Chapter 7
The Environment-Climate-Conflict-Displacement Nexus in the Arab Region: Implications and Recommended Actions

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Abstract To date, the problem of environmental migration in the Arab region and its enormous impact on the national budget have received scant attention in the literature. Accordingly, this chapter aims to analyze the budgetary cost of environmental migration, taking into consideration the quality of local governance and the intersection of other significant drivers. The feasibility of integrating and incorporating the cost of environmental migration into the Gross National Product (GNP) accounting will be demonstrated. The analysis also shows a correlation between the constraints of internal and international displacement and the rapid environmental deterioration induced by natural resource depletion and scarcity, conflicts, climate change, disasters, desertification, and biodiversity loss. The extent to which environmental deterioration dynamics and internal conflicts are interlinked are, therefore, examined in this study. Additionally, the analysis shows how and to what extent such conflicts affect the political boundaries of fragile states in the context of mass migration and the competition of global powers for influence, interests, and redistribution of roles.

Keywords Arab region · Conflicts · Environmental degradation · Climate change · Displacement · Cost

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1 Introduction

There is no conventional definition of the concept of 'environmental migration'; however, we can make use of some key elements and indicators that contribute to the understanding of such a concept. 'Environmental migration' encompasses elements related to: the natural/sudden disasters (Marthoz, 2011:145; Pentinat, 2010:322); the progressive environmental degradation; the environmental-induced conflicts; the environmental destruction caused by armed conflicts; land damages, desertification, uprooting of forests; the construction of dams; resource scarcity (especially water, land, and biodiversity); industrial disasters (e.g. Bhopal, Chernobyl, and Fukushima disasters); and the potential long-term impacts and implications induced by climate change.

The United Nations Environment Program (UNEP) defines an 'environmental refugee' as a person who, on a temporary or permanent basis, leaves his or her place of residence because of an environmental catastrophe (i.e. the impossibility of living in an area because of drought, flood or desertification) that poses a threat to his or her existence or seriously damages his or her living conditions (Beurier & Kiss, 2010:503).

The International Organization for Migration (IOM) uses the term 'environmental migrants' for "persons or groups of persons, who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or chose to do so, either temporarily or permanently, and who move either within their country or abroad" (IOM, 2008:15).

The definition provided by Keucheyan (2014), on the other hand, illustrates that a 'climate refugee' is a person whose decision to migrate is linked to environmental factors – the so-called environmental migration – at least partially. According to this perspective, the environmental/climate crisis produces refugees whose migration flows destabilize the areas where they settle, which may result in conflicts.

Part of the literature distinguishes between forced migration and sudden environmental degradation, but climate change, arguably, does not place limits on forced migration and sudden environmental damage. Forced migration may be linked to the gradual changes in the ecosystems' balance and state. It is essential to consider other classifications in this regard like internal and international migrations, previous-effect migrations and immediate migrations action, short-term migrations, and long-term migrations. According to Gemenne (2010:71), it is important to approach 'environmental refugees' as a cross-cutting issue. In all cases, it is difficult to establish a direct and automatic correlation between the nature of the damage, environmental capability imbalance, and the qualitative characteristics of migration. This precludes the possibility of reaching a consensus on the precise identification of environmental refugees. This is more complicated as well when it comes to counting the number of environmental migrants or predicting future quantitative trends. The more we expand the definition of the 'environmental refugee', the higher flow in number and size should be expected. On the contrary, the more we

narrow the definition, the number and size of environmental refugees notably decrease.

The issue of refugees is caused by many factors such as violent conflicts, rapid environmental deterioration, climate change, natural and climate-induced disasters, desertification, and water scarcity. Political or economic asylums have also sparked legal debates on how the concepts of environmental refugee, ecological refugee or climate refugee can be incorporated into the 1951 Vienna Convention relating to the Status of Refugees, which makes no reference to environmental and climate drivers of migration and does not give any legal status to environmental/climate migrants. In addition, multiple debates have surrounded the issue of climate refugees, including political discussions (such as the case of the extreme right discourse which tends to capitalize more and more on the refugee's status in an attempt to win elections), cultural dialogues (such as the difficulty of clearly delineating the boundaries between political and ecological issues), and economic surveying.

In this perspective, Stern (2006) illustrated the 'real' cost of climate change when considering the national budgets and increased population displacement (250 million in 2050) (Gemenne, 2010:71). Furthermore, Stiglitz et al. (2009) on measuring economic effectiveness and social development for the year 2009 also advocated the importance of integrating the principle of sustainable development into the Gross National Product (GNP).

In the MENA region, the literature has covered internal conflicts, the struggle between multiple actors, the contending strategies adopted by states, and the 'anti-movements', as well as the extent to which national budgets can meet the induced costs of such dynamics. However, key indicators such as the intersection of demographic shifts, war outbreaks, failure of development strategies, fragility and weakness of public policies, climate change, environmental degradation, and depletion of natural resources can be determinants of environmental and climate-induced conflicts and migration. However, this may require efforts and skills to isolate each one of these factors/determinants and create a distinct category of migrants and/or displaced persons. In this context, the present research analyses the extent to which internal conflicts and environmental deterioration are interlinked, and how these linkages affect the political boundaries of fragile states by reference to mass displacements and the rivalry of regional and international powers for influence, interests, and redistribution of roles. In addition, the research assesses the question of the cost of migration induced by climate change, environmental degradation, and natural resource depletion for the Arab region. The impact of such costs, especially in terms of disintegration of national borders and related challenges, such as the mobility of environmental migrants within the national territory (i.e. from the village to the city with travel terms that are restricted to distance and time). Sometimes, these refugees cross national borders because they are forced to do so. That is to say, a displaced person does not desire to leave his or her country as much as he or she seeks to escape the immediate environmental stress.

Moreover, the new dynamics induced by increased globalization and interdependence have led to the dismantling of concepts such as sovereignty, national borders, and traditional sources of threat to domestic security, considered as key foundations

of international law and the realist theory. Alternatively, to be in command of natural resources and peoples' abilities, liberal and neoliberal theories have developed concepts and notions that strengthen these trends, such as border opening, free trade, market liberalization, free-trade zones (FTZ), land confiscation, and 'humanitarian'intervention (Slaughter & Alvarez, 2000:246). The Arab region has, therefore, been caught in this tendency and has been unable to keep up with market mechanisms (Adam Smith's invisible hand) since the implementation of the Structural Adjustment Program (SAP) and the Washington Consensus. Conflicts and wars have spread in the context of environmental degradation and natural resource scarcity while the region is increasingly a hot-spot for climate change. There is no doubt that the costs of all these dynamics are constantly increasing. Can environmental migration flows and, thus, induced costs be halted in the context of diluting and moving sovereign borders of fragile Arab states?

2 Environmental Degradation, Climate Change, Conflicts, and Migration in the Arab Region: Links and Costs

In this section, the links between environmental degradation, climate change, and conflict are analyzed. Besides, this correlation and its costs for the Arab region are demonstrated.

2.1 The Environment, Climate, Conflict, Migration Nexus in the Arab Region

Any interference in the internal affairs of states is not justified from the perspective of international law. Accordingly, the 1992 United Nations Framework Convention on Climate Change (UNFCCC) emphasizes in its preamble the principle of state sovereignty by reference to the UN Charter and the established principles of international law, that is the sovereign right of states to exploit their resources according to their own environmental and developmental policies.

Conversely, and as indicated by several empirical studies (Gemenne, 2010:68), the most vulnerable populations cannot avoid environmental deterioration because of their insufficient capacities and the lack of adequate migration policies. The inevitable result is that these groups are the most affected by environmental degradation and disruption. For Aguilar (2019:83), natural resources are themselves a source of conflict, so vulnerable groups cannot engage in conflicts because the power seems to be the most determinant element in deciding who should have control over such natural resources.

Due to the presence of armed conflicts in the Arab region – particularly in Iraq, Syria, and Yemen – along with the danger of the so-called Islamic State (ISIS, ISIL

or Daech), which took control over some dams in Iraq and Syria, there are fears that radical groups might poison water installations and dams and cut food supplies to force the population to leither leave or fight.

The cases of Israel and the United States call for more attention for several reasons. First, we cannot ignore the fact that Israel's tactics in removing and uprooting olive trees (a symbolism of Palestinian survival) were signs of a destructive war waged against the Palestinian people. Second, the construction of the separation wall in the West Bank, an illegal construction according to the International Court of Justice's decision (ICJ Wall separation, 2004), is favoring the confiscation of Palestinian property and water resources. Third, Israel's unlawful use of white phosphorus munitions during its attack on Gaza (2008, 2009 and 2014) has had damaging results. Fourth, the use of depleted uranium by the United States on Iraq, and its effects on the environment and health, increased the burden on national budgets as well as the forced displacement of civilians from the hotbeds of tension and conflict.

As for the links between climate change and violence, scholars are divided into two main groups (Gleditsch & Nordås, 2010; Scheffran et al., 2012). The first group claims that it is difficult to establish a link between environmental factors and the demise of states (given the intersection of social, political, and economic factors). The second group, however, provides evidence to prove the existence of a link between violence and land degradation, deforestation, and resource scarcity (especially water). To support this claim, Hulot (2015:200) asserts that climate change increases poverty, suffering, and inequality. Climate change is often seen as a source of conflict and, at other times, as a threat multiplier. Indeed, it might not be responsible for the rise of new threats; however, it exacerbates problems that already exist – especially in risk zones like Middle East, Africa, Asia, and Latin America – such as drought, desertification, and resource scarcity.

In light of the above discussion about climate change as a threat multiplier, the controversial correlation between the climate-induced drought that struck Syria between 2006 and 2010 and the spark of the Intifada can be given as an example (Levy et al., 2017:34–35). Between 2006 and 2011, Syria suffered from droughts and the number of wells in the country has moved from 13,500 in 1999 to 21,300 in 2007. Moreover, climate change has also contributed to the increasing desertification in Syria (Hulot, 2015: 200). Farms were destroyed, livestock was reduced, and village communities were displaced – between two million and three million Syrians fell into poverty. Drought pushed hundreds of peasants to migrate to cities in search of jobs and many felt abused by the government. Also, hundreds of millions of refugees have migrated due to climate change to areas with fragile infrastructure (Gueldry, 2013:164).

It is important to note here the lack of accurate statistics on the number and trends of refugees due to climate change, natural resource scarcity, and environmental disruption in Arab countries. Understanding the extent to which an environmental refugee has fulfilled his or her dream within an 'environmentally safe'place raises various challenges in the Arab region relating to health, security, employment, and increased pressures on natural resources (the resource curse). According

to Levy et al. (2017), the major challenge is to develop models that can statistically predict the correlation between climate change and collective violence.

The environment can be a primordial and elemental factor for human displacement. Environmental conditions have been closely linked to the movements of nomadic pastoralists adapting to an appropriate pastoral situation. Such conditions are also behind the movement of the population as a result of natural disasters. The conflict that has been raised in Darfur, Soudan (PNUD, 2009:49) is described as the first conflict directly linked to climate change from the perspective of UNEP (von Schorlemer & Maus, 2014:9). Although there are numerous and interrelated sources of the clash in Darfur – especially ethnic rivalry between Arab and non-Arab tribes, increasing population rates, as well as bad governance and oil discovery in the region – the impacts of climate change, particularly the effects of drought and desertification on the northern part of Darfur, are certainly indisputable (Gemenne, 2010:87–88).

There is seemingly a correlation between climate and security challenges (Bastien & Baillat, 2018:80), which requires the implementation of policies that would meet such challenges. To that end, three key elements are suggested as a new framework for reflection and action to shape the vision, prevention, and analysis of conflicts and international relations, which include sustainability, stability, and security. The purpose of the framework is not to overlook the role of political, ethnic, religious, social, economic, and other determinants of conflicts (Bastien & Baillat, 2018:80). Rather, it attempts to highlight the significance of environmental degradation and climate change as parts of the underlying causes of a deteriorated general situation. The framework is equally informed by the environmental approach as advanced by scholars in the area of international security.

The links between conflict and environment in Sudan, for example, extend to a long history. Over the past four decades, for instance, rainfall in the Darfur region has fallen by 30% and the Sahara has advanced by more than a mile every year. The resulting tension between farmers and herders over disappearing pasture and declining water holes underpins the genesis of the Darfur conflict (Brown et al., 2007:1143). Additionally, the interdependence level and multiple factors have had significant negative effects on the environmental condition. Indirectly, it has led to human displacement, bad governance, excessive violence associated with massive resource exploitation, and the scarcity of investments. Indeed, environmental issues have contributed to conflict and continue to do so. Competition over natural reserves (oil, gas, Nile waters) and the confiscation of wood are important reasons for creating and maintaining disorder in the Arab region (UNEP, 2007:8).

In this perspective, Harrigan (2014) argues as well that the increase in food prices was an important catalyst of the ‘Arab Spring’ uprisings. Conversely, Tolba and Saab (2008:20) stressed that the connection between environment and conflict is not necessarily a direct one. This is complex because this connection often occurs in parallel with other social, political, and economic pressures and dynamics.

Apart from competition over natural resources, given their scarcity and limitations, climate change can create antagonism within the territory. A case in point is small island states threatened with drowning as a result of rising sea levels; a

situation unique to international law in case these states request resettling in the territory, or at least for their population to inhabit a determined territory (Gemenne, 2010:83).

The estimations of the number of people forced to migrate due to climate change range between 25 million and 1 billion people by 2050 (IOM, 2008:12). Unfortunately, these figures are not scientifically strictly justified and acceptable. Research is aimed at limiting these estimations to the populations exposed to major climatic hazards but fails to take into account adaptation measures and actions on which individuals, groups, and governments rely (UNEP, 2007:50).

The negative impacts on the environment have increased due to the advancement of techniques and methods of armed conflicts. The gravity of such impacts has worsened as it has become possible to change environmental conditions using multiple techniques and methods to create artificial clouds, rain, and snow beyond natural levels, destroy irrigation systems, ravage vegetation soils and forests, devastate crops, and contaminate water (El Haiba, 1989:7–8). It should be reckoned that these practices are in full contradiction of international humanitarian law provisions, such as:

- The Art. 53 of the 1949 Geneva Convention relative to the Protection of Civilian Persons in Time of War (commonly referred to as the 4th Geneva Convention), which prohibits the destruction of fixed or movable property, or the Art. 55 which states that: a) care shall be taken in warfare to protect the natural environment against widespread, long-term, and severe damage. This protection includes a prohibition of the use of methods or means of warfare that are intended or may be expected to cause such damage to the natural environment, and, thereby, to prejudice the health or survival of the population; and b) attacks against the natural environment by way of reprisals are prohibited;
- The 1977 Protocol I & II to the 4th 1949 Geneva Conventions;
- The 1973 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction;
- The 1976 Convention on the Prohibition of Military or any other Hostile Use of Environmental Modification Techniques (known as the ENMOD Convention); and
- The Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed excessively injurious or to have indiscriminate effects as amended on 21 December 2001.

In the same vein, reference to the impact of wars and conflicts on the environment had been earlier highlighted by the international law of environment – for instance, in the Stockholm Declaration (1972), the World Charter for Nature (1980), and the Rio Declaration (1992). In 1992, the UNFCCC stressed the priority of saving the planet from global warming; however, it seems that this convention failed to protect refugees from climate change. The first time that human mobility was recognized in international climate policy was at COP16 (2010), when Parties to the UNFCCC adopted the Cancun Adaptation Framework, including para 14(f) to invite action that addressed the full range of movements people may take when faced with climate risks: “Invites all Parties to enhance action on adaptation under the Cancun

Adaptation Framework […] by undertaking, inter alia, the following: [….] (f) Measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at national, regional and international levels". This framework provides a range of measures (research, coordination, cooperation), mobility (displacement, migration, planned relocation), and levels (national, regional, international) of action. The inclusion of the above sub-paragraph on migration and displacement gave options for undertaking actions to address human mobility (Warner, 2017).

Regarding this issue, the Paris Agreement comes up short; it does not address the legal status of refugees or mandate their protection and assistance. However, it does mention migrants in the Preamble, and it calls for a task force to "develop recommendations for integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change". In addition, of the 185 intended nationally determined contributions (INDCs) submitted, only 20% of them mention migration. Overall, the Paris Agreement lacks the urgency, depth and coordinated framework necessary for addressing the immense challenges of climate-induced migration. Therefore, the rights to receive preventative assistance to avoid being displaced, to get support if one is forced to flee, and to build, live, work and integrate in new communities if one cannot return back home, remained unaddressed (Lambert, 2015).

2.2 The Financial Cost of Conflicts in the Arab Region

Extreme events, such as severe floods or droughts, and environmental degradation adversely affecting agricultural production, livestock, or water availability have pushed people to migrate. Migration in the Arab region encompasses different individuals and groups from a variety of social and economic backgrounds (ESCWA and IOM, 2015:15).

The economic cost of environmental degradation (COED) in Arab countries has been estimated at 5% of the GDP by Tolba and Saab (2008:228). In Morocco, for example, Croitoru and Sarraf (2018) assume that the cost has been estimated in 2014 at 3.52% of the GDP (Table 7.1). In the same vein, Riccard (2017) mentions that the hydro-meteorological events alone have generated more than 3/4 of economic losses in Morocco. Taken together, floods (44%) and forest fires (43%) account for almost US$ 458 million.

Iraq is one of the most vulnerable Arab countries which suffers from environmental damage due to many decades of war against Iran (1980–1988), the invasion of Kuwait in 1990, and the American invasion of the country in 2003. The environmental damage caused by the Gulf War II in 2003 alone – particularly for the rehabilitation of water installations and the purification of polluted water – was estimated between $6.4 and $11 billion (Ait Hmadouch, 2005:49); after 2003, 70% of Iraqi citizens had access to unhealthy water (Strategic Foresight Group, 2009:49).

Table 7.1 COED in Morocco, 2014 (US$ billion and % of the GDP)

	Lower bound	Upper bound	Average	% of GDP
Water	1.3	1.4	1.4	1.26%
Air	0.7	1.5	1.1	1.05%
Agricultural land	0.6	0.6	0.6	0.54%
Waste	0.4	0.4	0.4	0.40%
Coastal zone	0.3	0.3	0.3	0.27%
Forest	0.0	0.0	0.0	0.0
Cost to Moroccan society	***3.4***	***4.4***	***3.9***	***3.52%***
Carbon emissions	0.5	3.0	1.8	1.62%
Cost to global community	***0.5***	***3.0***	***1.8***	***1.62%***

Source: Croitoru and Sarraf (2018:262)

In Kuwait, and during the invasion of Iraq, more than 600 oil wells that produced about 500,000 metric tons of pollutants per day exploded, with 25–50 million barrels spilled over the land, as well as the largest recorded oil slick in the sea (6 to 8 million barrels), affecting the Gulf's marine environment. In the Kuwait case alone, environmental damage was estimated at $40 billion, representing 16% of the total war compensation claimed (Partow, 2008:165).

Depleted uranium weapons were used by the American and British forces in two destructive wars in 1991 and 2003. Experts estimated that at least 3000 tons were deployed (Almuqdadi, 2011:106). These deadly weapons undoubtedly threatened the life and health of humans as well as the environment.

In the occupied Palestinian territory, particularly in the Gaza strip, direct losses to agriculture amounted to more than $50 million and indirect losses reached $830 million. These are highly costing losses given the limited resources of the country (Strategic Foresight Group, 2009:103).

Israel's crimes against the environment in Lebanon are depicted in mine-laying in fields and around water sources, the burning of trees and orchards, the dredging of the soil; and the stealing and pumping of water (Hamad, 2005:155–156). More dramatically, the UN has estimated that in the Lebanon territory of the south and western Bekaa, Israel has left behind some 130 thousand mines and a huge number of unexploded bombs. In addition, the 2006 Israeli-Lebanese war caused significant environmental damage, the most serious of which was the targeting of an oil refinery, which resulted in an oil spill of 10,000 tons, that polluted and contaminated 150 km of Lebanese coastline and 50 km of Syrian coastline. The damage was also extended to the Litani River and its agricultural surroundings by air attacks (cluster bombs), where 26% of the bombs landed on the area (Ait Hmadouch, 2005:167–168). Also, Israeli bombardments of the petrochemical storage facility in July 2006 war in Lebanon led to a massive oil spill in the Mediterranean basin. Actually, the use the use of cluster bombs made many forests and grasslands in the South of Lebanon unsafe, precarious, and often inaccessible for the local population (Jardi et al., 2013:154).

There is no doubt that these different conflicts and hostilities resulted in internal and external displacements due to massive pollution, the poisoning of water, and the burning of forests and farms. This requires a census of the directions of individual and collective displacements owing to both environmental degradation and natural resource scarcity. In this context, climate change could aggravate the Arab region's vulnerability to natural disasters such as drought and flash floods in addition to water and food shortages, pest infestations, and most importantly sea-level rise in coastal areas (El-Sayed Selim, 2004:85–86).

3 Fragmentation of Cross-Border Migration Policies

3.1 The Cost of and Responses to Transnational Damage

The flow of forced migration through national borders, or the so-called transboundary or transnational environmental/climate migration, due to the entanglement of political conflicts, economic contexts, environmental degradation, and scarcity of natural resources, among others, poses complex and intersecting security pressures; accountability should be held by host countries as well as transit and receiving countries.

Wherever they are, refugees necessitate social protection, healthcare, and access to water and food. They are often a burden on the national budget of host countries. Meanwhile, they may also be a source of risk to environmentally safe areas (increasing pressure on fragile ecosystems, scarce natural resources, and already degraded soils). International aid to refugees is often insufficient and inadequate to protect refugees and their surroundings from risks and vulnerability.

The purpose here is not to monitor environmental/climate migration. More particularly, the aim is to rather to keep an eye on this phenomenon and understand its roots, foundations, and implications. There is a need to adopt and support a more creative approach to human mobility and its complex relationship with environmental and climate dynamics, in which migration is perceived not only in terms of failure to adapt but also as a legitimate adaptation strategy itself. For this particular reason, it is necessary to integrate migration policies into the perspective of adaptation strategies as recommended by the IOM (Christiansen, 2016:182).

Within the international development policies that regulate humanitarian assistance and environmental and climate policies, agencies interested in governance have responsibilities associated with different stages of the climate change reduction process: to support the adaptation, mitigation, and resilience of groups in the face of environmental risks and extreme events. For Mence and Parrinder (2017), agencies responsible for climate change policies who operate within a global dynamic to manage mobility of population across international borders can reinforce humanitarian efforts to avoid disasters, to maintain their return and resettlement, and to improve their integration within host societies. Moreover, integrating

migration policies into the perspective of adaptation strategies would contribute to the reduction of the cost of transnational damage, on the one hand, and the advocacy of international cooperation regarding these policy areas on the other.

Statistics and scenarios concerned with the prediction of potential numbers designated for future migration differ. According to the report of the Office of the United Nations High Commissioner for Human Rights (Warren, 2016:2113), between 50 and 200 million people will be moving within or outside national borders in the middle of the present century. However, the Aid Christian report (2007) predicts a number between 200 and 250 million in the same period, and the Intergovernmental Panel on Climate Change (IPCC) and the Stern's Report (Global Humanitarian Forum, 2009:49) suggest that from 150 to 200 million people will be moving incessantly as a consequence of rising sea levels, floods, and droughts by 2050. In the same perspective, the Human Rights Council (2009) estimates that some 262 million people were affected by climate disasters from 2000 to 2004, 98% of whom live in developing countries. The risks of tropical cyclones alone affected about 120 million people annually, killing about 250 thousand people between 1980 and 2000.

Oftentimes, migrant populations usually move towards the most fertile or abundant land. Extreme events and disasters, such as drought in the Sahel region of Africa, are thought to accelerate such movements. Dry years in the Arab Mashreq and Maghreb countries are also increasing the rapidity of rural migration to cities and contributing to social, economic, cultural, and political repercussions in urban areas (Hashim, 2018:9). There is no doubt, therefore, that environmental and climate migrants are fleeing such extreme events and disasters such as drought or rising sea levels, including slow-onset changes like desertification, although the increase in these phenomena and their consequences have been met with limited political action (Schmid, 2018:37).

In his critique of international relations, Linklater (2007:4) proposes a new perspective called the 'Cosmopolitan Harm Conventions (CHCs)'. For Linklater, the approch he suggests draws upon the principle of non-harm as emphasized by the International Humanitarian Law on the duty not to harm individuals and ethnic groups. Chief among these are: the 1948 Convention on the Prevention and Punishment of the Crime of Genocide; the 1973 International Convention on the Suppression and Punishment of the Crime of Apartheid; and the international environmental law and soft law concerned with the extraterritorial effects of states – especially the Art. 3 of the 1992 Convention on Biological Diversity and the principle 21 of the 1972 Stockholm Declaration on Human Environment. In this perspective, it is estimated that the cost of transnational effects will be considerable and significant and that such effects will be diverse and different among states. More serious awareness-raising and risk analysis, together with the examination of transnational impacts of national sovereignty, would enhance the emergence of transnational governance regarding the adaptation to climate change (Hedlund, 2018).

In the same context, we can refer here to the so-called risk society. The basic idea, according to Ulrich (1992:13–23), is that we have shifted from the logic of benefits allocation to the distribution of risks along with the threats imposed by

modernity and the uncertainty surrounding globalization. These risks led, first, to new disparities and inequalities between and among the North and the South. We may add that these disparities and inequalities arise within each country and between its constituent regions. A consequence of modernity is the increasing threats to both social and ecological systems as outcomes of both industrial and technical development.

Bastien and Baillat (2018:74) believe that we have moved from burden-sharing – that is, defining the responsibilities of each actor – and collective burden-sharing to the logic of opportunity sharing because it is in the public interest to reach an agreement between the parties, which helps increase employment opportunities, enhance growth, and improve well-being, etc.

In the 9th of July 2004, the ICJ took a decision upon the wall that separates Israel from Palestine. The decision undertaken by the ICJ holds that Israel is accordingly under the obligation to return the land, orchards, olive groves, and other immovable property seized from any natural or legal person for purposes of construction of the Wall in the Occupied Palestinian Territory. In this case, such restitution should prove to be materially impossible, Israel must compensate the persons in question for the caused damage. The Court considers that Israel also should compensate, following the applicable rules of international law, all natural or legal persons having suffered any form of material damage as a result of the Wall's construction (ICJ, 2004).

Aside from the context of the UN, the Nansen Initiative on Transnational Migration, launched by Norway and Switzerland in 2015, emerged in the context of disasters and climate change. The primary affirmed purpose of the initiative is to support states and various actors to prepare and respond to cross-border climate migration. This initiative, thus, comes as an attempt to form a league of states that would address this issue and develop effective approaches from a soft law perspective to protect transnational climate migration (Warren, 2016:2111–2112).

3.2 Future Impacts and Costs of Mass Migration on Public Policies

No doubt, the Arab region is at a critical stage politically, socially, and historically. Endorsing the choice of revolution against rulers has created political, social, and cultural dynamics that have severely affected public policies in various areas (revolution and anti-revolution). To escape ongoing massive migrations or at least mitigate their implications in the Arab region, the values of the community and loyalty to the nation and a culture of positive participation in the management of public affairs, under the sovereignty of a delicate economic situation highly characterized by dependency and conditionality, should be enhanced. Market mechanisms have noticeably accelerated the gradual degradation of the environment and the scarcity of natural resources with many social and security implications. To counter such

dynamics, especially after the revolution, "states can guarantee a place for both competition and synergy through collective expansion of market access and inclusive decision-making" (Al-Bassam, 2014:61).

Environmental exhaustion is both the cause and the consequence of political pressure and military conflict. Nations have often competed to either impose or resist control over primary resources and energy provision, land, river basins, sea lanes, and other basic environmental resources. These conflicts can worsen as resources become scarcer and competition increases (WCED, 1987:291). Moreover, there is a direct link between natural resources and development, particularly with the findings of Sachets who points to the existence of a natural resource curse since 4/5 of the countries whose economies are based on natural resources have a lower standard of living than the global average, and half of them have not reached that rate yet (Serre, 2016:70–71).

There is a complex correlation between poverty, inequality, environmental degradation, climate change, resource scarcity, and conflict. In such a nexus, what concerns the international community more is the phenomenon of 'environmental/climate-induced migration'. It seems at first sight that the cause of mass migration is political unrest or armed violence, but the underlying drivers also include the deterioration of the natural resources' base and its ability to sustain the population (WCED, 1987:291). In early 1999, there were almost 22 million traditionally and internationally recognized refugees who flee political oppression, religious persecution, and ethnic troubles. Their numbers had declined from a peak of 27 million in 1995 but remained higher than the 19 million in 1993. In addition, there were large numbers of people who were characterized as environmental refugees or who could not secure their livelihood in their homelands because of drought, soil erosion, desertification, deforestation, and other environmental problems, together with the associated problems of demographic pressures and severe poverty (Myers, 2002:609). According to Pentinat (2010), the rate of people displaced (or refugees) due to desertification, deforestation, floods, land degradation, etc. is about 17,000 a day.

Since the 1990s, much attention has been paid to the security implications of massive migrations induced by environmental and climatic changes which affect the ability of populations to access natural resources essential to their livelihoods such as arable land, forest, and freshwater. As the residency duration of forced displacement expands, the burden on hosting countries to understand and integrate new arriving migrants becomes even more difficult. In many countries, adaptation is also emerging as a highly political process as poorer segments of society demand formal recognition and clarification of rights of access to land, water, and forest resources (Melvin & De Koning, 2011).

Environmental problems undoubtedly affect the collective security. The literature on population mobility due to environmental crises started in the 1970s within the context of security studies. Basically, researchers were interested in the relationship between environmental deterioration and the emergence of conflict (Vlassopoulos, 2017:104). The current literature shows as well that climate change is already affecting certain levels of migration (Martin, 2010; Kelman, 2020; Von

Soest, 2020). However, the speed of climate change impact on living conditions leads to different patterns of migration and mobility; climate change impacts such as floods often lead to immediate and temporary displacement, while slow environmental changes such as drought involve circular migration – i.e. frequent movement between different areas (Mobjörk, 2017).

Migration was also highly inter-related with adjustment to a deteriorating living environment and a response to a failed adjustment. For instance, IDMC (2018) argues that "Internal displacement, associated with climatic changes and disasters, is a complex and dynamic phenomenon". In addition, as long as transnational climate change affects the national sovereignty of each state, it is important to think about the transnational solidarity approach, focusing on cross-border policies, and re-emphasizing the environmental rights of migrants (Klepp, 2018:150). Such an approach would decrease regional and international competition and surpass states' boundaries.

3.3 International Competition and National Borders' Fragmentation

In addition to violence, UNHCR (2008:5) posits that human rights violations and oppression by governments are also key elements in mass migrations. Individuals are in a situation of mobility because of severe poverty, the decline of living conditions, gradual urbanization as well as the effects of environmental and climatic changes, which worsen competition and conflict over scarce resources. Sometimes all of these elements overlap or reinforce each other. According to Warren (2016:2109), climate change can lead to instability, including changes in rainfall patterns (as a cause of desertification) and melting snow leading to increased extreme weather (such as storms, heatwaves, and drought). Given this perspective, Warren claims – as many researchers – that forced migration can be caused by climate change, as in the case of Somalia in 1990 and Syria in 2015. Climate change is certainly not the only cause of forced migration, but it worsens such conditions and causes which trigger the decision to migrate.

Previous experience has confirmed that the existence of raw materials in a country affects other countries' policies, especially in industrialized ones. The imperial experience has proved that one of the most important drivers of colonial competition was the desire to acquire raw resources. The battle for such resources explains the many forms of world order (conflict and cooperation). Additionally, domestic situations in countries supplying these raw materials are affected by pressures from importing states (suppression or support of a revolution or rebellion, support of certain authoritarian regimes, etc.) (El Manoufi, 1987:131).

Between 1998 and 2017, poor communities and fragile countries were more vulnerable to the harmful impacts of climate change than developed countries; because of weak institutions (Eckstein et al., 2018). Over a billion people – the world's

poorest and vulnerable communities – will bear the brunt of climate change (Ayers & Huq, 2009:2). These impacts can also be highlighted concerning the ability of countries to control their natural resources as the notion of national sovereignty has declined (Park, 2013:340). For its part, the environmental crisis (Keucheyan, 2014) will certainly exacerbate natural disasters that increase the fragility and speed of existing institutions, especially in developing countries. We can add that the deterioration of national economies is in itself a key factor and a catalyst for the refugee crisis. Climate change is likely to further weaken the capacity of some vulnerable countries with weak governance structures, which could lead to increased human insecurity, conflicts, and instability. Famine and epidemics in several countries – as a result of the 2008 world food crisis– such as Haiti, Cameroon, Egypt, Mexico, Ivory Coast, Madagascar, and Indonesia, are a case in point.

Some groups can also compete and struggle within the territory of countries to oversee and, therefore, control vital resources and agricultural lands. Ethnic and political conflicts can increase competition over resources. Gemenne (2010) mentions that instability can be a menace to international security, especially if these unstable states exert major influence in a particular geographical area – e.g., Brazil, Mexico, Nigeria, South Africa, Egypt, Pakistan, and South Korea. In the same framework, it was also claimed that conflict may arise if migrants, especially of different nationalities or ethnicities, move faster and intensively to neighboring countries that are already in disagreement or have limited resources and mechanisms to deal with constraints.

The national sovereignty has radically changed as a consequence of the complex interdependence in the spheres of economy, environment, and security and it is increasingly difficult to manage shared global resources at the national level (Chougrani, 2021). In addition, countries are growingly incapable to manage current threats to the commons. Indeed, according to Bell (1988), the nation-state is becoming too small for big problems and too big for small problems. Therefore, the threats to environmental security can only be addressed through joint management and the function of multilateral procedures and instruments (WCED, 1987:301). The environmental perspective is, in our view, a vital part of the overall security equation. Thus, the aspects that may put limits to these environmental threats in the Arab region should be investigated to protect national security and sovereignty. Certainly, security does not only imply the protection of national borders from military threats, but also non-military threats induced, among others, by climate, environmental, food, and water insecurity. In this sense, it can be argued that environmental/climate security has expanded the levels and nature of security on one hand, as well as the scope of actors' intervention in risk management policies on the other. The state was the most important unit of analysis in the classical realist theory of security, but with the emergence of environmental/climate threats, other actors, such as international non-governmental organizations and public opinion, intervened in this area.

By the end of the Cold War, the concept of 'environmental security' was strongly brought into the debate in a context where military risks were still perceived as the

only threat to global insecurity. More attention has been increasingly paid to the following threats given their security implications: globalization of the economy; the consequences of interactions and mutual intentions; regional differences in the world; the displacement of migrants; the lack of integration of certain political systems into the international system; the depletion of the ozone layer; the steady growth of deforestation and desertification; and the extinction of certain species (Painchaud, 2000:62). In this evolving context, the cooperative security requires comprehensive cooperation and is not limited only to issues connected to the military aspect of security, but includes issues related to resource scarcity, sustainable development, and environmental concerns (Alharbi, 2008:25).

At the beginning of the current Millennium, Schwartz and Randall (2003) submitted to the Pentagon a report on *An Abrupt Climate Change Scenario and its Implications for United States National Security*. The report contains two phases that summarize the scenario of confrontation in case of extreme climate turbulence: the first from 2010 to 2020; and the second from 2020 to 2030. Accordingly, the United States must manage borders and refugees from the Caribbean and Europe. If oil prices continue to increase, the confrontation will be in the Persian Gulf and the Caspian Sea. In the case of internal unrest in Saudi Arabia during 2025, the conflict between the US Navy and China will be likely direct. One of the main issues to focus on is that "all borders are porous; long-term border protection, use of armed protectors or control systems are no longer acceptable" (Schwartz & Randall, 2003:251), especially in a globalizing context with dynamics transcending national borders.

4 Conclusion

This research attempts to examine the extent to which the patterns of conflict in the Arab region are linked to environmental degradation, climate change, and competition over scarce resources during mass migrations. The assessment of such patterns helps monitor the cost of the so-called environmental/climate migration to national economies and public policies. The analysis attempts as well to assess the damage caused by conflicts over natural resources within and outside national borders and the extent to which international and regional competition over such resources contributed to the fragmentation of these borders. Accordingly, it seems essential to draw the following conclusions:

- It is increasingly important to operationally define the concepts of 'environmental migration' or 'environmental and climate-related refugees' among others. and integrate them into the international system through the endorsement of the human rights framework. This will ease the way for policies and strategies that address forced migration (within or outside the national territory) along with its multiple aspects and dimensions.
- Arab Countries are still reluctant to include these concepts when it comes to conflict over limited resources and forced migration. Strengthening institutions

and socially effective action would, hopefully, change that perspective. Environmental or climate migrants are part of the issue of conflict over limited resources and wealth and are evidence of the ongoing social exclusion, vulnerability, and fragmentation of society.

- The overlap between demographic data, environmental and climatic changes, armed conflicts, and the failure of development plans lead to environmental imbalance and social conflicts. It, therefore, seems indispensable to integrate migration policies into the perspective of environmental and climate adaptation strategies.
- The oversight of monitoring the financial cost of conflicts and its impact on public policies contributes to the fragmentation of national borders, which requires the re-establishment of the perspective of environmental sustainability and equity, both at intra-generational as well as inter-generational levels. Equity in this respect is possible through the distribution and sustenance of wealth and the expansion of opportunities in society.
- To mitigate the financial cost of forced environmental migration in the Arab region, a link between sustainability, stability and security must be established. Imperative also is a shift of attention towards environmental risks and their consequences that inevitably exceed the sovereign borders of states.
- Regional and international competition over the Arab region is making the environmental situation and climate change impacts worse, shifting the center of focus into the importance of security in its comprehensive sense (both traditional and non-traditional) to escape the fragmentation of the region into small entities and states, therefore worsening the existing vulnerability. Therefore, addressing environmental degradation, climate change impacts, and the potential causes of conflicts in the Arab region – largely political factors – is increasingly imperative to ensure a sustainable management of such conflicts and their induced implications, especially displacements.

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