in terms of bank deposits. Recent years however have witnessed a shift from mainly financial support towards more technical assistance. One result is that developmental organizations from the above four countries have gained tremendous technical and institutional expertise in the respective modalities of aid provision. They have further established trustworthy networks in

beneficiary countries in their direct neighborhood in Africa and Asia and thus established themselves as reliable partners in international development cooperation. On another front, projects implemented by philanthropic institutions from Qatar, Kuwait and the UAE have begun to address socio-economic topics such as youth and women empowerment, skills training, capacity development and educational efforts for students and out-of-school children (OOSC). Implementing agencies that receive funding from the respective governmental development funds and individual donations have established close relationships and partnership models with UN organizations and international NGOs, thus embracing development approaches relying on the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD) and referring to the SDGs. Furthermore, the four Gulf monarchies mentioned above have become participants of the OECD-DAC.

Table 2: Participation of Gulf monarchies in OECD-DAC²²

UAE	2014
Qatar	2016
Saudi Arabia	2018
Kuwait	2018

During the COVID-19 pandemic, GCC institutions also engaged in 'health diplomacy' and enhanced cooperation with international organizations such as GAVI. Therefore, framing

²¹ Data can be found in the OECD Library: <https://www.oecd-ilibrary.org/> (28.11.2023).

²² Table 2 shows overview developed by the authors.

Gulf developmental actors as simply donors widely neglects the complex and professional institutional landscape the GCC states have developed in recent decades.

In this regard, green developmentalism or 'greening oil money'²³ has also emerged as a new pillar of Gulf aid policies. Environmental diplomacy, sustainable development, environmental protection and climate change mitigation and adaptation efforts are significantly reflected in ambitious national programs and initiatives in the oil- and gas-exporting GCC countries. Hence, patterns such as energy efficiency, clean energy and water quality improvements have been included in project conceptualization, development financing and project implementation on a bilateral and multilateral level. For instance, the UAE promotes green developmentalism as a key element of their aid policies, indicated not only by its global commitment to meet the SDGs, but also by addressing capacity development in sustainability as a cornerstone of its development cooperation. By investing into the International Renewable Energy Agency (IRENA) and by establishing Masdar, Abu Dhabi's 'eco-city', the UAE took early steps to position itself as a hub for renewable energy. The UAE has also, via its national renewable energy champions such as Masdar, invested in solar plants construction in other countries, such as Jordan or the Horn of Africa, to promote the investment-sustainability-development nexus.

Such efforts, driven by economic and ecological needs, also serve the respective leaderships to improve their image as champions of sustainability and to promote their 'green credentials' as instruments of soft power projection and nation branding.²⁴ Developmental institutions located in the GCC have also introduced skills trainings and capacity development for children to raise awareness for climate action, sustainability and green topics, as well as support for green entrepreneurship and green financing. For instance, the Qatari foundation Education Above All (EAA) has set up the Education for Climate Action initiative through its Reach Out to Asia (ROTA) Program, which aims to empower young people with the knowledge, skills and values to take action to address the issue of climate change. It thus seeks to develop secondary school curricula for environmental education and provide training courses for refugee communities in the fields of regenerative agriculture, forestation, clean and renewable energy, water conservation, waste management and recycling. EAA is funded by the Qatar Fund for Development (QFFD) and receives donations from individuals and cooperates with international organizations such as UNRWA, UNHCR and UNICEF, as well as the Islamic Development Bank (IsDB), USAID and the World Bank Group, among others. As part of Qatar's growing commitment towards green developmentalism, QFFD has also started to finance climate smart agriculture support projects in Africa and to work

²³ Koch, N. (2022) 'Greening oil money: The geopolitics of energy finance going green', in: *Energy Research & Social Science* 93. Available at <https://www.sciencedirect.com/science/article/pii/S221462962200336X> (28.11.2023).

²⁴ Koch, N. (2022): 'Sustainability spectacle: Modernity and the contemporary imperative to be green', in: *Environmental Politics* 32/4, pp. 708–31. Available at <https://doi.org/10.1080/09644016.2022.2127481> (28.11.2023).

on climate resilience and sustainable development in 14 Small Island Developing States (SIDS) and Least Developed Countries (LDCs).

In Kuwait, institutions such as the Kuwait Foundation for the Advancement of Sciences (KFAS) are addressing environmental issues in their academic research, while specific NGOs such as the Kuwait Environment Protection Society (KEPS) are engaged in projects related to environmental protection, natural sea preservation or sustainable fishery. In Qatar, the local NGO Arab Youth Climate Movement Qatar focuses on basic education and environmental awareness, in addition to capacity development and community building.²⁵ The Yemeni initiative Holm Akhdar reports on environmental concerns in Yemen and can be seen as an important informational platform.²⁶ Memorandums of understanding (MoUs) can also be a promising development, as between Anwar Gargash Diplomatic Academy (UAE) and Masdar, which agreed to collaborate by offering Youth Climate Negotiation Simulation workshops to equip the youth community with skills and knowledge. Another interesting MoU was signed between Iran and Iraq in 2022 with the aim of confronting the phenomenon of sand and dust storms. Climate action is thus promoted as an element of civic education among parts of the eco-conscious youth.²⁷ As a result of the latest unprecedented sandstorms in 2022, Kuwait provided assistance to neighboring Iraq and also formed a coalition of 'sand diplomacy' including Iran, Iraq, Kuwait and Syria. On a multilateral level, the IsDB launched its Climate Policy & Action Plan in

2019, and is increasingly interested to finance trans-regional projects in environmental education and green infrastructure.

Against this backdrop, green developmentalism provides an opportunity for regional cooperation in times of economic diversification and political reconciliation. More political, academic and economic commitment to address climate and environmental protection and the climate-energy-health nexus is providing an opportunity for pragmatic cooperation. In particular, development assistance and South-South cooperation offer potential for joint project implementation on different levels despite existing challenges.

Conclusion and Recommendations

As of late 2023, regional cooperation in sustainability and climate action remains rather limited on a governmental and non-governmental level. Insufficient individual and institutional networks, alongside minimal financial and human resources are hampering cross-border cooperation. After the beginning of the war between Hamas and Israel in October 2023, threats of regional destabilization and polarization have increased and could further hamper chances for cross-border cooperation. In addition, technical connections between local initiatives and academic institutions are inefficient, due to a lack in know-how transfer between regional and local actors. In terms of sustainability, public awareness, a corresponding legal framework and respective political

²⁵ See the website of Arab Youth Climate Movement Qatar at <https://www.aycmqatar.org> (03.07.2023).

²⁶ See the website of Holm Akhdar at <https://holmakhdar.org/> (03.07.2023).

²⁷ Zumbärgel, Tobias (2022): *Political Power and Environmental Sustainability in Gulf Monarchies*, London.

commitment are still under-developed. Climate action, public health and the promotion of renewable energies are often considered as primarily soft power and public diplomacy instruments.

At the same time, the ongoing regional de-escalation efforts could provide a window of opportunity for more regional cooperation. The current trends towards regional reconciliation in the WAAP region in light of a growing eco-consciousness could facilitate concrete action on the regional, the sectoral and the institutional level.

- 1) On the regional level, potential for cross-border cooperation in the climate-energy-health nexus should be promoted. Driven by the current efforts to introduce confidence-building measures between Saudi Arabia and Iran, concrete actions should be taken to address topics of mutual interest including climate change, water and air pollution and sandstorms. This can be done by creating a regular dialogue format which could bring together stakeholders from WAAP to exchange on best practices, share national data, and promote knowledge transfer.
- 2) On the sectoral level, more holistic approaches such as Planetary Health need to be promoted with an integrative and transdisciplinary research approach, which brings together experts from different disciplines such as environment, energy, health and the economy.
- 3) Finally, on an institutional level, a variety of stakeholders should come together in order to develop tangible projects and instruments in the climate-energy-health

nexus. Topics should cover the design of more sustainable cities, climate communication and indigenous knowledge, the promotion of green entrepreneurship and start-ups, climate financing and the inclusion of vulnerable groups such as children, woman und elderly. Discussions should include players from politics, academia, economics and NGOs in order to include diverse viewpoints and perspectives. Despite such fundamental challenges, however, current de-escalation efforts provide a window of opportunity to overcome such fault lines and create an atmosphere of joint pragmatism as the region suffers from similar climate-change-related threats that could only be addressed by pooling resources for mutual benefit.

By taking these general trends into consideration, concrete action based on the demands of local actors is needed, including proper expectation management and defining modest goals. The recommendations listed below are put forward with this in mind.

To Local Initiatives, Research Institutions and NGOs

- **Climate action and environmental communication:** The language to address the general public needs to be reframed in order to generate more awareness for climate action and environmental communication. The discussion should also include the health dimension, given that climate change is impacting health in every-day life. For instance, prominent and high-profile climate champions such as celebrities could serve as environmental ambassadors and role models to raise awareness for climate action. The implementation of

a social media campaign to raise awareness for topics such as air and water pollution could aim to inform a regional audience about these issues, as well as energy efficiency and environmental challenges. This should be based on comprehensive and transparent data provided by stakeholders from research and academic institutions as well as NGOs in all WAAP countries. Based on recent activities organized in the framework of the 'Tafahum wa Tabadul' project, newly established individual and institutional networks in the region could create a social media community for climate action and environmental communication.

- **Regional educational exchange program:** To create synergetic effects on an environmental education level, WAAP stakeholders could organize a regional educational exchange program to promote environmental education for young entrepreneurs or students via capacity development workshops or summer schools. An inclusive and integrative academic grassroots regional exchange format could establish a regional hub of data collection, while 'environmental ambassadors' could promote the positive impacts of such a regional dialogue format, including information promotion and public engagement for students in environment-related studies. Such a project could thus enhance regional cooperation, improve green advocacy and knowledge transfer based on a mapping of relevant actors and existing projects. An educational exchange program should also include green entrepreneurs who currently face tremendous obstacles to start their businesses, given that regional incubators as accelerator programs hardly exist in the region. An educational exchange program could also address transboundary

challenges in environmental education: for example, bad water and air quality; a lack of efficient collaboration between regional initiatives; missing actionable cooperation on environmental topics; lacking data on environmental issues; and a lack of awareness about regional educational programs and environmental issues. Some interesting pilot projects in regional environmental education have already been initiated. For instance, the Oman Hydrogen Center of the German University for Technology (GU) in Oman organized several summer schools in 2022 in cooperation with Morocco's Mohammed VI University and Egypt's Regional Center for Renewable Energy and Energy Efficiency (RECREEE). The curricula focused on hydrogen awareness sessions from a local perspective, social communication skills training and excursions into nature. As it already engages three regional partners, this model can serve as a starting point for more comprehensive regional environmental educational programs. Further, Greenpeace Middle East and North Africa and the Arab Forum for Alternatives together organized a series of webinars in 2021. Participants from Arab countries discussed options for green and just recovery, energy sovereignty and development, water issues, food security and environmental justice in the region in light of the COVID-19 pandemic. Currently, such initiatives do not include participants from all WAAP countries due to either a lack of financial resources or political tensions. Stakeholders from Iran have to date not been involved.

- **Interactive platform:** Given the lack of comprehensive data on regional climate action initiatives, a virtual platform that includes regional stakeholders and initiatives

on environmental education and green entrepreneurship could be developed. A number of such interactive data banks do already exist. The *Emirates Environmental Group* is providing information on female agents of change in renewable energy in the UAE context. The NGO *Green Line Environmental Group Kuwait* provides capacity development for green agents of change, whereas the online platform *Muthalath* presents information on educational initiatives related to the environment. The Omani initiative *Ejaad* brings academics and business individuals together to jointly work on issues related to climate action. In an European context, the EU-funded *Green Mena* platform provides information on more than 650 activists, NGOs, entrepreneurs and researchers active in the fields of climate action and sustainability. However, these initiatives do not provide a comprehensive data set nor a mapping on the regional level.

To the International and Regional Community

- **Cooperation with regional donor organizations:** Concrete project ideas could be of interest for regional donor organizations, such as the Islamic Development Bank (IsDB), given that climate action has become an attractive business proposition. Combined with improved regional dialogue, the current momentum provides a promising opportunity to launch initiatives on environmental cooperation. All WAAP states – including Iran – are members of

the IsDB, which improves the institutional chances for inclusive cooperation. Through its 'Reverse Linkage' program launched in 2012,²⁸ for example, the IsDB supports South-South cooperation and has launched an Alliance for Climate Action to support member countries in accessing green technologies and environmental education. Thus, the IsDB could potentially finance regional educational exchange formats, as outlined above, that include all WAAP countries. As outlined above, EAA through its Education for Climate Action initiative, is also interested in enabling joint collaboration in the fields of green learning, greening communities, or environmental education for refugees. By cooperating with local stakeholders, organizations such as IsDB and EAA, among many other Gulf implementing agencies, have established trustworthy networks in WAAP countries and beyond.

- **Strengthening the role of women:** In order to highlight social and environmental injustices in climate debates, it is particularly important to focus on vulnerable groups. Women in particular play an essential role in successful adaptation to climate change, as well as in climate change mitigation and conflict prevention. The IPCC's Sixth and Final Assessment Report confirms that climate is hardly ever the direct cause of conflict, and shows how solutions aimed at climate-sensitive livelihoods and women's empowerment can thus reduce risks to peace. It is also important to increase the representation of women in national parliaments, as this has been

²⁸ The Reverse Linkage mechanism is defined as a technical cooperation mechanism enabled by IsDB whereby member countries and Muslim communities in non-member countries exchange their knowledge, expertise, technology and resources to develop their capacities and devise solutions for their autonomous development. See <https://www.isdb.org/reverse-linkage> (28.11.2023).

shown to lead to the adoption of stricter climate policies, which in turn leads to lower emissions.²⁹ The participation of women at the local level in natural resource management is also associated with better resource management and better conservation outcomes.³⁰ Therefore, specific initiatives, training courses and capacity development workshops should address women in WAAP countries. Network cooperation with organisations such as Bahrain Women Association – for Human Development (BWA), Women in Global Health UAE Chapter, or Women in Global Health Iraq Chapter should be established, to draw on expertise within the region. In addition, regional research institutions should be encouraged to conduct research on the intersectional analysis of climate change in the WAAP region to better understand who is most vulnerable to climate change.

To European Stakeholders and International Organizations

- **WAAP cooperation in Horizon Europe:** The EU could intensify the development of science diplomacy through regional research partnerships in the WAAP region. This could lead to advanced scientific knowledge about the region, as well as support to regional research institutions, as they are intensifying their research in this area over the long. The momentum due to the upcoming COP28 in the UAE should be used to establish longer term research

collaborations. In the spirit of the climate-energy-health nexus, the regional intensification of the funding line 'Planetary health: understanding the links between environmental degradation and health impacts'³¹ is particularly appropriate.

- **International conferences in the region:** The international community should hold events primarily in regions of the world that are particularly challenged or are still in the early stages of their environmental protection efforts. Hosting events of international scope within the region raises awareness at the local and regional level. Events such as COP28, MENACW2023 and the 'International Conference on Combating Sand and Dust Storms' promote a greater level of active regional participation in the global climate movement. Regional research results currently fall short compared with most studies produced in the West. Hence, an asymmetry in knowledge production about climate change and its impacts at the economic and social levels still exists. Through regional partnerships, international organizations could make an important contribution to jointly produce more knowledge in and from the region. In particular, technical cooperation to adopt regional technologies is needed. This can be seen in the example of adaptation of solar panel use within the harsh environments in WAAP (sand/dust storms and high temperatures). While the scope and pace of energy transition in the region is often critically appraised, new

²⁹ Mavisakalyan, Astghik and Yashar Tarverdi (2019): 'Gender and climate change: Do female parliamentarians make a difference?', in: *European Journal of Political Economy* 56, pp. 151–64.

³⁰ United Nations (2019): 'Analytical Study on Genderresponsive Climate Action for the Full and Effective Enjoyment of the Rights of Women'.

³¹ See further: European Commission (March 2023). *Horizon Europe. Work Program 2023–2024. Health*. Available at https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-4-health_horizon-2023-2024_en.pdf (28.11.2023).

opportunities and progress should be adequately acknowledged. By creating better incentives through international events in the region, governments not only take more ownership, but also develop faster solutions to adapt to and mitigate the climate crisis.

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The CARPO Sustainability Series aims to contribute to the slowly growing but still quite marginal research on sustainability in the Middle East and North Africa. As this region's high vulnerability to the severe effects of climate change and global warming represents one of the greatest challenges of this century, it is imperative to tackle this field from a holistic perspective. Sustainability comprises aspects of social (e.g. justice, equality, participation, state-society relations); environmental (e.g. clean energy, pollution, waste, recycling, biodiversity); and economic sustainability (e.g. business engagement, training, education, diversification). Cross-cutting issues are highly diverse and interconnect a vast array of disciplines such as anthropology, politics, economics, sociology, environmental studies and history. Accordingly, this series will publish analyses in the form of CARPO Briefs, Reports or Studies by academics and practitioners from various fields to provide multidisciplinary analyses on key themes of sustainability.

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About Tafahum wa Tabadul

The Tafahum wa Tabadul project has been implemented since 2021 in partnership with the Gulf Research Center Foundation. It pursues the goal of generating better understanding (tafahum) among regional stakeholders and initiate operational exchange (tabadul) on common interests in West Asia and the Arabian Peninsula – a region that subsumes the six GCC states plus Yemen, Iraq and Iran. Tafahum wa Tabadul builds on outcomes of an earlier initiative called Tafahum (2018–2021), which developed a thematic fundament for multi-track regional dialogue in West Asia and the Arabian Peninsula. The current phase of the Tafahum wa Tabadul project is funded by the Swiss Federal Department of Foreign Affairs.

Website: <https://carpo-bonn.org/en/tafahum-wa-tabadul/>

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