

From Threat to Opportunity: Harnessing Climate Change to Build a Prosperous Future for Iraq and the Region

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ABSTRACT

Climate change and environmental degradation are adding serious strain to Iraqi coping capacities and governance mechanisms in a country already struggling with elevated water scarcity, instability and demographic growth. Widely recognised as a country at high-risk from climate change, Iraq faces the urgent need to diversify its economy away from hydrocarbon resources, while developing mechanisms of cooperation and co-dependency with regional neighbours to provide sustenance and opportunities to its youthful population. Drawing on Iraq's history as a trade hub and bread basket for the region, Iraq and its neighbours need to urgently work together to overcome divisions and plan for a better future if the challenge of climate change is to be transformed into an opportunity capable of promoting stability and integration in an increasingly fragile Middle East.

Iraq | Climate change | Water | Energy | Sustainable development

keywords

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Introduction

Modern Iraq is the inheritor of the Sumerian, Babylonian, Assyrian and Abbasid empires. The strength of these empires was built on irrigated agriculture and taxing trade caravans that crossed its territories. Since the discovery of oil in Iraq, the economy began shifting away from trade and agricultural income to a rentier state based on the extraction of mineral resources. The presence of oil made Iraq a target for modern empires as they competed for hegemony over the past century. In the late fifties, nationalist military leaders ended the pro-western monarchy when the latter was engaged in a widespread modernisation programme which used oil income to build infrastructure and agricultural output according to a free market approach. In the sixties, new military leaders moved to nationalise oil production as well as other small-scale private sector industries. When the Ba'ath party took over Iraq in 1968, it embarked on a campaign to industrialise the country with public owned industries being subsidised by oil income. As a result, the government essentially became the only employer of graduates from what at the time was considered one of the most advanced higher education systems in the region. The Iraq-Iran war in the 1980s interrupted this process, as the Iraqi economy suffered significantly and Iraq's subsequent debt ended the development drive of the 1970s. Finally, Saddam Hussein's fateful decision to invade Kuwait in the 1990s, and the international sanctions regime that followed in its wake, led

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to growing outmigration as a once thriving economy and growing middle class became impoverished and conditions worsened considerably across the country.

The feelings of hope and trepidation that followed the removal of Saddam Hussein by the US-led coalition in 2003 were soon crushed as Iraq went into a tailspin. An undeclared insurgency and civil war ensued, later leading to a new phase of instability with the emergence of the self-proclaimed Islamic State. While oil income again helped the state economy, following the lifting of the international embargo, little was done to modernise and repair Iraq's economy through the development of a functioning private sector. Spending on the military and security forces increased and much of the newly gained wealth was lost to corruption and inefficient use of the funds in state owned industries and patronage networks. Amidst this increased fragility, the deleterious effects of climate change pose a further and potentially existential challenge to Iraqi sustainability, acting as a threat multiplier on a whole number of interlinked political, institutional and socio-economic domains.

1. Climate threats and disruptions

The deleterious effects of climate change are being felt in many ways across the broader Middle East and North Africa (MENA). Iraq is particularly exposed to these threats and is indeed recognised as a country facing significant exposure to climate-related risks. The United Nations Environment Programme has noted that Iraq is the fifth most vulnerable country in the world to decreased water and food availability as well as extreme temperatures.¹ These factors pose a significant threat to the living conditions of millions of Iraqis, as well as the long-term sustainability of the country's governance structures. This vulnerability is further exacerbated by Iraq's declining farming and trade outputs, as the country has increasingly grown addicted to hydrocarbon revenues to service the state budget. This funding stream is destined to be reduced as the world shifts from fossil fuels to sustainable energy resources. Oil demand worldwide is expected to drop from the current 100 million barrels per day (mbd) to 25 mbd by 2050, adding further strain to Iraqi finances.

One by-product of climate change is the growing frequency and severity of dust storms in Iraq and the region. Such events carry significant costs, estimated at 13 billion US dollars a year to address clean-up health problems as well as productivity losses, according to a 2019 World Bank report.² Temperatures are increasing in the region (+3-5 degrees Celsius compared to the 1960s, though Iraqi scientists have measured even higher temperature increases in the country).³ Snowfall and

¹ International Organization for Migration (IOM) Iraq, *Migration, Environment, and Climate Change in Iraq*, Baghdad, IOM Iraq, August 2022, <https://iraq.un.org/en/node/194355>.

² See, World Bank, *Sand and Dust Storms in the Middle East and North Africa Region. Sources, Costs, and Solutions*, Washington, World Bank, Fall 2019, p. 16, <http://hdl.handle.net/10986/33036>.

³ See for instance, Saleem A. Salman et al., "Long-Term Trends in Daily Temperature Extremes in Iraq",

precipitation patterns are also changing and no longer predictable and this is being exacerbated by dam building, the rerouting of rivers and the uncoordinated management of limited water resources inside Iraq but more importantly between Turkey and Iraq. Meanwhile, water flow from Iran has dropped from 15 billion cubic metres annually to practically zero as of 2018, as Tehran struggles to provide sustenance to its own population while dealing with sanctions.

2. Water scarcity

Dam building on the headwaters of Iraq's twin rivers – the Tigris and Euphrates – has reduced the amount of water, adversely affecting agricultural production. Moreover, given the reduced flow in Shatt Al Arab, the salt wedge at the northern tip of the Gulf is migrating upwards towards the southern portion of Iraq, causing salinisation of the lands in both Iraq and Iran and leading to a lack of drinking water in Iraq's major southern city of Basra.⁴ The rivers feeding the tributaries of Lower Zab, Diyala, Karon and Karkha have also been dammed and rerouted in Iran, and a river has now been excavated by Tehran parallel to Shat Al Arab along the path of an ancient dry riverbed. Water flows from the Tigris and Euphrates have declined as a result and the flood pulse has been muted with flows dropping from an annual average of 70 billion cubic metres to less than 40 billion between 1925 and 2010, with expectations of further declines as more dams are built in Turkey.⁵

According to a restricted 2014 draft report by Iraq's Ministry of Water Resources entitled "Strategy for Water and Land Resources in Iraq", the country could face a shortfall of as much as 10.8 billion cubic metres of water annually by 2035 if no action is taken to modernise irrigation and water resource management.⁶ The plan lists a series of projects that must be implemented before 2035 to avoid water bankruptcy and limit the need for water rationing. As of 2022, however, few if any of these projects have been initiated.

Irrigated agriculture was sustainable in Mesopotamia for thousands of years due to cyclical flooding. This flooding would wash away the salts resulting from evaporation from the year before, providing a new layer of silt and clay which annually renewed the vitality of farmlands. Due to dam building upstream, there are no longer any floods, while precipitation is also declining significantly. The

in *Atmospheric Research*, Vol. 198 (December 2017), p. 97-107, DOI 10.1016/j.atmosres.2017.08.011.

⁴ Human Rights Watch, *Basra is Thirsty. Iraq's Failure to Manage the Water Crisis*, July 2019, <https://www.hrw.org/node/331987>.

⁵ See for instance, Tobias von Lossow et al., "Water Governance in Iraq. Enabling a Gamechanger", in *Water, Peace and Security Reports*, September 2022, <https://waterpeacesecurity.org/files/245>; Azzam Alwash et al., *Towards Sustainable Water Resources Management in Iraq*, Iraq Energy Institute, August 2018, <https://wp.me/pai56B-jq>.

⁶ The report was completed in 2015 but is not available because Iraqi authorities treat such issues with a high degree of secrecy due to the national security implications of Iraq's declining water resources. Also see, Azzam Alwash et al., *Towards Sustainable Water Resources Management in Iraq*, cit.

result is that 54 per cent of Iraq faces the serious threat of land degradation, while desertification is affecting 39 per cent of the land area.⁷

The area to the north of Baghdad was traditionally developed through rain-fed agriculture. Over the past forty years, however, much of the land is being irrigated by using pivot wells. The use of groundwater has caused some farms to lose productivity over time because of salt being left behind when groundwater used for irrigation evaporates. The biggest impact, however, occurred following the advent of the self-proclaimed Islamic State (IS, also known as *Daesh*), which took over large areas in central and northern Iraq beginning in 2014. *Daesh* fighters destroyed irrigation equipment while terrorising farmers. The result was that these farmlands have been abandoned, becoming a source of dust that is then picked up and carried across Iraq and the region by more severe wind storms linked to climate change.

3. Demography: An added challenge

Such challenges are further complicated by Iraq's rapid population growth, almost doubling from 25 million people in 2003 to 42 million today and expected to reach 53 million by 2030.⁸ Iraq's significant youth bulge – with approximately 60 per cent of the population below the age of 30 – adds significant strain to an already weak social contract as authorities struggle to provide sustenance and basic infrastructure for its growing population. Iraq is home to one of the biggest percentages of youth across the region.⁹ This demographic wave is a time bomb because of the dependence of Iraqis on government jobs that produce little in the form of added value to the economy. Employment has essentially become a means to disguise widespread unemployment and is largely a way for the government to redistribute oil income through patronage. There is practically no output from government-owned enterprises and what little remains, or any surplus that is generated, is wasted through corruption and useless white elephant projects.

The post-Saddam youth – i.e., children born in the mid-1990s and thereafter – will soon become a majority of the population, demanding jobs and income. Yet, there are no opportunities for them in government and there is no real private sector in Iraq. This youth can be attracted to radical ideologies and extremism as poverty and a lack of opportunities eat away at their future prospects. Those who do not fall into extremism are likely to engage in other forms of criminal activities, thus remaining a security risk for the state.

⁷ Rana Alfardan, "Iraq's Growing Desertification Problem", in *Planetary Security Initiative News*, 4 May 2021, <https://www.planetarysecurityinitiative.org/node/3025>.

⁸ PopulationPyramid website: *Population Pyramids of the World from 1950 to 2100: Iraq*, <https://www.populationpyramid.net/iraq/2030>.

⁹ UNICEF, "Iraq", in *MENA Generation 2030 Country Fact Sheets*, February 2019, <https://www.unicef.org/mena/media/4191/file>.

Faced with these prospects, most of the middle class is seeking to migrate to safer lands abroad where their children can grow in a safe and secure environment.¹⁰ This is not only Iraq's problem but a regional and even global issue. Similar situations have occurred during the 1990s in Russia and over the past decade in Syria and other localities of the MENA. Furthermore, the youth-led public demonstrations that began in Iraq in 2019 are a reminder of the widespread socio-economic challenges facing large portions of Iraq's population. Despite the severe methods used to suppress the demonstrations (over 800 killed), protests did not end until the resignation of former Prime Minister Adil Abd Al Mahdi and the appointment of a caretaker cabinet led by Mustafa Al Kadhimi to prepare for early elections.¹¹

4. Instability and insecurity

The challenges facing Iraq are further compounded by the prolonged period of instability and foreign interventionism witnessed by the country over recent decades. The devastating eight-year war with Iran (1980-1988), the Iraqi invasion and retreat from Kuwait during the first Gulf War (1990–1991), the era of international sanctions (1990–2003) and finally the US-led invasion and occupation that began in 2003 have all had serious repercussions on Iraqi infrastructure and coping capacities. The US invasion was followed by almost two decades of severe conflict and instability across Iraq, as a local insurgency against occupying forces overlapped with broader trends of regional meddling and interventionism. Iraq thus became a battleground among competing regional actors and political-religious strands of thought. These included Iran's promotion of Wilayat al-Faqih among Iraq's large Shi'a population, Turkish (and Qatari) support for Sunni and Muslim Brotherhood-linked actors and Saudi Arabia's promotion of the more conservative strand of Sunni Islam linked to Wahhabism and Salafi thought.

Faced with these multiple and overlapping challenges, there is an urgent need to shift dynamics internally within Iraq and in the broader region, overcoming zero-sum relations to promote new mutual benefits based on economic reform and regional integration. The status quo is unsustainable and will only lead to progressive worsening of internal and external dynamics. Iraq and the broader region are currently facing three perfect storms: a demographic timebomb; decreasing income from oil as the world prepares for a post-oil future; and climate change impacts such as increasing temperatures and reduced water flows, compounded by waste and corruption.

¹⁰ See for instance, Munqith Dagher, "Iraqi Stability and Its Free-Falling Middle Class", in *CSIS Analyses*, 21 October 2020, <https://www.csis.org/node/58563>.

¹¹ On the youth-led protests in Iraq see, International Crisis Group, "Iraq's Tishreen Uprising: From Barricades to Ballot Box", in *Middle East & North Africa Reports*, No. 223 (26 July 2021), <https://www.crisisgroup.org/node/17109>. Also see, Hafsa Halawa, "Iraq's Tishreen Movement: A Decade of Protests and Mobilisation", in *IAI Papers*, No. 21|26 (June 2021), <https://www.iai.it/en/node/13601>.

These interlinked challenges are likely to coincide over the next ten to twenty years, causing widespread hardship and potentially catastrophic impacts on states and societies across the MENA. Yet, any urgency on the side of Iraqi (and regional) policymakers appears to be lacking, as reflected by the continuation of corrupt and wasteful practices affecting the economy as well as the mismanagement of water, energy and resource conservation across Iraq and the region.

5. Climate change: A national priority for Iraq

During 2021, several activists concerned about the threat of climate change, including this author, were brought together by Iraq's former President Barham Salih to discuss climate related disruptions and their impact. The results of the deliberations were published in September 2021, under the heading of the Mesopotamian Revitalization Initiative (MRI). The initiative was submitted to the ministerial council and was reviewed and approved in principle as a basis for compiling a Green Paper that would guide governmental action to prepare Iraq for the coming economic and energy transition and the urgent need to adapt and mitigate the effects of climate change, not only in Iraq but across the wider region as well.

The history of Mesopotamia is rooted in its role as the breadbasket of the region as irrigated agriculture was first developed in these lands. Iraq was also a vital stop in the north–south and east–west trade routes. Mesopotamia lived on income from agriculture and trade for over seven thousand years but since the discovery of oil in Kirkuk in 1927, the Iraqi economy has become addicted to the rentier value of extracting oil and other natural resources. As a result, food production has been withering and trade has become limited to importing what Iraq needs, while transit dues have declined due to instability in the country as well as extensive bureaucratic red tape that generally prevents the passage of goods across Iraqi territory.

Building on this historical past, the Mesopotamian Revitalization Initiative seeks to revive Iraq's role as a major food producer and trade hub in the region, linking this to Iraq's extensive potential to become an exporter in renewable energy. The initiative seeks to gradually strengthen Iraq's renewable energy and agricultural output as a means to support the state budget while diminishing the country's reliance on hydrocarbon revenue and reviving its role as a major transit country for trade.

For this, the MRI advances a number of proposals and projects that can be made sustainable through a mixture of government and private financing. The four interlinked dimensions of the MRI are outlined below, underscoring how each can work together to provide for a prosperous and sustainable future that is rooted in the history of Mesopotamia.

6. Afforestation and food production: The drive to modernise irrigation

Any effort to revitalise food production starts by taking advantage of carbon credit markets to raise resources needed to jump-start a reforestation programme in Iraq.¹² This should focus on native species, via the replanting of abandoned farms and orchards, that will reduce land degradation and the creation of dust that is picked up by increasing wind storms. Such efforts also provide added value in terms of increasing shaded areas and thereby decreasing the effect of rising temperatures. The shaded areas between planted palm trees are a traditional protection for vegetable production from extreme heat and extreme cold. The planting and maintenance of these forests can be supported and subsidised by carbon credits that are sold on the voluntary carbon market.

Replanted palm tree forests will also produce added income from dates in the south and west of Iraq, while other fruits and vegetables (as well as honey) can be produced in northern Iraq. This will help secure carbon credits from sequestered carbon where each tree can be exchanged for no less than two tons of carbon credits (currently about 70 US dollars per ton). In this, the programme also takes advantage of existing Iraqi regulations that give land to graduates from agricultural and engineering institutes, who become owners of the land once it is planted. Youth who take advantage of this opportunity can generate income through carbon credits as well as the sale of goods, thereby reducing reliance on government jobs. Revitalised farmlands are expected to be worth about 20,000 US dollars per hectare, a valuable asset for those who take advantage of this programme.

Moving to the dimension of water security, efforts to reduce water waste are also integrated within the MRI. Newly planted trees will use cocoon planters, ensuring that newly planted saplings will extend their rootlets into the vadose zone above the shallow groundwater, eliminating the need for irrigation.¹³ This programme will help jump-start a new industry to recycle paper for the production of cocoon planters, while also increasing demand for native species of saplings that require a shorter time (approximately two years) to reach mature growth. More details on how to produce cocoon planters and saplings in Iraq are outlined on a dedicated website, Nature Iraq.¹⁴

¹² Iraqi youth can sell the carbon sequestered in planted trees through the voluntary carbon market to pay for the costs of afforestation. For more details, see Christopher Blaufelder et al., "A Blueprint for Scaling Voluntary Carbon Markets to Meet the Climate Challenge", in *McKinsey Sustainability Reports*, 29 January 2021, <https://www.mckinsey.com/capabilities/sustainability/our-insights/a-blueprint-for-scaling-voluntary-carbon-markets-to-meet-the-climate-challenge>.

¹³ For more information on the vadose zone see, ScienceDirect topics: *Vadose Zone*, <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/vadose-zone>.

¹⁴ See the Nature Iraq website: <http://www.natureiraq.org>.

To further increase output, while maximising resources, the MRI also includes initiatives to increase citrus and vegetable production, with such goods traditionally planted in the shaded spaces between palm plantations. In this domain, efforts are being directed at introducing smart growing beds that utilise fish ponds to not only raise fish but also produce water that is full of natural nutrients. This pond water is then used to irrigate vegetable plantations grown in porous media that have no capillary action, helping to diminish evaporation from the soil surface. The pond water is recycled to eliminate losses from drainage. These beds will eliminate the growth of weeds and thereby substantially diminish the need for herbicides. The beds can be built with recycled materials and can be produced economically at a large scale. Finally, should the Iraqi government choose to support such initiatives, a process can be implemented that switches from the current practice of the government purchasing farmers' produce at double or triple the market price, to new and more sustainable forms of support in the form of providing farmers with kits to produce food using hypo-technology.

In addition to the reforestation programme, the MRI also identifies areas for the establishment or expansion of protected green parks across Iraq, a means to protect such areas for future generations while also limiting desertification and temperature increases. This effort capitalises on the strategies identified in the Strategy for Water and Land Resources in Iraq and promotes the treating of sewage and other recyclable water resources to be used for irrigation, while simultaneously modernising Iraq's irrigation system to reduce leakage and land loss to salinisation.

Looking to the future, these initiatives can also be linked up in a regional framework. Agricultural companies can be formed including Turkish, Iranian, Saudi and Iraqi companies, taking advantage of Iraq's long growing season. Such initiatives would rely on increased efforts by Iraq to properly manage its water resources in conjunction with Iran and Turkey, where much of this water originates, while merging know-how from Turkey and funding support from Saudi Arabia to make such initiatives sustainable. The ultimate objective is not simply to produce food for the region (and possible even the world) but also to establish a dynamic that helps promote stability across Iraq and the region, thereby indirectly strengthening efforts to relaunch intra-regional dialogue and cooperation as opposed to the current state of zero-sum competition that has long dominated this area of the Middle East.

Other dimensions of this Mesopotamia Revitalisation Initiative are outlined below. In keeping with the overall objective of creating avenues for internal and well as intra-regional cooperation, these initiatives also rely on an effort to foster co-dependency and co-existence in the region, thereby countering the last half century of competition and rivalry played out in Iraq and the region.

7. Solar power and green hydrogen: Freeing Iraq from the hydrocarbon curse

Iraq's economy is highly reliant on hydrocarbon resources. Currently, between 92–94 per cent of Iraq's GDP is accounted for by the extraction and export of crude oil, with minor additional income from the export of other minerals such as sulphur. As the world approaches the post-oil future, global demand will decrease, causing significant strain on Iraqi finances. Yet, Iraq has huge untapped potential in terms of solar power, where photovoltaic (PV) cells are about three times more productive compared to those installed across Europe.¹⁵ If planned appropriately, Iraqi deserts can produce ample amounts of clean electricity via the development of solar plants and photovoltaic cells, also allowing for re-export to the region. Meanwhile, electricity that is not consumed can be converted to green hydrogen using large-scale electrolysis and the energy of the sun can be stored temporally (seasonally or for night use).

Strengthening Iraqi capacity to produce green energy can also serve the broader purpose of promoting intra-regional cooperation and rapprochement. An agreement with Turkey could be reached whereby Iraq would produce electricity from PV during the day while Turkey uses hydroelectric dams to supply the network at night. Meanwhile, green hydrogen can be produced in southern Iraq to supplement this electricity production used in both countries. Such an approach would provide both Turkey and Iraq with a stable supply of clean electricity, including with a potential export capacity to Eastern Europe, while simultaneously helping to encourage broader bilateral agreements on water management, particularly in the upper reaches of the Tigris and Euphrates rivers.

Such a scheme would likely require a decade or two to be fulfilled, but political and geopolitical questions will also need to be resolved. In light of this, and to contain the possibility that ongoing competition between Turkey, Iran and Saudi Arabia could scuttle such efforts, a broader regional lens will likely be required. In this regard, expanding the PV forests from Iraq into Saudi Arabia and Iran could provide a degree of co-ownership and complementarity of interests in promoting such an effort, while simultaneously reserving the most fertile lands in southern Iraq for reforestation and food production as outlined above.

If successful, such a co-dependency between the four countries – Turkey, Iraq, Iran and Saudi Arabia – would strengthen the common interest for stability in Iraq, thereby increasing the space for implementation of the above initiatives needed to produce sustainable electricity generation and the associated green hydrogen, for the benefit of Iraq and its neighbours. Taking inspiration from the trajectory

¹⁵ See for instance, United Nations Development Programme (UNDP), *Testing the Potential of Solar in Iraq*, 24 June 2020, <https://www.undp.org/iraq/stories/testing-potential-solar-iraq>; Mohammed T. Hussain and Emad J. Mahdi, "Assessment of Solar Photovoltaic Potential in Iraq", in *Journal of Physics: Conference Series*, Vol. 1032 (2018), Article 012007, <https://doi.org/10.1088/1742-6596/1032/1/012007>.

embraced by Europe after two devastating world wars – and which led to decades of peace on the continent – there is no reason why the Middle East should go through another set of wars and conflicts before reaching stable and peaceful co-existence.

The best way to support such objectives is by harnessing the private sector. Each of the power-producing plants developed in Iraq, Turkey and the region could become an independently operated centre that sells electricity to the highest bidder, while ensuring adequate maintenance and upgrades in the infrastructure. Initially, electricity will need to be supplied through the existing thermal and hydroelectric plants already in operation, but gradually new and more sustainable plants can be established, eventually replacing the older thermal plants. Such an electricity network can be operated by a publicly owned company that includes at first the Turkish and Iraqi governments as the largest shareholders before opening up the system to private investors through public offerings. Such a structure will ensure a fast conversion of existing plants while also accommodating the eventual entrance of third actors, including Iran and Saudi Arabia, if and when the respective political leaderships endorse such models of cooperation.

8. Water management

Iraq loses no less than 8.5 billion cubic metres annually to evapotranspiration, according to the Strategy for Water and Land Resources in Iraq.¹⁶ With higher temperatures compared to other localities in the region, this evaporation is expected to increase in the near future. Instead of storing water in Iraq where the reservoirs are shallow and elevation is such that evaporation is about 3 metres per annum, the MRI proposes that Turkish dam infrastructure be used to store water with greater efficiency. Evaporation rates in Turkish dams are much less pronounced than in Iraq, given that Turkish reservoirs are mostly located in the high mountains and are therefore deeper as well as having a smaller surface area for the same volumes of water (in Iraq, reservoirs are shallow and thus have a large surface area).

Such proposals for cooperation between Turkey and Iraq are not new. Similar initiatives were first suggested in 1946, when the Turkish-Iraqi friendship treaty was signed. This gave Iraq the right to build dams on the upper reaches of the Tigris and Euphrates in coordination with Turkey for the benefit of both peoples.¹⁷ Given

¹⁶ See for instance Shukri Al Hasan, "Drought Ignites Tribal Conflicts in Southern Iraq", in *Planetary Security Initiatives News*, 17 August 2020, <https://www.planetarysecurityinitiative.org/node/2952>. Other sources place the yearly amount of evaporation at 15.7 billion cubic metres, see Safaa Khalaf, "Climate Change and the Water Crisis in Iraq: Indicators of Vulnerability and the Severity of Environmental Impact", in *Assafir Al-Arabi*, 2 October 2022, <https://assafirarabi.com/en/48880>.

¹⁷ Iraq and Turkey, "Treaty of Friendship and Neighbourly Relations between Iraq and Turkey", signed at Ankara on 29 March 1946, in *UN Treaty Series*, Vol. 37 (1949), p. 281-331, <https://treaties.un.org/doc/Publication/UNTS/Volume%2037/v37.pdf>.

that the dams have already been built, there is a basis to negotiate operational rules for hydroelectric plants. This will save the water from evaporation in Iraq while buying more time to allow for the modernisation of water and irrigation infrastructure in Iraq. Such an approach would for instance allow for the draining of the Mosul dam reservoir – recently renovated by an Italian company, Trevi – but still considered one of the world’s most at-risk dams. The draining of the reservoir will allow for injection of the foundation without dealing with the hydrostatic pressure of the reservoir, thereby allowing authorities to increase safety at the dam while increasing its utility.

Those who object to such an arrangement on the basis that this would give Turkey the upper hand strategically forget that Iraq is facing water bankruptcy – but also ignore that the other parts of this plan provide Iraq with strong benefits and leverage as well, meaning that Turkey and Iraq would basically be on an equal footing should such an initiative come to full fruition.

9. Transportation and transit rights

To increase the regional dimension of this series of interlinked initiatives outlined in the MRI and specifically to attract buy-in and support from states on the Arabian Peninsula, new gas connectivity links can be promoted. These could link the Gulf Cooperation Council (GCC) countries to Iraq, Turkey and Eastern Europe, creating added incentives for all actors involved to promote the stabilisation of Iraq and its emergence as a key transit and transportation hub for the region and Europe.

Connected to such energy connectivity potential, recent discussions in the region on the need to promote land transportation routes would also provide complementarity to such objectives. In this domain, one can envision new railway and highway links connecting Omani ports to the United Arab Emirates and northwards through Kuwait to Basra in southern Iraq all the way to Berlin via Turkey.

This idea is based on an old German-Ottoman proposal for a Berlin-Basra train link that was supposed to be an answer to the Suez Canal and would have provided the railway company rights to extract minerals from Iraq (e.g., sulphide, tar, gas and phosphates, among others). These rights were handed over to the British and French as compensation after WWI and became the core assets of the Iraq Petroleum Company.

Such a land link would compete with Rotterdam for faster transportation to Eastern Europe as well as giving Turkey an opening to GCC countries for its products. Trucks that come loaded with Turkish and European goods can go back loaded with freight from the east intended for destinations in Eastern Europe. Fast transit requires an agreement between countries to accept and use unified manifests and regulations, thus opening borders and standardising trade mechanisms, a process

that holds important similarities to how the European Common Agricultural Market worked, leading ultimately to the establishment of the European Union.

10. Future prospects

The initiatives and overarching vision outlined above are no doubt ambitious. They require significant political will and ample work to implement economic models capable of attracting required investments from sovereign wealth funds and institutional investors. Political and security conditions arguably represent the most significant challenges and much will depend on the choices made by the leadership in Iraq and neighbouring states. At the time of writing, the conditions that would allow for such drastic changes in the region are not present, but considering the multidimensional challenges facing Iraq and its neighbours, from climate change to the energy transition and continued population growth, the benefits of such visions grounded in interdependence and cooperation cannot be disputed.

Looking to the past, the nations of the Arabian Peninsula faced financial bankruptcy in the 1940s when Japan developed pearl farming, depriving Kuwait and the Emirates of their main source of livelihood. These nations were subsequently saved from financial ruin by the discovery of oil, which the leaderships of the Gulf have used with caution and with an eye towards creating wealth for future generations.

While the states of the Arabian Peninsula learned their lesson from this loss of pearl revenue, Iraq and Iran have arguably yet to appreciate that they are facing financial ruin once the oil era comes to a close. The time will come when the leaders of Iraq and Iran will have to face the consequences of not preparing for the post-oil future, finding alternative means to provide opportunities and sustenance for new generations. Amidst continued population growth and rampant corruption, not much time is left for Iraqi authorities to begin implementing the required reforms. Should the authorities fail to provide new opportunities and future sustenance, Iraq will face new waves of popular demonstrations, followed by political repression and social polarisation, potentially leading to conflict and new migration waves across the region and even Europe.

In this regard, the urgent need to imagine alternative futures for Iraq and the region is not only in the interest of these states and societies, but is arguably also central to the European Union's own interests vis-à-vis Iraq and the broader Middle East. In this regard, the initiatives outlined above – which are compatible with the EU Green Deal and other climate change policies, including the recent EU Global Gateway strategy – provide openings for European states and institutions to support these processes, both politically and financially. Such support would also provide new investment opportunities for European companies and manufacturers, while helping to promote regional interdependence as an antidote to the current trends of intra-regional competition and rivalry.

Despite the tensions that permeate regional politics, the region's leaders implicitly acknowledge the need to work together for a better future for their peoples as the world moves away from its reliance on the oil that has supported the region's economy over the past century. The two iterations of the Baghdad Conference in Iraq and Jordan in 2021 and 2022 are testaments to this recognition – though as usual in the Middle East, there is a wide margin between expressed ideas and the reality on the ground.

Ultimately, there is no alternative to finding means of compromise and accommodation throughout the region, based on co-dependencies and economic cooperation. Such modalities alone can help states and societies in the region prepare for the impending climate emergency and associated energy transitions, elements that will fundamentally alter the current economic and socio-political models prevalent in Iraq and much of the region.

The proposals linked to Iraq's Mesopotamia Revitalisation Initiative are one dimension of such visions that seek to promote cooperation and interdependence between Iraq and its neighbours. Building on the legacies of the past while harnessing the new technologies of the present, this and other initiatives seek to place Iraq and the region on a new and more sustainable footing, one capable of providing answers for the needs of new generations while simultaneously strengthening national and local capacities to withstand and adapt to new global trends and challenges.

The EU's own legacy of integration via the pooling of resources in the European Coal and Steel Community is one potential inspiration for the ambitious goal of promoting regional integration and interdependence in the Middle East. This is what Saudi Arabia's Crown Prince, Mohammad Bin Salman, was referring to when he said in no uncertain terms that "the new Europe will be the Middle East",¹⁸ a statement repeated since 2018 and endorsed also by other leaders in the Arabian Peninsula as well.

Whether and to what extent such a vision comes to fruition will ultimately depend on the political will of leaders in the region and their ability to move away from zero-sum competition to embrace the spirit of compromise and cooperation for mutual benefit and sustainability. Such a transformation is no doubt difficult and challenging, but given the existential nature of the threats facing Iraq and the region, there are no alternatives to embracing the spirit of compromise for the benefit and prosperity of all, beginning from the future generations that will inhabit the broader MENA region.

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¹⁸ Frank Kane and Lojien Ben Gasseem, "MBS: Middle East Can Be the 'New Europe'", in *Arab News*, 25 October 2018, <https://www.arabnews.com/node/1393491>.

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