



Al-Attiyah Foundation Monthly Sustainability Digest

Expert sustainability opinion and insight

Climate Change: How Risky to Qatar and the World?

In January of this year, the World Economic Forum (WEF) released its Global Risks Report 2019 on the major threats to the world economy. For the third year in a row, the report stated that environmental-related risks account for three of the top five global risks by likelihood, and four of the top five risks by economic impact, namely: "Failure of climate-change mitigation and adaptation," "Extreme weather events," "Water crises," and "Natural disasters." Finally, the report bleakly concluded, "of all risks, it is in relation to the environment that the world is most clearly sleepwalking into catastrophe." The Middle East Institute has found that the literature on climate change risks in the Middle East and North Africa (MENA) region has focused mainly on the issues of temperature increase and water scarcity, as both phenomena have been directly affecting the populations. However, there are also lesser-known issues, such as sea level rise, which is making the region increasingly vulnerable to climate change. Research by the institute on Arab Coastal Cities, clearly demonstrates how sea level rise on Qatar's Capital city of Doha represents a critical threat to many coastal cities in the region and a national security challenge to affected nations. In this month's digest, we explore the diverse nature of climate impacts and the need to have a balanced approach to mitigation and adaptation.



Executive Summary

- The implications and challenges of climatic impacts are already evident in all regions of the world;
- Nations are correctly paying attention to "Adaptation" against the backdrop of mounting evidence of the adverse effects of climate change;
- Efforts to mitigate and adapt to climate change also produce "opportunities" for nations and organizations.
- A well-coordinated strategic approach is necessary to combat climate change and avoid all associated risks.

Acknowledgement of a Need for Adaptation

Many oil exporting countries have emphasized adaptation as an important consideration in their climate change strategy. Qatar, for instance, is susceptible to sea level rise that could cause inland flooding in its coastal areas. The country also lacks sufficient fresh water and food supply due to minimal rainfall levels. With the support of the (UNFCCC) United Nations Framework Convention on Climate Change, Qatar, seeks to combat these adverse climatic effects by adopting adaptation strategies. Qatar's National Vision 2030 aims to reduce the dependence on fossil fuels. This has seen the country open its 350-megawatt solar project, which is expandable on the site to MW700, while also empowering its citizens to unlock their potential, promoting creativity and innovation.

Other countries that have acknowledged climate change as an important concern in their state development strategies include Kenya, India, Burkina Faso, Ghana, Bangladesh, and European Economic Area (EEA) countries. Similarly, a Collaborative Adaptation Research Initiative in Africa and Asia was conceived, which saw the drought-tolerant seeds being introduced in the Agricultural sector, protection of Freshwater bodies from saline intrusions, increasing the number of health care workers to deal with vector-borne diseases triggered by climate change, among others. Island states such as Belize and Jamaica among other Caribbean countries, who signed the Paris Agreement have also discovered ways to deal with Hurricanes by predicting continuous rise in Global temperatures while combating human-induced climate change and reduction in emission of Greenhouse gases.



Climate Impacts and Challenges

Human basic needs, such as food, water, health, and shelter, are affected by climate. Changes in climate may threaten these needs with increased temperatures, sea level rise, changes in precipitation, and more frequent or intense extreme events. Climate impacts will affect individuals and groups differently.

Climate change may also threaten key natural resources, affecting water and food security. Conflicts, mass migrations, or environmental stresses in other parts of the world could raise economic, health, and national security issues here in Qatar.

Although climate change is an inherently global issue, the impacts will not be felt equally across the planet. Impacts are likely to differ in both magnitude and rate of change in different continents, countries, and regions.

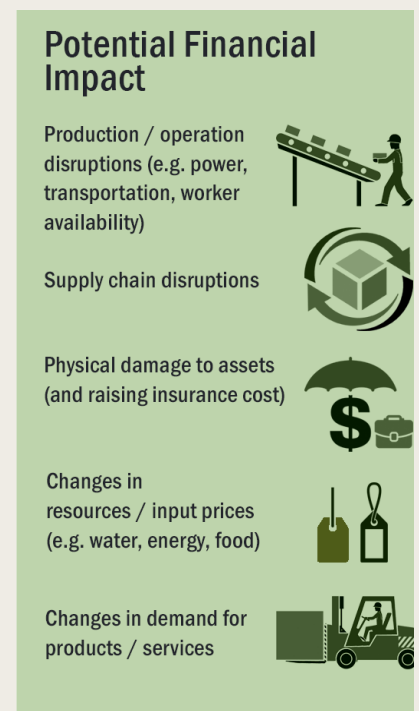
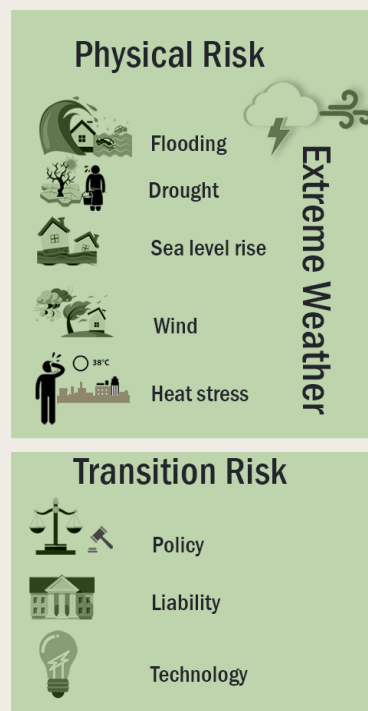
Complex System

The climatic system is highly complex, and so are the institutions affected by and aiming to address climate change issues. It remains challenging for such human institutions to develop strategies that respond to and address climate change as it raises political, economic, ethnic, and social challenges. It involves many dimensions – science, economics, society, politics and moral and ethical questions – and is a global problem, felt on local scales, that will be around for decades and centuries to come. Carbon dioxide, the heat-trapping greenhouse gas that has driven recent global warming, lingers in the atmosphere for hundreds of years, and the planet (especially the oceans) takes a while to respond to warming. Similarly, the release of Methane, which has the ability to trap 25% more heat than Carbon Dioxide can cause an increase in crop-eating insects. A related study found that, for every 1-degree Celsius increase in temperature, insects will eat 2.5% more of the crops in the world.

Different Risks

New research by Acclimatise, C40, the Urban Climate Change Research Network (UCCRN), and Global Covenant of Mayors for Climate & Energy reveals a staggering number of cities and citizens threatened by direct and indirect climate risks.

This new research predicts how many urban residents will face potentially devastating heat waves, flooding and droughts by 2050 if global warming continues on its current trajectory. The study titled “The Future We Don’t Want – How climate change could impact the world’s greatest cities” also looks at indirect climate impacts and estimates how climate change under a ‘business-as-usual scenario’ will impact urban food security and energy systems as well as the urban poor, who are most vulnerable to climate change.



The study’s findings showed that by 2050:

- 1.6 billion people living in over 970 cities, will be regularly exposed to extreme high temperatures.
- Over 800 million people, living in 570 cities, will be vulnerable to sea level rise and coastal flooding.
- 650 million people, in over 500 cities, are at risk of water shortages due to climate change.
- 2.5 billion people will be living in over 1,600 cities where national food supply is threatened by climate change.
- The power supply of 470 million people, in over 230 cities, will be vulnerable to sea level rise.
- 215 million poor urban residents, living in slum areas in over 490 cities, will face increasing climate risks.

Warming and Rise of the Seas – The Main Potential Threat to Qatar

In its fifth assessment report, the United Nations' International Panel on Climate Change (IPCC) explained the situation in a sober manner: "Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen."

Current trajectories of global warming, as calculated by the present commitments of member countries to the UNFCCC under the Paris Agreement (COP21) indicate that the world might face a global increase in temperature of 3 to 3.5 degrees Celsius by the end of this century — a particularly high level of temperature increase that is very likely to cause about two meters of sea level rise by the by the end of this century and several meters more during the next.

Research by Dr. Laurent A. Lambert and Dr. Cristina D'Alessandro on Climate Change, Sea Level Rise, and Sustainable Urban Adaptation in Arab Coastal Cities have found that at the global scale, warmer waters have already led to devastating consequences for marine life. The research carried out at the Middle East Institute found that in the already warm waters of the Arabian Gulf, which constitute the habitat and traditional source of seafood for the Arab world's coastal cities and villages, bleaching corals are plainly evident in many areas. The overall marine fish stock has been declining almost everywhere in the Gulf. However, the greater risks to Qatar relate arguably to onshore, or more precisely, at the moving barrier of what is off and what is onshore. The majority of Qatar's population reside on at-risk coastal areas or nearby and are vulnerable to sea level rise.

The study by the Middle East Institute also looked closely at the small peninsular state of Qatar, which has important coastal urban areas, including the capital city of Doha, which is located on the Gulf coast and whose hinterland does not extend beyond a hundred kilometres. Doha's most economically and politically important areas are all adjacent to the waterfront. The Interim Coastal Development Guidelines point out that one of the four main coastal zones is "likely to be inundated due to rise in sea level consequent upon global warming." Against the background of the negotiations on the Paris Agreement, the Ministry of the Environment published in 2015 an even more alarming statement in Qatar's official communication to the United Nations Framework Convention on Climate Change:

"Qatar is extremely vulnerable to sea level rise as it is liable to inland flooding of 18.2% of its land area, at less than 5m rise in sea level, along with the associated adverse impacts on the population as 96% are living on the coastal areas". - (State of Qatar, Ministry of Environment, Intended Nationally Determined Contributions (INDCs) Report (November 19, 2015).

As a result of this clearly identified major risk, important and innovative master planning efforts have been made, such as the Qatar National Master Plan and the more recent Climate Change Strategy for the Urban Planning and Urban Development

A strong case for balance between "Adaptation" and "Mitigation"

Most of the nations are already experiencing varied temperatures, a shift in seasons, and fluctuations in the incidence of weather events. Since such changes cannot be avoided, societies will need to adapt to these climate extremes.

Adaptation is the process in which nations adjust to the current impacts while preparing for the expected climate changes. It refers to the practical actions, strategies, and processes that seek to lower the risks posed by these changes, as well as, make the most beneficial opportunities, such as longer planting seasons or increased crop production in certain areas.

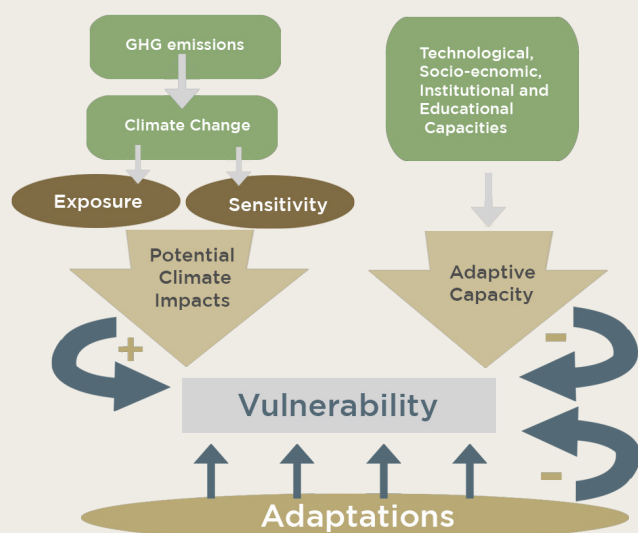
Adaption measures can either be planned in advance or in response to a climate change, which may both large-scale infrastructures and behavioural shifts. Examples of adaptation measures include using scarce water resources in an efficient manner, the development of drought-tolerant crops among others. Through the United Nations Framework Convention on Climate Change (UNFCCC), countries have come together to educate citizens on the potential hazards of Climate Change and come up with measures to minimize the magnitude of disasters triggered by it.

EEA member states	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Austria															No policy
Belgium															
Bulgaria															
Croatia															
Cyprus															
Czech Republic															
Denmark															
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Vulnerability

Climate change adaptation can also help to reduce vulnerability. The (IPCC) asserts that there exist three components of vulnerabilities as it relates to climate change: exposure to hazards, sensitivity, and adaptive capacity to hazards. Adaptation strategies reduce vulnerability by building adaptive capacity so that people may benefit from climatic change opportunities. The Republic of Korea designed a plan that saw the promotion of integrated fish management and the increase of aquaculture production, reducing the pollution of water bodies. Countries such as Kenya and India have also put up disaster reduction measures to deal with extreme weather events, by strengthening their hydro-meteorological firms, to be prepared for climate forecasts and projections.

Below is a mechanism on how adaptation reduces the vulnerability to climate change.



Climate-Related Opportunities

Efforts to mitigate and adapt to climate change could produce opportunities for organizations, for example, through resource efficiency and cost savings, the adoption of low-emission energy sources, the development of new products and services, access to new markets, and building resilience along the supply chain.

In an era where there is an increasing call for transparency in reporting climate-related risks, businesses and organisations can gain competitive advantage by focused attention to climate resiliency. This will help protect core operations, reduce liabilities and avoid damage to the bottom line. Capitalising on market trends is another significant opportunity. Those organisations with a keen eye to develop or extend existing products and services to help others adapt could significantly increase revenues. Organisations are already identifying numerous short and long-term opportunities

For example, many large multi-national organisations have reportedly observed an increase in shareholder interest in climate resilience and are responding accordingly. Demonstrating to shareholders that the impacts of climate change are being managed can provide reputational benefits.

Their concern is not only to do with the impacts associated with climate change, but whether it is being considered as a risk by the company. Taking into consideration matters like climate change also sends a good signal to investors.

Furthermore, some banks and other lenders are becoming increasingly interested in the potential impacts of climate change on their investment portfolios. For instance, 80 financial institutions are currently signatories to the Equator Principles, which includes the specific requirement to manage climate change risks as part of their performance standards.

Leveraging South-South Cooperation for Climate Action

South-South cooperation has enormous potential to assist with the adaptation and preparedness of nations toward climate related impacts. South-South is a collaboration framework among nations of the South in different domains: politics, economy, social, culture, environment and technology. This involves traditional donor countries and multilateral organizations coming together to provide funding, training, management and technological systems among other forms of support, in an arrangement better known as the triangular cooperation. Through concerted efforts, the developing countries involved, are able to share information, skills, and resources that enable them to attain the sustainable development goals (SDGs).

A new report highlighting the role of South-South Cooperation in sustainable development and climate change challenges was launched last May at the UN Climate Change Conference. The report, called *"Catalysing the Implementation of Nationally Determined Contributions in the Context of the 2030 Agenda through South-South Cooperation,"* was created in a joint effort by the United Nations Executive Office of the Secretary-General, and the Secretariat of the UNFCCC.

The study focused on the linkages of national climate action plans (nationally determined contributions, or "NDCs") and sustainable development goals (SDGs), and highlights how a country can further climate action through South-South Cooperation.

A crucial focus is placed on how the priority areas outlined in countries' nationally determined contributions (NDCs) can act as an entry point for South-South cooperation and can boost climate action and sustainable development.



Conclusion

The ever-growing threat of climate change requires strategic intervention on both fronts – adaptation and mitigation. In countries where urbanization is on the rise, the preservation of arable land should be mainstreamed and instilled in the people. Water bodies should be preserved and developing countries should be helped in their quest to deal with the multifaceted impacts of climate change. Abundance of evidence shows that there is need to urgently assess vulnerabilities and identify adaptation options. Early planning can reduce future adverse impacts. The ultimate solution lies with governments, society and individuals – and requires changes in behaviour, technologies and practices to enable a transition to sustainability.



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