

Distr.
LIMITED
E/ESCWA/ECW/2016/Technical Paper.2
10 June 2016
ORIGINAL: ENGLISH

ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA (ESCWA)

**Conflict, Climate Change and Their Mutually
Reinforcing Impact on Gender Imbalances
in the Arab Region**



United Nations
Beirut, 2016

16-00158

CONTENTS

	<i>Page</i>
Introduction	1
I. Climate Change, Conflicts and Gender: A Complex Dynamics	2
II. Gender Dimensions of Climate Change in Conflict Settings	4
A. Gender differences in adaptation to climate change	5
B. Gender differences in climate change mitigation.....	5
C. Gender differences in access to resources.....	5
III. Environmental Resources Endangered by Conflict and Its Impact on Women	6
A. Land	6
B. Water.....	6
C. Agriculture	8
D. Food security.....	9
IV. Conclusion and Policy Recommendations	10

LIST OF FIGURES

Figure 1. Mutually reinforcing impact of conflict and climate change on pre-existing gender imbalances	1
Figure 2. Changes in temperature and precipitation levels, 1986-2011	2
Figure 3. Water availability in Arab countries	7
Figure 4. Female employment in agriculture in selected Arab conflict-stricken countries	9
Figure 5. Scores of selected Arab countries in the Global Food Security Index, 2015.....	10

Introduction

Climate change has direct and indirect effects on the well-being of people. Its impact is not restricted to the environment but extends to economic, social and political life, threatening human security and people's ability to ensure a sustainable livelihood. Specific population groups, such as children and women, are particularly affected: they face major obstacles when seeking to access assets and resources to cope with climate change pressures.

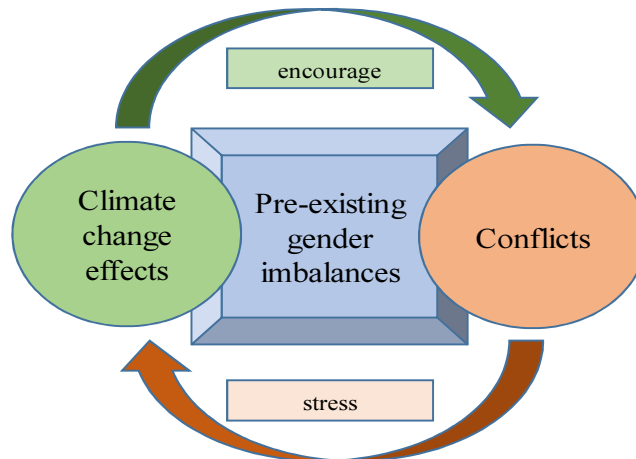
Compounded with the various repercussions of conflict, climate change becomes a “threat multiplier”,¹ further compromising livelihoods, exacerbating human, food and water insecurity, and increasing internal and external displacements. Natural disasters and extreme weather events are even among the triggers of conflict and political unrest, with warring parties sometimes fighting over natural resources, which adds to climate change stresses. Food insecurity, especially the increase in prices and unavailability of products, decline in agricultural viability and low access to natural resources can also be contributing factors to an upheaval. A case in point is the conflict in Darfour, which was dubbed “first climate change conflict” by the United Nations as it was driven by water scarcity.²

Today, the Arab region is experiencing violent conflict and, at the same time, facing environmental threats exacerbated by climate change. Agricultural activities, food security, access to and use of land, availability and use of water resources are all affected by these two interrelated factors. This encourages displacement of people and heightens the risk of civil war.

A third and cross-cutting issue in the region is gender inequality: the impact of conflict and implications of climate change are heavier on women, aggravating already existing gender imbalances. In times of war, women usually become the breadwinners, yet they are impeded in their access to resources and coping mechanisms.

This paper aims to show how the mutually reinforcing effects of climate change and conflict on women aggravate the pre-existing gender imbalances in the Arab societal structure (figure 1). It also proposes a set of policy recommendations to tackle this complex issue.

Figure 1. Mutually reinforcing impact of conflict and climate change on pre-existing gender imbalances



¹ Caitlin E. Werrell and Francesco Femia, eds., *The Arab Spring and Climate Change: A Climate and Security Correlations Series* (Washington, D.C., Center for American Progress, Stimson and The Center for Climate and Security, February 2013).

² Peace and Security Section of the United Nations Department of Public information, “The United Nations and Darfour: fact sheet”, August 2007. Available from http://www.un.org/News/dh/infocus/sudan/fact_sheet.pdf.

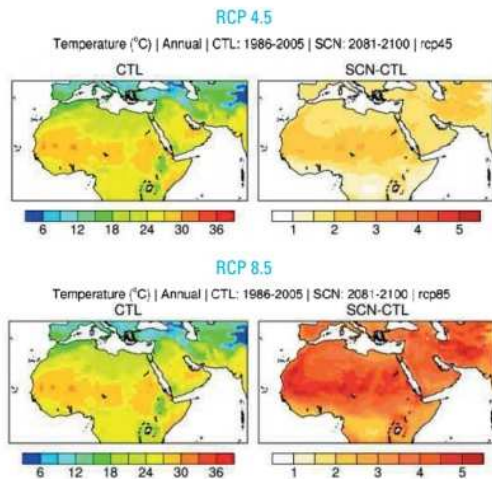
I. Climate Change, Conflicts and Gender: A Complex Dynamics

Over the last thirty years, the Arab region has experienced various climate events that have affected 50 million people and caused significant economic losses,³ and the situation is likely to further deteriorate, with rising temperatures and decreasing rainfall levels over the next century (figure 2). Most Arab populations already live in the context of constant freshwater scarcity, rising temperatures, recurring periods of drought, and land degradation and desertification. This is especially problematic in a region where 40 per cent of employment is related to agricultural activities.⁴ According to 2012 World Bank estimates, climate change results in an overall reduction in household income ranging from 7 per cent in Tunisia to 24 per cent in Yemen.⁵ Studies on the link between rising temperatures and incidence of conflict have shown that a 1 per cent increase in temperature leads to a 4.5 per cent increase in risks of civil war.⁶

Figure 2. Changes in temperature and precipitation levels, 1986-2011

Change in Temperature: End-Century

Figure 3. Change in Temperature for the time period 2081-2100 from the baseline 1986-2005 for RCP 4.5 and RCP 8.5.

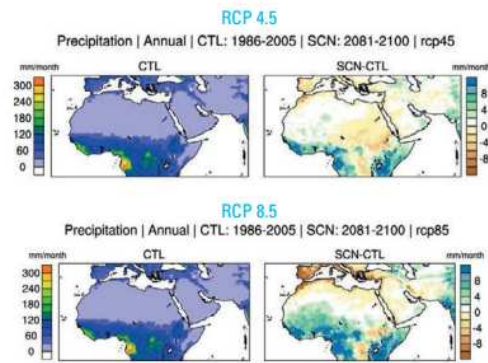


The general change of temperature towards the end of the century shows an increase between 1 to 3°C in RCP 4.5 and from 2 to 5°C with RCP 8.5. The areas showing higher increase are in the Sahara area in North Africa and East Africa, including Morocco and Mauritania. The increasing change in temperature becomes much more evident throughout the region by the end of the century. The increasing temperature signals along the western shores of Yemen and Saudi Arabia under RCP 8.5 are also stronger than under RCP 4.5 in comparison with the rest of the Arabian peninsula.

Source: United Nations and the League of Arab States, *Climate Projections and Extreme Climate Indices for the Arab Region - Regional Initiative for the Assessment of the Impact of Climate Change on Water Resources and Socio-Economic Vulnerability in the Arab Region (RICCAR)* (Beirut, 2015, E/ESCWA/SDPD/2015/Booklet.2), pp. 7-9.

Change in Precipitation: End-Century

Figure 5. Change in average monthly Precipitation for the time period 2081-2100 from the baseline 1986-2005 for RCP 4.5 and RCP 8.5.



Both scenarios show a reduction of the average monthly precipitation reaching 8-10 mm in the coastal areas of the domain, mainly around the Atlas Mountains in the west and upper Euphrates and Tigris river basins in the East.

³ World Bank, "Adaptation to a changing climate in the Arab world: fact sheet", 2012. Available from http://siteresources.worldbank.org/MENAEXT/Resources/MENA_climate_facts_COP18_English.pdf.

⁴ Ibid.

⁵ Ibid.

⁶ Marshall Buke and others, "Warming increases the risk of civil war in Africa", *Proceedings of the National Academy of Sciences (PNAS)* of the United States of America, vol. 106, No. 49 (December 2009). Available from <http://i.unu.edu/media/ourworld.unu.edu-en/article/1129/Warming-increases-the-risk-of-civil-war-in-Africa1.pdf>.

Examples from the region have shown how climate change can stir, at least in part, political unrest and conflict. The droughts registered in the Syrian Arab Republic between 2006 and 2011 caused large flows of internal displacement: people migrated to the cities, leaving behind their social networks and main sources of livelihood. Adding to the inflow of Iraqi refugees to the Syrian Arab Republic after the 2003 United States-led war, those flows have increased demographic intensity and affected the distribution of resources. Climate stress in the Syrian Arab Republic was thus one of the factors that eroded the social contract between citizens and the State and “strengthened the case for the opposition movement”.⁷ This breach of the social contract also played a key role in countries such as Egypt, Libya or Tunisia, where the State was perceived as having failed in providing social rights, freedom and justice.

Water scarcity has compromised stability and affected the well-being of the population in Libya and Yemen. Water supply and management are among the main challenges in Libya, a country 93 per cent arid.⁸ In Yemen, the conflict has hindered the access of 20 million people to clean water, and clashes over water have caused around 4,000 deaths a year.⁹ Provision of water to the family is increasingly challenging. Women and girls, who are traditionally responsible for securing water for cooking and washing in the country, spend four to five hours a day collecting water.¹⁰ Girls are even sometimes forced to drop out of school, which has dramatically affected their education level, and face life-threatening risks for that purpose.

The implications of climate change sometimes intersect with those of globalization and international trade dynamics, affecting the availability of certain commodities and leading to civil unrest. For example, the Arab region is unable to produce the amount of wheat needed for its consumption and has no other option but importing it at the prevailing price in the market.¹¹ This exposes it to unexpected market imbalances and can create social tensions. Egypt, first world importer of wheat, witnessed significant protest movements against the Government in 2010 and 2011 as a result of the high increase in prices (more than two-fold for wheat and three-fold for bread). This increase was due to a large demand of wheat by China in the wake of losses after major droughts and sandstorms during the winters of 2010 and 2011.¹² The resulting market imbalances had a serious impact on women, given their structural vulnerability and difficulties in accessing these products, and their strong involvement in the agricultural labour force.

The overlapping effects of climate change and conflict are not gender neutral. Pre-existing gender norms aggravate the environmental pressure and impact of conflict, as women’s capacity to ensure personal and food security and a decent livelihood, while avoiding social exclusion for their families and for themselves, is hampered. Most Arab countries rank among the weakest performers in the Environment and Gender Index,¹³

⁷ Caitlin E. Werrell and Francesco Femia, eds., *The Arab Spring and Climate Change: A Climate and Security Correlations Series*, (Washington, D.C., The Center for American Progress, Stimson and The Center for Climate and Security, 2013), p. 24.

⁸ Khalid Ibrahim Elfadli, “Precipitation data of Lybia”, 1 September 2009, p. 2. Available from <http://www.omm.urv.cat/MEDARE/docs/PRECIPITATION%20DATA%20OF%20%20LIBYA3.pdf>.

⁹ Rehab Abd Almohsen, “Thousands die in Yemen in fights over water”, 25 June 2015. Available from <http://www.scidev.net/global/water/news/water-death-yemen-conflict.html>.

¹⁰ Frederika Whitehead, “Water scarcity in Yemen: the country’s forgotten conflict”, *The Guardian*, 2 April 2015.

¹¹ Economic and Social Commission for Western Asia (ESCWA), *Pathways towards Food Security in the Arab Region: An Assessment of Wheat Availability* (Beirut, 2015, E/ESCWA/SDPD/2015/1), p. 6.

¹² Agnès Sinaï, « Aux origines climatiques des conflits : les conséquences inattendues d’une sécheresse en Chine », *Le Monde Diplomatique*, Août 2015. Available from <http://www.monde-diplomatique.fr/2015/08/SINA1/53507>.

¹³ The Environment and Gender Index measures progress in integrating gender equality in environmental governance. It reflects a governments’ performance in translating relevant international instruments into national policies.

developed in 2013 by the International Union for the Conservation of Nature, with Lebanon as best performer (forty-second out of 72) and Yemen as the weakest (seventy-first).¹⁴

Women's lack of resources and livelihoods and their weak participation in decision-making limit their capacity to adapt to and mitigate the impact of climate change in conflict settings, especially in remote and rural areas. The dire circumstances of conflict force them to take on the bulk of the productive work, in addition to their traditional role in reproductive work, as they become responsible for the management of natural resources and take care of land and livestock. Women in conflict settings obviously face bigger challenges in securing their livelihoods. In addition, climate change can cause a reduction in productivity, also impeding women in securing an income for their family and forcing them to find new income-generating activities outside the house. Finally, discriminatory laws on property and land ownership and inheritance represent a burden for women and increase the difficulties they face in accessing resources. Despite their active role in their use, distribution and internal management, cultural and social practices in the Arab region still reinforce male control and ownership. Data show that closing the current gender gap in agriculture would contribute to increasing productivity and reducing undernourishment.¹⁵

The lack of resources and need to secure livelihoods aggravate the migration flows resulting from conflict. Beyond the threat posed by wars, drought cycles, irregular rainfall patterns and the degradation of agricultural land have largely contributed to migration from rural to urban areas. Since men are usually the ones who migrate, women become heads of households in hazardous contexts where environmental and security threats abound.

II. Gender Dimensions of Climate Change in Conflict Settings

The Arab region has exerted significant effort to adapt to the effects of climate change, particularly through promoting renewable energy and energy efficiency. Some countries, such as Morocco, Palestine and Tunisia, have sought to harness the potential of solar energy for household heating, and an increasing number of photovoltaic power stations are operating in Algeria, Egypt, Morocco and Tunisia. The use of other renewable energy applications has been spreading. Egypt, for example, has been promoting the use of compressed natural gas for transportation. The United Arab Emirates have also been at the forefront of global environmental initiatives. They became host to the International Renewable Energy Agency (IRENA) and are in the process of building one of the world's first zero-carbon cities, located in Masdar, Abu Dhabi.

Adaptation and mitigation are not very effective when responsive strategies disregard the gender-differentiated effects of climate change. This is a heightened challenge in conflict and humanitarian settings, where the consequences of climate change tend to affect women more strongly due to gender discrimination and pre-existing gaps in assets and access to resources. Conflict also contributes to the shifting of gender roles, as previously underlined. It is thus particularly hard for women to find coping strategies in order to face the cumulative effects of conflict and climate change. Any adaptation and mitigation strategy should be based on solid gender analysis. Women should also be fully involved in the development, implementation, monitoring and evaluation of strategies for climate change adaptation, mitigation, and improved access to resources.

¹⁴ International Union for the Conservation of Nature, The Environment and Gender Index, available from <http://genderandenvironment.org/egi/>.

¹⁵ Food and Agriculture Organization of the United Nations (FAO), *The State of Food and Agriculture - Women in Agriculture: Closing the Gender Gap for Development* (Rome, 2011), p. 42.

A. Gender differences in adaptation to climate change

The process of climate change adaptation refers to the series of responses or measures geared at equipping households with the tools to reduce the detrimental effects of climate change and, conversely, to ensure that populations benefit from any opportunity arising from climate change.¹⁶ Climate change adaptation is particularly critical for women in conflict situations, first because they are among the most impoverished segments of the population in times of conflict, and secondly because they constitute the biggest population group in rural areas in poor countries, which are the most affected by climate change.¹⁷ Women suffer heavily from the consequences of climate change, such as reduced harvests and increasing food insecurity, which are often compounded by conflict. Yet they are rarely able to benefit from the needed adaptation measures, such as increased access to technology, credit and assets.

B. Gender differences in climate change mitigation

Strategies for climate change mitigation aim at reducing the emissions of greenhouse gas. They may not have an obvious gender dimension, but, in fact, they are closely linked to individual and family consumption patterns, and thus to gender dynamics within households. Unfortunately, climate change mitigation is rarely a priority in times of conflict, and the perspective of women is often ignored in environmental decision-making, although they have always played an important role in the management of natural resources. The poor female involvement in the formulation of climate change mitigation strategies and environmental decision-making and lack of regular data collection on consumption patterns are obstacles to the reduction of carbon emissions in the Arab region.¹⁸

C. Gender differences in access to resources

In the Arab region, discriminatory laws and deeply rooted social norms tend to limit women's access to and control over resources, and favor men's ownership of assets. This deprivation prevents women from finding coping strategies to overcome the effects of climate change on land availability and exploitation and, therefore, from ensuring income and food intake for the family. Limited access to and control over resources are exacerbated by conflicts, during which women may want to 'liquefy' any asset they do own to meet the daily needs of their families. Such situations make women more vulnerable to poverty and the consequences of extreme weather events and natural disasters resulting from climate change. Their limited access to credit in the absence of collateral, as is currently the case in Iraq, the Sudan and Yemen, is an example of the obstacles they face.¹⁹ Climate change contributes to widening gender gaps with respect to access to livestock, fertilizers, equipment, human resources, education and other institutional resources.²⁰ Farms run by households headed by females are particularly affected by climate change because of their small size, and the limited number of adult family members who are available to work in the farm. Such households tend to be very poor, as the large amount of unpaid work undertaken by women reduces the time that could be allocated for paid activities.

¹⁶ The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) and FAO, *Training Guide: Gender and Climate Change Research in Agriculture and Food Security for Rural Development* (Rome 2011), p. 21.

¹⁷ UNDP, *Powerful Synergies: Gender Equality, Economic Development and Environmental Sustainability* (New York, 2012).

¹⁸ Gender CC – Women for Climate Justice, "Consumption, gender and climate change", available from <http://gendercc.net/gender-climate/consumption.html>.

¹⁹ Organisation for Economic Co-Operation and Development, OECD.Stat, Gender, Institutions and Development database (2009). Available from <http://stats.oecd.org/Index.aspx?DatasetCode=GID2>.

²⁰ CCAFS and FAO, *Training Guide: Gender and Climate Change Research in Agriculture*, p. 9.

III. Environmental Resources Endangered by Conflict and Its Impact on Women

Climate change can be a trigger of conflict, which, in turn, compromises environmental resources, both processes having specific repercussions on women. In the Arab region, the case of the conflict over water in Yemen is a clear example of that. The prevalence of illnesses due to food insecurity is increasing in Iraq, the Sudan and Yemen. Conflicts affect the availability and access to resources such as land, agricultural crops or water, key to satisfy basic needs. Furthermore, conflict is the main reason for internal and external displacements, which create stronger pressures and additional demands on natural resources.²¹

A. Land

Hampered access to land represents a critical impact of conflict on environmental resources for women. Land is the basis for sustainable food production and for guaranteeing food intake for all household members. It is also necessary to secure access to other resources such as agricultural crops, non-timber forest products or metals and minerals. Land ownership can serve as a guarantee for women to obtain credits and loans, and to secure ways to transform raw material into final marketable products.²² According to the Social Institutions and Gender Index (SIGI), Bahrain and Kuwait rank highest in the indicator related to having laws that guarantee the same rights to own, use and control land for men and women, while the Sudan ranks lowest, not having any laws guaranteeing land rights to women. All other Arab countries score 0.5 in the SIGI index:²³ they have laws guaranteeing the same rights to own, use and control land, but those are not in practice in many cases, given the prevalence of customary, traditional or religious norms that discriminate against women.²⁴

Women are estimated to own less than 5 per cent of assets in the Arab region,²⁵ while heading 40 per cent of households in conflict settings.²⁶ Lack of access to land in conflict settings makes them more likely to fall into poverty and leave their houses forcedly in search of new ways to secure livelihoods.

This holds especially true for young, divorced, widowed and single women who are at risks of malnutrition, disease and poverty since land is a condition to access further resources. Consequences also affect children and other family members, as children are better nourished when women can decide on what to feed them.²⁷

B. Water

The Arab region is the most water-scarce region worldwide, with seven Arab countries ranking among the world's ten most water-scarce countries.²⁸ Water scarcity affects population dynamics, inducing migration

²¹ ESCWA, "Arab region and Western Asia", in *The United Nations World Water Development Report 4: Managing Water under Uncertainty and Risks*, vol.2, pp. 706-722 (Paris, United Nations Educational, Scientific and Cultural Organization), p. 709.

²² United Nations Environment Programme (UNEP), United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), United Nations Peacebuilding Support Office (PBSO) and UNDP, *Women and Natural Resources: Unlocking the Peacebuilding Potential* (2013), p. 16.

²³ Zero means equal rights to own land; 0.5 means equal rights to own land not in practice because of the prevalence of religious and traditional norms discriminating against women; and 1 means explicit discriminatory laws in access to land.

²⁴ <http://www.genderindex.org/data#restricted-resources-and-assets>.

²⁵ FAO, *The State of Food and Agriculture*, p. 23.

²⁶ UNEP, UN Women, PBSO and UNDP, *Women and Natural Resources*, p. 16.

²⁷ Ministry of Foreign Affairs of the Netherlands, *Women's Economic Empowerment to Foster Food Security: Case Studies from Developing Countries* (The Hague, 2011), p. 26.

²⁸ ESCWA, "Overcoming population vulnerability to water scarcity in the Arab region", Population and Development Report, Issue No. 7 (Beirut, 2015, E/ESCWA/SDD/2015/4), p. 12.

flows, threatening livelihoods and producing negative repercussions on health. As shown in figure 4, in 2014, almost 18 Arab countries registered a rate of water availability lower than 1,000 cubic metres per capita per year, which represents the water poverty line. Moreover, 13 out of those 18 countries registered a rate of average water availability per capita below 500 cubic metres, which constitutes the severe scarcity line established by the World Health Organization.

Figure 3. Water availability in Arab countries (cubic metres per capita per year)



Source: Food and Agriculture Programme of the United Nations (FAO), Aquastat database (2014). Available from www.fao.org/nr/water/aquastat/data/query/ (accessed August 2015).

Water is also key for agriculture and livestock production. In conflict settings, access to and availability of water are compromised in the context of threats posed by fighting and landmines, and damages inflicted upon water sources and infrastructure. Conflicts also hamper the operation and maintenance of water facilities: 118 water and sanitation facilities were destroyed in Palestine over the period 2012-2013.²⁹ The situation is particularly problematic when increases in population density due to conflict add further pressure on already compromised water resources, such as in Gaza, the Sudan and Yemen.³⁰

Women and girls oftentimes bear the burden of water collection and are therefore disproportionately affected by the impact of conflict on availability of and access to water, especially in rural areas. They travel long distances and are subject to sexual violence and further threats to their human safety. Girl's role as water providers can be an impediment for them to go to school: they thus become even more at risk of falling into the poverty trap and losing life opportunities. In addition, studies have shown that the lack of safe and private sanitation facilities exposes women and girls to violence,³¹ especially refugee women whose access to sanitation is restricted in camps where water shortages are frequent. It is the case in Iraq, for example, despite

²⁹ ESCWA, "Social and economic situation of Palestinian women and girls: July 2012-June 2014" (Beirut, 2015, E/ESCWA/ECW/2015/Technical Paper.2), p. 21.

³⁰ UNEP, UN Women, PBSO and UNDP, *Women and Natural Resources*, p. 23.

³¹ UN Women, "Women and the environment". Available at: <http://beijing20.unwomen.org/en/in-focus/environment>.

the fact that it is a relatively water-rich country.³² It is also the case of Palestinian refugees, who suffer from inadequate water supply and sanitation in camps.³³

Women find themselves in critical situations when access to water sources is unavailable and their land rights are violated. This is especially detrimental for rural and poor women and girls who, when depending on shared water sources, oftentimes fail to secure water for their families, which increases exposure to diseases. Cholera and diarrhea outbreaks in Iraq affected mainly children, women and young girls.

In Palestine, in the context of conflict, limited rainfall and droughts, around 200,000 rural dwellers in the West Bank are not connected to a water network.³⁴ This has direct consequences on water prices: a liter of tank water can cost up to 400 per cent more than average in that area.³⁵ Limited access to water also hinders agriculture activities and compromises livelihoods.

C. AGRICULTURE

Women constitute 43 per cent of the agricultural labour force in developing countries,³⁶ and about 50 per cent in the Middle East.³⁷ The income gap between men and women in agriculture persists, reaching 21 per cent in countries like Lebanon.³⁸ Closing the gender gap in agriculture would increase food production and reduce the number of people living in hunger by 100-150 million worldwide.³⁹

Reduced income and employment opportunities in the agriculture sector sometimes increase rural-to-urban migration flows, such as in the cases of Egypt, Lebanon, Morocco, the Syrian Arab Republic and Tunisia.⁴⁰ As shown in figure 4, conflicts can impede women's employment in the agricultural sector. In Palestine, female employment in agriculture decreased from 31.9 per cent in 1999 to 21.4 per cent in 2010. In the Syrian Arab Republic, the figure dropped by 28 per cent, from 50.2 per cent in 1999 to 20.2 in 2010 and 2011. Yemen registered the strongest fall in this rate: 87.8 per cent of women worked in agriculture in 1999, but only 28 per cent in 2010.

Women are also responsible for small livestock production and they constitute around two thirds of the world rate of livestock keepers.⁴¹ They take care of poultry and dairy animals, sell the eggs and produce dairy products. In conflict settings, women bear the consequences of losses or damages, as those income-generating activities are also compromised. High rates of killings, theft or diseases are registered among livestock in times of war. This reduces families' well-being and increases poverty and malnourishment. In the event of losses of crops and livestock, women tend to resort to non-timber forest products (such as fruits, nuts or mushrooms) in search for food security.

³² ESCWA, "Arab region and Western Asia", p. 710.

³³ Ibid., p. 711.

³⁴ UNEP, UN Women, PBSO and UNDP, *Women and Natural Resources* (Case study 4, p. 22).

³⁵ Ibid.

³⁶ Ibid., p. 20.

³⁷ UN Chronicle, "Women in the shadow of climate change". Available from <http://unchronicle.un.org/article/womenin-shadow-climate-change/>.

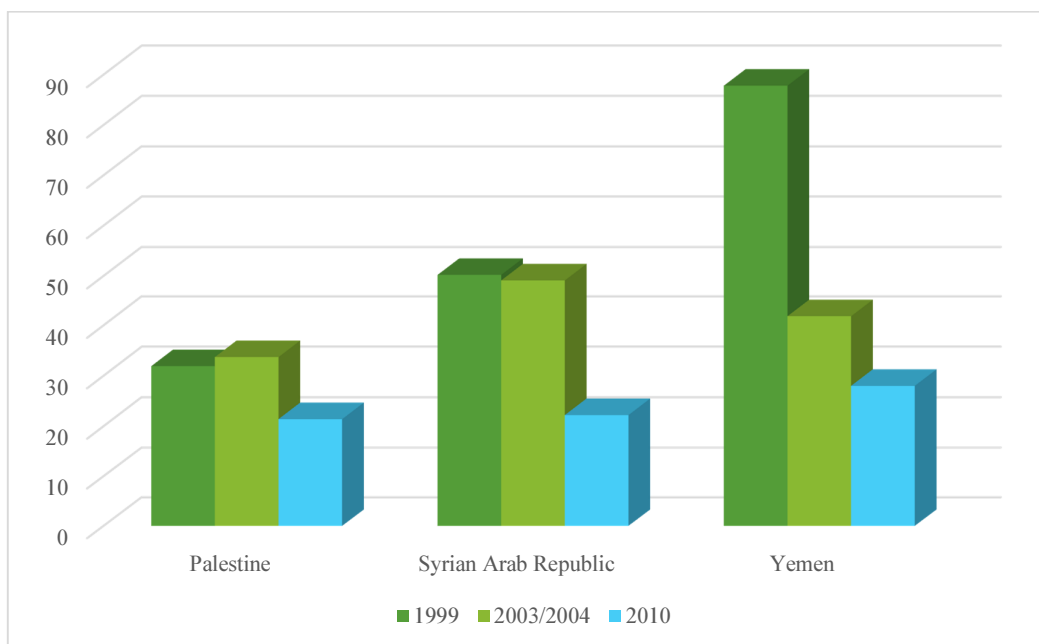
³⁸ Najwa Yaacoub and Lara Badre, "The labour market in Lebanon", *Statistics in Focus*, Issue No.1 (Beirut, Central Administration of Statistics, October 2011).

³⁹ FAO, *The State of Food and Agriculture*, p. 42.

⁴⁰ ESCWA, "Arab region and Western Asia", p. 708.

⁴¹ UNEP, UN Women, PBSO and UNDP, *Women and Natural Resources* (Case study 4, p. 20).

Figure 4. Female employment in agriculture in selected Arab conflict-stricken countries



Source: Arab Spatial 3.0, Arab Food and Nutrition Security Blog. Available from <http://www.arabspatial.org/map> (accessed 2 February 2016).

D. FOOD SECURITY

Conflicts affect the four elements of food security: availability, stability, utilization and access to food products.⁴² Food availability refers to production, either domestically or by the purchase of sufficient food products to meet nutrition requirements. Stability refers to the permanent access to adequate food and further livelihood assets. In times of war, data show that women reduce their intake to feed other family members, which can have serious consequences for their health.⁴³ Utilization relates to how food products are treated and used in the process of food preparation. Since women are usually responsible for that task, they play a vital role in ensuring adequate utilization to avoid illnesses. Diseases could result from pollution, which is usually a problem in conflict settings, and from climate-related disasters such as floods, which can cause malaria or cholera. Food access refers to entitlements to produce and sell food products, and to use them for self-nutrition purposes. Gender imbalances and hierarchies can hinder women's food access.⁴⁴

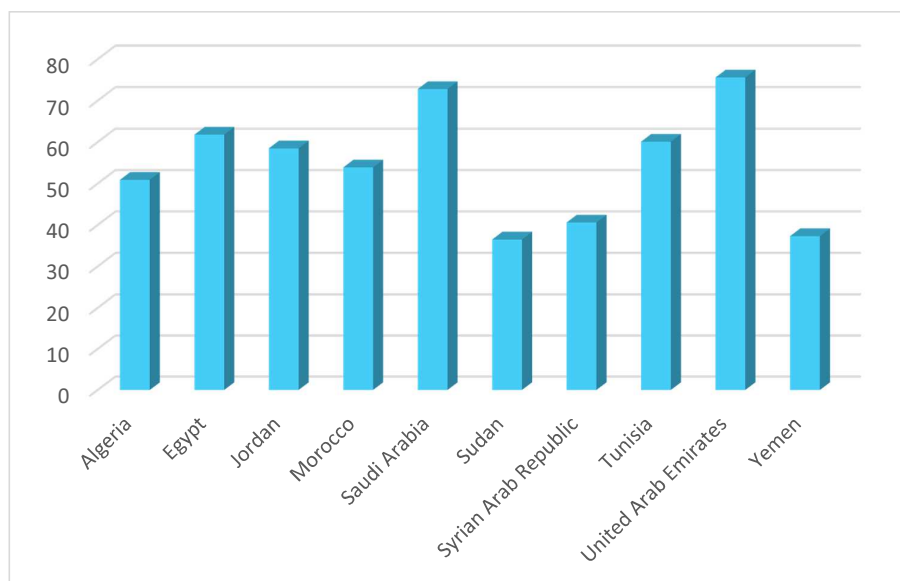
As shown in figure 5, food security rates are low in Arab conflict-stricken countries. The Syrian Arab Republic, Yemen and the Sudan registered the lowest scores on the Global Food Security Index (GFSI) in 2015 (40.6 per cent, 37.3 per cent and 36.5 per cent respectively). More stable countries such as Saudi Arabia and the United Arab Emirates scored 72.8 and 75.6 per cent respectively in 2015. Sex-disaggregated data are not available.

⁴² CCAFS and FAO, *Training Guide: Gender and Climate Change Research in Agriculture*, p. 10.

⁴³ *Ibid.*, p. 17.

⁴⁴ *Ibid.*, p. 11.

Figure 5. Scores of selected Arab countries in the Global Food Security Index, 2015



Source: The Economist Intelligence Unit, Global Food Security Index. Available from <http://foodsecurityindex.eiu.com/Country> (accessed 4 May 2016).

Women are more likely to suffer from the impact on health of reduced food security due to conflict or climate change. Some illnesses, such as under-nutrition, anemia and malaria, particularly affect women, especially if pregnant or breastfeeding.⁴⁵ In Yemen, the Sudan and Iraq, 36 per cent, 34 per cent and 31 per cent of women suffer from anemia, respectively.⁴⁶

IV. Conclusion and Policy Recommendations

Women are at the intersection of climate change and conflict, the impact of which is mutually reinforced. In this context, women's role as prime managers of natural resources in times of war enables them to develop some resilience towards the compound implications of climate change and conflict. Women indeed register better performance in the management and use of natural resources compared with men. They are at the forefront in the combat against poverty and for ensuring minimum standards of food security.

However, their limited participation in policymaking processes impedes their efforts. In line with relevant international instruments, women should be actors in environmental policymaking and main target beneficiaries. Their active contribution and participation in environmental governance would constitute a means to guarantee a safe and optimized use and management of resources that are key for survival in conflict settings, and to contribute to the attainment of peace and stability in the Arab region.

The following set of recommendations targets environment policymakers in the Arab region. It aims at providing them with legislative and institutional measures that integrate a gender perspective in all stages of the policy cycle.

⁴⁵ UNDP, *Powerful Synergies*, p. 110.

⁴⁶ 2011 World Bank data, available from <http://data.worldbank.org/indicator/SH.PRG.ANEM> (accessed 26 February 2016).

1. *Conduct a gender analysis as a pre-requisite:* Prior to the formulation of environmental policies, carry out a gender analysis to identify the needs of both men and women; and regularly collect the needed consumption and other sex-disaggregated data.
2. *Adopt a gender sensitive strategy:* In order to be effective, climate change strategies should take into account the gender-differentiated repercussions of climate change. This applies for climate change strategies in conflict and humanitarian settings, where the challenges are heightened for women.
3. *Conduct an impact assessment as a first step:* Undertake an impact assessment of climate change on women and men in conflict-stricken countries.
4. *Adopt institutional measures to enhance accountability:* Develop and implement national action plans and establish relevant follow-up mechanisms for their implementation to address the impact of climate change and conflict on women and men.
5. *Involve women in policymaking:* Ensure the active participation of women in environmental policymaking processes, particularly in the formulation of climate change mitigation strategies.
6. *Target women as active beneficiaries of environmental policies:* Focus disaster preparedness, adaptation and mitigation measures on women as a main target group, given their role of managers of natural resources and heads of households in conflict settings.
7. *Promote participatory processes and local ownership:* Work with local communities in a participatory manner and provide them with capacity-building and awareness-raising programmes on the role of women in coping with the effects of climate change in conflict settings.
8. *Encourage knowledge sharing and learning as the way forward:* Promote knowledge sharing and exchange of best practices and lessons learned in the formulation and implementation of gender-sensitive national action plans to address the impact of climate change in conflict settings.