

## CONTENTS

### INTRODUCTION

- I- Overview of key climate threats in the MENA-GCC-Turkey Region**
- II- NDC Profiles for the MENA, GCC, and Turkey countries**
  - a) Status of ratification of the Paris Agreement's NDC (INDC) submissions and Targets
  - b) Mitigation/Adaptation targeted sectors and financial needs
- III- Short survey among experts from some of the targeted countries**
- IV- Survey results analysis**
- V- Review of the status of climate finance in the targeted countries**
- VI- Opportunities of access to the NDC Partnership's Climate Action Enhanced Package (CAEP) by the targeted countries**
- VII- Sub-National Climate Fund as a new regional climate finance opportunity for the targeted countries**
- VIII- Policy recommendations**

### CONCLUSION

### REFERENCES

### ACKNOWLEDGMENTS

### DISCLAIMER

## INTRODUCTION

The United Nations Framework Convention on Climate Change “UNFCCC”<sup>1</sup>, is a long process that started back in 1992 as a framework for international cooperation to combat the changing climate by limiting average global temperature increases, and coping with its impacts. To strengthen the international cooperation, a global response to climate change was needed, and countries started negotiations that led to the adoption of the legally binding Kyoto Protocol<sup>2</sup> that focuses on developed country Parties to emission reduction targets. Kyoto Protocol’s first commitment period started in 2008 and ended in 2012. The second commitment period began on 1 January 2013 and ended in 2020. The 2015 Paris Agreement, adopted in Paris on 12 December 2015<sup>3</sup>, marks the latest step in the evolution of this UNFCCC process and builds on the work undertaken under the Convention.

2015 was a historic year in which 196 Parties accepted to sign the Paris Agreement<sup>3</sup> with the pledges to transform their development trajectories so our world is put on a sustainable development track, aiming at limiting warming to 1.5 to 2 °C above pre-industrial levels. On the other hand, Parties to the Paris Agreement, agreed to a long-term goal for adaptation to increase the ability to adapt to the adverse impacts of climate change and accelerate climate resilience and lower their carbon footprint in their national development strategies, without threatening means of subsistence. Developed countries pledged also to work towards making finance flows available to developing countries to build climate-resilient development projects.

As of October 2021, 191 out of 197 Parties to the Convention are Parties to the Paris Agreement. These 191 Parties have all submitted their first Nationally Determined Contributions (NDCs)<sup>4</sup>, and only 11 of them have submitted their second NDCs from which only three from our targeted countries have submitted their updated NDC, they are the UAE (*submission in December 2020*), Morocco (*submission in June 2021*) and Tunisia (*submission in October 2021*). NDCs constitute the pillar of the Paris Agreement and they are the only binding document that will guide the global community to achieve its long-term goals. NDCs are efforts that parties need to implement in order to reduce their national emissions and adapt to the impacts of climate change. The Paris Agreement (Article 4, paragraph 2)<sup>3</sup> requires each Party to prepare, communicate, and maintain successive NDCs that it intends to achieve within a 5-year cycle. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.<sup>3</sup>

## Where are we now?

The principal objective of the Paris Agreement is to limit global warming to well below 2°C and pursue efforts to limit the increase to 1.5°C by the end of this century<sup>3</sup>. For this, each country needs to take concrete actions. Based on the UNFCCC<sup>1</sup> principle “*common but differentiated responsibilities and respective capacities*”, each party of the Paris Agreement can update or submit its Nationally Determined Contribution (NDC)<sup>4</sup>, which shows and describes its package of climate activities. Countries can either present projects related to only mitigation actions or mitigation + Adaptation actions NDCs need to be updated every five years and must demonstrate increased ambition as compared to the previous one. The COP24 held in Katowice back in 2018, was an important Conference as it allowed to produce “The Katowice package”<sup>5</sup>. This document provides detailed guidance on how NDCs should be presented and the road map for implementing properly the Paris Agreement.

## What is the Concept behind Nationally Determined Contributions?

First, being a bottom-up approach, each party of the Paris Agreement determines its contribution in the context of its national priorities, circumstances and capacities within the six following pillars:

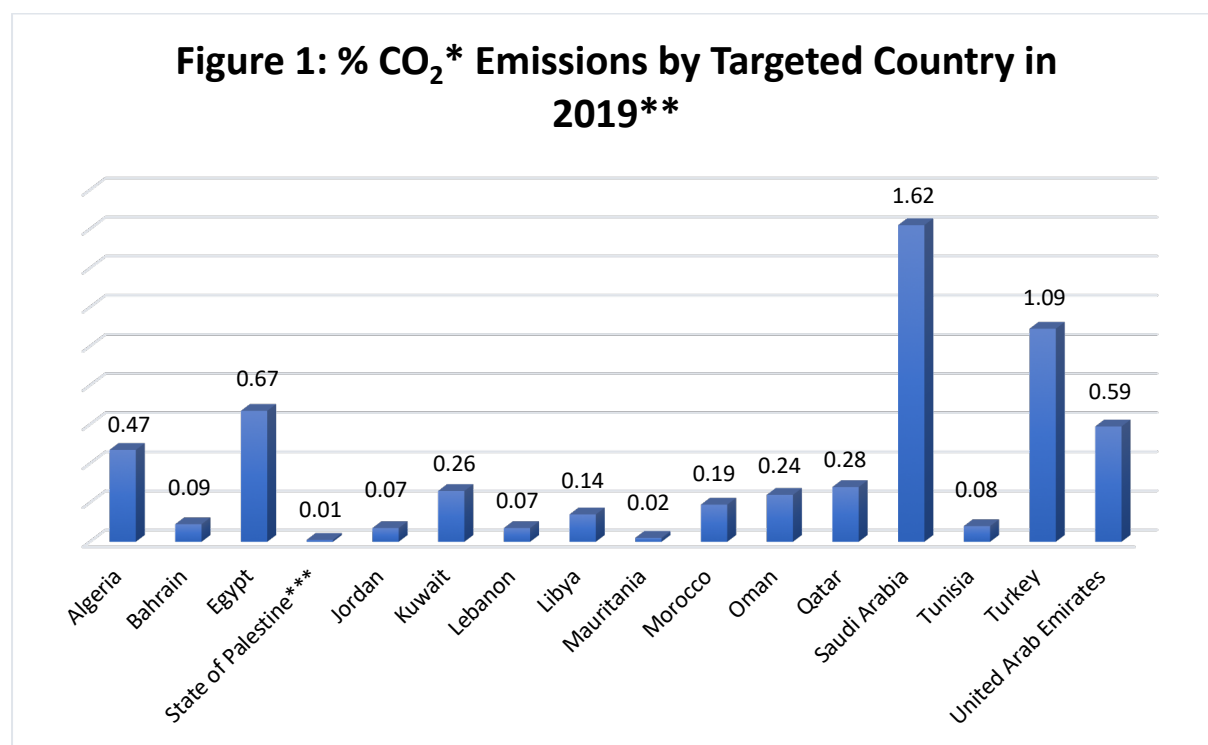
- 1- **Mitigation:** countries need to show how their submitted NDC will reduce their domestic GHG emissions
- 2- **Adaptation:** countries need to insure synergies between sustainable development, disaster risk reduction, and climate change. In most cases, NDCs cover mitigation strategies with expected resiliency actions
- 3- **Mitigation sectors and actions:** energy, energy efficiency, buildings, transportation, waste management, and agriculture can all be included as intervention sectors for parties NDC implementation
- 4- **Adaptation sectors and actions:** to cope with the impacts of recurring flooding, fluctuation in precipitations, droughts, rising temperatures, and sea levels rise, parties can put in place the right policies and invest in the appropriate technology accordingly
- 5- **Targets:** Mitigation actions are generally expressed as quantifiable objectives a country has chosen to track the effectiveness of their climate action
- 6- **Financial support:** Parties NDCs include generally requests for funding (conditional element of NDCs), technology transfer and capacity building, necessary for countries’ mitigation and/or adaptation interventions.

According to calculations we made from the 2019 data extracted from the European Commission’s EDGAR- Emissions database for Global Atmospheric Research (JRC 2020 Report)<sup>6</sup> (**Table 1**), the 16 targeted countries in this paper emitted around 2.24 billion tons of carbon dioxide. Indeed, in **Figure 1** we present a comparison between GHG emissions shares of the targeted countries compared to the 2019 Global CO<sub>2</sub> emissions from fossil fuels combustion and processes. A sum of the respective percentages shows that the 16 countries’ total emission is only 5.89%. These emissions are mostly from the energy sector<sup>7</sup>, a crucial component of economies due to the extensive oil and natural gas reserves that are found within the region.<sup>8-9</sup> **Figure 1**, also shows that the 5 countries emitting the most are in the decreasing order: KSA, Turkey, Egypt, UAE, and Algeria. The State of Palestine is the less emitter in this group.

**Table 1:** Targeted countries CO<sub>2</sub> GHG Emissions and % shares toward Global emissions<sup>6</sup>

<b>Country</b>	<b>2019</b> Mton CO <sub>2</sub> eq	<b>2019</b> % world total
1. Algeria	180.57	0.47
2. Bahrain	35.44	0.09
3. Egypt	255.37	0.67
4. State of Palestine ***	3.83	0.01
5. Jordan	28.34	0.07
6. Kuwait	98.95	0.26
7. Lebanon	27.44	0.07
8. Libya	52.05	0.14
9. Mauritania	7.66	0.02
10. Morocco	73.91	0.19
11. Oman	92.78	0.24
12. Qatar	106.53	0.28
13. Saudi Arabia	614.61	1.62
14. Tunisia	32.07	0.08
15. Turkey	415.78	1.09
16. United Arab Emirates	222.61	0.59
<b>TOTAL :</b>	<b>2247.94</b>	<b>5.89</b>

**Figure 1: % CO<sub>2</sub>\* Emissions by Targeted Country in 2019\*\***



\*CO<sub>2</sub> emissions from Fossil sources - \*\*Reference (JRC 2020 Report)<sup>6</sup> - \*\*\*State of Palestine data are from « Our World in Data<sup>10</sup>

The aim of this paper is to take a critical look at the status of the NDCs in the Middle East and North Africa and Turkey (MENAT) and Gulf Cooperation Council (GCC) countries. This includes an overview of the key climate threats these countries are facing and a risk estimation of how the situation could aggravate if the global temperature goal, of a minimum increase of 1.5 to 2°C, would be missed. It further comprises a critical look at the status of ratification of the Paris Agreement and a review of the countries target progress in their climate actions, their NDC updates, key sectors and their mitigation and adaptation targets. The support mechanisms set for these countries will be compared. Some experts from the region volunteered to express their perspective on the NDC implementation in their respective countries, the support allocated, and how these NDCs could be improved. This paper also includes an overview of the climate finance status and funded projects in the region as well as cross-national opportunities and key recommendations for the countries in the targeted region, entering another 5 year-round from 2020 to 2025.

While we were publishing this paper, the 193 Parties to the Paris Agreement have all communicated their first NDC. As of 16 June 2022, 167 Parties have submitted a new or updated NDC. We would like to recall here that the focus of this paper was to review the status of the NDCs during the first 5 years of implementation of the Paris agreement. Therefore, from our region, the NDCs submission order from recent to old is as follow: Tunisia 2<sup>d</sup> NDC on October 2021 (1<sup>st</sup> NDC was on 9 February 2017); Palestine 2<sup>d</sup> NDC on October 2021 (1<sup>st</sup> NDC was in August 2017); Morocco 2<sup>d</sup> NDC on June 2021 (1<sup>st</sup> NDC was

on 18 of September 2016); The United Arab Emirates 2<sup>d</sup> NDC on 29 of December 2020 (1<sup>st</sup> NDC was on 20 of September 2016); Lebanon on the 5<sup>th</sup> of February 2020, Oman 21 May 2019, Kuwait 22 April 2018, State of Palestine 28 August 2017, Egypt 28 June 2017, Qatar 22 June 2017, Mauritania 27 February 2017, Bahrain 29 December 2016, Jordan 3 November 2016, Saudi Arabia 2 November 2016, Algeria 19 October 2016. Libya's NDC information is still not available on the UNFCCC NDC Registry web site. For information, and even though it was not the purpose of this paper, we provide in Table 2 an updated status of NCD second submissions from the countries we focus on.

At the end of this review paper, we will draw a list of policy recommendations that we hope will be useful for our targeted countries. The region is facing critical moments due to the double challenge of putting in place Post COVID-19 recovery plans, and the updating of their NDCs . Therefore, we believe these challenges constitute a unique opportunity for them to increase their commitments, design and implement appropriate strategies and policies and mobilize efficient means of implementation for both challenges.

## I- OVERVIEW OF KEY CLIMATE THREATS IN THE MENAT-GCC-REGION

According to IPCC's 2014 report<sup>11</sup>, The MENA region is already facing serious water scarcity and food security. IPCC predicts that climate change will rapidly reduce precipitation in the region and the resulting hydrological changes could not only decrease water availability per person by 30 - 70% by 2025 but also agricultural productivity. The Panel predict climate change to heighten the risk of flooding in highly populated urban coastal areas<sup>11</sup>. In this section, we will put the light on the major climate threats in the various targeted countries.

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### **Algeria**

According to Algeria's submitted NDC<sup>12</sup>, the country is severely affected by desertification and land degradation. Most of the country is arid or semi-arid. The areas receiving more than 400 mm of rain per year are located in a narrow strip along the coast, not-exceeding 150 km large. Moreover, due to climate change, yearly average rainfall declined by more than 30% over the past decades. The country is particularly vulnerable to various aspects of climate change that undermine its economic and social development.<sup>12</sup>

This country is facing extreme climate events recrudescence, which accentuates its vulnerability. In addition, desertification is accelerated by the recurrence of long-lasting drought cycles.

On the other hand, Algeria has very often faced flooding phenomenon. Several regions witnessed tragic events resulting in heavy losses of human lives and considerable material damages. The 2001 catastrophic floods in Algiers resulted in the death of 715 persons and thousands of disaster victims. The recurrent floods continue to adversely impact public financial resources.

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## **Bahrain**

Climate change impacts have already been observed in Bahrain, and the Kingdom has undertaken climate change vulnerability and impact assessments. Within the country NDC, 4 key areas of intervention have been identified: coastal zones, water resources, human health, and biodiversity<sup>13</sup>.

From the impact assessment, it is expected that climate change impacts in terms of temperature increase, rainfall variability, and sea level rise will aggravate the already water stressed situation in the country. Bahrain NDCs stress therefore the importance to formulate a climate-resilient and integrated climate strategy in order to sustainably manage the country's natural resources, climate extreme weather disaster risks and population health.

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## **Egypt**

According to Egypt's submitted NDC <sup>14</sup>, the vulnerability of water resources to climate change depends on the Nile's flow, rainfall, and ground water. In the agricultural sector, climate change studies expect that the productivity of two major crops in Egypt, wheat and maize, will be reduced by 15% and 19%, respectively, by 2050. Losses in crop productivity are mainly attributed to frequent temperature increase, irrigation water deficit, and pest infestation and plant disease. Climate change is expected to increase sea water temperature, shifting fish distributions northwards to live in deeper waters. In addition, increased water salinity in the coastal lakes in Egypt is expected to negatively affect fish species.

On the other hand, coastal zones are expected to suffer from climate change direct impacts. These include sea level rise and the overflow of low-level land. Estimations indicate that sea level rise by 50 cm will lead to serious impacts on low-level lands in the Delta and adjacent highly populated cities such as Alexandria and Port Said. This will result in a more significant challenge, which is the migration of people from the affected areas to other areas, thus

affecting the efficiency of different services and increasing the financial cost required for their development. <sup>15</sup>

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## **Jordan**

Climate change is expected to affect Jordan's sustainable development in its 3 dimensions. According to Jordan's Third National Communication Reported to UNFCCC<sup>16</sup>, modeling and projections analyses predict vulnerability to affect various sectors.

Exercises of modern downscaling projection, confirms the highly vulnerable of the kingdom toward climate change impacts such as decrease in precipitation and increase in temperature and droughts. "Jordan is considered the 2<sup>nd</sup> poorest country in the world in terms of availability of water resources"<sup>16</sup>.

Predicted trends indicate that the annual precipitation tends to decrease significantly with time. Simultaneously, the mean, maximum and minimum air temperature tends to increase significantly by 0.02, 0.01, and 0.03 °C/year, respectively<sup>17</sup>. On the other hand, the relative humidity tends to increase significantly by an average of 0.08% per year. In addition, the dynamic projections predicted more extremely likely heat waves and likely drought events, dry days, and potential evaporation among other potential impacts <sup>18</sup>.

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## **Kuwait**

The State of Kuwait climatic conditions are mainly due to its geographic situation. A country report sent to UNFCCC<sup>19</sup> indicate that "The country geology, the characteristics of its soil, its vegetation cover and the patterns of land use, are all environmental challenges that induce additional burden to the already climatic variabilities such as higher temperatures rates, higher airborne dust, sand falling ratio, increased frequency of sandstorms, lack of seasonal rains, limited water resources, increased desertification and decline of vegetation cover" <sup>19</sup>.

According to Kuwait's INDC<sup>20</sup>, "the country is suffering from a rise in average temperatures. The annual average temperature is expected to increases by 1.6 °C by 2035 to reach its highest average temperature which is 28.7 °C.

Heat in summer time can reach more than 50°C in the shade. According to the INDC, this situation is accompanied by scarcity and lack of rainfall. The annual rainfall rate is 116 mm and it is expected to decrease by 2 mm per year in the coming years. This will cause a decline in groundwater levels of this Gulf country. Kuwait's low-lying coasts, flag the risk to sea levels rise associated with climate change. INDC show that with a sea level rise between 0.5 and 2 meters, Kuwait could lose 1.4 to 3% of its coastal territory, which will affect 5% of its GDP"<sup>20</sup>.



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## **Lebanon**

The Republic of Lebanon is facing several challenges as a result of climate change (Second National Communication)<sup>21</sup>. According to climate models, temperatures are expected to increase by around 1°C on the coast and 2°C in the mainland by 2040, and by 2090 they will be 3.5°C and 5°C higher, respectively. At the same time, rainfall is projected to decrease by 10-20% by 2040 and 25-45% by the year 2090<sup>22</sup>. Indeed, Lebanon's arid/semi-arid climate makes it water scarce and vulnerable to the impacts of climate change<sup>22</sup>.

Lebanon's INDC<sup>23</sup> show that the projected changes in rainfall will put tremendous pressure on national water security and will affect sectors such as agriculture that consume around 70% of water for irrigation. These climate changes will unfortunately negatively impact the other challenges the country is facing in the environmental, social and economic fields.

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## **Libya**

Although no information related to Libya's NDC is available at the time of preparing this paper, we have performed a literature review about climate impacts this country is and/or will face. The information below was extracted from a report released in February 2017 by USAID's Climate Change Risk Profile for Libya <sup>24</sup>.

The report explains that Libya with more than 90 % desert and with limited governance capabilities since 2011, faces considerable obstacles in adapting to global climate change. "Libya's economy is almost entirely dependent on hydrocarbon production and exports, which have decreased in quantity due to the conflict of the past five years and decreased in value due to the drop in oil prices".

While accurate data still missing, the study conducted by the USAID<sup>24</sup> showed an estimation that "one third of the Libyan population lives below the poverty line, and thus has limited resources to adapt to projected increases in temperature and extreme weather events. Over 85 percent of the population lives in urban areas, mostly near the coast, where water is more accessible. Water access has long been a concern for Libyans, and is expected to remain highly constrained. The same study showed that annual water demand in Libya is around one billion cubic meters, compared to annual ground water recharge estimated at only 250 million cubic meters"<sup>24</sup>.

Libya is one of the driest countries in the world; less than 2 percent of the country receives enough rain to support agriculture, and only 5 percent of the country receives more than 100 mm of rainfall per year.

It should be noted that the Mediterranean Sea and the Sahara Desert are the most important features of Libya's geography in determining climatic conditions, which include abrupt weather changes and sudden weather events across the country<sup>24</sup>.

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## **Mauritania**

Mauritania belongs to the African Sahel, the most affected area by recurrent droughts since 1968. The resulting desertification is stronger due to the effect of climate change combined with human action. This has had direct consequences on an already very precarious environment, namely the deterioration of the country's general socio-economic conditions and its physical environment. Mauritania's vulnerability to climate change, therefore, affects all vital sectors of its national economy<sup>25</sup>.

According to the climatic scenarios reported in the Third National Communication<sup>25</sup>, Mauritania should experience a strong socio-economic and ecological exposure to impacts of climate change. An increase of + 2.1°C in the average annual temperature over the whole country by 2050 and + 4.5 ° by the year 2100. A decrease in the annual volume of precipitation of 20% is expected by the year 2100; however, some regions like Adrar will experience 70% decrease compared to the current situation. This increase in temperature and decrease in precipitation would be accompanied by an increase in the frequency and intensity of extreme phenomena of drought and flooding paired with disruptions in seasonal distribution of precipitation. In terms of sea level rise, the coastline that stretches over 720 km shows already increased sensitivity to the phenomenon in Nouakchott. The local aquifer is exposed over almost the entire extent of the capital's built-up areas; in the event of small precipitations, drainage and sanitation becomes in general difficult<sup>25</sup>.

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## **Morocco**

An important and cross-cutting problem in the Kingdom of Morocco is the scarcity of water resources, the availability of which per inhabitant has decreased more than three times between 1960 (around 2,600 m<sup>3</sup> / year / inhabitant) and today (around 650 m<sup>3</sup> / year / inhabitant). The forecasts for the next few years are a continuation of the decrease in availability to reach only nearly 500 m<sup>3</sup> / capita / year in 2030. On the one hand, the problem is attributed to the growth of the population, but on the other hand, numerous studies demonstrate the increasing climatic variability, which leads to a significant decrease in rainfall. This latter has direct negative impacts on the outputs of the agricultural sector, which represents up to 15% of gross domestic product (GDP) and up to 80% of jobs in rural areas (around 40% nationally). These figures correlate positively with the annual rainfall rate, making the agricultural sector particularly vulnerable to the reduction in average rainfall due

to climate change<sup>27</sup>. (*Morocco's Updated NDC June 2021-Ministry of Energy Mines and Environment*).

To summarize, the Kingdom of Morocco is particularly vulnerable to three types of climatic impacts: increasing temperatures, changes in rainfall patterns, and increasing aridity. These types of impacts are associated with the amplification of the frequency and intensity of extreme weather events, such as severe droughts, floods, forest fires, heat and cold waves, storms and marine submersions, landslides, locust invasions, or snowstorms. A significant part of Morocco's population and several key sectors of its economy, such as agriculture and sea fishing, are particularly vulnerable to these hazards. The most important in terms of potential impacts on agriculture and water, and in human and economic terms, are the risks of flooding and drought, which can affect many parts of the country and reduce harvests<sup>26</sup>. Finally, national marine and coastal ecosystems are in their turn highly vulnerable to climate change due to their heavy dependence on climatic parameters such as upwelling, precipitation, temperature, salinity and winds. Consequently, fishing will be impacted at the national level<sup>27</sup>. (*Morocco's Updated - Ministry of Energy Mines and Environment NDC June 2021*).

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## **Oman**

Although actually, there is weak scientific data related to climate change in the Sultanate of Oman, the identified impacts indicated in the country's NDC are: tropical cyclone & storm surge, flash flooding, heat waves, sea level rise, coastal erosion, water scarcity and desertification, reduction in fisheries, and impacts on marine environment and agriculture<sup>28</sup>. According to Dr. Mushtaq Ahmed, from Sultan Qaboos University, in a 2013 publication<sup>29</sup>, climate-sensitive sectors such as rain-fed agriculture along with a fragile coastal system, constitute a challenge for the gulf country.

The increasing temperature, reduced precipitation and lack of adaptation strategies to cope with changing environmental conditions in various parts of the country are all elements that affect farmers everyday life. This has been largely discussed in Dr. Mushtaq's paper in which he explains that farmer communities' experiences of adaptation in view of changing environment and steps taken to mitigate climate induced change on agriculture are worth to be taken into consideration<sup>29</sup>.

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## **Palestine**

Like most of the MENA region countries, the State of Palestine is particularly vulnerable to the impacts of climate change, and implications on its economy, living standards and environment is well demonstrated<sup>30</sup>. Palestine's National Adaptation Plan (NAP) identifies a wide range of 'highly vulnerable' issues across 12 themes/sectors: agriculture, coastal and marine (Gaza Strip only), energy, food, gender, health, industry, terrestrial ecosystems, tourism (West bank only), urban and infrastructure, waste and wastewater, and water. Many of these issues have inter-connections more generally across themes/sectors, most notably, in relation to water, agriculture, food and energy <sup>30</sup>.

The State of Palestine's NDC<sup>30</sup> stresses that "particular circumstances mean that the National Adaptation Plan is focused on the implementation of immediate, near-future adaptation actions that address highly vulnerable themes/sectors under Israeli occupation". State of Palestine adaptation actions aim to reduce climate sensitivity or increase adaptive capacity in relation to each of the highly vulnerable issues across the 12 identified sectors, and take into consideration national development goals.

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## **Qatar**

According to the State of Qatar INDC<sup>32</sup>, the country suffers from a scarcity in drinkable water and local food supply with an average annual rainfall of only 82mm. State of Qatar depends highly on the desalination of the saline seawater as the main water sources in addition to the ground water. Sea level rise constitutes one of the stronger vulnerabilities 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.

The INDC report show also that extinction of species such as whales, dolphins and turtles might be due to the adverse effects of climate change, in addition to causing coral bleaching and other several impacts on the migration of some marine species and sea birds<sup>33</sup>.

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## **Saudi-Arabia**

According to the Kingdom of Saudi Arabia's INDC<sup>34</sup>, the country exhibits significant vulnerability to the adverse effects of climate change through physical, economic, and social factors. Desert ecosystems dominates the country over approximately 2.2 million km<sup>2</sup> of the Arabian Peninsula. The INDC also show that "climatic conditions range from semi- to hyper aridity, with extremely low rainfall (<150mm/year in most areas), high evapotranspiration and resultant water scarcity. Infrastructures on the coastlines may become vulnerable to sea level rise <sup>34</sup>.

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## **Tunisia**

The climate in Tunisia is particularly arid and variable, with precipitation ranging from 800 mm per year in the north to 150 mm per year in the south. Being one of the Mediterranean countries most vulnerable to climate change, Tunisia faces temperature increases, reduced precipitation, rising sea levels and extreme weather events such as floods and droughts. These risks are causing serious environmental and socio-economic impacts on the country<sup>35</sup>.

According to Tunisia's INDC<sup>36</sup>, exposure to climate change induce an average annual temperature increases across the entire country with +2.1°C to be reached by 2050; and a precipitation drop between 10 to 30 per cent by 2050 in certain regions, as compared to the current situation. On the other hand, Tunisia INDC show that there will be an increase in the frequency and intensity of extreme weather phenomena such as droughts and floods.

Climate vulnerability in Tunisia tackles principally water resources. Tunisia is already experiencing water scarcity and actual per capita/year of renewable water resources is around 385 m<sup>3</sup>. On the other hand, Tunisia's INDC show that the expected sea level rise will induce water resources losses through the salinization of coastal aquifers. This phenomenon would account for about 50 per cent of the current resources of these aquifers by 2030, amounting to almost 150 million m<sup>3</sup>.<sup>36</sup>

On the other hand, the physical vulnerability of the Tunisian coastline to rising sea levels has various direct and indirect socio-economic consequences, one of them is the loss by submersion of approximately 16,000 hectares of agricultural land in low-lying coastal areas<sup>35</sup>.

Finally, droughts caused by climate change will particularly affect rainfed cereal farming, which would decrease from a current average land area of 1.5 million hectares to about 1 million hectares in 2030, i.e., a reduction of approximately 30 %<sup>36</sup>.

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## **Turkey**

At the time this paper was being drafted, Turkey was still in the final processes of ratifying the Paris Agreement, and thus no indication on this country's NDC exist. Meanwhile, we have attempted to make a short literature review on the climate impacts and vulnerabilities of this country. Indeed, studies show that the weather in Turkey is becoming more extreme<sup>37</sup>. Local media says that in May 2020 there were record high temperatures in many parts of the country<sup>38</sup>. Turkish Ministry of Environment predicted temperatures will rise by 2-3°C on

average and precipitation to significantly reduce during the 21<sup>st</sup> century<sup>39</sup>. On another hand, experts predict precipitation may increase in the north<sup>40</sup>, and as well as more droughts and floods, due to the switching from snow to rain falling<sup>41</sup>. Experts predict also a worst scenario of a 7°C rise by the year 2100<sup>42</sup>.

In terms of sea level rise, Istanbul is at risk<sup>43</sup>. As an example, Kadikoy metro station is often threatened with flooding<sup>41</sup>.

Turkey is already a “water stressed” country; the amount of water per capita is about 1,500 m<sup>3</sup> a year. Due to population increase and climate change, the country will likely become “water scarce” (per capita below 1,000 m<sup>3</sup>) by 2070<sup>44</sup>. According to the latest best available science, climate change is causing droughts in Turkey<sup>45-46</sup>. On another aspect, glaciers in Turkey are retreating<sup>47</sup>, the largest remaining are the glaciers on Mount Ararat and these are forecast to disappear by 2065<sup>48</sup>.

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## **UAE**

The United Arab Emirates’s Environment Authority<sup>49</sup> requested from international expert organizations to assess the Impact of climate change on its ecosystems, infrastructures and economy. In this regard, the Stockholm Environment Institute<sup>50</sup> released a report in 2010 for Abu Dhabi, addressing the effects of climate change on ecosystems, infrastructure and the economy, including impacts on resident’s health. Several vulnerable elements were addressed. The first one was on sea level. Indeed, the report shows that approximately 85 % of the population and over 90 % of the infrastructure in the UAE is located within several meters of sea level in low-lying coastline areas (nearly 1,300 kilometers) as per the report endorsed by the Environment Agency of Abu Dhabi<sup>51</sup>. The Stockholm report found that the UAE could lose up to 6 % of its populated and developed coastline by the end of the century because of rising sea levels.

UAE’s climate is generally hot and arid. On the coast, humidity can reach over 90 % in summer and autumn. Inland is far less humid although the temperature is higher; sometimes, exceeding 50 °C in summer mornings.

UAE’s updated NDC<sup>51</sup> indicated that regarding water resources and natural disasters, global warming changes the balance between water supply and demand which could expand the worldwide gap in water availability. Some places in the UAE will be frequently flooded while others will suffer from constant drought and water shortage.

In respect of UAE’s agriculture, Climate Change will seriously affect the sector. Indeed, Higher temperatures, increased weeds and harmful insects will adversely affect some species of agricultural crops. It is also possible that changes in climatic trends will lead to

difficulties in finding local food since agriculture in the UAE would suffer from high salinity water invading underground freshwater reservoirs<sup>51</sup>.

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This overview of climate threats by country, has showed that most of the targeted countries suffer already negative impacts on their water resources, coastal areas, and food security via decrease of agricultural yields due to severe droughts and land degradation. It appears that in the MENA region and Turkey, the most cited climate change threats are: desertification and land degradation; extreme climate events mainly flooding; agriculture and fishing; water scarcity, salt water intrusion, and increased water salinity; and climate induced migration. While in the GCC countries, beside the issues related to water and food security due to decrease in rainfall and desertification, the other main climate issue cited was sea level rise as being the most serious threat. The phenomenon will affect population and infrastructures located sometimes within several meters from sea level in low-lying coastline areas. According to an interesting paper published back in 2008 by Dr. Mohamed Abdel Raouf Abdel Hamid Program Manager, Environment Research at the Gulf Research Center (GRC) in the Kingdom of Saudi Arabia<sup>52</sup>, man-made islands in the region might disappear due to sea levels rise. Dr. Abdel Raouf explain that underground water salinity will increase and more land degradation will occur in the region, leading to deterioration of biodiversity on land and in the Gulf<sup>52</sup>. The sea levels rise will also affect severely coastlines and marine life and could have negative consequences on desalination plants that are the main source of water for the region.

In the next section we will attempt to analyze in detail the various NDCs (or INDCs) presented by this paper's target countries, and we will see how these climate challenges have been dealt with in their UNFCCC submissions within the framework of the Paris Agreement.

## II- MENAT - GCC –COUNTRY NDC PROFILES

### a) Status of ratification of the Paris Agreement's NDC (INDC) submissions and Targets

**Table 2**, presents a summary of the data's extracted from the UNFCCC NDC registry<sup>53</sup>, related to NDC submissions from the 16 targeted countries in this critical paper. The data collected includes both INDCs and NDCs as they have been submitted by state parties. We would like to point out that, unless indicated otherwise, all targets have a 2030 horizon. As we can see in table 2, most of the countries are still in the stage of first submission. Only 5 countries had submitted their updated NDCs after 5 years of entry into force of the Paris Agreement. However, while were in the process of publishing this paper review, additional 4 countries submitted their updated NDC. The new order is now: the UAE being the first country in the MENA region to have revised its NDC, followed by Morocco whose second submission was on June 2021, Oman in July 2021, Tunisia, Palestine, Bahrain, Mauritania, and Saudi Arabia, which made their updated submissions in October 2021. For Turkey, it is a first submission.

From **table 2**, we notice that only 9 countries out of 16 presented so far quantified total mitigation targets toward 2030, with Palestine submitting two scenarios' targets toward 2040 (*case scenarios are explained in Table 2-foot note*). The top climate ambition targets trio are: Morocco with 45.5% GHG mitigation as indicated in the country's second NDC<sup>27</sup>, followed by Tunisia 41%, and Lebanon 30%. However, and since basically most of claimed mitigation targets have one unconditional and one conditional component toward International Climate Finance support, we notice in the table that beside the 5 countries that did not quantify their mitigation targets (Bahrein, Egypt, Kuwait, Libya, and Qatar), and adding to this list the Kingdom of Saudi Arabia (KSA) that provided only an amount of intended tons of CO<sub>2</sub> to avoid (base line not clear), Turkey that is on its way to ratifying the Paris Agreement, and Libya whose data is not available. The rest of the countries (Algeria, Jordan, Lebanon, Mauritania, Morocco and Tunisia) presented unconditional GHG mitigation targets with some variations in terms of the level of allocated domestic funding. The sequence is as follow: UAE 23.5%, Morocco 18.3%, Lebanon 15%, Tunisia 13% and Mauritania 12%<sup>54</sup>.

Two important elements should be noted in this NDC review. First, the mitigation effort pledged by the UAE might be partially driven by this country's use of the voluntary cooperation under article 6 of the Paris Agreement<sup>51</sup>, and second, the Kingdom of Saudi



Arabia (one of the larger oil producer in the region), state it will only engage in actions and plans in pursuit of economic diversification that have co-benefits in the form of GHG emission avoidances and adaptation to the impacts of climate change, as well as actions that have the potential of reducing the impacts of response measures<sup>34</sup>.

An important remark here is that most of oil producing countries in our review are cautious in terms of quantifying the degree of mitigation they aim to achieve. Most of them declare they will estimate their GHG reduction later on. As an example, the State of Kuwait will move forward only when financial and technological support will be made available through the mechanisms of the convention.

Finally, our review shows that two countries, Oman and Palestine, declared they will not allocate any domestic funding to fulfill their NDC.

**Table 2:** Status of Ratification of the Paris Agreement, NDC submissions, and GHG Mitigation Target\* (NDC Registry<sup>51</sup>)

Country	Ratification Date	First NDC Submission Date	Updated NDC Submission Status	Unconditional GHG Mitigation Target	Conditional GHG Mitigation Target	Total GHG Mitigation Target
Algeria	20/10/2016	20/10/2016**	No information available	7 %	15 %	22 %
Bahrain	22/08/2016	30/12/2016**	18/10/2021	No quantified target	No quantified target	No quantified target
Egypt	29/06/2017	29/06/2017**	No information available	No quantified target	No quantified target	No quantified target
Jordan	04/11/2016	03/11/2016**	No information available	1.5 %	12.5 %	14 %
Kuwait	23/04/2018	23/04/2018**	No information available	No quantified target	No quantified target	No quantified target
Lebanon	05/02/2020	05/02/2020**	No information available	15%	15 %	30 %
Libya	Not yet	Not yet	No information available	No quantified target	No quantified target	No quantified target
Mauritania	27/02/2017	27/02/2017**	12/10/2021	12 %	10.3 %	22.3 %
Morocco	21/09/2016	19/09/2016	22/06/ 2021	17 % <b>18.3 % (updated NDC)</b>	25 % <b>27.2 % (updated NDC)</b>	42 % 45.5 % (updated NDC)
Oman	22/05/2019	22/05/2019**	submitted on July 2021	0 % 4 % (updated NDC)	2 % 3 % (updated NDC)	2 % 7 % (updated NDC)
Palestine	22/04/2016	21/08/2017	10/10/ 2021	0 %	<b>24.4 % by 2040 (Independence<sup>***</sup>)</b> <b>12.8 % by 2040 (Status quo<sup>****</sup>)</b> 26.6 % (updated Independence <sup>***</sup> )	24.4 % by 2040 (Independence <sup>***</sup> ) <b>12.8 % by 2040 (Status quo<sup>****</sup>)</b> 17.5 % (updated Status quo <sup>****</sup> )
Qatar	23/06/2017	23/06/2017**	24/08/2021	No quantified target	No quantified target	No quantified target
Saudi-Arabia	03/11/2016	03/11/2016**	23/10/2021	130 million Tons Eq CO2 <sup>*****</sup>	Not applicable	130 million Tons Eq CO2 <sup>*****</sup>
Tunisia	10/02/2017	10/02/2017	10/10/2021	13 % 27% (updated NDC)	28 % 18% (updated NDC)	41 % 45% (updated NDC)
Turkey	11/10/2021	11/10/2021	No information available	No information available	21 %	21 % (according to proposed INDC) <sup>52</sup>
UAE	21/09/2016	21/09/2016**	<b>29/12/2020</b>	No quantified target <b>23.5 % (updated NDC)</b>	No quantified target <b>0 % (updated NDC)</b>	No quantified target 23.5 % (updated NDC)

\* Most targets are provided for the 2030 horizon

\*\* Country presented an Intended Nationally Determined Contribution (INDC) instead of NDC

\*\*\* Independence scenario—by ending the Israeli occupation, Government of the State of Palestine achieves independence and is able to exercise full control over its resources.

\*\*\*\* Status quo scenario – reflecting a continuation of the Israeli occupation of the State of Palestine. This does not mean that this is an acceptable situation.

\*\*\*\*\* Target is only provided in Tons Eq CO2 and will be achieved only through contributions to economic diversification and adaptation

## b) Mitigation/adaptation targeted sectors and financial needs

In this sub-section, we have attempted to analyze GHG mitigation and adaptation measures that each country is taking in the MENAT region and the GCC countries and Turkey, to cope with adverse effects of Climate Change as requested in article 4, paragraph 2, of the historic Paris Climate Agreement<sup>3</sup>. Indeed, **Table 3** is very informative in a sense that it helps identify country priorities in terms of sectoral engagement, capacity building, technology transfer, and financing needs. Based on this mapping exercise, we can classify the 16 targeted countries in four categories:

- 1- Country with well-defined mitigation and adaptation targets but no visibility in terms of what does it take to get there (Algeria, Bahrain, Kuwait, Lebanon, Oman)
- 2- Country with well-defined mitigation and adaptation targets relying only on external support (Egypt, Jordan, Mauritania, Palestine)
- 3- Country with well-defined mitigation and adaptation targets relying not only on external support but a substantial domestic effort is well defined (Morocco, Tunisia)
- 4- Country with well-defined mitigation and adaptation targets and relying mainly on domestic effort and keen to use voluntary cooperation under article 6 of the Paris Agreement (Qatar, KSA, UAE)

So far, the total requested conditional support is about **USD 146 billion**. Two countries remain, however, unclassified in this list, Libya and Turkey, because of lack of visibility regarding their ratification intension. However, by the time we are publishing this paper Turkey has announced submission of the PA ratification for approval to the parliament in October 2021.

**Table 3** clearly shows that almost all countries focus on the most promising sectors to mitigate their GHG shares. They are renewable energy, energy efficiency, agriculture and land-use, industrial processes, and waste management. On the other hand, and adaptation

wise, most of GCC countries consider coastal management and sea-level rise as the top priority to increase resilience, while management of water resources, fighting erosion and land degradation, and food security are cross-cutting objectives for all countries.

A final lesson from section II is that despite the actual decrease in the costs of renewable energy, technologies and storage improvement, meaning that green and reliable power can be obtained cost-effectively without further attachment to oil or coal powered generation, we unfortunately still see that several countries like Algeria, KSA, Qatar, and Turkey continue to rely on either fossil fuels or coal which in our opinion makes it difficult to meet the Paris Agreement temperature goal and specifically the 2050 carbon neutrality !

**Table 3:** Country profile in terms of mitigation/adaptation targeted sectors and financial needs

<b>Country</b>	<b>NDC Targeted Mitigation Sectors</b>	<b>NDC Adaptation Objectives</b>	<b>Unconditional financial allocation</b>	<b>Conditional financial needs</b>
<b>Algeria</b>	<i>Energy (Generation, Transport, Building and Industry); Industrial processes; Agriculture, Forests, Land use and Waste.</i>	<i>Ecosystem’s resilience (flooding and drought), Fight against erosion and rehabilitate its degraded lands-combat desertification; Integrate the impacts of climate change into sectorial strategies, in particular for agriculture, water management, public health and transport.</i>	<i>Not quantified in NDC</i>	<i>Although no quantified figure was provided, the provisional contribution of Algeria was submitted under the condition of access to new external financial resources from its bilateral and multilateral partners, as well as clean technology transfer on concessional and preferential terms and strengthening its technical capabilities.</i>
<b>Bahrain</b>	<i>Energy Efficiency, Carbon Capture and Storage, Renewable Energy.</i>	<i>Sea-level Rise, Water Scarcity, Food Security, Sustainable Urban Planning.</i>	<i>Not quantified in NDC</i>	<i>Although no quantified figure was provided in NDC, implementation will be undertaken in the context of financial support, technology-transfer and capacity building.</i>
<b>Egypt</b>	<i>Industry, transportation, agriculture, residential, renewable energy and energy efficiency, petroleum, waste management.</i>	<i>Coastal zones, Water resources and irrigation, agriculture sector, Health sector, rural areas, population and roads, tourism and energy sectors.</i>	<i>Not quantified in NDC</i>	<b>USD 73.04 billion</b> , both for mitigation and adaptation
<b>Jordan</b>	<i>Energy, transports, waste management, industries, water and agriculture.</i>	<i>Water sector; health sector; biodiversity, ecosystems, and protected areas; agriculture and food security; and sustainable</i>	<i>Not quantified in NDC</i>	<b>USD 5.2 billion</b> in international financing towards low GHG and climate-resilient development.

		<i>development-oriented socioeconomic adaptation.</i>		
<b>Kuwait</b>	<i>Energy sector and its activities; Improving petroleum products through producing clean fuel; energy production from municipal solid waste; Energy production from renewable sources.</i>	<i>Strengthening coastal information systems; Adapting to dust storms; Food Security; Use of district cooling system in the new residential cities; water resources.</i>	<i>Not quantified in NDC</i>	<i>Although no quantified figure was provided, Kuwait contributions are conditioned on receiving financial, technical and technological support from developed countries within the mechanisms of the UNFCCC.</i>
<b>Lebanon</b>	<i>Energy; industrial processes and other product use; agriculture, land-use, land-use change and forestry; and waste.</i>	<i>Biodiversity; Forestry and Agriculture; water.</i>	<i>Not quantified in NDC</i>	<i>Although no quantified figure was provided in NDC, implementation will be undertaken in the context of financial support, technology-transfer and capacity building.</i>
<b>Libya</b>	<i>No information available</i>	<i>No information available</i>	<i>No information available</i>	<i>No information available</i>
<b>Mauritania</b>	<i>Energy, Agriculture, Forestry and Land Use, Industrial Processes, Product Use, and Waste Management.</i>	<i>Agriculture, Water and Sanitation, Breeding, Housing, urban planning and territorial management, Protection of nature, Fisheries and maritime economy, and Health.</i>	<i>Not quantified in NDC</i>	<b>USD 17.6 billion</b>
<b>Morocco</b>	<i>Electricity production, Industry (excluding cement and phosphates), Cement sector, Phosphate sector, Buildings, Transport, Waste, Agriculture, Land Management and Forestry.</i>	<i>Water, agriculture, meteorology, fishing and aquaculture, forestry, health, habitat, land use and urban planning as well as oases, coastlines and mountains</i>	<b>USD 17.3 billion</b>	<b>USD 21.5 billion</b>
<b>Oman</b>	<i>Energy, Industrial processes, and Waste management.</i>	<i>Tropical cyclone, coastal erosion and sea level rise, Fisheries and marine environment; Water scarcity and desertification; Flood protection; Energy security; Food security; and Development of national adaptation strategy on climate impacts.</i>	<i>Not quantified in NDC</i>	<i>Not quantified in NDC, but country requests funding, capacity building and transfer of technology which will be provided by the UNFCCC.</i>
<b>Palestine</b>	<i>Renewable energy, Energy Efficiency (including lighting), Use of waste and cement production and for electricity production, reduction of methane from land fill, Hybrid electric vehicles, Modal shift programs, Compressed natural gas-powered vehicles, Afforestation</i>	<i>Food security, Land, water and human resources development in marginalized areas, Water harvesting and soil conservation, rainwater collecting wells</i>	<i>Not quantified in NDC</i>	<b>USD 10.6 billion</b>
<b>Qatar</b>	<i>Energy efficiency, Clean energy and renewables, Research and development, Education, and Tourism.</i>	<i>Water management, Infrastructure and transport, Waste management, awareness.</i>	<i>Not quantified in NDC</i>	<i>Do not apply</i>
<b>Saudi-Arabia</b>	<i>Energy efficiency, Renewable energies, Carbon Capture and Utilization/Storage, Utilization of gas, Methane recovery and flare minimization.</i>	<i>Water and waste water management, Urban planning, Marine Protection, Reduced desertification, Integrated coastal zone management planning,</i>	<i>Not quantified in NDC</i>	<i>Do not apply</i>

		<i>Early Warning Systems (EWS), Integrated water management planning.</i>		
<b>Tunisia</b>	<i>Energy, industrial processes, agriculture, forestry and other land use, and waste.</i>	<i>Water resources, agriculture, natural and artificial ecosystems, the coastline, health and tourism.</i>	<b>USD 1.8 billion</b>	<b>USD 20 billion</b>
<b>Turkey*</b>	<i>Energy, industrial processes and products use, agriculture land-use change and forestry, and waste sectors.</i>	<i>No information available</i>	<i>No information available</i>	<i>Turkey state it will use domestic sources and will at the same time request international financial, technological, technical and capacity building support, including finance from the Green Climate Fund.*</i>
<b>UAE</b>	<i>Energy, Industry Processes and Product Use, Waste, Agriculture, Land Use Change &amp; Forestry</i>	<i>Energy, infrastructure, health and environment, climate risk insurance, coastal ecosystems management, food and agriculture policies.</i>	<i>The UAE intends to primarily rely on domestic efforts to fulfill its NDC objectives; however, it may consider using voluntary cooperation under Article 6 of the Paris Agreement to partially fulfill these objectives.</i>	<i>Do not apply</i>

*\* Turkey's proposed INDC document <sup>54</sup>, is published on the UNFCCC website. We provide here the figures as they are stated in this document.*

### **III- SHORT SURVEY AMONG EXPERTS FROM SOME OF THE TARGETED COUNTRIES**

As indicated in the introduction, the objective of our survey was to assess the level of awareness and understanding of NDC implementation by experts from some of the targeted countries. Some of the goals were also to examine the reasons behind the policy gaps in certain targeted countries, and the actions that can realistically be implemented at national and regional levels.

To this end, kind request emails with a concept note were sent to individual senior experts from Morocco, Tunisia, Algeria, Libya, Egypt, Lebanon, Jordan, Palestine, Oman, Kuwait, UAE, and Turkey. The following questions were asked: What is the governance set-up for NDC implementation in your country; where does your country NDC stand in terms of implementation; what is the level of climate finance received within the frame of the NDC; and what changes in strategy and/or ambition should be taken into account in country's NDC within the updating process, if applicable.

When preparing for this survey, we initially were enthusiastic in terms of the importance of the subject and the questions asked. Unfortunately, we have struggled to have comprehensive responses, as most of the contacted individuals either claimed the subject was too complicated, they did not have sufficient data to respond, or simply they ignored our reminder emails.

The countries that have accepted to take the survey were Egypt, Jordan, KSA, Kuwait, Morocco, Palestine, and Tunisia. We are relatively satisfied with these results as they qualitatively provide us with three different, yet complementary, perspectives from North Africa (Morocco and Tunisia), the Middle East (Egypt, Jordan and Palestine), and the GCC (KSA and Kuwait). The survey results by country are as follow:

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#### **1- EGYPT (Eng. H. Aboelnaga)**

**What is the governance set-up for Nationally Determined Contributions implementation in your country?**

Environmental governance in Egypt started with the establishment of the Egyptian Environmental Affairs Agency (EEAA) in 1982 as the highest national authority in the country

responsible for promoting and coordinating all efforts related to environmental protection. Achievements have been made at the strategic level with the engagement of relevant stakeholders to develop: (1) the National Environmental Action Plan of Egypt 2002–2017, (2) several rounds of Egypt’s National Communication on Climate Change, (3) Intended Nationally Determined Contributions (INDC) to the Paris Agreement, (4) Egypt’s National Strategy for Adaptation to Climate Change and Disaster Risk Reduction, (5) the country’s National Energy Efficiency Strategy. Each of these developments has contributed to the mainstreaming of climate change in Egypt’s institutional structures <sup>55</sup>.

### **Where does your country’s NDC stand in terms of implementation?**

Several measures are currently being considered to adapt to the decreasing water resources or increasing Nile flows. Egyptian authorities are currently focusing on the following additional policies and procedures: Building institutional capacities of comprehensive collection and analysis of monitoring and observations and geographic data; Identifying indicators and conducting full assessment of vulnerable sectors and stakeholders; Enforcing environmental regulations; Identifying and applying protection measures of vulnerable touristic and archaeological sites and roads against extreme natural phenomena, such as floods, dust storms and extreme weather conditions; Building capacities for using regional water circulation models; Proactive planning and integrated coastal zone management; Risk reduction; Increasing awareness of stakeholders for energy and water utilization.

### **What is the climate finance status of your country’s NDC?**

According to the Climate Fund Update<sup>56</sup>, between 2003 and 2019, Egypt received USD 0.405 billion, representing 27% of total approved climate finance in the MENA region during this period. The larger part of the received fund is directed towards mitigation efforts despite the country’s urgent adaptation needs.

### **What do you think should be changed or added in your country’s NDC updating process?**

First, incorporate strong mitigation actions through a portfolio of robust and coordinated policies for the efficient reduction of GHGs across industry sectors and different geographic areas. Second, Egypt should prospect the option for implementation of a national Carbon trading market in partnership with interested stakeholders. This national market could be developed into a regional market, which can help attract international direct investment in national carbon credit transactions<sup>12</sup>.



**What is the governance set-up for Nationally Determined Contributions implementation in your country?**

Jordan's NDC Action Plan is aligned with national policies and strategies, particularly the National Climate Change Policy and the National Green Growth Plan for Jordan.

The NDC Action Plan outlines priority areas in mitigation, adaptation, and cross cutting sectors and sets objectives to transition to a low carbon and climate resilient economy. It does so by increasing the share of renewable energy mix and upscaling energy efficiency measures, strengthening resilience and adaptation to climate change in the water and agricultural sectors, and mainstreaming climate change in local and regional development planning. To reach its target the NDC proposes 70+ projects that will be implemented by the National Climate Change Policy. Jordan's NDC priority is supported by high level policy documents, such as the National Climate Change Policy 2013 – 2020 and the 2025 National Vision and Strategy. Adaptation actions included in the NDC are primarily proposed actions in the National Climate Change Policy.

**Where does your country's NDC stand in terms of implementation?**

In March 2018, Jordan joined the NDC partnership and became a member of the global coalition of over 100 countries and institutions collaborating to drive transformational climate action while enhancing sustainable development. Jordan strongly believes that the NDCs should shift from commitment to implementation<sup>57</sup>.

**What is the climate finance status of your country's NDC?**

In order to implement and achieve the commitments undertaken in its NDC, Jordan seeks to mobilize USD 5.7 billion in investment, and relies on USD 5.2 billion in international financing towards low GHG and climate-resilient development. At this time, Jordan is expected to benefit together with Egypt, Morocco and Tunisia, from a USD 378 million GCF programme for sustainable energy financing. However, the amount Jordan will receive is still unclear.

**What do you think should be changed or added in your country's NDC updating process?**

A project for establishing an effective mechanism to revise and implement the Jordanian NDC is underway with the support of the German International Climate Initiative (IKI)<sup>58</sup>. The project supports the preparation of a national transparency system. To this end, it creates important preconditions by strengthening existing information bases and improving data

management. The mainstreaming of the NDC into national policy processes and sector policies will also be supported.

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### 3- KSA (Dr. Abed Alataway)

#### **What is the governance set-up for Nationally Determined Contributions implementation in your country?**

From 1970 to date, the Kingdom of Saudi Arabia has developed several 5-year national development plans (covering the period 1970-2019) to guide the development process for the Kingdom and provide economic and social stability in the medium to longer term. Central to all these plans is the policy of economic diversification designed to diversify the Kingdom of Saudi Arabia's sources of national income and reduce dependence on revenues from a single source by increasing the share of other productive sectors in gross domestic product. The Kingdom's plan to put in place a Monitoring, Reporting and Verification (MRV) system for INDC as an integral part of the existing and future monitoring and reporting structures under the oversight of its Designated National Authority. The MRV system will be deployed to track progress towards achieving INDC actions and projects and any modifications thereof.

#### **Where does your country's NDC stand in terms of implementation?**

The Kingdom aims to implement measures that will accelerate its path toward economic diversification and generate mitigation co-benefits. This is consistent with Article 4.7 of the Paris Agreement, which acknowledges the potential for mitigation co-benefits resulting from Parties adaptation actions and/or economic diversification plans. Specifically, the Kingdom seeks to achieve mitigation co-benefits by avoiding up to 130 million tons of CO<sub>2</sub>eq per year by 2030 through economic diversification and adaptation measures with mitigation co-benefits<sup>58</sup>. The mitigation potential of the measures presented in the NDC would prevent 'lock-in' of high GHG emitting infrastructure<sup>58</sup>. Moreover, the Kingdom is developing a monitoring, reporting and verification (MRV) system for its NDC under the oversight of its Designated National Authority.

#### **What is the climate finance status of your country's NDC?**

According to a report prepared for FAO-RNE and authored by El M. Darfaoui and A. Al Assiri<sup>59</sup>, KSA announced in 2007 that a US\$300 million fund will be invested in the KSA to support cleaner and more efficient petroleum technologies for the protection of the local, regional and global environment, and to promote the development of technologies such as carbon capture and storage (CCS). It will also promote the transfer of environmentally

friendly technologies from advanced countries to the KSA and some OPEC member countries, as well as other developing nations. The total budget allocated for the ninth development plan (2010-2014) of the Kingdom amounts 385 billion US\$, of which 26.5 was allocated to the Ministry of Agriculture (6.6%). Climate change mitigation and adaptive activities are not included in the institutions' budget as such, but are funded as separate development projects and activities. The private sector in the KSA, such as ARAMCO, the country's giant energy company, invests significant funds to upgrade some of its factories to reduce GHG emissions and to promote carbon capture storage (CCS) activities. Public agencies and private companies in the water and agricultural sectors also invest important resources in water resource assessment, development and management. Other institutions such as the PME (*Presidency of Meteorology and Environment*) and the CECCR (*Center for Excellence in Climate Change and Research*) invest in the establishment and management of early warning systems and climate modeling<sup>59</sup>.

**What do you think should be changed or added in your country's NDC updating, process?**

In the case a KSA updated NDC is planned, it should include measures to improve fertilizer use efficiency, management of livestock waste, restoration of degraded lands, improving crop residue management, development and distribution of crop varieties and livestock breeds resistant to drought, storms and floods. It should also consider the effect of higher temperatures and saline conditions, the promotion of agroforestry to increase ecosystem resilience and biodiversity maintenance, improving climate resilience by reducing rural and urban economic poverty, improvement of transport and communications in areas vulnerable to disasters, development of early-warning and storm-forecasting systems, the introduction of land-use systems to stabilize slopes and to reduce the risk of soil erosion and mudslides.

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**4- KUWAIT** (*Dr. Sabal Al Momin*)

**What is the governance set-up for Nationally Determined Contributions implementation in your country?**

The NDC document was prepared based on long term development plans, that was adopted based on the vision of the State of Kuwait for the year 2035, these plans are based on a group of development projects that the implementation is attributed to the various authorities in the State of Kuwait such as Oil sectors, the Ministry of Electricity and Water, and Kuwait Municipality.

### **Where does your country's NDC stand in terms of implementation?**

As indicated in the NDC of the State of Kuwait, the implementation process is based on providing financial and technological support to implement projects to mitigate and adapt to climate change. Most of the projects scheduled to be implemented in Kuwait's vision have been postponed due to the new COVID-19 pandemic. In addition to that, the lack of financial or technical support by the financial funds listed under the framework agreement.

### **What is the climate finance status of your country's NDC?**

Some of the NDC projects are considered development projects that fall under the state's development plans. Others are projects that need international financial and technological support.

### **What do you think should be changed or added in your country's NDC updating, process?**

In the State of Kuwait's NDC submitted to the UNFCCC in November 2015<sup>60</sup>, the country state it will preserves the right to reconsider its contribution based on future developments in the state's own national circumstances, the state's general policy and in case of any amendment to the convention or related decisions of the Conference of the Parties, in a manner that includes rules or provisions that vary with the assumptions under which those contributions are submitted.

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## **5- MOROCCO** *(Pr. Houda El Ayadi and Dr. Rachid Tahiri)*

### **What is the governance set-up for NDC implementation in your country?**

Morocco strengthened its climate change institutional framework through the establishment of dedicated committees and directorates. The Climate Change Directorate within the Ministry of Energy, Mines, and Environment is the main coordinating body between line ministries and institutions of the country. On the other hand, the new National Inventory system will be the cornerstone of Morocco's NDC National Governance within the National Climate and Biodiversity Commission created in February 2020 under the Decree N° 2.19.721.

### **Where does your country's NDC stand in terms of implementation?**

Morocco submitted in June 2021 an updated and ambitious NDC. However, the implementation requires significant investments that exceed the capacity of a single actor and therefore requires enhanced interaction between the State, the private sector at national and international levels, and international financial institutions including new climate finance

mechanisms. These include in particular the Green Climate Fund (GCF) and the financial instruments of multilateral development banks. Morocco is also actively preparing to participate in market and cooperation mechanisms under Article 6 of the Paris Agreement.

### **What is the climate finance status of your country's NDC?**

Morocco has already 9 approved projects from GCF with an envelope of 229.6 m USD. Morocco is first African country to have 3 GCF accredited agencies and 10 other entities are on their way for accreditation. 4 Readiness projects are already approved from GCF. In terms of Transparency Framework, according to article 13 of the Paris Agreement, Morocco has been able to mobilize funding from, for example, the GEF to develop an Integrated Transparency Framework for NDC Planning and Monitoring with an envelope of 1.83 m USD in which 1.5 m USD as GEF Grant.

### **What do you think should be changed or added in your country's NDC updating, process?**

Beside enhancing ambition in terms of PA's temperature goal, Morocco's future NDCs need to include robust domestic MRV systems in line with the Enhancement Transparency Framework of the Paris Agreement. In this regard, the "Capacity Building Initiative for Transparency" (CBIT) project supported by GEF, is expected to strengthen Morocco's climate change transparency system by creating an enabling institutional environment to ensure sustainable engagements of key stakeholders, building capacities and skills, developing appropriate tools, methodologies and strengthening information system infrastructure. The project aims to support Morocco in developing an integrated transparency framework for NDC planning and monitoring to support the country's international commitments. Furthermore, the project supports the country in its effort to engage the regions in the implementation of its NDCs, by developing subnational MRV systems and building capacities at two pilot subnational regions<sup>59</sup>.

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## **6- PALSTINE** (*Hadeel o. Faidi*)

### **What is the governance set-up for NDC implementation in your country?**

The Environment Quality Authority (EQA) has the mandate for NDC implementation within the State of Palestine. Ministries leading the sectoral actions highlighted in the NDC should play a strong role. Integrating NDC implementation wherever possible into the sectoral strategies and action plans at both the national and local levels is a must. According to the

Palestinian government, the next step will be the establishment of an NDC coordination unit<sup>60</sup>.

**Where does your country's NDC stand in terms of implementation?**

State of Palestine is still elaborating its GHG inventory, in one hand, and on the other hand mitigation and adaptation activities will be implemented provided adequate support is found.

**What is the climate finance status of your country's NDC?**

Although the Palestinian NDC sets out mitigation and adaptation actions which will be implemented on the condition of receiving support from the international community. The country has received in 2019 one grant from GCF for a Readiness Cross-cutting project related to water banking and adaptation of agriculture to climate change in northern Gaza<sup>61</sup>.

**What do you think should be changed or added in your country's NDC updating, process?**

In a guidance note<sup>62</sup> elaborated in the frame of the implementation roadmap for Palestine's NDC, the roles of the institutions involved in implementation (EQA and the line ministries), has been stressed. There is a need to agree on indicator sets for each sector related to GHG emission mitigation, adaptation and support.

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**7- TUNISIA** *(Hamadi Gharbi and Maroua Oueslati)*

**What is the governance set-up for NDC implementation in your country?**

Regarding the issue of governance, it is up to the UGPO "Unit of Management by Objectives"<sup>63</sup>, at the level of the Ministry of Local Affairs and the Environment, to coordinate the implementation of the NDCs as well as its revision.

**Where does your country's NDC stand in terms of implementation?**

The NDC mitigation target of Tunisia is principally based on five Nationally Appropriate Mitigation Actions (NAMAs). They are forestry, cement, electricity, sanitation, and buildings. The energy sector will be the main contributor to realize this objective <sup>64</sup>.

**What is the climate finance status of your country's NDC?**

For climate finance there is unfortunately not enough information available, Tunisia needs 20 Billion USD to implement the 2015 NDCs, which includes 19 Billion from external funding institutions such as : GIZ, FAO, UNDP, AFD, EU, USAID, and GCF.

**What do you think should be changed or added in your country's NDC updating, process?**

Tunisia is actually in the process of revising its first NDC (2015). This revision will include three phases namely: Achievement report since 2015 (the current phase); Update of objectives (adaptation and mitigation); and consolidation between expert groups. The results, are still not final, currently the phase of assessment and collection of data on the achievements is in progress.

#### **IV- SURVEY RESULTS ANALYSIS**

The above survey was very informative and useful as it gives us an overall perspective about the degree of advancement and spirit in which some of the targeted countries are at this particular moment when the international community is celebrating 5 years of the Paris Climate Agreement. There are some general and cross-cutting comments between the survey respondent along with some specificities that we can summarize as follow:

Most of the survey participants confirmed that their respective countries already have a national governance structure devoted to NDC preparation and implementation. However, when it comes to implementation, the situation is quite confusing, with some countries either aligning NDC projects with their ongoing development plans, or implementation is conditional on future financial and technological support. Only few countries have presented ambitious NAMA's (National Appropriate Mitigation Actions) as a fundamental component for meeting their NDC mitigation targets. They are Morocco and Tunisia. Besides the fact these two countries have already submitted their updated NDC, with a quite ambitious ones: 45.5 % and 45% GHG mitigation targets for the 2030 horizon for Morocco and Tunisia respectively, our survey showed that all other countries are still in the process of organizing themselves institutionally, technically and financially.

On the other hand, countries like Jordan, Lebanon, Morocco, Palestine, and Tunisia are already members of the NDC Partnership<sup>65</sup> (refer to next section), and are on their way to be supported in the elaboration of their plans for NDC implementation.

Almost all countries have mentioned their willingness to establish a national Monitoring, Reporting, and Verification (MRV) system in line with the Enhancement Transparency Framework of the Paris Agreement in article 13<sup>66</sup>.

Our survey showed also that some GCC countries, unlike the MENA ones, claim they preserve the right to reconsider their contribution based on future developments in their own national circumstances. Moreover, being strong oil producers in the region, there is a clear political signal sent to UNFCCC saying that they will only deploy their plans in an economic diversification mode that will generate mitigation co-benefits.

In this regard, and despite major efforts deployed by UNFCCC diplomatic channels to increase awareness at the global level and specifically in our region, policies and mitigation efforts that are specifically targeted at carbon neutrality are still thin on the ground. As stated earlier, one of the goals of this survey was to examine the reasons behind the policy gaps in certain of the targeted countries, and explore how concrete actions could be implemented at various governance layers in the frame of the current global race towards enhanced global climate ambition. Such political will could help improve resilience within the region's population. In our opinion, two crucial gaps are worth overcoming, the first one is the very weak inter-sectoral coordination, and the second is the quasi absence of long-standing research programmes in the fields related to climate change. Although most of the countries claim inclusiveness in their climate approaches, academia and domestic scientific research seem to be lagging behind.

On another aspect, if we look at some Gulf countries that are mainly oil producers, the situation in terms of climate ambition is quite confusing. Indeed, if we consider the USD 5 trillion pledged by the G20 leaders<sup>67</sup> back in March 2020 to help boost the global economy to respond to the financial impacts of the COVID-19 pandemic, we are very far from being on track towards the Paris Agreement temperature goal. One of the reasons is that some of those countries were not very enthusiastic about discussing modalities for fossil fuel subsidy removal. According to the Climate Action Tracker (CAT) ranking<sup>68</sup>, Saudi Arabia's domestic climate targets, as an example, lack in ambition and the country's 2030 NDC target is judged critically insufficient. The same remark applies to the UAE. Although this latest has submitted a second more ambitious NDC in December 2020 (see Table 2), it is still considered highly insufficient in terms of climate ambition according to CAT<sup>69</sup>.

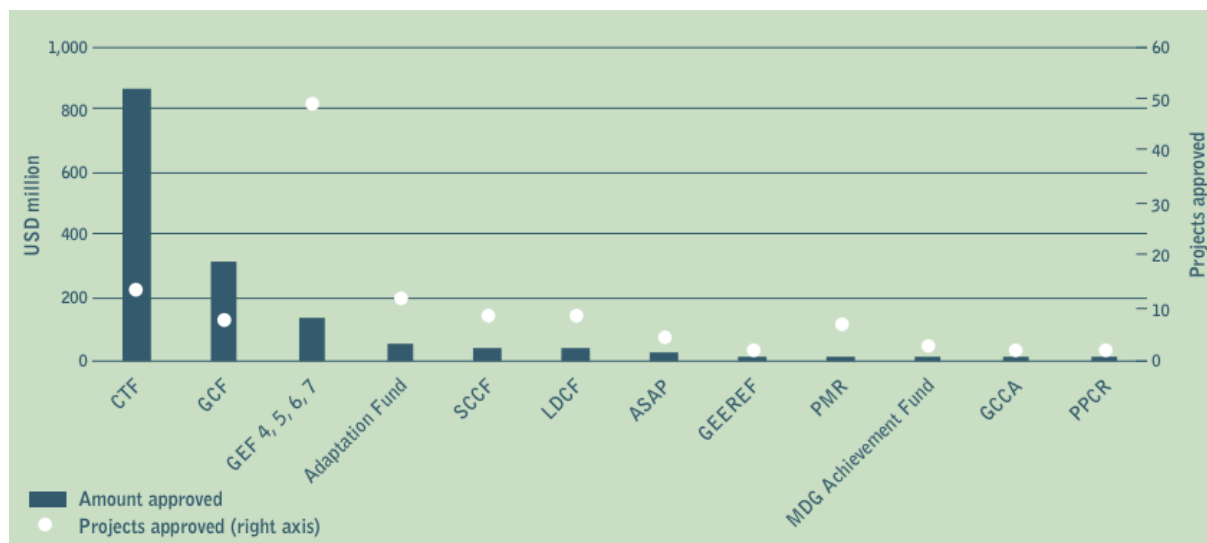


Finally, through our survey, we have noticed an ambiguity in terms of countries lack of concrete targets for the net-zero Co<sub>2</sub> global emissions by 2050<sup>70</sup>. We will formulate recommendations for policy makers by the end of this paper.

## V- REVIEW OF THE STATUS OF THE CLIMATE FINANCE IN THE TARGETED COUNTRIES

There are five multilateral climate finance mechanisms under the United Nations Framework Convention on Climate Change (UNFCCC) and its Paris Agreement, dedicated all to addressing the climate crisis. The Green Climate Fund (GCF), the Global Environment Facility (GEF), the Adaptation Fund (AF), the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF). The GEF manages specifically the LDCF and SCCF. In addition to that, seven other financial instruments are active in the MENA and GCC region, and they are: the Clean Technology Fund (CTF); the Adaptation for Smallholder Agriculture Programme (ASAP); the Global Energy Efficiency and Renewable Energy Fund (GEEREF); the Partnership for Market Readiness; the Millennium Development Goal (MDG) Achievement Fund; the Global Climate Change Alliance (GCCA); and the Pilot Program for Climate Resilience (PPCR). The largest contributions in the region are from the CTF<sup>71</sup> (**Figure 2**), which has approved a total of USD 867 million for 13 projects in Morocco and Egypt along with 8 regional projects. Most of this funding has been made available as concessional loans. An investment plan to support concentrated thermal power in the MENA region has also been approved. Through the GCF<sup>72</sup>, 3 projects support Morocco (for a total of USD 97 million), 2 for Egypt (with USD 186 million) and 1 for Bahrain (with USD 2.3 million). In 2019, the GCF also approved the first climate project in Palestine, a project in Gaza with multiple focus on renewable energy access, water banking and agricultural adaptation (with USD 26.3 million). Egypt, Jordan, Morocco and Tunisia will also benefit from a USD 378 million programme for sustainable energy financing. The allocation for each country is still to be defined. The GCF also supports 19 readiness programmes across MENA with USD 7 million. The region benefits also from bilateral climate finance which come to complement the existing multilateral climate flows. This includes the bilateral climate fund of Germany (*USD 38 million from Germany's International Climate Initiative*)<sup>73</sup>. According to the Climate Fund Update (CFU)<sup>74</sup> from 2003 to 2019, the distribution of climate finance from dedicated climate funds was concentrated in Morocco and Egypt, with total approved amounts of USD 784 million and USD 397 million respectively from the multilateral climate funds tracked by CFU. CFU data indicate that only 15 MENA countries are recipients

of climate finance. On the other hand, the CFU shows that within our targeted countries, those not receiving climate finance are obviously the oil-producing states, mainly GCC states except Bahrain<sup>74</sup>.



**Figure 2:** Funds supporting MENA Region (2003-2019) (Source: CFU<sup>74</sup>)

Focusing on GCF, the most famous climate finance mechanism, the fund was established back in 2012 and was mandated to promote country-driven, climate-resilient, and low-carbon development policies. GCF is expected to serve as a primary channel through which international public climate finance will flow over time. To access GCF support<sup>75</sup> for climate resilience projects, countries need to present projects that can induce paradigm shifts, reflecting country priorities, with clear climate rationale, sound concept notes, and comprehensive budget proposals. Inclusiveness and Gender approaches are integral part of GCF projects<sup>75</sup>. This being said, we present in **Table 4** the status of GCF funded projects within this review targeted countries.

**Table 4:** Portfolio of GCF support projects by targeted country. Data extracted from reference <sup>72</sup>

Country	N° of Projects	Type of Support	Total Amount of support in USD
Algeria	1	- 1 Readiness activity	300.0 K
Bahrein	1	- 1 Adaptation Project	2.3 m
Egypt	4	- 2 Readiness activities : ( <i>Adaptation + Mitigation</i> ) - 2 multiple countries ( <i>cross-cutting</i> )	301.1 m
Jordan	5	- 3 Readiness activity ( <i>mitigation</i> ) - 2 multiple countries ( <i>cross-cutting</i> )	71.9 m
Kuwait	0	0	0
Lebanon	2	- 2 Readiness activities, multiple countries : ( <i>mitigation</i> )	4.0 m
Libya	1	- 1 Readiness activity	300.0 K
Mauritania	2	- 2 Readiness activities, multiple countries : ( <i>mitigation</i> )	4.0 m

<b>Morocco</b>	9	- 4 multiple country ( <i>mitigation</i> ) - 2 National ( <i>Adaptation</i> ) - 2 multiple countries ( <i>Cross-cutting</i> ) - 1 National ( <i>cross-cutting</i> )	229.6 m
<b>Oman</b>	1	- 1 Readiness activity	300.0 K
<b>Palestine</b>	1	- 1 Country programme/Readiness ( <i>Cross-cutting</i> )	29.0 m
<b>Qatar</b>	0	0	0
<b>KSA</b>	0	0	0
<b>Tunisia</b>	6	- 4 multiple country ( <i>mitigation</i> ) - 2 multiple countries ( <i>Cross-cutting</i> )	120.5 m
<b>Turkey</b>	0	0	0
<b>UAE</b>	0	0	0

This comparison table shows that not all countries have the same capabilities to access GCF funding. Several assessments have demonstrated capacity limitations, concerning both availability of personnel and technical skills, as well as the complex procedures for accessing the funds, which constrains countries in identifying and preparing catalytic adaptation and/or mitigation interventions. Limited understanding of the GCF's funding modalities and proposal requirements poses further barriers for countries wishing to access GCF resources specially for adaptation planning and projects. **Table 4**, shows indeed that Egypt, Morocco, and Tunisia are the top beneficiaries of GCF funds while most of the funded projects are either multicounty mitigation, or multicounty cross-cutting projects, only few pure adaptation projects have been funded by this institution.

At the time we were drafting this paper, the GCF board approved on March 18, 2021, a USD 33.3 million support to Jordan with USD 25.0 Grant from GCF (FP 155) to fund a project entitled «Building resilience to cope with climate change in Jordan through improving water use efficiency in the agriculture sector (BRCCJ)<sup>76</sup>.

A study conducted in 2019 by UN ESCWA<sup>77</sup> showed that Arab States received USD 4.6 billion bilateral funding in 2016, including USD 3.7 billion for mitigation, 0.7 for adaptation, and 0.3 billion for cross-cutting actions. The study showed that although the Paris Agreement calls for “a balance between adaptation and mitigation, taking into account country-driven strategies, and the priorities and needs of developing country Parties”<sup>78</sup>, the Arab region continue to lack adaptation finance. Indeed, UNFCCC data on developed country support (in our case Arab States) through bilateral, regional, and other channels shows that finance for mitigation exceeds finance for adaptation by a factor of 5 to 1<sup>78</sup> even though the Paris Agreement seeks a balance between finance for adaptation and mitigation.

On another sphere, and looking at non-UNFCCC players among the quasi-crowd climate finance landscape, we would like to cite the example of the World Bank Group (WBG)<sup>79</sup>. Indeed, if we analyze the 2016-2020 Climate Action Plan of the WBG<sup>80</sup>, we see a tremendous effort that is being made in favor of several MENA and GCC countries. The group established 5 commitments toward the Region.

- **Commitment 1:** By 2020, 30% of WBG finance to MENA will go towards climate
- **Commitment 2:** Significantly increase the share of adaptation financing
- **Commitment 3:** Support policy reform
- **Commitment 4:** Crowd in private finance by leveraging the whole WBG, including IFC\* and MIGA\* (*The International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA) are the private sector affiliates of the International Bank for Reconstruction & Development (IBRD) and the International Development Agency (IDA).*)
- **Commitment 5:** Enable Collective Action

Looking at Commitment 3, the WBG worked with several countries to foster policy and regulations reforms to make their fiscality more open and flexible and to catalyze private investments in Morocco, Algeria, Egypt, and Jordan. In the GCC countries, the WBG engaged in technical cooperation to support subsidy reforms, Public Private Partnerships, and sectoral strategies<sup>78</sup>.

To conclude this section, we would like to stress that good political will in Climate Action is key to MENA, GCC, and Turkey's future climate funding opportunities. However, without a sound domestic climate finance governance, that starts by implementing competent national accredited and implementing agencies, and a proper transparency system, the part of the cake will always go to the most advanced countries, like it is the case for the actual GCF country recipients in the region. So, it is crucial to empower national and sub-national actors in the integration of climate finance in their overall climate capacity building agendas.

## **VI- OPPORTUNITIES OF ACCESS TO THE NDC PARTNERSHIP'S CLIMATE ACTION ENHANCED PACKAGE (CAEP) BY THE TARGETED COUNTRIES**

The NDC Partnership<sup>81</sup> is an international instrument created in Marrakech Morocco during COP22 in 2016, to promote NDC implementation under the Paris agreement and in accordance with the 2030 Sustainable Development Goals. The founding members were the Federal Ministry for Economic Cooperation and Development (BMZ), the Federal

Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), the Moroccan government, and the World Resources Institute (WRI).

The NDC Partnership works directly with national governments, international institutions, civil society, researchers, and the private sector to fast-track climate and development action. NDC Partnership plans are used for coordination, planning, transparency, progress tracking and resource mobilization for NDC implementation.

Until now, 5 of our targeted countries are members of the NDC partnership. They are Jordan, Lebanon, Morocco, Palestine, and Tunisia. While Morocco being the first country from the region to have initiated an NDC Partnership Plan, Jordan and Lebanon launched their NDC Partnership Plans at the NDC Partnership side event that took place during the 2019 UN COP24 in Madrid, Spain. During the event, representatives from the UK and Germany expressed their commitment to help these countries implement their Nationally Determined Contributions (NDCs) and raise their climate ambition.

**An important product of the NDC Partnership is “the Climate Action Enhancement Package” (CAEP)<sup>82</sup>.** It is a new tool launched in September 2019, through the technical and financial support of 46 partners, in which the NDC Partnership is delivering targeted, fast-track support to countries to prepare and deliver updated and more ambitious post 2020 NDCs.

The way CAEP can support its members is by leveraging their resources and by providing a technical assistance fund. NDC Partnership encourage all its members to commit support to requesting developing member countries. According to the NDC Partnership<sup>81</sup>, Support will be delivered through existing and new resources and expertise from NDC Partnership members; and a dedicated Technical Assistance Fund. The Technical Assistance Fund is a pooled funding mechanism with contributions from multiple development partners which will allocate resources to institutional and associate members with the required expertise but without available resources to respond to requests.

At the beginning of the 2020 first round of NDC’s submissions updates, and through NDC Partnership CAEP Round 1, countries were encouraged to submit more ambitious NDCs by unlocking higher ambition in both mitigation and adaptation. CAEP called for integrated approaches involving all relevant parts of government and society, linking climate action and sustainable development, and incorporating gender-responsive climate actions. In this

regard, 50 countries submitted proposals to raise their NDC ambition and will receive support from CAEP. Embedding the NDC in long-term strategies and plans, and using long term visions from sectoral plans or long-term climate scenarios in preparing new, more ambitious NDCs, are some of the strong eligibility criteria of CAEP's round 1. In Round 2, eligible countries are all NDC partnership developing member committed to strong climate action. Countries requests should absolutely meet the whole society approach, in which gender equality is mainstreamed, along with civil society, the private sector, sub-national authorities, and academia. The CAEP second round online application form is available at the partnership web site<sup>81</sup>.

Until now, the only countries that are on track to benefit from CAEP, out of the 16 reviewed in this paper, are Morocco and Lebanon. This latest will be receiving Partnership's CAEP to establish a Lebanese Green Financing Facility.

## **VII- SUB-NATIONAL CLIMATE FUND AS A NEW REGIONAL CLIMATE FINANCE OPPORTUNITY FOR THE TARGETED COUNTRIES**

In November 2020, The Green Climate Fund (GCF)<sup>72</sup> joined forces with Pegasus Capital Advisors<sup>83</sup> and the International Union for Conservation of Nature (IUCN)<sup>84</sup> to establish a novel public-private climate financing instrument to overcome funding gaps facing sub-national stakeholders. The Sub-national Climate Fund Global (SnCF Global)<sup>85</sup> total amount is 750 million USD. It has three priority groups: Least Developed Countries; Small Island Developing States; and African States. SnCF Global aims at mobilizing mostly blended finance toward the most vulnerable countries. GCF has provided USD 150 million in the Equity Component<sup>86</sup> of the initiative with Pegasus Capital Advisors and USD 18.5 million for the technical assistance part with IUCN. Another goal of SnCF Global is to catalyze long-term climate investment at the sub-national level for mitigation and adaptation solutions through a transformative financing model.

According to the fund, the business model is designed to attract primarily private institutional investment and to deliver certified climate and Sustainable Development impacts and Nature-based Solutions at global scale. It is now well recognized that the subnational level is key in any climate action as 70% of the climate solutions are located at the subnational levels.

According to Regions 20 (R20)<sup>87</sup>, SnCF expects to invest in up to 30 projects and mobilize between US\$ 750 million and a maximum of US\$ 5 billion of climate finance in the form of co-investment in future projects.

Hopefully, some of our 16 targeted countries being considered either Least Developed Countries, Small Island Developing States, or African States, should be eligible to benefit from this important fund and therefore should seize this opportunity for making requests in order to help develop part of their subnational NDC components.

## VIII- POLICY RECOMMENDATIONS

Through our analysis of the various NDCs in the 16 targeted countries along with their respective access to climate finance, it is important to emphasize that the overall climate governance ecosystem for almost all the countries remains under construction. Most implementation plans and financing options are still under exploration, drafting and approval, limiting the accuracy of our recommendations that would serve Konrad Adenauer Stiftung's (KAS) prospects for the next steps of defining its own regional strategy. However, we consider the first insights obtained in this paper as sufficient to already issue the following recommendations:

- Mitigation activities in the targeted countries need to be mainly focused on GHG emissions coming from the energy sector, industrial processes, cement, transportation, agriculture and the waste sectors;
- The phase-out of fossil fuels power plant needs to start now and well before 2030;
- Countries in the region should engage in real energy policies leading to carbon neutrality by 2050 (Renewables and energy efficiency);
- Implementation of NDC's MRV systems in the targeted countries need to be accelerated (*Experience from MRV systems in some MENA countries such as Morocco and Jordan should be adapted and deployed for other countries in the region. We believe this approach will pave the way for future climate finance flows in the targeted countries*);
- There is a need to identify priority climate actions that can be immediately mainstreamed into sectoral and national strategies and planning processes while taking into account vulnerable communities and gender balance;

- Strengthen inter-sectoral and inter-institutional coordination, towards NDC implementation;
- Identify and assign responsibilities for the different actors involved in NDC implementation;

To close this recommendation section, we would like to underline two important elements:

- 1- The importance for some countries in the region (excluding Oil and Gas producers) to envisage the use of international market mechanisms other than the Clean Development Mechanism (CDM) established under UNFCCC's Kyoto protocol, and specifically the promising options of Article 6 under the Paris Agreement<sup>88</sup>. We believe these financial mechanisms should be able to provide additional funding flows toward low emitter countries to help them reach their NDC target.
- 2- Targeted countries in this review paper should deploy additional efforts for gender mainstreaming through relevant targets of their respective NDCs in accordance with COP25 decision 3/CP.25 related to the 5-year enhanced Lima work programme on gender and its gender action plan<sup>89</sup>. In this regard, the enhanced gender action plan sets out objectives and activities that aim to advance knowledge and understanding of gender-responsive climate action and its coherent mainstreaming in the implementation of all UNFCCC processes which includes NDC's.

## CONCLUSION

As stated in the introduction, the objective of our paper is to capture countries progress in their NDC implementation after 5 years of the Paris Agreement, compare their objectives and enhanced ambition.

Our review shows that targeted countries efforts on climate change, including on the most vulnerable sectors such as water and agriculture, seems to be limited in ambition and action. Perhaps one reason for this is that most policy-makers do not see the issue as a priority (compared to health and employment), in part due to a lack of understanding of its implications and costs and of the benefits of action. Another reason is that policy-making on the issue is not harmonized. Governments plans and institutions are very often fragmented and tend to lack consistency, inter-ministerial coordination, and policy convergence is sometimes missing. In some countries such as Morocco, the Ministry of Economy and Finance was a key partner in developing the NDC document, validating the conditional and unconditional contribution, and providing inputs for investment projects from the budget



division. However, in many other countries in the region, although the Ministry in charge of finance ensures budgetary allocation for projects through the yearly finance laws, we still think the Ministries acting as NDC focal points should create more complicity with their colleagues at Ministry of Finance to raise their awareness on the climate issues and to use their skills to negotiate beneficial deals with key donors and multilateral and bilateral development banks.

As a general remark, climate action is underfunded in many countries in our targeted region, and adaptation requires large investments. If we assess the current available investments, we find that there is a clear funding gap between the region's climate goals and its public finances. Climate action will require a real paradigm shift in national planning and budgeting (alongside international funding). International Funding Institutions "IFI's" in climate change projects need guarantees for their investments.

Although carbon pricing is necessary as indicated in article 6 of the Paris Agreement<sup>90</sup>, it may be insufficient as developing countries need large amounts of public and private investment in parallel with the right regulations to guide their economies and stimulate innovation. To finance climate investments, the targeted countries need to green their economies and green their development banks which will demand a real innovation effort. Although current international institutions, including the World Bank and the European Investment Bank, are doing a good job, some countries unfortunately do not have the sufficient resources that a green transition requires to achieve the Paris Agreement goals.

On a regional perspective, the MENA countries vulnerability to climate change is real, and joint action to move towards low-carbon development and green growth will in turn enable them to make further contributions to global climate action.

Given some similarities among targeted countries in terms of their economic structure, natural resources and climatic conditions, important synergies could be achieved through regional cooperation. Based on this we propose to form a *Climate coalition of countries* from the MENA region that would share similar ambitious emission-reduction goals and development targets. This will promote further cooperation among them in the Renewable energy sector, Energy efficiency, Green Building and accelerate the application of the best available technologies in carbon capturing.

There is an example of a successful regional initiative reflecting a good cooperation among MENA countries on the topic of Climate Change through implementing mega projects with

concrete interventions in Energy, water, and Agriculture. This MENA Region initiative called the “MINARET”<sup>91</sup>, is a model of a NEXUS approach using Renewable Energy Technologies. It aims at addressing the unique sustainability challenges and opportunities of the MENA region by increasing local and regional sustainability capacities using the synergies between renewable energy technology and efficiency, water management, and food security. This 4-year project was launched in early 2017, and is being implemented in Jordan, Tunisia and Lebanon. More specifically, MINARET intends to build the municipality’s resilience to climate change through adopting renewable energy resources and energy efficiency, water management techniques and food security<sup>91</sup>.

The above example shows that countries in the GCC and MENA regions need to unite in joint climate action, while recognizing that the fulfillment of their economic aspirations is highly dependent on their interlinked environmental sustainability.

Some countries, especially the GCC and North African Oil/Gas producers, will suffer from economic and social consequences due to the implementation of the Paris Agreement’s response measures. Indeed, those countries’ economies will be affected negatively from international policies and procedures of the UNFCCC. So, the question on how implementation of response measures to climate change will impact their economies is legitimate. We believe negotiations must be accelerated during the next COP27 in Sharm El Sheikh in order to find measures able to avoid the negative potential impacts of the implementation of these measures with the necessity of international cooperation in order to achieve the objectives of the SDGs in accordance with article 4.8 of the UN Climate Convention<sup>92</sup>.

We are conscious that most of our targeted countries short- and medium-term growth perspectives have been substantially weakened due to COVID-19 pandemic. However, to conclude this review paper with an optimistic note, and considering that 2020 was the first step of the second five-year milestone of the Paris Agreement, we are confident that most of the 16 targeted countries have post COVID-19 recovery plans<sup>93</sup> on their political agendas *that* include climate resilient components, and that COP 27 in Sharm El Sheikh will be a last chance to act for the Climate. Indeed, Parties to the Paris Agreement will need to go beyond current commitments and significantly strengthen their NDCs during the next 5 years cycle, while at the same time International Funding Institutions and Developed Countries, will have no other choice than reinforcing their support commitments toward developing countries identified recovery projects.

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