BACKGROUND PAPER ON ADDRESSING NEW AND EMERGING CHALLENGES TO SECURE RENEWED POLITICAL COMMITMENT TO SUSTAINABLE DEVELOPMENT IN THE ARAB REGION

Summary

The region is facing several new and emerging challenges that are affecting progress towards sustainable development. These challenges are multidisciplinary in nature and are affecting the social, economic and environmental pillars of sustainable development. As a result, there is a need to reflect on these challenges and identify ways to address them in a constructive and integrated manner in line with sustainable development goals.

This paper discusses some of the major challenges that have emerged over the last decade in view of stimulating discussion on these factors and the ways to overcome these challenges and create new opportunities for sustainable development in the Arab region. The paper focuses on the following ten clusters of issues: demographic change and unemployment, the Arab Spring, financial crisis, food security, water scarcity, energy security, climate change and natural disasters, drought and desertification, biodiversity and ecosystem loss, and migration.

As a reference document, the background paper does not seek to prioritize among these issues, nor elaborate extensively on measures undertaken in the Arab region in response to these challenges. Rather, the analysis exposes how closely these new and emerging challenges are linked to one another. This in turn demonstrates the need to pursue integrated solutions and multidisciplinary approaches to overcome these challenges in order to achieve sustainable development goals.
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I. INTRODUCTION

As follow-up to Agenda 21, the Program for the Further Implementation of Agenda 21, the World Summit on Sustainable Development and the Johannesburg Plan of Implementation, the United Nations General Assembly decided to convene a conference on sustainable development in 2012. The stated objective of the conference is “to secure renewed political commitment for sustainable development, assessing the progress to date and the remaining gaps in the implementation of the outcomes of the major summits on sustainable development and addressing new and emerging challenges.”\(^1\) The conference additionally focuses on two themes: a green economy in the context of sustainable development and poverty eradication, and the institutional framework for sustainable development.

Renewing political commitment for sustainable development requires consensus on and consideration of the new and emerging challenges that are affecting progress towards sustainable development. These challenges encompass those that impact “economic development, social development and environmental protection, as these are interdependent and mutually reinforcing components of sustainable development,” as defined in the enabling United Nations General Assembly resolution for the conference.\(^2\) While these challenges may be manifested at the global, regional and national levels, addressing them in the Arab countries requires a regional perspective that acknowledges the regional specificities and the historic events that are concurrently being experienced in the Arab region.

This background paper seeks to inform regional deliberations on the new and emerging challenges that are affecting progress towards sustainable development in the Arab region. It identifies and discusses some of the major challenges to sustainable development that have emerged over the last ten years from an Arab regional perspective. It also tries to capture the multidisciplinary aspects of these regional challenges. However, the paper does not seek to prioritize among challenges, nor propose policies or elaborate on measures undertaken for addressing these challenges. Rather it seeks to provide a baseline of information and the background material needed to stimulate debate and discussion regarding these challenges among regional stakeholders and inform the way forward.

Several new and emerging challenges affecting progress towards sustainable development were identified by Governments and stakeholders during the preparatory process for Rio+20, including the First Preparatory Committee Meeting (PrepCom I), which was convened from 17–19 May 2010 (New York), and the Second Preparatory Committee Meeting (PrepCom II), which was held from 7-8 March 2011 (New York). A series of regional preparatory meetings were also convened to solicit input from government officials, the private sector and civil society on key issues affecting progress towards sustainable development in the region. The new and emerging challenges identified during these meetings are listed below in ten clusters and discussed in the paper below:

- Demographic Change and Unemployment;
- The Arab Spring;
- Financial Crisis;
- Food Security;
- Water Scarcity;
- Energy Security;
- Climate Change and Natural Disasters;
- Drought and Desertification;
- Biodiversity and Ecosystem Loss; and
- Migration.

\(^1\) United Nations General Assembly Resolution A/RES/64/236, Article 20(a).
\(^2\) United Nations General Assembly Resolution A/RES/64/236, Article 20(d).
II. NEW AND EMERGING CHALLENGES FACING THE ARAB REGION

A. Demographic Change and Unemployment

By the end of 2011, there will be over 7 billion persons living on the plant. More than half of the world’s population now lives in cities, while over half of the population is now comprised of youth under the age of 25. The total population of the Arab region stood at 352 million in 2009, and it is expected to reach 461 million by 2025. Over 55 percent of the region’s population lives in cities, with rural to urban migration trends observed in Egypt, Lebanon, Morocco, Syrian Arab Republic and Tunisia. This has been largely due to reduced income and employment opportunities in the agricultural sector and the burgeoning youth demographic. One out of every five persons in the Arab Region is between 15 and 24 years of age, while more than half of the population is below the age of 25.

The youth population is also increasingly educated, with urban youth also increasingly mobile and able to access various sources of information through new information technology tools. This argument is further strengthened when looking at figure 1. In countries where adult literacy rate does not exceed 70 percent (Egypt 66 percent, Mauritania 57 percent, Morocco 56 percent, Sudan 70 percent and Yemen 62 percent) a large disparity exists between the adult literacy rate and youth literacy rate whereby the difference ranges between 10 to 22 percent (youth literacy rate in Egypt is 84 percent, Mauritania 67 percent, Morocco 79 percent, Sudan 85 percent and Yemen 84 percent).

![Figure 1: Literacy rate and public spending on Education in the Arab Region - Disaggregated](image)

Unemployment is another factor that characterizes much of the Arab population, although unemployment is experienced differently throughout the region. While disaggregated data is difficult to obtain, total unemployment in the Arab Region stood at 10 percent in 2007, but ranged from less than one percent in Qatar (2007) to nearly 25 percent in Palestine (2009), as illustrated in figure 2. Youth aged 15 to 24 represent a significant share of the unemployed workforce, which is recorded as those who are without work, but available for and actively seeking work. Additionally, 18 percent of the female workforce was...

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7 Ibid.
unemployed, relative to 8 percent of the male workforce being unemployed in 2007. Furthermore, a much larger share of young women are unemployed compared to young men in the Arab region, with 45 to 50 percent of the female labour force aged 15 to 24 years unemployed in Egypt, Jordan, Palestine, Syrian Arab Republic and Saudi Arabia based on 2007 and 2009 figures.

Figure 2: Unemployment in the Arab Region - Disaggregated

An increasingly young, informed, educated and urbanized Arab region facing dim employment prospects might therefore necessitate reflection of a different set of policy priorities and approaches for engaging stakeholders and pursing sustainable development in the region.

B. The Arab Spring

The popular movements and changes underway in the Arab region are setting a new landscape for advancing progress towards sustainable development. Beginning on 17 December 2010, nationwide demonstrations erupted in Tunisia to protest against the long-standing regime and government failures to address high unemployment rates, rising food prices and social inequity. This resulted in the ousting of the Tunisian president, Zine al-Abidine Ben Ali, on 14 January 2011.

The Tunisian revolution sparked mass demonstrations and called for radical political reforms in neighbouring Arab countries. In Egypt, anti-government protests were launched in mid-January and were fuelled by youth movements calling the resignation of the Egyptian president, Hosni Mubarak. This eventually ended the thirty year rule of his regime on 11 February 2011. Libya witnessed a series of protests against the long time leader, Muammar Gaddafi, which led to the outbreak of violence when the Libyan leader refused to resign. The Libyan uprising divided the nation into pro- and anti-government groups and erupted into military conflict. United Nations Security Council resolution 1973 of 17 March 2011 subsequently authorized all necessary measures to protect civilians under threat of attack and authorized the military engagement of the North Atlantic Treaty Organisation (NATO) to this end. The establishment of the National Transitional Council subsequently received recognition by governments worldwide in face of continuing conflict in Libya.

In Yemen, one of the region’s least developed countries, protests started on 23 January 2011, and Yemenis were quickly divided into pro- and anti-government groups that led to clashes between the two camps. The deterioration of the situation led to the intervention of the Gulf Cooperation Council (GCC) through a proposed initiative for the smooth the transfer of power. However, the attempted assassination the Yemeni president, Ali Saleh, on 6 June 2011 and his medical evacuation to Saudi Arabia put on hold serious talks about the GCC initiative, thus leaving the country in a state of political chaos. The return of the injured

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president to Yemen on 23 September 2011 and repeated unfulfilled pledges that he would resign has increased uncertainty regarding the future of the country and heightened the risk of civil war. Demonstrations in Bahrain flared in mid-February 2011 and led to clashes with police and the military intervention of Saudi Arabia on 14 March 2011 at the invitation of Bahrain’s royal family. Civil discontent continues in Bahrain amidst on-going unrest and the arrest of activists despite initial efforts at reconciliation. Protests erupted in the Syrian Arab Republic on 19 March 2011. After ten days of nationwide demonstrations, the Syrian president sacks his cabinet and proposed significant reforms. Nevertheless, pro- and anti-government demonstrations continue in various cities of the Syrian Arab Republic with violent clashes erupting between protestors and pro-regime supporters being witnessed throughout the country.

To a lesser extent, other Arab countries are also facing protests calling for changes largely fuelled by discontent regarding socio-economic conditions and civil liberties. Protests started in Algeria on 7 January against high unemployment and increasing food prices that led the government to draw upon oil revenues to increase public sector wages and to lower the prices of staple foodstuffs. In Morocco, after the eruption of protests, Moroccans voted favourably on a reform bill in July 2011 aimed at reinforcing judicial independence, tackling corruption, increasing freedom of expression and promoting gender equality. In response to civil unrest, Saudi Arabia announced new jobs and housing packages and promised a multibillion dollar package of reforms that included a rise in wages, cash transfer, loans and new apartments for Saudi citizens. In Jordan, the cabinet was changed on 25 March 2011 in response to growing calls for reform. Iraq also witnessed a series of demonstrations demanding better government services, better pay, reduced unemployment and an end to corruption.9

These uprisings are largely an expression of regional sentiment calling for social, economic and political reform. While challenging the way in which growth and development has been pursued in the region, these manifestations also provide an opportunity for opening a policy space for more participatory and inclusive approaches for advancing sustainable development in the future.

C. Financial crisis

The Arab countries have experienced changes in their economic outlook over the past few years in face of the global financial crisis. Prior to the global financial crisis of 2008, oil prices rose rapidly reaching new heights and generated budget surpluses in several oil exporting countries in the region. However, between July to December 2008 oil prices plummeted by almost 70 percent from their peak of US$ 140 per barrel, which caused oil income to drop10 and regional stock market to contract, as shown in figure 3. Domestic consumption also shrunk and private investors held back as they reassessed financial risks affecting national, regional and global portfolios. In parallel, commodity prices increased – particularly food prices – when oil prices increased and threatened social stability in many Arab countries. Some suggest that the situation contributed to setting the stage for the Arab Spring.

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Nevertheless, while most Arab countries were affected by the global financial crisis, the impact of the crisis differed from sub-region to sub-region. While Arab countries share many commonalities, their economic structures and natural resources endowments differ extensively, as well as their vulnerability to price volatility. Indeed, although the oil exporting economies benefited from the rapid rise in fuel prices prior to the global financial crisis, oil importing Arab countries suffered from increased expenditures to ensure their energy security as well as greater pressures on national budgets. Likewise, when Arab oil exporting countries faced a substantial drop in export revenues in 2009 due to the sudden fall of oil prices which account for over 85 percent of their merchandise exports, other countries did not experience a sudden reduction of export revenue. Thus, while growth rates of Arab countries generally slowed down in 2009, the magnitude of change differed among countries, as shown in figure 4 below. For instance, countries that had enjoyed high economic growth in 2008 experienced substantial reduction of economic growth rates in 2009, such as Qatar (15.01 to 9.0 percent), Oman (12.26 to 3.4 percent) and Kuwait (6.4 to -2.7 percent). In case of non-oil exporting countries, however, changes in GDP between 2008 and 2009 were relatively modest.

The international financial crisis also lowered foreign direct investment (FDI) in Arab countries. The reduction of FDI, in addition to the sharp decrease in oil revenue, had a significant impact on investment projects in the oil industry and desalination sector. FDI inflows fell in Saudi Arabia (33.1 percent), UAE
(23.1 percent) and Egypt (18.1 percent), which accounted for almost three-quarters of the total FDI in the ESCWA region in 2008.\textsuperscript{15} Moreover, the bursting of real estate bubble in the GCC countries, particularly in the UAE, has delayed several housing and construction projects.

However, policy responses to the global financial crisis were relatively quick in the Arab region and thus reduced the intensity of the financial shock relative to other parts of the world. Several Arab countries increased their public expenditures to boost their economy. GCC countries, Saudi Arabia in particular, pursued infrastructure projects to develop their non-oil and gas sectors. Other measures include introducing blanket deposit insurance (Kuwait and UAE), and providing liquidity and injecting capital into banks (Qatar, Saudi Arabia, and UAE).\textsuperscript{16} For instance, central banks in countries like Egypt, Jordan, Kuwait, Saudi Arabia, and the UAE decreased the required reserve ratio and lowered interest rates in order to increase liquidity in the financial sector. Moreover, countries with pegged exchange rates (such as Bahrain, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Syria, and the UAE) benefited from the continued monetary easing of the United States dollar in the aftermath of the financial crisis.

It is also important to note that the Arab region has experienced other dynamics that have affected financial performance over the last year. For instance, the International Monetary Fund has now placed Qatar among the world’s fastest growing economies for 2011, while Arab countries more accustomed to commerce in Euros are now being affected by the emerging debt crises hitting members of the European Union. Fluctuations in national growth rates in other Arab countries may also have more to do today with uncertainty and financial risks assessed at the national level and in neighbouring countries than with the global financial crisis.

\paragraph*{D. Food Security}

For the first time since 1973, the world was hit by a record surge in food prices in 2007 and 2008. Since the Arab region is heavily dependent on imports to meet food needs, Arab countries experienced a rapid rise in food prices during this period. Consumer prices in Egypt, Jordan, and other Arab countries rose at an estimated annual rate of 25 percent or more during the first half of 2008, while food prices rose at an even faster rate.\textsuperscript{17} This had a significant effect on inflation, income distribution, health and human welfare, the impact of the food crisis was predominantly felt by the poor and vulnerable groups who have little to no savings to draw upon when prices increase. In Yemen, it is reported that the doubling of wheat and bread prices resulted in a 12% loss in real income of the poor.\textsuperscript{18} Such setbacks may have reversed the gains achieved in reducing poverty over the last decades, as can be seen from the case of Djibouti where the increase in food prices was estimated to have increased extreme poverty from 40% to 54%.\textsuperscript{19}

Rising oil prices, population growth, commodity price speculation, expansion of the primary biofuel industry and drought experienced in several grain-exporting countries in 2006 have been attributed as contributing causes of the global food crisis. Climate change and traditional land tenure practices exacerbate land use change and land degradation, hence increasing the rate of poverty\textsuperscript{20} Continued structural problems at the global and regional level caused food prices to rise again in 2010. This contributed to the outbreak of riots in Egypt, Jordan and Tunisia, while tensions rose in other Arab countries as well.

Food security is a socio-economic and environmental challenge for the countries of the Arab region, particularly in those facing increasing water scarcity, land degradation and desertification. In recent years, the region’s cereal import share as a percentage of total consumption has been between 40 and 50 percent

\textsuperscript{15} The ESCWA region is part of the Arab region and is comprised the following member states: Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, United Arab Emirates, and Yemen.


\textsuperscript{17} Rivlin, 2009. “The Impact of the Global Economic Crisis on the Arab World,” in Focus Quarterly Summer 2009, Volume 3, Number 2


\textsuperscript{19} Ibid.

\textsuperscript{20} Ongoing UNEP Foresight Process (currently under peer consultation)
reaching up to 70 percent in Iraq and Yemen, and even more in Lebanon and Palestine.\textsuperscript{21} Meanwhile, food import expenditures as a share of GDP have reached more than 11 percent and 8 percent in Jordan and Yemen respectively, as detailed in Table 1 below. However, boosting the domestic agricultural sector is not a sustainable solution in the Arab region given its scarce freshwater resources and arid climate. Therefore, although there are many factors behind the dependence of the region on food imports, it is likely that the region will remain at current or even higher levels of food import dependency in the future.

<table>
<thead>
<tr>
<th>Country/territory</th>
<th>Food import share (% of GDP)</th>
<th>Cereal Land per capita (ha)</th>
<th>Total exports/food imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahrain</td>
<td>4.9</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Egypt</td>
<td>4.8</td>
<td>0.037</td>
<td>6.9</td>
</tr>
<tr>
<td>Jordan</td>
<td>11.2</td>
<td>0.011</td>
<td>4.7</td>
</tr>
<tr>
<td>Kuwait</td>
<td>..</td>
<td>0.001</td>
<td>25.4</td>
</tr>
<tr>
<td>Lebanon</td>
<td>6.8</td>
<td>0.016</td>
<td>2.4</td>
</tr>
<tr>
<td>Oman</td>
<td>3.3</td>
<td>0.002</td>
<td>..</td>
</tr>
<tr>
<td>Palestine</td>
<td>..</td>
<td>0.010</td>
<td>1.1</td>
</tr>
<tr>
<td>Qatar</td>
<td>1.7</td>
<td>0.002</td>
<td>..</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>2.8</td>
<td>0.029</td>
<td>5.5</td>
</tr>
<tr>
<td>Sudan</td>
<td>2.4</td>
<td>0.221</td>
<td>5.5</td>
</tr>
<tr>
<td>Syrian Arab Republic</td>
<td>5.4</td>
<td>0.167</td>
<td>8.9</td>
</tr>
<tr>
<td>UAE</td>
<td>4.4</td>
<td>0.000</td>
<td>17.2</td>
</tr>
<tr>
<td>Yemen</td>
<td>8.3</td>
<td>0.033</td>
<td>4.9</td>
</tr>
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<td>ESCWA region</td>
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<td>0.080</td>
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</tr>
<tr>
<td>World</td>
<td>2.0</td>
<td>0.106</td>
<td></td>
</tr>
</tbody>
</table>

The responses of Arab Countries to the 2008 food crisis varied from country to country. Generally, policy measures took the form of:

- Reducing or removing import tariffs on agricultural goods (Egypt, Morocco and Saudi Arabia);

• Imposing additional export tariffs, setting export quotas, or prohibited export of certain staple foods (Egypt with rice);
• Building strategic reserves, anticipating further price increases (Iraq, UAE);
• Increasing agricultural subsidy levels (Egypt, Oman); and/or
• Establishing a cash transfer programs in order to strengthen adaptive capacity of the public to the crisis (Egypt, Tunisia, Saudi Arabia).\(^{23}\)

Several countries of the GCC have also engaged in engaging in agricultural investments abroad and land deals to secure access to basic commodities. Public and private sector initiatives to this end have been pursued by Kuwait, Qatar, Saudi Arabia and the UAE.

**E. Water scarcity**

Although the Arab region has long suffered from freshwater scarcity, the expansion of Arab cities, rapid population growth, economic development, strains on shared water resources, and a thirsty agricultural sector has turned water scarcity into a water security story in the Arab region. In 2008, the average annual precipitation in the region hovered around 200 mm, while several countries including Bahrain, Egypt, Qatar, Saudi Arabia, and UAE had an average of even less than 100 mm of annual precipitation.\(^{24}\) As illustrated in figure 5, renewable water resources in even the most water rich countries in the Arab region has dramatically fallen over the last few decades, and has left only 6 out of 22 Arab countries above the water poverty line of 1000 m\(^3\) per capita per year.

**Figure 5. Renewable Water Resources in the Arab Region Per Capita**\(^{25}\)

![Graph showing renewable water resources in Arab Region per capita from 1977 to 2008.](image)

Significant water use in the agricultural sector is increasing pressure on scarce freshwater resources. While the agricultural sector plays an important role balancing development between rural and urban areas in several Arab countries, high water consumption rates have not been able to commensurately increase food security at the national level. As can be seen in Figure 6, agricultural water withdrawal exceeded industrial or domestic water withdrawal in several Arab countries, including those that are among the most water scarce

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\(^{23}\) Elaborated based on Shutter, 2008. “Background Note: Analysis of the World Food Crisis by the U.N. Special Rapporteur on the Right to Food.”


\(^{25}\) Ibid.
in the region; in some countries, it even exceeds four-fifth of the total water withdrawal. This has led to increased extraction of both surface and groundwater resources.

Figure 6. Sectoral Water Withdrawal in Selected Arab Countries (Data from 2003-2007)

Moreover, as water scarcity increases, Arab countries become increasingly dependent upon shared freshwater resources originating from outside their borders. The region’s water resources are also vulnerable to climate change. It is projected that climate change will reduce the amount of available freshwater in the region, which in turn will affect investment costs related to desalination, water supply and wastewater treatment infrastructure. These challenges are reflected in the Arab Water Security Strategy 2010-2030, which was adopted by the Arab Ministerial Water Council in June 2011.

F. Energy Security

The energy sector in Arab countries contributes significantly to satisfying global energy demand. ESCWA member countries produced approximately 18.5 million barrels/day (mbd) of oil and 331.7 billion cubic meters (bcm) of gas in 2009, and this was approximately 26.3 percent and 11.1 percent of the total global oil and gas production respectively. However, not all countries in the Arab region are energy rich, and wide disparities exist in levels of energy consumed. Energy consumption levels in the GCC countries are among the highest in the world, but outside of the GCC sub-region, large number of people living in rural and poor urban areas still does not receive sufficient energy services. Rural electrification thus remains an important challenge to sustainable development in remote areas of Egypt, Mauritania, Morocco, Somalia, Sudan and Yemen. Indeed, while Qatar consumed almost 20,000 kgoe of energy per capita in 2007, the average person living in Sudan and Yemen consumed less than 500 kgoe, as shown in figure 7 below.

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27 ESCWA, “ESCWA Water Development Report 4” (forthcoming), drawn from data obtained from FAO AQUASTAT.
The energy consumption disparity among countries within the region has implications for efforts to achieve sustainable development in an inclusive and equitable manner. Access to energy also has implications on water security in several Arab countries since the ability to produce, extract and distribute water is closely dependent on access to adequate and reliable energy resources. For instance, regular electricity cut-offs in Lebanon and Yemen is a common cause of intermittent water supply since energy is needed to pipe water through distribution networks. Some countries in the region have responded to their water scarcity challenge by constructing large desalination plants. These non-conventional water production plants are largely clustered in the energy-rich countries in the region, including Algeria and the GCC countries. However, water scarcity is pushing some countries to pursue research and investment into renewable energy sources (solar and wind) to ensure a water secure future. Nuclear energy is also emerging as a new sector that is being targeted to fuel desalination and economic growth in Jordan, Morocco and the UAE.

G. Climate Change and Natural Disasters

Climate change is also challenging progress towards sustainable development in the region. In particular, climate change is expected to likely reduce the amount of available freshwater resources and increase the rate of land degradation in the region. Climate change is not only expected to affect the quantity of water, but also the quality of freshwater resources through increased salinity and seawater intrusion in coastal aquifers. Moreover, as land degradation and water scarcity are among the main constraints affecting agricultural production in the region, climate change is expected to negatively impact rural development tied to the agricultural sector, and thus contribute to increased unemployment, migration and poverty in the region.

In addition, the frequency and intensity of extreme weather events is also expected to increase as a result of climate change. The increasing frequency of droughts and floods recorded over the last decades can likely be directly or indirectly attributed to climate change, while the three strongest cyclones recorded to have hit the Gulf from the Arabian Sea have occurred since 2000s. Recent studies comparing modelling and observatory results have confirmed the hypothesis that climate change could alter the intensity and frequency of extreme weather events including droughts, floods and cyclones.

Risks and vulnerability to natural disasters is further exacerbated by the intensive urbanization process and rapid population growth in the region. Indeed, the region is frequently exposed to natural hazards such as earthquakes, cyclones, floods, extreme temperature events, drought, and sand storms.

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31 ESCWA, 2011, Sustainable Production and Consumption Patterns in Energy and Water Sectors in the ESCWA Region, Figure 1, p.4, (E/ESCWA/SDPD/2011/WP.1). Beirut: United Nations.
32 Ongoing UNEP Foresight Process (currently under peer consultation)
including the 2003 earthquake in Algeria, the 2007 Cyclone Gunu in Oman, the 2008 floods in Hadramoot, Yemen, the 2009 floods in Morocco and 2011 floods in Jeddah, Saudi Arabia. Between 1980 and 2008, droughts, earthquakes, floods and storms had affected more than 37 million people in the region; and caused economic damage estimated at more than US$ 19.8 billion.33

Arab countries are thus working to increase understanding of the impact of climate change on water resources, land resources and assess their socio-economic vulnerability through their national communications to the International Panel on Climate Change (IPCC) and joint regional efforts mandated by the Arab Ministerial Water Council and the Council of Arab Ministers Responsible for the Environment.34 At the global level, 168 countries have adopted the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters, including several Arab countries. However, as can be seen in figure 8, the Arab region still scores low in terms of natural disaster preparedness compared to the other regions of the world. This may be due to the newness of the topic to the region.

*Figure 8. Average Reported Progress in Each HFA Priority Area in the Middle East and North Africa, 2009 – 2011*

Nevertheless, several Arab countries are now making progress in systematically reporting disaster losses in accordance with the Hyogo Framework for Action. Jordan, Lebanon, the Syrian Arab Republic and Yemen have recently compiled their national disaster loss databases and will soon be joined by Egypt and Morocco. At the regional level, Arab countries endorsed the "Arab Strategy for Disaster Risk Reduction 2020" during the Second Socio-Economic Development Summit in January 2011 based on the recommendation of the Council of Arab Ministers Responsible for the Environment (CAMRE). This regional strategy aims at reducing the cost and loss from disasters, in lives and in social, economic and environmental assets of communities and countries across the Arab region.36

**H. Drought and Desertification**

Drought and desertification represent another cluster of regional challenges affecting sustainable development in the region. Increased land degradation and desertification has been witnessed in Iraq, Jordan, the Syrian Arab Republic, and most countries in the Arabian Peninsula over the last decade. While many of these countries already have deserts, ranging from 10 percent in the Syrian Arab Republic to close to 100 percent in Bahrain, Kuwait, Qatar and the UAE; around 15.3 million hectares (ha) of the region’s crop lands

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34 See UN-LAS Regional Initiative for the Assessment of the Impact of Climate Change on Water Resources and Socio-Economic Vulnerability in the Arab Region
36 LAS, 2010. “Arab Strategy on Disaster Risk Reduction 2020” adopted by the Council of Arab Ministers Responsible for the Environment, resolution 345 at its 22nd session held at the League of Arab States, Cairo 19-20 December 2010.
have been affected by land degradation, while 42 percent are classified as slightly degraded and 12 percent are considered to be severely to very severely degraded.\textsuperscript{37} Rangelands, forests and woodlands have also become degraded in the region\textsuperscript{38} and are affecting the livestock industry, biodiversity and increasing the potential for landslides and rockslides.

With varying topography, Arab sub-regions are affected differently by drought and desertification. As shown in the chart below, of the many climatic factors affecting the region, the most prominent and recurrent factors leading to desertification are droughts and the decrease in renewable water resources.

\textit{Figure 9. Drought Impacts on Increasing Extreme Events and Desertification, after Erian 2010}\textsuperscript{39}

Drought is a recurring climate-driven event, and is considered a natural disaster in the Arab region that brings with it water shortages, as well as adverse economic, social and environmental consequences. Between 1970 and 2009, about 38.09 million people were affected by droughts. Comoros, Mauritania, Somalia and Sudan have experienced repeated cycles of drought in recent years, which have led the mass migration and famine in large parts of Mauritania and Somalia. Meanwhile, the Syrian Arab Republic is considered among the most economically affected country in the region affected by drought and natural hazards.\textsuperscript{40} Between 2006 and 2009, an extended hydrological drought in northeastern Syria forced an estimated one million persons to abandon their homes and migrate to larger cities. A former senior Syrian official attributed this mass migration to have set in motion the popular uprisings that were initiated in Syrian secondary cities in 2011.

Intensive water use in agricultural sector also contributed to land degradation and soil erosion in the region, while the excessive use of pesticides and agro-chemicals increased soil salinity. Irrigated agriculture in the Arabian Peninsula led to rapid groundwater depletion while also increasing soil salinity. Farmers cultivating the foothills of the Atlas Mountains of Morocco and the mountainous areas of Oman and Yemen use terracing technique to reduce soil erosion risks, as well as traditional water harvesting techniques such as the ‘\textit{aflaj}’ and ‘spate irrigation’ systems to capture rainfall.\textsuperscript{41}

\textsuperscript{38} AFED, 2008. Arab Environment: Future Challenges.”
I. Biodiversity and ecosystem loss

Scientific communities have evaluated that biodiversity loss in the Arab region is increasing at a rapid rate. Species loss has been caused by highly detrimental drivers such as the invasion of foreign species into agricultural and aquatic ecosystems, which have led to the collapse of wetland and threatens endangered species. This has also threatened ecosystem services and increased water scarcity and accelerated environmental change. This in turn has increased vulnerability to environmental disasters and aggravated poverty.

The emergence of biotechnology, particularly the development of genetically modified organisms (GMOs), is also influencing natural ecosystems in the region. GMOs offer the potential to increase agricultural productivity in face of water scarcity and improve the nutritional content of the foods produced, thus contributing to enhanced human health and food security. While trade in biotechnology products in Arab countries remains limited, they may be able to help overcome the food deficit in Arab countries, which is predicted to reach 50-90 million tonnes per year by 2020. However, the introduction of foreign plant species poses the risk of changing agricultural patterns and increasing the dependency of farmers on non-native plant varieties that need to be replanted every season. Given that most Arab countries are now members of the World Trade Organisation, countries cannot ban the import of GMO products. However, no decision has been made in most Arab countries on whether to require the labelling of GMO-derived food products, which would be a regulation that would then need to be imposed on imports as well as domestically produced goods. However, the general policy regarding the importation of genetically modified crops of feedstock is that they currently do not require labels, which is in line with the outcome of decisions taken under the WTO dispute settlement understanding and demonstrates another aspect of the Arab region’s exposure to globalization and global economic trends.

Coastal and marine environments across the region are also facing common threats. The rapid urbanization process of coastal zones, development of tourism, intensive land use, maritime and oil traffic, rapid industrialization, and over-fishing have contributed to the degradation of the region’s oceans and seas. As a result, the current approach to managing land use and marine resources will need to be revisited in order to reverse biological diversity and ecosystem loss.

J. Migration

The Arab region has become a major destination for labour migrants, and this has significant implications on social and economic development in the countries and regional integration policies in support of sustainable development. In 2005, the Arab region hosted one in every ten international migrants in the world and one in every four migrants from the less developed regions. Three Arab countries were listed among the 20 top labour-receiving countries including Saudi Arabia with 6.4 million migrants, the UAE with 3.2 million, and Jordan with 2.2 million, representing 3.3, 1.7 and 1.2 percent of all international migrants respectively. Migration flows in the Arab region increased by 87 percent between 1990 and 2010, with international migrants representing nearly 39 percent of the population of GCC countries in 2010, as detailed in table 2 below.

43 Ibid
44 UNEP, GEO-5 Regional Consultations for West Asia, September 2010 (unpublished).
Analysis of disaggregate data on migration and employment reveals an emerging challenge to regional integration as a means to advance progress towards sustainable development in the Arab region. Since 1975, the policies adopted by GCC countries reduced the number of Arab migrants to GCC countries from 72 percent to between 25 and 29 percent of all foreigners by 2002. As described in table 3 below, Kuwait and Saudi Arabia showed the largest drop in the percentage of Arab migrants as a share of the total migrant community, with figures of 80 and 91 percent respectively in 1975 to only 34 and around 40 percent of total migrants in 2002 respectively. Meanwhile, the share of Asian workers has increased to nearly two-thirds of the total. However, while the proportion of Arab labour in those countries fell, the proportion of skilled Arab labour compared to Asian labour has increased.

Table 3. Arab Migrants as a percentage of the Total Migrant Community, 1975 – 2002

<table>
<thead>
<tr>
<th>Country</th>
<th>1975</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahrain</td>
<td>22</td>
<td>10</td>
</tr>
<tr>
<td>Kuwait</td>
<td>80</td>
<td>34</td>
</tr>
<tr>
<td>Oman</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>Qatar</td>
<td>33</td>
<td>25</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>91</td>
<td>37-43</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>26</td>
<td>10</td>
</tr>
<tr>
<td>GCC States</td>
<td>72</td>
<td>25-29</td>
</tr>
</tbody>
</table>

While the data in table 3 extends beyond a decade, it helps to put into context migration patterns in Arab countries over the last few decades. These patterns reveal that most recent migrants into the region are lower-skilled and less-educated. Furthermore, since the Gulf crisis of the 1990s, migrants from Arab countries, in particular those from Egypt, Jordan and Lebanon, have increasingly targeted European countries for labour opportunities, thus reducing the share of Arab migrants in other Arab countries.

46 World Bank. 2010. “Economic Integration in the Mashreq”
48 Ibid.
49 Ibid.
50 Ibid.
Currently, only 34% of Arab migrants reside in the GCC countries.\textsuperscript{51} Furthermore, a shift in migration patterns has emerged, whereby Jordan and Lebanon have become both sending and receiving countries for migration in the region. Migration in the region continues to be fuelled by the search for jobs and high-value employment opportunities, which has resulted in ‘brain drain’ in some Arab countries unable to create decent jobs for an increasingly young and educated labour force.

As a result of widespread labour migration, remittances became a major source of income for some Arab countries. A substantial increase in the amount of remittances as can be seen between 1990 and 2004 in table 4. Remittances have been shown to contribute significantly to GDP in Morocco, Egypt, Jordan, Lebanon, Palestine, and Yemen, while regional average remittances are approximately 3% of GDP.

\textit{Table 4. Remittances received in the Arab region}\textsuperscript{52}

<table>
<thead>
<tr>
<th>Remittances (Millions of US dollars)</th>
<th>Remittances as percentage of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1990</td>
</tr>
<tr>
<td>MAGHREB</td>
<td></td>
</tr>
<tr>
<td>Algeria</td>
<td>352</td>
</tr>
<tr>
<td>Libya</td>
<td>0</td>
</tr>
<tr>
<td>Morocco</td>
<td>2 006</td>
</tr>
<tr>
<td>Tunisia</td>
<td>551</td>
</tr>
<tr>
<td>MASHREQ</td>
<td>6 986</td>
</tr>
<tr>
<td>Egypt</td>
<td>4 284</td>
</tr>
<tr>
<td>Jordan</td>
<td>499</td>
</tr>
<tr>
<td>Lebanon</td>
<td>1 818</td>
</tr>
<tr>
<td>Palestine</td>
<td>..</td>
</tr>
<tr>
<td>Syrian Arab Republic</td>
<td>385</td>
</tr>
<tr>
<td>Yemen</td>
<td>1 498</td>
</tr>
<tr>
<td>GCC</td>
<td>39</td>
</tr>
<tr>
<td>Oman</td>
<td>39</td>
</tr>
</tbody>
</table>

Notes: a-Remittances include workers' remittances, compensation of employees and migrants' transfers.
b-Yemen not included in the total for Mashreq.


\textsuperscript{52} United Nations, 2006. “International migration in the Arab region”. (UN/POP/EGM/2006/14)
III. CONCLUSION

The new and emerging challenges described in this background expose issues and obstacles to the achievement of sustainable development in the Arab region along its social, economic and environmental pillars, and with a view towards the issues of governance and financing, which provide the pillars upon which a sustainable future can be built. It also signals some response measures and opportunities that could be created in response to the changes being experienced in the region. It doing so, the paper also reveals the multifaceted and inter-connected nature of these challenges and the importance of examining these issues in an integrated manner.

Indeed, the ongoing public protests in the Arab region put into question the capacity of governments to deal with multidisciplinary challenges facing the region. While they sparked by the global financial crises and food crisis to some extent, it is evident that structural changes underway in the region related to demographics, unemployment and natural resource scarcity is increasing pressure on governance structures and demanding increasing access to sustainable development opportunities. Dependency on food imports and shared water resources has also increased the vulnerability of countries to global and regional dynamics, which has increased risk and uncertainty associated with planning and investment in the future. While some Arab countries enjoy rich energy resources and savings to stave off risks, other countries suffer from the lack of energy resources and have thus become increasing vulnerable to external shocks. Climate change and the increasing frequency and intensity of extreme weather events create additional conditions of uncertainty that require improved planning and preparedness. In tandem, desertification and land degradation are also occurring at a faster rate than the world average, and increasing urbanization pressures, migration and demand for improved human welfare.

These new and emerging challenges must be addressed in an integrated and inclusive manner in order to achieve sustainable development goals in the Arab region. Formulating solutions to respond to these challenges thus requires cross-sectoral initiatives that linked together public and private sector stakeholders in a bid to pursue and renew political commitments for sustainable development in the Arab region.