



# CLIMATE CHANGE & GENDER EQUALITY

IN THE MEDITERRANEAN  
AND GREECE



An initiative of **Women On Top** carried out in collaboration with **SustainableWe** and the contribution of the researchers of the **European Centre for Environmental Research and Training (EKePeK)** of **Panteion University**

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## List of Acronyms and Abbreviations

### ACRONYMS

<b>BRS</b>	Basel, Rotterdam, and Stockholm Conventions
<b>CBD</b>	Convention on Biological Diversity
<b>CEDAW</b>	Committee on the Elimination of Discrimination Against Women
<b>CEPAL</b>	Comisión Económica Para América Latina y el Caribe
<b>CIFOR</b>	Center for International Forestry Research
<b>COVID-19</b>	Coronavirus Disease
<b>DIE</b>	Deutsches Institut für Entwicklungspolitik
<b>EIGE</b>	European Institute for Gender Equality
<b>EUROMED</b>	Euro-Mediterranean Partnership
<b>FAO</b>	Food and Agriculture Organization
<b>FES-ILDIS</b>	Friedrich-Ebert-Stiftung-Instituto Latinoamericano de Investigaciones Sociales
<b>GB</b>	Great Britain
<b>HLPF</b>	United Nations High-level Political Forum on Sustainable Development
<b>IEMed</b>	European Institute of the Mediterranean
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IUCN</b>	International Union for Conservation of Nature
<b>MENA</b>	Middle East and North Africa
<b>OWG</b>	Open Working Group on Sustainable Development
<b>PESETA</b>	Projection of Economic Impacts of Climate Change in Sectors of the European Union Based on Bottom-Up Analysis
<b>SAIS</b>	School of Advanced International Studies
<b>SDGs</b>	Sustainable Development Goals
<b>UN</b>	United Nations
<b>UNCCD</b>	United Nations Convention to Combat Desertification
<b>UNCED</b>	United Nations Conference on Environment and Development
<b>UNCSD</b>	United Nations Conference on Sustainable Development
<b>WCDDR</b>	United Nations World Conference on Disaster Risk Reduction
<b>WHO</b>	World Health Organization
<b>WSSD</b>	World Summit on Sustainable Development
<b>GNP</b>	Gross National Product
<b>GDP</b>	Gross Domestic Product
<b>EU</b>	European Union
<b>EKePEK</b>	European Centre for Environmental Research and Training
<b>ESYE</b>	National Statistical Service of Greece
<b>USA</b>	United States of America
<b>NGO</b>	Non-Governmental Organisation
<b>UN</b>	United Nations
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>OPEKEPE</b>	Payment and Control Agency for Guidance and Guarantee Community Aid
<b>SDG</b>	Sustainable Development Goals

### ABBREVIATIONS

<b>°C</b>	degree Celsius
<b>CO<sub>2</sub></b>	carbon dioxide
<b>ed.</b>	editor
<b>et al.</b>	at alia
<b>Eurostat</b>	European Statistical Office
<b>ha</b>	hectare
<b>Is.</b>	Issue
<b>op. cit.</b>	opus citatum
<b>p.</b>	page
<b>pp.</b>	pages
<b>Vol.</b>	Volume
<b>See</b>	See
<b>publ.</b>	Publications
<b>edit.</b>	editing
<b>e.g.</b>	exempli gratia (for example)
<b>transl.</b>	translation
<b>Cf.</b>	Compare
<b>i.e.</b>	id est (that is)
<b>p.</b>	page
<b>km</b>	kilometre

## Summary

This research attempts to shed some light on the interaction between climate change and gender equality, based on data which shows that women are more heavily impacted by the phenomenon in many areas of daily life, both in urban and rural settings, yet they participate less than necessary in the strategies and actions to address it.

Climate Change has been on the agenda in recent years, due to its apparent effects, which are not just limited to the environment, but affect every economic and social aspect of human activity. The Mediterranean region in particular, aside from being in the crossroads of three continents, proves to be an even more delicate area, from an environmental perspective. Scarcity of water resources; risk of food security; degradation of coastal zones; increase of infectious diseases; fires; pollution and climate migration are becoming more than obvious in Southeastern Europe and, consequently, in Greece.

The increase of inequalities that affect women, due to climate change, is becoming apparent in the agricultural and tourist sector, especially when women are exposed to extreme weather events and natural disasters, which they are – mainly for social reasons – less equipped to handle. Women’s living conditions become even more adverse during such major disasters due to the poverty they are often facing, and due to the increase of gender violence commonly associated with such circumstances. What is more, those challenges do not only affect women in developing countries but also in many parts of the developed world, and, of course, in Greece.

Combined with the difficulty to ensure energy security and fresh water supply, and the widening of the digital gap between men and women, the issues identified in this report highlight the importance of combating stereotypes and biases hindering women’s empowerment, which could allow them to play a valuable role in managing and dealing with climate change, by having a key part in any decision-making process.

Because, aside from the uneven burden that falls on women as a result of climate change, their role in decision-making centres is pivotal, albeit limited, according to research data. Once more, the horizontal integration of the gender dimension (gender mainstreaming) in climate policy is a more than necessary condition for forming adequate and socially fair solutions for our present and future.

## CHAPTER 1

# Introduction.

## Climate change and gender roles

We live in a planet that is constantly changing; in societies that are constantly evolving and in economies that aim to establish a global market with varying characteristics, where the digital transition, technology and innovation seem prevalent, especially after the COVID-19 pandemic.

At the same time, the production and consumption model that had been adopted over the last decades is being re-defined in a specific context and under specific parameters, as we will see, creating new needs and presupposing significant changes in the daily life and the mid-term future of our societies.

The need to include the concept of sustainable development in all policies and measures decided on an international, regional, national and local level is more pressing than ever before. However, we must not forget that sustainable development is based on three main pillars of equal value and importance: the Economy, the Society and the Environment.

We are, therefore, called to act within the current threefold of policies and actions, so as to formulate strategies that will invest in a fairer society for all.

In this context, climate change becomes a major issue, reflected in international conventions, treaties, and declarations, and in the UN 2030 Agenda and the 17 Sustainable Development Goals. One of the main requirements, as we will see, is to combat inequalities, with a focus on gender inequalities, which are worsened by economic growth and globalisation, and because of drastic environmental degradation.

As we will see in more detail, climate change has a different impact on men and women, both in their everyday lives and in the roles they are called to fulfil (gender roles)<sup>1</sup>. Consequently, we need to explore those gender roles and their particular characteristics in light of the climate change and its impact, firstly on a global level and, secondly and most importantly, on a regional/local level, and more specifically in the Mediterranean region.

### 1.1 | WHAT DOES THE TERM “CLIMATE CHANGE” MEAN?

According to the UN Framework Convention on Climate Change (UNFCCC)<sup>2</sup>, drafted in May 1992 and entered into force in March 1994, climate change is defined as “a change in climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable periods of time.”

In short, climate change refers to a medium- to long-term change in the temperature of our planet and the variations of the weather and season patterns, and, hence to the climate. This change, which is caused by human activity, has become extremely drastic, especially over the last decades, due to the use of oil, natural gas and coal.

The widespread use of fossil fuel led to high emissions of greenhouse gases (and, CO<sub>2</sub>, in particular), which create conditions of “suffocation”, resulting in a rise in Earth’s temperature and therefore in global warming. More specifically, because of

<sup>1</sup> [www.climatecentre.org/wp-content/uploads/Gender-and-Climate-Change.pdf](http://www.climatecentre.org/wp-content/uploads/Gender-and-Climate-Change.pdf)

<sup>2</sup> [unfccc.int/process-and-meetings/the-convention/what-is-the-united-nations-framework-convention-on-climate-change](http://unfccc.int/process-and-meetings/the-convention/what-is-the-united-nations-framework-convention-on-climate-change)

greenhouse gases, which are many times over what the planet can support, solar energy and heat emissions are trapped in the atmosphere, unable to escape into space, causing a gradual rise of temperature.

The grave environmental impact of this process is now apparent, as are its consequences, such as unprecedented heat waves, floods, the rise of sea level because of the melting ice caps, wildfires, coastal degradation, desertification, and significant changes to biodiversity. In the Mediterranean region, for example, sweeping, uncontrollable fires have been recorded in recent years, mainly due to the increase of the average temperature and prolonged heat wave periods, which create the conditions for combustion and fast spreading of the fire front.

Another striking effect of the climate change, especially for the Mediterranean, is the intensified rainfall and resulting floods. In the last few years, we have seen extremely heavy rainfall in areas such as South France, where the water level rose over seven meters, and Rome, where the streets were covered with hail and ice, causing never-before-seen conditions. We are also witnessing the burden on ecosystems, such as the Greek one, where the Prespes Lakes (which are of worldwide significance and exceptional biodiversity) have shrunk in surface area in the last 20 years, due to the impact of climate change<sup>3</sup>.

**Climate change and the consequent extreme phenomena create crises, and, more specifically, climate crises<sup>4</sup>, leading to loss of human and animal lives, disease and excess stress on people, and to the inevitable climate migration<sup>5</sup>.** As it is, based on data by the International Organisations for Migration, close to 18 million people were forced to abandon their homes in 2017 due to the extreme weather conditions and environmental degradation.

Bangladesh is a typical example of climate migration; it is country that is extremely exposed to environmental degradation and extreme weather events caused by climate change<sup>6</sup>. In Bangladesh a large number of farmers from rural areas have already been displaced and have moved to the inland. For example, in 2013, the cyclone Mahasen led to the approximately 11 million people being displaced, while in 2014, tens of thousands of more people left their homes due to the floods. These people had to seek their fortune in cities, neighbouring countries or even in Europe.

Countries like Cambodia, Somalia or Laos are also examples of areas found in a highly vulnerable position in relation to extreme weather phenomena and their impact on the population. The World Bank<sup>7</sup> estimates that, based on today's data, by 2050, the number of climate migrants may exceed 216 million.

More specifically, up to 86 million climate migrants could be found in Sub-Saharan Africa, 49 million in East Asia and Pacific, 40 million in South Asia, 19 million in North Africa, 17 million in Latin America, and 5 million in Eastern Europe and Central Asia.

Many of the consequences of climate change are easily discernible. For example, the destruction of farmlands due to floods or droughts; the collapse of logistics infrastructure including bridges, roads etc.; the extinction of species (animal or plant) due to uncontrollable fires; pollution and drought. The economic valuation of the above, using examples and econometric tools<sup>8</sup>, captures damages in the tens billions of dollars, while forecasts for the future are even more bleak<sup>9</sup>.

Be that as it may, climate crisis has a wider impact, far exceeding the economic repercussions, on an environmental and social level, which is not as readily apparent. This includes important consequences linked to gender, age, race, income,

3 European Commission (n.d.). *Why the Prespa Lakes are shrinking*. Cordis Research Results. Obtained from: [cordis.europa.eu/article/id/202122-why-the-prespa-lakes-are-shrinking](https://cordis.europa.eu/article/id/202122-why-the-prespa-lakes-are-shrinking) (Last updated: 24 July 2017)

4 Pierrehumbert, R. (2019). There is no Plan B for dealing with the climate crisis. *Bulletin of the Atomic Scientists*, 75 (5), 215-221. Obtained from: [doi.org/10.1080/00963402.2019.1654255](https://doi.org/10.1080/00963402.2019.1654255)

5 Keane, D. (2004). The Environmental Causes and Consequences of Migration: A Search for the Meaning of Environmental Refugees, *The Georgetown International Environmental Law Review*, 16, 217.

6 Dearden, L. (2017, May 5). Bangladesh is now the single biggest country of origin for refugees on boats as new route to Europe emerges, *The Independent*. Obtained from: [www.independent.co.uk/news/world/europe/refugee-crisis-migrants-bangladesh-libya-italy-numbers-smuggling-dhaka-dubai-turkey-detained-a7713911.html](https://www.independent.co.uk/news/world/europe/refugee-crisis-migrants-bangladesh-libya-italy-numbers-smuggling-dhaka-dubai-turkey-detained-a7713911.html) (Accessed on: 6 January 2018).

7 [www.worldbank.org/en/news/press-release/2021/09/13/climate-change-could-force-216-million-people-to-migrate-within-their-own-countries-by-2050](https://www.worldbank.org/en/news/press-release/2021/09/13/climate-change-could-force-216-million-people-to-migrate-within-their-own-countries-by-2050)

8 [www.worldbank.org/en/news/feature/2021/03/10/what-you-need-to-know-about-climate-co-benefits](https://www.worldbank.org/en/news/feature/2021/03/10/what-you-need-to-know-about-climate-co-benefits)

9 [openknowledge.worldbank.org/bitstream/handle/10986/32279/Economics-of-Climate-Smart-Agriculture-Considerations-for-Economic-and-Financial-Analyses-of-Climate-Smart-Agriculture-Projects.pdf?sequence=1](https://openknowledge.worldbank.org/bitstream/handle/10986/32279/Economics-of-Climate-Smart-Agriculture-Considerations-for-Economic-and-Financial-Analyses-of-Climate-Smart-Agriculture-Projects.pdf?sequence=1)

work, poverty, social exclusion, as well as the geographic and spatial dimension of the weather phenomena. Identifying and highlighting these inequalities requires careful consideration and in-depth analysis.

The international community, realising the significance of highlighting these parameters that define climate change<sup>10</sup> attempts to bring all of these issues to the centre of public debate, incorporating this crucial matter into the political agenda, in order to ensure that the necessary steps to tackle it will be taken.

Therefore, the critical challenge here is to combat climate change and, at the same time, to achieve climate adaptation or adaptation to climate change<sup>11</sup>.

**Specifically, climate adaptation refers to predicting the impact of climate change, taking measures to prevent the damage that is caused, but also taking advantage of the opportunities that may arise<sup>12</sup> from it. At the same time, the adaptation strategy is directly associated to the principle of safeguarding against the adverse or catastrophic consequences of climate change by planning for and adopting appropriate measures to address them<sup>13</sup>. In climate adaptation, the design tools include, among others, gender-sensitive tools with the aim of achieving gender balance in decision making centres.**

In this context of adopting critical policies for tackling multi-level issues and challenges, establishing the UN 2030 Agenda and 17 Sustainable Development Goals (2015-2030) was considered an absolute necessity<sup>14</sup>, so as to clearly define the areas where modern societies and economies must make active and decisive interventions.

The 17 Sustainable Development Goals of the UN, which were partially based on the UN 8 Millennium Development Goals (2000-2015) and on the relevant preparatory decisions of Conferences and Summits<sup>15</sup>, have become, in recent years, a key benchmark for the environment, the economy and society<sup>16</sup>.

The Rio+20 Conference (2012), for example, led to the establishment of the Open Working Group on Sustainable Development (OWG), under the UN General Assembly, which is tasked with preparing a holistic, current plan for the development goals. This process helped strengthen the notion that sustainable development encompasses equally the social, environmental and economic dimensions (the three pillars of sustainable development), and made it clear that eliminating poverty and combating the main causes of inequality that lead to continuing world crises is more imperative than ever.

It bears noting that the direction given in the OWG was to ensure that human rights are fully and consistently incorporated in world goals. This guidance is especially important in achieving the goals, all the while being aware of the complexities in the relationships between equality, human rights, poverty, economic development, and human health and well-being<sup>17</sup>.

## 1.2 | EXPLORING THE GENDER DIMENSION IN THE ENVIRONMENT AND CLIMATE CHANGE

Relating the above with the focus of our study, we note two distinct goals on the Roadmap of the UN 17 SDG: Goal 13 on Climate Action and Goal 5 on Gender Equality. At the same time, we note that, aside from the SDG, the relationship and interaction between climate change and the gender dimension has been studied in the past and is consistently being prioritised in many international treaties, conventions, negotiation agendas and action plans<sup>18</sup>.

10 Cavalett, O. (2018, July 9). From political to climate crisis. *Nature Clim Change*, 8, 663-664. Obtained from: [doi.org/10.1038/s41558-018-0228-4](https://doi.org/10.1038/s41558-018-0228-4)

11 Leiter, T. (2021). Do governments track the implementation of national climate change adaptation plans? An evidence-based global stocktake of monitoring and evaluation systems. *Environmental Science & Policy*, 125, 179-188. Obtained from: [doi.org/10.1016/j.envsci.2021.08.017](https://doi.org/10.1016/j.envsci.2021.08.017)

12 Den Uyl, R. M., Russel, D. J. (2018). Climate adaptation in fragmented governance settings: the consequences of reform in public administration. *Environmental Politics*, 27(2), 341-361.

13 Tsaltas, G. I. (2021, September). The importance of the adaptation strategy for address climate change through the Athens Declaration (17/09/21) on Climate Change and the Environment in the Mediterranean (in Greek). *Notebooks of International Law and International Policy*, 2 Athens: I. Sideris, 219-224, electronic issue, e-tetradia teuxos 02 final.pdf.

14 Bhattacharya, D., Khan, T. I. & Salma, U. (2014). A Commentary on the Final Outcome Document of the Open Working Group on SDGs. *The SAIS Review of International Affairs*, 34(2), 165-177. Obtained from: [www.jstor.org/stable/27000967](https://www.jstor.org/stable/27000967)

15 Tsaltas, G. I and Platias, C. (2010). *European Union and the Environment (in Greek)*. Athens: I. Sideris.

16 Dimadama, Z. (2021). *Sustainable Economic Development, Sustainable economic development: Incorporating the UN 17 Goals (in Greek)*. Athens: Papazisi.

17 UN (2012). Rio+20 Declaration on Justice, Governance and Law for Environmental Sustainability. Obtained from: [www.unep.org/rio20/Portals/24180/Rio20\\_Declaration\\_on\\_Justice\\_Gov\\_n\\_Law\\_4\\_Env\\_Sustainability.pdf](https://www.unep.org/rio20/Portals/24180/Rio20_Declaration_on_Justice_Gov_n_Law_4_Env_Sustainability.pdf)

18 Merneck, A. (2018). What about Gender in Climate Change? Twelve Feminist Lessons from Development. *Sustainability*, 10(3), 627. Obtained from: [doi.org/10.3390/su10030627](https://doi.org/10.3390/su10030627)



The review of international literature highlights a common point or, rather, a common concern: **women and girls are more and differently affected by climate change, but under-represented in the efforts to address it.**

Associating climate change and gender roles is a specific and crucial challenge on an international, European, national and regional level, giving rise to questions<sup>19</sup>, such as:

- i. How is climate change and its aftermath (the climate crisis) affecting gender equality?
- ii. How can we examine the impact of the climate crisis in the context of gender equality, and how can we arrive at appropriate solutions and proposals for addressing environmental degradation and, specifically, climate change, while focusing on the role of women?

In other words, our aim is to associate climate change and gender mainstreaming by highlighting the invisible (?) relationship between them and their interaction, which can be systematically evidenced in economic growth, social relationships, intense inequalities, and in the quest for solutions through the adoption of policies and targeted actions<sup>20</sup>. Dealing with climate change and climate adaptation cannot be achieved without women's clear and equal participation.

Through an extensive literature review, we attempt to give concrete answers to these questions and analyse various issues related to the role of women as being affected by the climate change consequences and as making some of the decisions for addressing them.

## A | The impact of climate change on women

Looking for the interconnection between climate change and its impact on women, as well as the role that women are serving or should be serving in this field, we have the following observations:

Climate change is an issue bearing multiple threats for women and their children, in the sense that extreme weather conditions result in less food, limited access to clean water, and generally precarious living conditions.

As climate change is linked with poverty, based on the Food and Agriculture Organization of the United Nations (FAO) report, titled "The State of Food and Agriculture 2016", it is estimated that the number of people living in conditions of poverty may increase by 122 million on account of climate change, unless steps are immediately taken. And despite the fact that climate change is merely one of the factors that lead to poverty and food insecurity, its consequences further exacerbate an already dire projection<sup>21</sup>. In this case, too, women are more vulnerable to the combined effects of poverty and climate change, as we will see in more detail below.

**1. With regard to the world of labour**, climate change has a negative impact as it creates conditions of vulnerability for women employed in farming and agricultural work tied to the countryside<sup>22</sup>, e.g. loss of crop, drought or floods resulting to income reduction or elimination for long periods. Therefore, these women, and especially owners of small-

<sup>19</sup> Juhola, S., Keskitalo, E. C. H. & Westerhoff, L. (2011). Understanding the framings of climate change adaptation across multiple scales of governance in Europe. *Environmental Politics*, 20(4), 445-463. Obtained from: DOI: 10.1080/09644016.2011.589571

<sup>20</sup> Alston, M. (2014). Gender mainstreaming and climate change. *Women's Studies International Forum*, 47, Part B, 287-294. Obtained from: doi.org/10.1016/j.wsif.2013.01.016

<sup>21</sup> United Nations Report (2020). *Women and Girls - Closing the Gender Gap*. Obtained from: [www.un.org/en/un75/women\\_girls\\_closing\\_gender\\_gap](http://www.un.org/en/un75/women_girls_closing_gender_gap)

<sup>22</sup> Abass, J. (2018, March 21). Women grow 70% of Africa's food. But have few rights over the land they tend. *World Economic Forum*. Obtained from: [www.weforum.org/agenda/2018/03/women-farmers-food-production-land-rights](http://www.weforum.org/agenda/2018/03/women-farmers-food-production-land-rights) (Accessed on: 17 June 2021).

holdings, who are also the vast majority of female farmers, are extremely vulnerable. In contrast to men, who usually own larger areas of land, women are more exposed to impoverishment.

It is worth noting that women today represent a significant part of the agricultural labour force, including informal work, as women are more often employed in undeclared farm work (insurance coverage, wages) as help, and are consequently more exposed to poverty.

At the same time, when working at a farm is not possible, women do not have as many options as men in choosing alternative types of work, and are, therefore, faced with food insecurity. It is very telling that in many, mostly but not purely, rural areas, there are cases where women are not allowed to work in factories or at night or away from their families.

This creates a vicious circle, further exposing women to unemployment and/or undeclared labour, and distancing them even more from financial empowerment and well-being, while also affecting their children.

**2. In terms of women's role in managing the household**, extreme weather events mostly affect responsibilities and tasks undertaken mainly by them, i.e. cooking, access to clean water and safe housing<sup>23</sup>. In most societies, women are the ones who organise their family life, seek or buy the ingredients they need to prepare food, and also secure and use sources of energy for the needs of the house (firewood, oil)<sup>24</sup>. Data from international organisations confirm that collecting raw materials for lighting and cooking is women's job, as 90% of them are responsible for managing their households (in both developing and developed countries).

The search for these raw materials, their abundance or scarcity, and the cost of purchasing them are interlinked with the climate crisis, and mainly with desertification, droughts, and the consequent limited produce, clean water shortage and price increase.

Moreover, in almost 2/3 of households in developing countries, women and girls are responsible for collecting water (an extremely critical natural resource) directly from natural water concentrations, such as springs, lakes and rivers, a fact which makes them more vulnerable to attacks and violence.

Such tasks expose women even more to the consequences of environmental degradation, the increase of global temperatures, and water or food scarcity in theirs and their children's daily lives.

**3. What is more, according to statistics, women bear a disproportionate economic and health burden due to extreme weather**, natural disasters and pollution<sup>25</sup>.

After flood, typhoon or landslide events, women are faced with much higher rates of health problems. According to a study carried out between 1981-2002, in a sample of 141 countries, natural disasters kill more women than men<sup>26</sup>, while women and children are more vulnerable to the harmful effects of carbon emissions (e.g. power plants). "One in six women of childbearing age now have unsafe levels of mercury in their blood and are at serious risk of neurological impairment<sup>27</sup>", as noted.

Moreover, in areas affected by extreme weather, girls are usually forced to drop out of school and take on domestic work, which often exposes them to risks. Another frequent occurrence in areas hit by climate change is for poor families to arrange marriages for their underage girls, without their consent. In these circumstances,

21 United Nations Report (2020). *Women and Girls - Closing the Gender Gap*. Obtained from: [www.un.org/en/un75/women\\_girls\\_closing\\_gender\\_gap](http://www.un.org/en/un75/women_girls_closing_gender_gap)

22 Abass, J. (2018, March 21). Women grow 70% of Africa's food. But have few rights over the land they tend. *World Economic Forum*. Obtained from: [www.weforum.org/agenda/2018/03/women-farmers-food-production-land-rights](http://www.weforum.org/agenda/2018/03/women-farmers-food-production-land-rights) (Accessed on: 17 June 2021).

23 Botreau, H., Cohen, M. J. (2020). Gender inequality and food insecurity: A dozen years after the food price crisis, rural women still bear the brunt of poverty and hunger. *Advances in Food Security and Sustainability*, 5, 53-117. Obtained from: [doi.org/10.1016/bs.af2s.2020.09.001](https://doi.org/10.1016/bs.af2s.2020.09.001)

24 Gaard, G. (2015). Ecofeminism and climate change. *Women's Studies International Forum*, 49, 20-33. Obtained from: [doi.org/10.1016/j.wsif.2015.02.004](https://doi.org/10.1016/j.wsif.2015.02.004)

25 United Nations Population Fund (2009). *State of World Population 2009. Facing a Changing World: Women, Population and Climate*. Obtained from: [www.unfpa.org/publications/state-world-population-2009](http://www.unfpa.org/publications/state-world-population-2009)

26 Neumayer, E. and Plumper, T. (2007). The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy, 1981-2002. *Annals of the Association of American Geographers*, 97(3), 551-566.

27 HECANET (2005, April). *Healthy Environments for Children Alliance, WHO & UNEP*. Obtained from: [who.int/heca/infomaterials/HECANETApril2005.pdf](http://who.int/heca/infomaterials/HECANETApril2005.pdf)

women become isolated and removed from education or training opportunities, and therefore “miss the boat” when it comes to employment and to the ever-evolving requirements of the labour market.

Women and single parents are even more vulnerable and exposed to all of the above. These phenomena are not just limited to developing countries but are also observed in working or lower class households in developed countries, or in specific areas/regions of those countries.

The same holds true for violence against women. The connection between the impact of climate change and violence against women should not be overlooked. The Beijing Declaration, in 1995, has highlighted the relationship between environmental degradation (climate change) and the repercussions for women<sup>28</sup>. More specifically, following disasters or pandemics, women suffer from different forms of violence and abuse, both inside and outside their homes, as we have so sadly confirmed in the aftermath of the lockdowns and the COVID-19 pandemic since the start of 2020. UN studies confirm an increase in gender-based violence, related either to physical/sexual violence, or to verbal/ psychological violence<sup>29</sup>.

Needless to say, female climate migrants are exposed, as we have recently witnessed through the refugee crisis, to violence and sexual abuse by their fellow-travellers, human smugglers, and trafficking networks. Recent data by the UN indicate that 80% of the people who have been displaced due to climate change are women.

The fact that women are more directly impacted by natural disasters and climate change does not mean that their vulnerability is inherent. In most cases, it is the result of poverty, gender social roles, discrimination, and the patriarchal structures that are being reproduced in our societies<sup>30</sup>. All these elements were already present in societies, but in times of extreme weather phenomena they are intensified, many times over<sup>31</sup>.

The elimination of all social, cultural, and institutional obstacles that stand in the way of full political and legal gender parity and the improvement of formal education for young people (and especially the improvement of the educational attainment of girls) is the vehicle for their empowerment and their participation in climate adaptation.

## **B | The role of women in decision-making centres (on a local, national, regional and international level)**

As already mentioned, women have limited participation and are under-represented in the fight against climate change while at the same time playing a minor role in climate adaptation. Nevertheless, while there is a significant number of studies which recognise that women’s participation in decision-making centres ensures the uptake of more viable and fair decisions, women continue to be under-represented in this setting<sup>32</sup>.

Given that discrimination against women hampers their participation in politics and considering also that women are especially vulnerable in periods of political instability, it is clear that their empowerment is critical for a successful fight against climate change, as well as for people’s welfare and the climate adaptation in general.

It should be noted that girls and women are more sensitive to environmental pro-

28  
UN (1995). The Beijing Declaration and Platform for Action. Obtained from: [www.un.org/en/events/pastevents/pdfs/Beijing Declaration and Platform for Action.pdf](http://www.un.org/en/events/pastevents/pdfs/Beijing%20Declaration%20and%20Platform%20for%20Action.pdf) (Accessed on: 28 April 2021).

29  
Harvey, F. (2020, January 29). Climate breakdown ‘is increasing violence against women’, *The Guardian*. Obtained from: [www.theguardian.com/environment/2020/jan/29/climate-breakdown-is-increasing-violence-against-women](http://www.theguardian.com/environment/2020/jan/29/climate-breakdown-is-increasing-violence-against-women)

30  
Van Aelst, K. & Holvoet, N. (2016). Intersections of gender and marital status in accessing climate change adaptation: Evidence from rural Tanzania. *World Development*, 79, 40–50.

31  
[www.nytimes.com/2021/08/24/us/climate-crisis-women-katharine-wilkinson.html](http://www.nytimes.com/2021/08/24/us/climate-crisis-women-katharine-wilkinson.html)

32  
Terry, G. (2009). No climate justice without gender justice: an overview of the issues. *Gender & Development*, 17(1), 5–18. Obtained from: DOI: 10.1080/13552070802696839

tection matters, leading the majority of environmental movements, or are activists at the front lines. However, women’s passage from the front lines to the political arena, the parties, the institutions, and the decision-making centres, is a slow process, filled with obstacles.

Nonetheless, efforts have been made to ensure the equal participation of women in decision-making centres addressing climate change. A statement by the UN Committee on the Elimination of Discrimination against Women (CEDAW)<sup>33</sup> issued at its 44th session noted that “gender equality is essential to the successful implementation, monitoring and evaluation of climate change policies.”

In the same context, in 2012, the members of the UN Framework Convention on Climate Change (UNFCCC)<sup>34</sup> recognised the importance of [men and women’s equal participation](#) in the development and implementation of national climate policies based on gender mainstreaming. This is in line with the UN Rio Declaration on Environment and Development (1992), where the 20<sup>th</sup> principle states that “women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development”<sup>35</sup>. The pressing need, which has already been recognised, to enhance women’s role in relation to climate change is also clearly underlined<sup>36</sup> in the Paris Agreement (2015)<sup>37</sup>.

Lastly, in 2021, the 65th session<sup>38</sup> of the Committee on the Status of Women<sup>39</sup> highlighted the uneven impact of climate change on women and girls, and the need for achieving full participation in the mitigation policies (environmental governance).

However, the distance between highlighting the need for women’s participation and putting those proposals into practice is a long one. This is exactly the object of this study: to ensure, in practice, democratic and inclusive climate justice and gender justice for all, before any modern-day challenge, with a focus on the Mediterranean and Greece.

This geographic and spatial dimension encompasses particular characteristics and priorities, which were recently underlined in the New Agenda for the Mediterranean, proposed by the EU (2021)<sup>40</sup>, as we will see below in more detail. Nonetheless, we need to point out the lack of specific information concerning women’s interrelation with the climate crisis (in general and in particular), which will be a topic of analysis in this study.

33 [www.ohchr.org/Documents/HRBodies/CEDAW/OHCHR\\_Map\\_CEDAW.pdf](http://www.ohchr.org/Documents/HRBodies/CEDAW/OHCHR_Map_CEDAW.pdf) (Last updated: 20 June 2016).

34 UNFCCC (2012). *The Rio Conventions: Action on Gender*. Obtained from: [unfccc.int/resource/docs/publications/roi\\_20\\_gender\\_brochure.pdf](http://unfccc.int/resource/docs/publications/roi_20_gender_brochure.pdf)

35 Grigoriou, P., Samiotis, G. and Tsaltas, G. I. (1993). *The United Nations Conference on Environment and Development (In Greek)*. Athens: Papazisi, 84-98.

36 Burleson, E., (2016, January 1). Paris Agreement and Consensus to Address Climate Challenge ASIL INSIGHT, Forthcoming. Obtained from: [ssrn.com/abstract=2710076](http://ssrn.com/abstract=2710076)

37 [unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement](http://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement)

38 [www.unwomen.org/en/csw/csw65-2021](http://www.unwomen.org/en/csw/csw65-2021)

39 [www.unwomen.org/en/csw](http://www.unwomen.org/en/csw)

40 European Commission (2021, April 19). *New agenda for the Mediterranean: the Council approves conclusions on a renewed partnership with the Southern Neighborhood*. Obtained from: [ec.europa.eu/neighbourhood-enlargement/news/new-agenda-mediterranean-council-approves-conclusions-renewed-partnership-southern\\_en](http://ec.europa.eu/neighbourhood-enlargement/news/new-agenda-mediterranean-council-approves-conclusions-renewed-partnership-southern_en)

## CHAPTER 2

## The International Dimension: Women and the Climate Crisis – Urban and Rural Environment

Climate change has a negative effect on all humankind, and particularly on the most vulnerable population groups. Women are one of those groups, facing deteriorating living conditions and a rise of inequalities, not only in the countries of the developing South, but in those of the developed North.

Despite the fact that women, especially in the developing South, form a significant part of the labour force in the primary sector, there is no reference of them in the United Nations 1992 Framework Convention on Climate Change. The landscape began to change with the Bali Climate Change Conference in 2007, when a direct reference to gender was made for the first time, and then, even more so with the Paris Agreement, in 2015. The role that women could and should perform to combat climate change through the adaptation efforts (Article 7) was recognised, and it was decided that capacity building<sup>41</sup> (Article 11) should be gender-responsive. The intent is to improve women's ability to participate in decision-making procedures, through wider participatory processes.

This approach confirms the relevantly recent acknowledgment that women experience the impact of climate change more directly in many different sectors, the most notable being agriculture and food, access to natural resources, energy, water management, and the use of modern technology means to combat the phenomenon.

Women's exclusion from decision-making is a critical factor, hindering climate change mitigation and adaptation. In fact, in countries where women are a significant part of the labour force in the agricultural sector, their participation is considered imperative, both in terms of their ability to contribute, based on their practical experience, and also in order to achieve a high level of commitment to the implementation and, ultimately, the actual legitimacy of the decisions.

Consequently, having women participate in decision-making by ensuring that those who are responsible use women's local knowledge is critical to secure climate justice in dealing with climate change, so as to avoid increasing gender inequalities.

Moreover, climate change, depending on the sector, affects urban and rural environments at a different degree and intensity<sup>42</sup>. In most cities, existing infrastructures are inadequate to prevent natural disasters: many buildings do not have the necessary energy upgrades and this insufficiency, combined with the lack of green spaces, intensifies temperature increases, especially during the summer months, making city dwellers more vulnerable. In rural areas, the greater dependence of women from natural resources results in them being more directly impacted by climate change, which widens the existing inequalities in accessing and controlling resources. At the same time, due to physical proximity, women are more exposed to natural resources.

<sup>41</sup> According to the UN definition, capacity building is the process of developing and strengthening the skills, instincts, abilities, processes, and resources that organizations and communities need to survive, adapt, and thrive in a fast-changing world.

<sup>42</sup> See Zelenáková, M., Purcz, P., Hlavatá, H. & Blišťan P. (2015). Climate Change in Urban Versus Rural Areas. *Procedia Engineering*, 119, 1171-1180.

## 2.1 | WOMEN, FOOD, AGRICULTURE AND CLIMATE CHANGE

The agricultural sector is a powerful indicator when it comes to the effects of climate change. The global mean temperature increase and the change in rainfall patterns are challenging the survival of biodiversity, with phenomena such as desertification turning the soil infertile and unsuitable for farming. The impact of these phenomena is especially heavy on women, as they usually are smallholding farmers having limited access to services and representation or decision-making structures, at a time when droughts mainly drive men to economic migration, leaving women behind, to manage the land and the family<sup>43</sup>. In these conditions, which are mainly observed in the developing South, women are negatively affected, while cultural traditions create barriers to their efforts for empowerment, and limit their chances of producing and selling their products in international markets.

The situation appears a lot better in the developed North. Even though the number of women working in the agricultural sector is smaller, women have a significant agricultural output, which finds its way to the market. At the same time, the number of female farmers in the US and in Europe has increased<sup>44</sup>. Nevertheless, the pressure brought on by climate change, combined with a rise in demand due to the global population growth, make it necessary to redouble our efforts, in order to maintain an adequate output, in terms of quantity and quality alike. In this frame, women in the agricultural sectors are still poorer than their male counterparts, both in the developing South and the developed North<sup>45</sup>. Additionally, there are still a number of open issues, such as land ownership, where a system simplification is necessary in order to increase productivity, as it allows women to use their farms as they see fit, also being able to invest in the introduction of best practices and modern equipment<sup>46</sup>. More over, the difficulty women are facing in accessing the funds necessary to ensure sustainable production and prevent or restore damage from unexpected natural disasters is a matter that must be immediately addressed.

Regarding nutrition, climate change can be mainly seen as a cause of food insecurity. Food shortages are becoming more frequent, leading to undernutrition. Limited access to safe food, care practices and health services can also intensify this phenomenon<sup>47</sup>. Even in developed countries, food availability will be affected by decreasing crop yields, due to high temperatures and natural disasters caused by climate change. High food prices, due to reduced supply, will make food inaccessible to several population groups.

According to FAO estimates, women worldwide are more likely to consume less food than any male members of their families<sup>48</sup>. Inescapably, women's dietary balance will be affected, making them even more vulnerable to disease. This fact is also noted among poorer households in the developed North, putting women's health and life expectancy at risk. Moreover, reduced calorific intake hinders women's ability to respond in potential natural disaster scenarios<sup>49</sup>. These facts highlight the importance of making a turn towards a balanced, locally-sourced diet, which is also sustainable and accessible to everyone, male or female.

43 See Ahmad N. et al. (2014). *Gender, Agriculture, and Climate Change*. World Bank Group, Agriculture and Environmental Services Department Notes, 6, 2. Obtained from: [www.academia.edu/51960422/Gender\\_agriculture\\_and\\_climate\\_change](http://www.academia.edu/51960422/Gender_agriculture_and_climate_change)

44 Eurostat data for 2016 show that approximately 30% of women in the EU are involved in agricultural activities. Cf. Anon (2019). *Females in the Field: More Women Managing Farms across Europe*. CAP Europe. Obtained from: [cap.europe.bg/en/node/220](http://cap.europe.bg/en/node/220)

45 According to an IPCC report, the different consequences of climate change, in relation to the strategies and policies for ensuring food security are associated with economic and social barriers, such as local traditions on gender roles. See Masson-Delmotte, V. et al. (eds.). (2019). *Climate Change and Land: an IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems*, IPCC, 42. Obtained from: [www.ipcc.ch/site/assets/uploads/2019/11/SRCCL-Full-Report-Compiled-191128.pdf](http://www.ipcc.ch/site/assets/uploads/2019/11/SRCCL-Full-Report-Compiled-191128.pdf)

46 See Glazebrook, T., Noll, S. & Opoku, E. (2020). *Gender Matters: Climate Change, Gender Bias, and Women's Farming in the Global South and North*, *Agriculture*, 10(7), 267, βλ. ιδίως 5. Obtained from: [doi.org/10.3390/agriculture10070267](https://doi.org/10.3390/agriculture10070267)

47 See Fanzo, J. et al. (2018, September), *The Effect of Climate Change Across Food Systems: Implications for Nutrition Outcomes*, *Global Food Security*, 18, 12-19.

48 More than 820 million people worldwide do not have access to food, while women face more significant risks than men. See FAO (2020). *Securing sustainable food systems hinges on gender equality*. Obtained from: [www.fao.org/news/story/en/item/1264838/icode/](http://www.fao.org/news/story/en/item/1264838/icode/)

49 See WHO (2014). *Gender, Climate Change and Health*, 17. Obtained from: [apps.who.int/iris/bitstream/handle/10665/144781/9789241508186\\_eng.pdf](http://apps.who.int/iris/bitstream/handle/10665/144781/9789241508186_eng.pdf)

## 2.2 | WOMEN, NATURAL RESOURCES, ENERGY AND EMPHASIS ON WATER MANAGEMENT

Another consequence of climate change is the depletion of natural resources, which can be divided into biotic, i.e. resources derived from living organisms, and abiotic, i.e. resources derived from non-living things. Depletion increases competition for control of resources, making overall access to them more difficult. Women, especially in the developing South, where they are tasked with collecting and managing resources, are severely impacted, as they depend directly on their use for commercial or household purposes<sup>50</sup>.

Women in rural areas are facing more difficulties, as they derive their income from the use of natural resources to a greater extent<sup>51</sup>. Natural disasters, such as floods and fires, the frequency of which is a by-product of climate change, deplete natural resources, such as wood, or make access to them difficult. Consequently, the available income is reduced, a fact which may cause an increase in unemployment, as changing occupations is more difficult in rural areas, due to limited job positions and a possible lack of specialisation.

In the energy sector, meeting the goal of climate neutrality by 2050 and reducing greenhouse gas emissions by 55% by 2030 makes the need for transitioning to RES more pressing.

In developing countries, where access to the interconnected power system is not a given, women, mainly, use biomass to meet their energy and heating needs. In fact, working at the farms, women, on the one hand, contribute to food security, and, on the other hand, to the production of biomass, which is then used to cater for household needs<sup>52</sup>. Moreover, in many cases, men's frequent absence from home for work reasons means that women are responsible for maintaining any solar panels on the roof of the house.

In the developed North, the green energy transition puts energy safety at short-term risk, due to the phase-out of fossil fuels. Consequently, women's role in managing energy requirements within the house becomes even more prominent, as higher energy prices necessitate lower consumption, to maintain a smoothly running household. However, women, and especially single parents, have a lower mean income than men, which means that they often don't have the capital required to invest in energy-efficiency or renewable energy installations at their house, in order to use RES and reduce their environmental footprint<sup>53</sup>. As a result, we run the risk of seeing households dealing with energy poverty problems in the developed North.

Another consequence of climate change is the depletion of fresh water reserves. Changes to the rainfall patterns, combined with more frequent drought events have led to a significant reduction in the volume of water bodies (lakes, rivers) at a global level. This makes the requirement for rational water resources management even more important.

In many developing countries where water is found in remote locations, women are tasked with carrying it back to their homes. Under the impact of climate change, available resources are depleted and women are forced to travel longer distances, facing considerable risks for their health and security.

The depleted fresh water reserves, a consequence of increased droughts and the salinisation of a number of sources, is a major concern for developed countries as well, where the main issue is water management, both for household and commer-

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See Valley, B. (2010). *Gender and the Climate Change Agenda: The Impacts of Climate Change on Women and Public Policy*, *Women's Environmental Network*, 23-26. Obtained from: [www.academia.edu/1543791/Gender\\_and\\_the\\_Climate\\_Change\\_Agenda\\_The\\_Impacts\\_of\\_Climate\\_Change\\_on\\_Women\\_and\\_Public\\_Policy](http://www.academia.edu/1543791/Gender_and_the_Climate_Change_Agenda_The_Impacts_of_Climate_Change_on_Women_and_Public_Policy)

51

See Manfre, C. & Rubin, D. (2012). *Integrating Gender into Forestry Research: A Guide for CIFOR Scientists and Programme Administrators*, *Center for International Forestry Research*, 13.

52

See Tandon, N. (2019). *The Bio-Fuel Frenzy: What Options for Rural Women? A Case of Rural Development Schizophrenia*, στο Sweetman, C. (ed.), *Climate Change and Gender Justice*, Oxfam GB, 137. Obtained from: [oxfamlibrary.openrepository.com/handle/10546/115359](http://oxfamlibrary.openrepository.com/handle/10546/115359)

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See Alber, G. (2011). *Gender, Cities and Climate Change. Thematic Report Prepared for Cities and Climate Change Global Report on Human Settlements 2011*, 46. Obtained from: [www.academia.edu/628195/Gender\\_Cities\\_and\\_Climate\\_Change](http://www.academia.edu/628195/Gender_Cities_and_Climate_Change)

cial use. In addition, in many rural or insular areas, fresh water is considered unsafe to drink, as it can be the cause of waterborne diseases, which make women even more vulnerable<sup>54</sup>. For this reason, bottled water is preferred in those areas for both drinking and cooking. Quite often, even in those areas, securing fresh water is the responsibility of women, who must also make provisions for its rational use.

54 See Röhr, U. (2007, August). Gender, Climate Change and Adaptation. Introduction to the Gender Dimensions. Background Paper prepared for the Both Ends Briefing Paper. "Adapting to climate change: How local experiences can shape the debate", 8-9. Obtained from: [www.academia.edu/1254105/Gender\\_climate\\_change\\_and\\_adaptation\\_introduction\\_to\\_the\\_gender\\_dimensions](http://www.academia.edu/1254105/Gender_climate_change_and_adaptation_introduction_to_the_gender_dimensions)

### 2.3 | WOMEN, TECHNOLOGY AND DIGITAL TRANSITION

The immense technological advances of the last decades may prove to be a powerful ally in the effective implementation of climate policy. Technology is, essentially, the implementation of contemporary scientific knowledge, which is not always accessible in developing countries. Nonetheless, taking full advantage of technology is still a challenge; lack of technological means intensifies the effects of climate change on local populations, which are not able to understand the range of those effects, nor the right way of handling or preventing them.

This technological, digital gap is evident between genders in the developing countries, as women have much less access to technology and digital media. This gap is partly due to the increased responsibilities assumed by women at work and at home, a fact which means that they have less opportunities for empowerment, education, and personal growth, leading to a widening of existing inequalities. Moreover, the lingering stereotypes concerning women's place in society, even in the developed world, discourage young women from engaging in life-long learning and improving their educational attainment to pursue more demanding jobs, especially in traditionally male-dominated fields related to technology and innovation. Consequently, a lot of women never encounter and don't have the opportunity to use recent technological advances related to the management of the climate change impact.

In fact, being cut-off from environmental information is a critical factor aggravating the phenomenon, especially in rural areas, as it leads to the continuation of practices that are harmful to the environment and to a failure of adopting natural disaster protection measures. Consequently, even when modern technological tools are available, women will not be able to use them without the assistance of men.



## CHAPTER 3

## Women, Climate Crisis and Natural Disasters – Emergencies

For the past four decades, at least, gender has been a topic of study for international politics. Which means that international politics can now be examined through a “gender lens”. The adoption of a gender perspective in the field of international politics resulted in women becoming more visible, in the sense of bias correction. Until then, even though women had always been a part of international politics, their role and contribution was completely ignored. At a deeper, and, from an analytical standpoint, more important level, using a “gender lens” to examine the world politics means that, to a certain extent, we recognise the fact that the concepts, theories, and assumptions through which we traditionally perceive our world are affected by gender bias. Gender analysis is therefore an analysis of the male and female identities, symbols, structures and ways that shape world politics<sup>55</sup>.

Gender equality means that women and men enjoy the same rights, resources and opportunities. In the context of human rights, there are two main mechanisms for promoting and applying gender equality: a) affirmative action, which, essentially, is direct action targeting women and girls and serving as “compensation” for the discrimination they have experienced in the past and b) gender mainstreaming, i.e. the integration of the gender perspective in main policies, programmes and projects, structures and institutional processes to promote gender equality.

One of the Millennium Development Goals specifically targets gender equality, also linking it to economic growth. According to the World Economic Forum's Global Gender Gap Report, in a total of 135 participating countries, gender equality is directly associated with the GDP. Countries with higher gender equality indices also have higher GNP's compared to countries with low gender equality indices. Gender equality and women's empowerment are necessary preconditions in the fight against poverty, hunger and disease. However, progress is slow in all fronts, from education to access in decision-making processes<sup>56</sup>.

### 3.1 | ROLES AND RESPONSIBILITIES OF WOMEN AND MEN

According to the Food and Agriculture Organization (FAO), “[...] women play a critical role in agricultural production and in the rural economies of developing countries. As farmers and entrepreneurs in the informal rural sector, or as unpaid family workers on farms or in small enterprises [...]” Rural women play an important role in food production and often support their families through subsistence agriculture. Men tend to work in larger production units, located further away from home. In their capacity as food providers, women largely depend on natural resources and a healthy environment, and, as such, they are the first ones to feel the impact of climate change.

Other main responsibilities for women are childbearing, childrearing, and household duties. Aside from securing health services and hygiene measures, these responsibilities also include other tasks, such as providing for energy and water. In

<sup>55</sup> See Heywood, A. (2013). *Global Politics*. Athens: Kritiki, 669.

<sup>56</sup> See Stock, A. (2012). *El Cambio Climático Desde una Perspectiva de Género*, Fundación Friedrich Ebert Stiftung, FES-IDLIS, Policy Paper 18, 8-13.

many societies, women and girls provide all the water that is needed for household purposes. However, the tasks of providing for the family and ensuring food security, as well as any responsibilities related to childrearing and supporting the family, largely depend on access to property ownership, at a moment when women, all over the world, do not enjoy the same level of control in comparison to men when it comes to property, such as land, or services, such as credit and education. This becomes even more evident when we look at the growing number of households run by women.

The reason why women do not have land access and ownership rights, or access to other property and services, lies in their social position and lack of decision-making authority. The difference in women's representation in decision-making instruments demonstrate this fact: according to UN statistics, women hold 19% of parliamentary seats and a mere 6% of high offices, such as heads of state. These statistics reflect the unequal distribution of power between men and women in terms of decision-making. This disparity in the distribution of power is also noted in smaller decision-making instruments, both at a regional and local level, and confirms the general trend of limiting women's representation on all levels of society.

Differences between men and women are also noted in employment, despite the progress that has been achieved in gender equality in this particular area. More specifically, women continue to experience discrimination with regard to access to jobs, the pay, benefits or working conditions they enjoy, or access to decision-making bodies. The global economic and financial crisis have had an impact on both genders, and especially on the poorer and more vulnerable populations, and have driven even more women to undeclared work, which directly or indirectly depends on natural resources, such as raw materials, energy and water<sup>57</sup>.

### 3.2 | THE DIRECT IMPACT OF CLIMATE CHANGE

Women and men face risks derived from climate change, in relation to their safety and health. In fact, some of the consequences of climate change, such as floods, storms, and droughts, may lead to an exponential rise of disease and mortality rates. According to studies by the World Health Organisation, carried out in 141 countries, in relation to the impact of climate change, it was found that, natural disasters on average kill more women than men or kill women at a younger age than men. Women are more vulnerable to natural disasters due to their socially constructed roles and responsibilities, especially in countries where their social, economic and political status is lower than that of men. The restrictions and limitations for women result in reduced mobility, which means they are locked and confined at their homes, and/or often have not learned how to swim. Natural disasters, such as floods, can destroy water supply systems and networks, while droughts, other than causing food shortages, can lead to the spread of infectious diseases. The aforementioned factors pose direct risks for women's health, especially pregnant women and young girls, and create serious problems for women tasked with household duties.

Forced migration must also be noted as one of the consequences of climate change, as it is a direct result of global warming, which in turn lowers the chances of preserving sustainable living conditions. The World Disaster Report of the International Federation of Red Cross and Red Crescent demonstrates that with displace-

57  
See Barre, A. (2019). *Soluciones de Género y Clima. Women and Gender Constituency*, 5th Edition, 10-11.

ment – as a result of natural hazards or conflict – the risk of physical abuse to women and girls rises substantially<sup>58</sup>.

### 3.3 | MEN AND WOMEN'S DIFFERENT BEHAVIOURS AND CLIMATE CHANGE

As seen above, women are unevenly impacted by climate change in relation to men. However, women not only experience the consequences of climate change differently, but they also contribute differently to their mitigation, owing to their different perspective. Women, who in their majority are tasked with caring for their children and families, usually opt to work closer to their homes; as a result, they use means of transport less frequently, leading to reduced greenhouse gas emissions and fuel consumption. Men, on the other hand, tend to use more vehicles, causing higher energy consumption and carbon emissions. Moreover, women have less access and control over resources. Consequently, they tend to use them more rationally than men.

In some OECD countries, women make more than 80% of decisions related to consumption, which solidifies the claim that women tend to be more sustainable consumers. As demonstrated above, women depend on natural resources and, therefore, they often act more responsibly in terms of preserving them, mainly because of the empirical knowledge they have acquired on protecting the environment. They not only effectively help to mitigate climate change, but also implement different survival strategies at the face of major climate crises<sup>59</sup>.

### 3.4 | CONCLUSIONS

According to the Human Development Report of the United Nations (2007-2008), climate change is likely to dramatically increase gender inequalities. Moreover, climate change hinders the efforts to achieve gender equality and attain further goals, such as alleviating poverty and promoting sustainable development. Nonetheless, the different social roles that women undertake contribute to the efforts of mitigating the climate change impact, given that women possess specific skills and knowledge in relation to natural resources and their management. Women's expertise in natural resource management must be recognised and highlighted in the discussion on climate change, in order to identify the appropriate solutions for addressing the arising challenges<sup>60</sup>.

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See Stock, A. (2012). *El Cambio Climático Desde una Perspectiva de Género*, as above

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See Herbert, J. (2021). Environmental Justice, στο The Newcastle Social Geographies Collective, *Social Geographies: An Introduction*, Lanham: Rowman & Littlefield, 346-347.

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See United Nations Development Programme (2016). *Overview of Linkages Between Gender and Climate Change*. Global Gender and Climate Alliance, Ministry of Foreign Affairs of Finland, 3-4.

## CHAPTER 4

## The Mediterranean Dimension: Climate Change and the Mediterranean

### 4.1 | THE IMPACT OF CLIMATE CHANGE ON THE MEDITERRANEAN

Climate change today affects every country, in every continent. The impact of climate change disrupts economic systems, social relations and structures, and ecosystems. The planet and our modern societies are in a race against time to mitigate the consequences of climate change and adapt to the new conditions.

Climate change has long-term effects and encompasses challenges with more than one dimensions. Limiting the global temperature increase to well below 2°C, preferably to 1,5°C, as defined in the Paris Agreement, will require the mobilisation of all social partners and institutions – countries, regions, cities, companies, investors, civil society organisations and the academic community – and global collaboration to reach net zero emissions by 2050.

The Mediterranean region combines extraordinary ecosystem diversity with a rich and complex socio-cultural background, the product of three different continents. In fact, the region has undergone various geomorphological and cultural changes. Today, it is home to more than 500 million people, with a high concentration of urban settlements and industrial infrastructure near sea level. The region is one of the top international tourist destinations and one of the busiest world waterways. Climate change has a complex interaction with other environmental problems in the Mediterranean basin, caused by urbanisation, changes in land use, overfishing, pollution, loss of biodiversity, and degradation of land and marine ecosystems.

The Mediterranean region in particular has been studied as one of the areas that are facing serious environmental challenges and are more threatened by the impact of climate change. In essence, the wondrous Mediterranean ecosystem, with its almost half a billion people (650 million until 2050), is at risk of turning into hell on earth within the next years. The reason is that, along with the Arctic, it is expected to become a climate change hotspot, from Iberia up to Greece and Turkey, the Maghreb and Middle East<sup>61</sup>.

It should be noted that in the last report published by the Intergovernmental Panel on Climate Change (IPCC), and, more specifically, by Working Group II<sup>62</sup>, on Climate Change, Impacts, Adaptation and Vulnerabilities, the Mediterranean region was assessed for the first time as an individual region, in a dedicated chapter. The main regional risks the Mediterranean is facing include increased water scarcity (notably in the South and East Mediterranean) and droughts (in the North), coastal risks due to flooding, erosion and saltwater intrusions, wildfires, land and marine ecosystem losses, as well as risks to food production and security, human health, well-being and cultural heritage. It is important to take steps for combating climate change and its impact on the Mediterranean, a region where the recorded mean temperature increase compared to the pre-industrial age is 1,54°C, i.e. 0,4°C more than the global average. As evidenced last summer, Europe and the coastal

61  
See Tuel, A. & Eltahir, E. A. B. (2020). Why Is the Mediterranean a Climate Change Hot Spot?, *Journal of Climate*, 33(14), 5829–5843.  
Obtained from:  
[doi.org/10.1175/JCLI-D-19-0910.1](https://doi.org/10.1175/JCLI-D-19-0910.1)

62  
See IPCC (2022). *Climate Change 2022: Impacts, Adaptation and Vulnerability, Working Group II Contribution to the IPCC Sixth Assessment Report*.

areas of the Mediterranean continue to suffer through a warmer and drier climate, which is already causing loss of animal life and disruption in the entire region. Time will only increase those impacts, and specifically deaths associated with high temperatures, water scarcity, loss of biodiversity, increased energy for cooling needs and increased wildfires.

The IPCC assessment report on climate change (IPCC 2022) estimates that up to 93 million more people could be exposed to high or very high heat stress in northern Mediterranean by mid-century, i.e. by 2050. In the MENA region (Middle East and North Africa), the heat-related mortality rate for the elderly will increase dramatically by the end of the century.

According to the IPCC<sup>63</sup>, the Mediterranean region is particularly vulnerable to climate change, due to the influence of multiple stress factors, and particularly to the aggravation of pre-existing weaknesses, including high coastal urbanisation and limited adaptability of the coastal regions<sup>64</sup>.

The challenges that will become more difficult in the Mediterranean basin are:

**HEAT:** Climate predictions indicate that the number of days with maximum temperature over 37°C will increase throughout the Mediterranean region. That number is expected to double in northern Africa, southern Spain, and Turkey from 30 to 60 by 2050.

**DROUGHT:** In Italy, Portugal, Spain, and parts of Greece and Turkey, rainfall during the warm, dry season between April and September is projected to decrease by as much as 10% by 2030 and as much as 20% by 2050. By 2050, drought conditions could be prevalent for at least six months every year in these areas.

**WATER STRESS:** Many basins could see a decline of approximately 10% in water supplies by 2030 and up to 25% by 2050. Water stress is already high in most countries in the Mediterranean region and extremely high in Morocco and Libya. The decline in supply is expected to intensify water stress in all Mediterranean countries until 2050, with the greatest increases in Greece, Morocco, and Spain.

**WILDFIRES:** Increased levels of heat and drought are projected to cause larger forested areas (up to double the current areas on the Iberian Peninsula) to burn from wildfires.

**DISEASE:** High summer temperatures have also been associated with increasing the incidence of West Nile fever in Europe. In the summer of 2019, we had the first recorded case of West Nile virus infection in Germany. According to researchers, the West Nile virus is likely to spread by 2025 and to spread even further by 2050.

## 4.2 | DESCRIPTION OF CLIMATE CHANGE IMPACTS

### A | Environmental impact and natural risks

The impact of climate change will exacerbate existing stresses on the natural environment, associated with human activity and related mainly to: (i) water, due to the

63

See IPCC (2014). *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*.

64

See Cramer, W. et al. (2018). *Climate change and interconnected risks to sustainable development in the Mediterranean*. *Nature Climate Change*, 8, 972–980.

change of the hydrologic cycle; (ii) soil, through the acceleration of desertification; (iii) land and marine biodiversity (animal and plant), due to migration of certain species to the north and to higher grounds, extinction of species that are most sensitive to climate change and appearance of new species; and, lastly (iv) forests, due to increased wildfire and parasite risks<sup>65</sup>.

The effects of the climate change can be mainly seen on water resources, food security, ecosystems, coastal zones, and human health<sup>66</sup>. The consequences and projected risks are different for each of the above, and their combination can intensify the impact or create successive, more frequent periods of stress, which the least resilient countries will find difficult to cope with.

Water resources are unevenly distributed among the Mediterranean countries, with critical limitations in the southern and eastern parts of the Basin. Mediterranean societies will face the double challenge of meeting higher water demands with less available freshwater water resources. Because of climate change (enhanced evapotranspiration and reduced rainfall), fresh water availability is likely to decrease substantially, i.e. by 2-15% for every 2°C of warming<sup>67</sup>, which is among the largest decreases in the world, with significant increases in the length of droughts.

The general water scarcity, as a consequence of climate change, is intensified by the increased demand for agricultural products and the need to ensure food security. The irrigation requirements of the Mediterranean region are projected to increase between 4% and 18% by the end of the century, due to climate change.

The Mediterranean region will regularly experience sudden floods, as a consequence of short and localised heavy rainfall in small basins, many of which are close to the coastline, in densely populated areas. Flood risks associated with extreme rainfall will increase because of climate change.

At the same time, forests, wetlands, coastal and marine ecosystems in the Mediterranean basin will be affected by temperature changes. The increase of droughts (mainly due to reduced rainfall and also because of the higher temperatures) is most likely the main threat for biodiversity and the survival of the Mediterranean terrestrial ecosystems. Intensified wildfires are also projected (longer wildfire periods and more frequent, larger, and more serious fires, as a result of increasing heat waves combined with droughts and changes in land use). The lowering water levels and reduced quantity of water will also affect the wildlife in the wetlands of the Mediterranean inland and the freshwater ecosystems.

The widening of the Suez Canal and the transport of alien species through ballast water from ships worsen the situation. More than 700 non-indigenous marine plant and animal species have been recorded so far in the Mediterranean, many of which are favoured by the warmer conditions. Over 50% of them have entered the Mediterranean through the Suez Canal. Ocean acidification is also expected to have a significant impact on a wide array of marine organisms.

These ecological changes on land and at sea, in turn, lead to biodiversity loss and put at further risk a number of benefits and services that the Mediterranean ecosystems provide, including renewable natural resources (such as food, medicines, timber); environmental services (maintenance of biodiversity, soils and water, and regulation of air quality and climate) and social services (such as opportunities for recreational, educational and leisure use, or traditional cultural values).

65 See European Institute of the Mediterranean (2020). *IEMed Mediterranean Yearbook 2020*, 30-55. Obtained from: [www.iemed.org/med-yearbook/iemed-mediterranean-yearbook-2020/](http://www.iemed.org/med-yearbook/iemed-mediterranean-yearbook-2020/)

66 See Cramer, W. et al. (2018). Climate change and interconnected risks to sustainable development in the Mediterranean. *Nature Climate Change*, *on. n.*.

67 See IPCC (2022). *Climate Change 2022: Impacts, Adaptation and Vulnerability*, as above

## B | Food production and security

Food production from agriculture and fisheries throughout the Mediterranean region is changing due to social, economic, and environmental changes. Human population growth and increased affluence in some Mediterranean regions, along with changing dietary habits, will lead to higher demand for certain food products. On the contrary, crop, fish and livestock yields are expected to decrease in many areas, because of climate factors. Aside from the effects of drought, extreme weather conditions such as heat waves, frost or heavy rainfall, may cause unexpected crop losses and increased yield variability.

Yields for many seasonal crops (winter and spring) are expected to decrease due to climate change, especially in the South (e.g. legume production, sunflowers, olives, grapevines, fruit trees, vegetables). Pests and diseases, as well as mycotoxins, could also pose a serious threat under unfavourable climate conditions. At the same time, rise of sea levels, combined with land subsidence, may, in some areas, significantly decrease the area available for farming.

The impact of climate change on animal farming, combined with a growing demand for animal products will increase, in the next decades, the dependence of south Mediterranean countries on food imports (estimated at around 50% for all food products in the Maghreb).

Fisheries and aquaculture, which are crucial for the food security and economy of the Mediterranean, are currently impacted most by overfishing and unregulated coastal development. Ocean warming and acidification are very likely to impact fisheries more significantly in the coming decades, as more than 20% of fish and invertebrates are expected to become locally extinct by 2050. By 2070-2099, more than half of the 75 endemic Mediterranean species are projected to be threatened with extinction<sup>68</sup>.

Overall, it is estimated that the projected climate impact will bring socio-economic changes that will compromise food security. These pressures will not be homogeneous across the Mediterranean, and will also affect the stability in the region, as they are expected to cause further regional imbalances and conflicts.

## C | Living in coastal areas

In the Mediterranean, one third of the population (about 150 million people) lives in coastal areas. Sea level rise, which could ultimately exceed the latest IPCC projections, will have a significant impact on the Mediterranean coastlines, especially along the south and east coasts, where the adaptive capacity is limited by the weaker economy. Port cities with more than one million people are considered to be exposed to increasing risks from floods and severe storms, due to sea level rise and localised land subsidence.

Until 2050, the high-risk areas are mainly found in the south and east Mediterranean, including Morocco, Algeria, Libya, Egypt, Palestine and Syria. Most of these countries are currently going through a period of political instability and are, therefore, less able to deal with the additional environmental pressures.

Droughts and changes in the services provided by the ecosystems may also exacerbate social conflict and cause new waves of forced migration. Because of its cultural, geopolitical and economic complexities, historically, the Mediterranean Basin has been a region of social and political instability. The additional stress fac-

68  
See IUCN (2021). *The IUCN Red List of Threatened Species*. Version 2021-3.  
Obtained from:  
[www.iucnredlist.org](http://www.iucnredlist.org)

tors related to the climate increase the risks to people's safety in the region, make communities in the Mediterranean more vulnerable, and, consequently, increase people's insecurity.

#### D | Impact on health

Climate change is one of the many factors affecting health, acting directly (through heat, cold, droughts, storms and other phenomena) or indirectly (through changes in food supply and quality, air pollution or other aspects of the social and cultural environment).

The impact varies in terms of its magnitude depending on local conditions and the vulnerability of the human population. In the Mediterranean basin, areas with particularly strong temperature changes and significant heat waves can be found along the coasts and in densely populated urban centres. Heat-related illnesses and deaths can occur when high temperatures (especially combined with high relative humidity) exceed the natural ability of the body to dissipate heat.

At the same time, another threat for human health in the Mediterranean region is the emergence of infectious disease, due to high temperatures, and the change of land and marine biodiversity, because of the appearance of hosts.

Even though most Mediterranean populations are relatively accustomed to high temperatures, an increase in the intensity and frequency of heat waves or a change in seasonality pose significant risks for the health of the most vulnerable population groups, including those who live in conditions of poverty, with inadequate housing and limited access to air-conditioned spaces. The extent to which heat-related mortality rates will increase in coming decades will depend on the adaptive capacity of the Mediterranean populations through human acclimatization; adaptation of the urban environment to reduce the heat impact in cities; development of public education programmes; and ultimate preparedness of the healthcare system.

#### E | Tourism

The wider Mediterranean region is one of the top international tourist destinations. Tourism, on average, accounts for approximately 15% of the GDP of the Mediterranean countries. In some areas of the Mediterranean, the local economy largely depends on tourism.

Climate change will have multiple consequences for tourism. High temperatures create unfavourable conditions for visitors. High temperatures also increase energy consumption needs for cooling and air-conditioning. Droughts lead to groundwater depletion and consequent saltwater intrusion in groundwater reserves. Coastal degradation is another serious problem, as it diminishes the natural beauty of the coastline while also causing infrastructure destabilisation. The increasing frequency of severe and extreme weather also impacts tourism, as it causes a feeling of insecurity. The more frequent the fires, storms and floods, the greater the concern, both for visitors and for those working in the tourist industry<sup>69</sup>.

A positive consequence of the temperature rise in the Mediterranean region could be the extension of the tourist season during the spring and autumn months; however, this development may simply compensate the losses caused by the higher temperatures during the summer period.

<sup>69</sup> Elafros, Y. (2021). Climate change will impact tourism CLIMPACT network studies how the industry will be affected by extreme weather phenomena while also seeking solutions, *Kathimerini* (on line). Obtained from: [www.ekathimerini.com/society/1166548/climate-change-will-impact-tourism/](http://www.ekathimerini.com/society/1166548/climate-change-will-impact-tourism/)



Despite the number of worrying trends, the extension of the tourist season is one positive aspect. Higher temperatures make it possible to live in coastal areas until late autumn or by early spring. However, this cannot be considered as pure gain. First of all, if part of the summer period becomes unbearably hot, these losses will need to be compensated. However, as the climate of the northern countries also becomes warmer, we could potentially see tourists migrating away from the hotter Mediterranean region.

### 4.3 | THE IMPACT OF CLIMATE CHANGE ON GREECE

Greece covers a total area of 131.957 km<sup>2</sup>, taking up the southern part of the Balkan Peninsula. The mainland represents 80% of its surface area, while the balance 20% is divided among almost 3000 islands.

The Greek landscape, with its extended coastline, measuring more than 15,000 km, is closely linked to the sea, since there is only one small area on the northwest of the country which is more than 80 km away from the sea. Approximately 25% of the country is flat, especially the coastal plains all over Greece.

Greece is a mountainous country, as two thirds of it are occupied by medium-elevation mountains. Forests cover 26.2% of the country's area. Another 40.3% of the country is taken up by grasslands and pastures.

Arable land represents 25.1% of Greece's total area. Settlements and transport infrastructures take up 4.1% of the country's area. Lastly, wetlands, i.e. land that is covered or saturated by water throughout the year or for the better part of the year, and other areas not otherwise classified (e.g. rocky or bare terrain, mines and quarries) represent 2.3% and 2.1%, respectively.

Greece's total population is 10,7 million (2020) people. The population density is estimated at 84.03 residents/km<sup>2</sup>. Tourism is one of the main economic activities in Greece, as it generates wealth, creates jobs, and contributes to economic growth. However, this industry is particularly vulnerable to the impact of climate change. Coastal and nature-based tourism rely on a rich variety of landscapes, ecosystems, coastal areas and iconic species. Out of the 15,000 km of the Greek coastline, approximately 1,000 km are areas especially vulnerable to climate change. This is associated with sea level rise in Greece<sup>70</sup>.

The impact of climate change in Greece, per sector, can be summed up as follows:

#### TOURISM

It is expected that climate change will have a significant impact on tourism. Given that there will be more heat waves during the summer, every building will require more energy for cooling and many areas (especially insular) will face water supply issues. In many parts of the country, the temperature increase may bring an extension of the tourist season. At the same time, the decrease in the number of cold winter days will reduce heating costs for tourist facilities at winter destinations. Ski resorts, mainly those found at lower elevations and especially in the south, will face more pressure. According to the European research project PESETA, it is projected that a mean 2.5°C rise will cause a 1% decline in the number of nights spent in Greece and an income loss of 825 million euro for the tourist industry on an yearly

<sup>70</sup>  
The data was taken from the World Bank website, [data.worldbank.org/country/greece](https://data.worldbank.org/country/greece)

basis<sup>71</sup>. Lastly, significant problems will arise in archaeological sites exposed to the elements, especially those found near forests or on steep slopes, as they are vulnerable to land erosion and wildfires<sup>72</sup>.

#### AGRICULTURAL ACTIVITIES

The Greek climate will become drier due to reduced rainfall, by 20-30% during summer and 10% during winter. The periods without rain will be more, the humidity deficit will increase by up to 12%, and 60% of arable land may turn into dry land. The wine producing regions that will face problems during the period 2046-2065 are mainly located in central and southern Greece (where rainfall will decline more, and the humidity deficit will increase significantly). On the contrary, wine making will be temporarily favoured in the mountainous regions of the country, to the west and north of Thessaly. Specific varieties that used to grow only in the south will be able to grow there too. However, in the long term, the increase in the number of hot days, along with the rainfall drop, will cancel out the favourable circumstances, as vineyards will require more irrigation. Lastly, the temperature increase may affect the quality of the wine produced throughout the country, because harvesting will be carried out earlier in the year<sup>73</sup>.

#### COASTAL AREAS

Based on the projections of the IPCC (2007), sea level is expected to rise by 20 to 59 cm until the end of the century. Overall, there is a risk that sea level rise may result to the loss of 3.5% of the country's surface area. It is estimated that this could have a cost equal to 2% of the GDP<sup>74</sup>.

#### HEALTH

Aside from the economic and environmental impact, climate change will also unavoidably affect public health, and especially the vulnerable populations. People living in urban areas will face heat waves, due to the temperature increase, leading to increased energy use for cooling. Studies have demonstrated that for every 1°C increase over 34°C, daily mortality rates increase by approximately 3%. Past 2046, Greece will experience 15-20 more hot days. With daily temperatures above 42°C, daily mortality rates due to respiratory and heart conditions are projected to increase by 10% and 18%, respectively<sup>75</sup>.

#### 4.3.1 | Public Opinion on Climate Change in Greece

According to a 2016 survey<sup>76</sup> on the Greek people's perception of climate change, women are more sensitive compared to men and more willing to play their part in addressing the climate change impact.

More specifically, to the question whether people have taken some sort of action to fight climate change during the past 5 years, 77% of the respondents answered affirmatively. Those actions include waste, recycling, increase in residential energy efficiency, energy and water conservation, use of high energy efficiency appliances and use of sustainable forms of transport.

Grouping people based on their responses on questions regarding the significance of climate change and the actions undertaken or planned and aimed at miti-

71 See Bank of Greece, Committee on Climate Change Impact Assessment (CCISC), 2014. *Greek Tourism and Climate Change: Adaptation Policies and New Growth Strategies (in Greek)* Obtained from: [www.bankofgreece.gr/RelatedDocuments/EMEKA\\_tourismos\\_2014\\_.pdf](http://www.bankofgreece.gr/RelatedDocuments/EMEKA_tourismos_2014_.pdf)

72 See Ritchie, H. & Roser, M., (2020). CO<sub>2</sub> and Greenhouse Gas Emissions. *Our World in Data*.

73 See Dianeosis (2017). *The Impact of Climate Change on the Greek Economy*. Obtained from: [www.dianeosis.org/wp-content/uploads/2017/06/climate\\_change10.pdf](http://www.dianeosis.org/wp-content/uploads/2017/06/climate_change10.pdf)

74 See Dianeosis (2017). *The Impact of Climate Change on the Greek Economy*, óñ. n..

75 See Bank of Greece, Climate Change Impacts Study Committee (CCISC), 2021. *Climate and Sustainability*. Obtained from: [www.bankofgreece.gr/RelatedDocuments/BoG\\_Climate\\_and\\_Sustainability\\_2021\\_December.pdf](http://www.bankofgreece.gr/RelatedDocuments/BoG_Climate_and_Sustainability_2021_December.pdf)

76 See Voskaki, A., Tsermenidis, K. (2016). *Public Perception of Climate Risk: The Case of Greece*. Preprints.

gating impact produced two distinctive profiles, A and B.

Based on the analysis, people in profile A appear more eco-friendly, more willing to adapt to new climate habits and more willing to pay in order to mitigate the impact. Moreover, they feel that a shift in culture is necessary for climate adaptation. Gender, age, education, and location seem to statistically significant factors, associated with the probability of a person belonging to profile A or B.

Women are more likely to belong to profile A compared to men. This could imply that women are more sensitive to environmental issues or that men perceive risks as much smaller and more acceptable than women. With regard to age and education, it appears that older or less educated people are more likely to belong to profile B. Distance from Athens appears to be another important parameter associated with the probability of a person belonging to profile B.

#### 4.4 | CONCLUSIONS

We can see the impact of climate change in the wider Mediterranean region and in Greece will be felt more by the tertiary and primary sectors. From tourism to agricultural production and fisheries, it is evident that the consequences on local economies will be significant. People living in coastal areas will face particular problems, as these areas are already under pressure due to high concentrations of population and production activities. Important issues will also arise in the public health domain, due to the increase in the number of hot days. Moreover, risks will arise due to the intensity and fierceness of the weather and man-made disasters.

## CHAPTER 5

## Women's position in the sectors impacted the most by climate change in the Mediterranean and Greece

Women's situation in the Mediterranean Basin has different social, economic, and cultural characteristics in the North and South, which are also affected by the political status in every country.

### 5.1 | WOMEN IN RURAL AREAS IN THE MEDITERRANEAN

However, in any Mediterranean country, women are faced with inequalities, which are all the more evident in rural and country areas. Rural women often work in lower quality jobs, receiving less or no pay, as their roles are often considered part of their domestic duties or as their responsibility as wives and mothers. Moreover, in some areas in the south, women experience legal discrimination, especially in matters of inheritance and access to property<sup>77</sup>.

In the MENA region (Middle East and North Africa)<sup>78</sup>, for example in Morocco and Lebanon, almost 80% of agricultural production comes from smallholdings. Women's role, especially in small-scale agriculture, is often undervalued or even invisible. As a result, these women are not even paid for their time and work. Added on top with the burden of their domestic responsibilities, their work in smallholder farming dramatically reduces the time that women have available to invest in their education or other economic activities<sup>79</sup>. What is strange in countries like Morocco and Lebanon is the fact that certain legal impediments in inheritance law, along with customs and traditions, prevent women from owning land. In Morocco, daughters are entitled to half the inheritance that their brothers are entitled to and often waive their inheritance in order to remain in good favours with their brothers, sons and/or husbands. In Lebanon, civil law specifies the same inheritance rights for non-Muslim men and women; however, Sharia, the Islamic law, grants the largest part of an inheritance to Muslim men<sup>80</sup>.

According to the Opinion of the European Economic and Social Committee on "Agriculture in EUROMED"<sup>81</sup>, in Lebanon, only 3,4% of women work in farming. In Algeria the situation is similar, with very limited participation of women in economic activities. In contrast, in Egypt, 50% of agricultural work is carried out by women, although they are not allowed to manage agricultural assets that they have inherited. Morocco stands out due to the high involvement of women in agricultural work, at around 60%, while the figure in Turkey rises to 70%. In these countries, women mainly carry out labour-intensive and non-mechanised tasks. Women are responsible for harvesting and storing food, and play a significant role in sowing, irrigation, pest control and fertilising.

Contrary to the MENA countries, Mediterranean countries such as Spain, Portugal, France, Malta and Greece, which are members of the European Union, must align with the EU legislation and European Directives on gender equality.

77 See Seghirate, Y. (2017). *Mediterranean Women in Rural and Agricultural Communities: Double Jeopardy, Multiple Opportunities*. IEMed *Mediterranean Yearbook 2017*. Obtained from: [www.iemed.org/publication/mediterranean-women-in-rural-and-agricultural-communities-double-jeopardy-multiple-opportunities/](http://www.iemed.org/publication/mediterranean-women-in-rural-and-agricultural-communities-double-jeopardy-multiple-opportunities/)

78 MENA countries are Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates and Yemen.

79 See Avis, W. R. (2017). *Gender equality and women's empowerment in Lebanon. Knowledge, evidence and learning for development*. Helpdesk report. Obtained from: [reliefweb.int/sites/reliefweb.int/files/resources/175-Gender-Equality-and-Womens-Empowerment-in-Lebanon.pdf](http://reliefweb.int/sites/reliefweb.int/files/resources/175-Gender-Equality-and-Womens-Empowerment-in-Lebanon.pdf)

80 See FAO (n.d.). *Gender and Land Rights Database, Distribution of Agricultural Holders by sex*. Obtained from: [www.fao.org/gender-landrights-database/data-map/statistics/en/](http://www.fao.org/gender-landrights-database/data-map/statistics/en/)

81 See European Economic and Social Committee (2012). *Opinion on of the European Economic and Social Committee on the "Development of a macro-regional strategy in the Mediterranean"*, 485th Plenary Session (2013/C 44/01).

On February 2017, the Agricultural Committee and the Women’s Committee of the European Parliament approved a report calling for an enhanced role for women in EU farming. EU lawmakers believe that women play a crucial role in reviving rural areas and avoiding further urbanisation.

Data from the latest report on agricultural statistics, published in 2018, show that European women manage 28.4% of farms. Agriculture is an important sector for women in the labour force, as it is the seventh largest sector for women’s employment in the European Union.<sup>82</sup>.

Many women contribute as the wives or partners of farm owners, while exceptional, occasional or seasonal work, e.g. during harvesting, appears to be a significant feature of their employment in this sector<sup>83</sup>.

However, it bears noting that, within the EU context as well, the invaluable work that female spouses provide to those farms is often invisible and is not included in official statistics, preventing women from having access to social security services and benefiting from agricultural subsidy and development programmes.

### 5.1.1 | Women’s Role in Agriculture in Greece

Understanding women’s position in Greek farms is more complex than it may initially appear. The first difficulty lies in the lack of data. The available information is extremely limited and lacking in terms of the gender dimension.

There is an apparent deficit of relevant comparative studies that would allow us to distinguish, for example, the differences between women working in farms of different type or size, and especially in different geographical regions. That would serve to debunk the fantasy and Greek women farmers are a uniform group, with similar problems, views, and behaviours. In addition, there is also a clear deficit of information on matters related to personal relationships, gender violence, work/life integration, and/or the way women experience the absence of a welfare state and welfare state structures. The holder is the natural person, group of natural persons or legal person, in the name and on behalf of whom the farm is run, and who is legally and financially responsible for the farm and assumes all of its financial risk. The holder may own the farm directly or lease it or be a usufructuary or manager of the farm.

According to the General Secretary for Demography and Family Policy and Gender Equality<sup>84</sup>, women farmers in Greece perform a number of roles and duties in the context of the new socio-economic and gender conditions, and form their needs and pursuits differently, but always based on family and household requirements.

Many studies demonstrate that on-farm activities are quite gender specific<sup>85</sup>. Machinery maintenance and public farming activities (e.g. negotiating produce sales) are typically male activities, while milking and intensive seasonal labour, such as fruit picking and harvesting, are typically female. Women play an important managerial role in farm business decisions; however, their involvement is mostly as influencers rather than decision-makers. The example of the farm holder, is very telling. In Greek, a gender language, is always expressed as a masculine noun, even if the holder is a woman, and ownership is usually associated with one person. Which means that even if a couple has joint responsibility of the farm, this is not reflected anywhere. Terms such as “subject” (neutral in Greek) or “joint” owner

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See European Commission (n.d.) *Women in the Labour Market*. Information Bulletin. Obtained from: [ec.europa.eu/info/sites/default/files/file\\_import/european-semester-thematic-factsheet\\_labour-force-participation-women\\_el.pdf](https://ec.europa.eu/info/sites/default/files/file_import/european-semester-thematic-factsheet_labour-force-participation-women_el.pdf)

83

European Commission (n.d.) *Women in the Labour Market*. Information Bulletin, as above

84

See General Secretariat for Gender Equality (2018). *The Greek Farmer: State of Participation, Problems, Challenges and Policy Proposals for encouraging women’s participation in the agricultural sector and the Greek countryside*. Obtained from: [isotita.gr/wp-content/uploads/2018/02/%CE%97-%CE%95%CE%BB%CE%BB%CE%B7%CE%BD%CE%AF%CE%B4%CE%B1-%CE%B1%CE%B3%CF%81%CF%8C%CF%84%CE%B9%CF%83%CF%83%CE%B1.pdf](https://isotita.gr/wp-content/uploads/2018/02/%CE%97-%CE%95%CE%BB%CE%BB%CE%B7%CE%BD%CE%AF%CE%B4%CE%B1-%CE%B1%CE%B3%CF%81%CF%8C%CF%84%CE%B9%CF%83%CF%83%CE%B1.pdf)

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See EIGE (2010). *Women working on the farm: how to promote their contribution to the development of agriculture and rural areas in Europe*. Obtained from: [eige.europa.eu/docs/2026\\_IPOL-AGRI\\_NT\(2010\)438609\\_EN.pdf](https://eige.europa.eu/docs/2026_IPOL-AGRI_NT(2010)438609_EN.pdf)

(adjective, which can be inflected), would help gain a better understanding of how on-farm work is split by gender and how decisions are taken among the household members<sup>86</sup>. That would also serve to avoid – to a certain extent – the view that is rather prevalent in Europe that women are the “wives of the farm owners”.

On the other hand, women themselves often downplay their participation in the decision-making processes to protect the stereotypical image of the male farmer<sup>87</sup>. It should also be noted that statistics do not always record the full breadth of farm work carried out by women, particularly when some of this work is combined with family work (e.g. cooking meals for seasonal workers). This entanglement between farm work and household work, as shaped by and connected to a family holding, results in the two types of work often being indiscernible from one another.

### 5.1.2 | Rural women

For rural women, new work challenges mostly emerge in off-farm business activities, agritourism, sales of farm produce and cultural heritage products, and organic farming. Another important research challenge is the question as to whether women’s pluriactivity contributes to the creation of a new identity for them, which can be both felt and sustained in the world of farming. Many studies for the agricultural sector find that the specialty of a family farm as a “business” in agricultural production, and the relationships of authority that develop between the genders within an agricultural household, have fostered, during the modernisation of production, conditions of division of labour which removed women from the “visible” field of the labour force. In the last two decades, research related to the issues facing women in farming has uncovered their contribution to the survival of the agricultural household. This has made women more visible as members of the labour force, and, at the same time, has presented the challenge of re-defining the conventional definitions for “employment” and “employed person” used in statistics. These are definitions that are lacking the valuation of an important part of female employment, because this is not associated with the production of marketable products. It has also brought to light the crisis of professional identity that women in farms are facing, as they are in the shadows of the man running the holding, and in a world where the “occupation” tends to define a person’s social identity<sup>88</sup>.

In the agricultural sector, the development of business initiatives by women, in the form of cooperatives, is a relatively new occurrence. The business domains where women are active in are agritourism; craft/cottage industry products; marketing of processed farm produce; crafting and selling cultural heritage products (folk art products); as well as producing and selling alternative farming products<sup>89</sup>.

Agritourism cooperatives were founded at the initiative of the General Secretariat for Gender Equality, mainly with the aim of helping women accomplish financial and social independence, and, to a lesser degree, add to the family income. However, in their vast majority, women feel that securing an additional source of income for their home is the main reason for them becoming involved in an agritourism cooperative. The social reasons (personal recognition and social status), which were the primary objectives for setting up the cooperative, are secondary to them<sup>90</sup>.

At this point, it is important to note the ambiguity of the female identity in relation to the agricultural sector and farming activities. On the one hand, women are

86

See Gkasouka, M. et al. (2014). *Guide for using non-sexist language in administrative documents (in Greek)*. General Secretariat for Gender Equality. Obtained from: [www.isotita.gr/var/uploads/MELETES/Odigos%20Xrisis%20Mi%20Seksistikis%20Glossas.pdf](http://www.isotita.gr/var/uploads/MELETES/Odigos%20Xrisis%20Mi%20Seksistikis%20Glossas.pdf)

87

See Gidarakou, I., Kazakopoulos, L. & Koutsouris, A. (2006). Tracking empowerment and participation of young women farmers in Greece, στο Asztalos, M. I. & Bock, B. B. (eds.). *Gender Regimes, Citizen Participation and Rural Restructuring (Research in Rural Sociology and Development, Vol. 13)*. Bingley: Emerald Group Publishing Limited, 143-165.

88

See Eurostat (2015). *Tourism industries – employment: Tourism industries prove resilient to the economic crisis and provide jobs for women and young people*. Obtained from: [ec.europa.eu/eurostat/statisticsexplained/index.php?title=Tourism\\_industries\\_-\\_employment](http://ec.europa.eu/eurostat/statisticsexplained/index.php?title=Tourism_industries_-_employment)

89

See Gidarakou, I. (1996). *Work Relationships in the Family Holding: Position and prospects of the female presence (in Greek)*, in Alexandratos, N. et al (edit.), *State and rural areas. Minutes of the 3rd Panhellenic Conference of Agricultural Economy*. Athens: Papazisi.

90

See Gidarakou, I., Kazakopoulos, L. & Koutsouris, A. (2006). Tracking empowerment and participation of young women farmers in Greece, στο Asztalos, M. I. & Bock, B. B. (eds.). *Gender Regimes, Citizen Participation and Rural Restructuring (Research in Rural Sociology and Development, Vol. 13)* as above

considered as agents of “authenticity”, and are, therefore, closer to “nature” and local traditions, which leads them towards business activities such as the agritourism co-operatives that trade in “clean” and “natural products”. On the other hand, however, they are also agents of modernity, as they operate independently and rationally within the agricultural labour market, even when they are involved in off-farm activities.

## 5.2 | WOMEN AND TOURISM IN THE MEDITERRANEAN

There are many women employed in the tourism industry. More specifically, according to data from the World Travel and Tourism Council (WTTC)<sup>91</sup>, there are 900,000 women working in tourism. In the hospitality sector, and, more specifically, hotels, women are the largest part of the labour force. However, this only applies to the number of people employed, as senior administrative positions in the sector are held by men.

According to the UN World Tourism Organisation (UNWTO), 54% of persons employed are women, while at the European Union level, women hold 56% of jobs in the sector<sup>92</sup>. However, if we examine the quality characteristics of those job, we will find that most women work in low-ranking jobs and paid 14,7% less than men<sup>93</sup>. A series of studies demonstrate that women receive unequal treatment in the tourism sector, in terms of the jobs they hold (low-ranking and part-time), their pay, the work conditions, their chances for promotion, and the internal social relationships.

Based on data from the European Institute for Gender Equality (EIGE)<sup>94</sup>, women make up on 18,5% of board members in tourism companies. According to one EIGE paper, in the hospitality sector, women hold less than 40% of all managerial and supervisory positions.

The data on Greece is similar. For example, the Board of Directors of the Greek Tourism Confederation (SETE) has 24 members, only 3 of which are women (12,5%).

Worldwide, women hold a small percentage of leadership positions, as only 23% Tourism Ministers are women. In Greece, of the 14 Ministers of Tourism that held office from 1989 until this day, only 3 have been women (18,75%). This data shows that, on a global level, some small progress has been achieved in relation to gender equality in the tourism sector; however, in Greece, this progress is a lot smaller.

Even though women represent the largest part of the labour force in tourism (54%), in MENA countries, the field is clearly male-dominated. Women make up less than 9% of the tourism labour force in Middle East.

In the Middle East and North Africa countries, the main characteristics of the tourist professions in relation to women are the following:

- Sector-specific factors that hinder women’s employment in tourism include work conditions, low pay and limited opportunities for career advancement. Other factors include sociocultural norms and gender stereotypes that play a part in defining which jobs are appropriate for women. At the same time, the absence of government policies and a suitable legal framework against discrimination hinder women’s participation in the tourism labour force.
- Women’s employment is concentrated in the hospitality sector. These are low-skill jobs that are often held by migrant workers. Like other world regions, women in the Middle East are under-represented in leadership and decision-making roles.

91 World Travel and Tourism Council, (2014). *Travel & Tourism Economic Impact 2014 Greece*. London: WTTC Publications. [www.hospitalitynet.org/file/152005348.pdf](http://www.hospitalitynet.org/file/152005348.pdf)

92 Eurostat (2015). *Tourism industries – employment: Tourism industries prove resilient to the economic crisis and provide jobs for women and young people*, as above

93 European Institute for Gender Equality. (n.d.). *Tourism – Relevance of Gender on the Policy Area*. Obtained from: [eige.europa.eu/gender-mainstreaming/policy-areas/tourism](http://eige.europa.eu/gender-mainstreaming/policy-areas/tourism)

94 Ibid.

### 5.2.1 | Women and Tourism in Greece

Women working in the tourist sector are generally mixed, and should not be represented as a uniform or non-diversified social group. They normally have different goals and experience different restrictions. The academic qualifications and professional experience of many of the employees lead them to pursue fitting jobs in terms of pay, responsibilities, skills and education. However, women who are simple workers or merely assisting in the family business do not promote their own financial interests but simply serve the economic strategies of the household.

According to a survey by the Institute of Entrepreneurship Development<sup>95</sup>, women entrepreneurs in coastal tourist destinations are mainly active in tertiary production, associated directly (rooms to let) or indirectly (restaurants, grocery shops) with tourism. The main incentives for women going into business were the identification of a business opportunity, a general desire for independence, and also practical reasons, such as family reasons or difficulty in finding other work.

According to a different survey, involving a number of Greek islands, women generally work in family-owned hotels or small, rental accommodations. Moreover, their jobs don't have well-defined work hours; in other words, they work for more than 8 hours per day and 5 days per week, for approximately 6 months every year. They usually work as receptionists, help prepare breakfast or supervise the employees. At the same time, these women also provide assistance wherever required, deal with customers and, at the same time, take care of their family and customers at the hotel.<sup>96</sup> ICAP (2016) analysed 16,773 businesses from all sectors, 3,757 of which were run by women (CEO, General Director or Manager). More than 1/5 of them are from the tourist industry, which means the percentage of women managers is higher compared to the other sectors. The 8 of the 500 largest companies in Greece that are run by women are also from the tourist sector.<sup>97</sup>

Below are some of the characteristics of the people employed in the Greek tourist industry, by gender:

- The number of women working in the sector is fairly large in direct employment, mainly at hotels and travel agencies, and very large in indirect employment.
- In tourist prefectures and regions, such as Crete, the Dodecanese and the Cyclades, we have the highest percentage of women employees.

The jobs that women hold, most often at hotels and travel agencies, are either low- or mid-level, and a small number of them advances to higher positions.

Some jobs are female-dominated, such as housekeepers and maids, as are some professions, such as tourist guides.

- In terms of percentages, women's presence in small and medium size family-owned businesses, such as retail stores, restaurants, souvenir and folk art shops etc. is very positive.<sup>98</sup>

95 Institute of Entrepreneurship Development (2007). *Women's Entrepreneurship: An exploration of the obstacles faced by women entrepreneurs and the opportunities offered for women entering into business (in Greek)*. Obtained from: [entre.gr/wp-content/uploads/2007/05/gynaikeia-epixeirimatikotiita\\_meleti.pdf](http://entre.gr/wp-content/uploads/2007/05/gynaikeia-epixeirimatikotiita_meleti.pdf)

96 See Nazou, D. (2005). *Hospitable entrepreneurs and guest customers in tourism. Domesticity as intercultural exchange (in Greek)*. Department of Social Anthropology and History, University of the Aegean.

97 See ICAP (2016). *Improving the position of Women Executives*. Obtained from: [www.icap.gr/Default.aspx?id=10532&nt=146&lang=1](http://www.icap.gr/Default.aspx?id=10532&nt=146&lang=1)

98 See Greek Tourism Confederation (SETE) (2016). *Employment in tourism and the other economy 2009-2016, based on a labour force survey (in Greek)*. Obtained from: [www.insete.gr/Portals/0/meletes/INSETE/01/2016\\_SI\\_Apasxolisi\\_TourismosOikonomia\\_09-16.pdf](http://www.insete.gr/Portals/0/meletes/INSETE/01/2016_SI_Apasxolisi_TourismosOikonomia_09-16.pdf)



### 5.3 | WOMEN AND HEALTH IN THE MEDITERRANEAN

The impact of a crisis is never gender-neutral and the COVID-19 pandemic, as a health crisis, was once more proof that scales do not tip in favour of women.

Even though men have higher COVID-19 mortality rates, women and girls are heavily impacted by the economic and social repercussions. According to a UN Women report<sup>99</sup>, women and girls are losing their livelihoods faster because they are more exposed to hard-hit economic sectors. According to UN estimates, by 2021 around 435 million women and girls will be living on less than \$1.90 a day, including 47 million pushed into poverty because of COVID-19.

Emerging data indicates that women's economic and productive life will be affected in a disproportionate and different manner than men's. On a global level, women earn less, save less, hold less secure jobs and are more likely to be part of informal economy. Women have less access to social protection and represent the majority of single-parent households. Therefore, their capacity to withstand economic shocks is lower than that of men.

The data published by the UN<sup>100</sup> in relation to the economic fallout of COVID-19 on Europe and Central Asia underline the impact of the gender gap on self-employed persons. Whereas male employment is more likely to decline in terms of hours (54% for men compared to 50% for women), women are more likely to experience the financial impact of the pandemic in terms of employment (25% for women compared to 21% for men).

In many countries, the first round of layoffs was particularly rough in the services sector, including retail trade, hospitality, and tourism, where women are over-represented. Some of the sectors that were hit harder by the pandemic are characterised by low pay and poor work conditions, including lack of basic employee benefits, such as paid sick leave and family leave. For example, the hospitality and food service sectors, where women are overrepresented, have suffered significant loss of jobs. Even though the need for care and cleaning services has increased, the COVID-19 restrictions have made it difficult to maintain the pre-pandemic work models, leading to loss of income and employment.

#### 5.3.1 | Women and Health in Greece

The public health sector will be significantly affected by the impact of climate change in Greece. Urban populations will be the most vulnerable, due to rapid population growth and temperature increase.<sup>101</sup>

This vulnerability will be seen in the direct and indirect consequences for the general population, and consequently, for women. Direct consequences are associated with temperature increase, water and air pollution, extreme weather events, and disruption of healthcare services (e.g. as seen at the peak of the COVID-19 pandemic). Indirect consequences are mainly associated with population movements and the ensuing psychological problems. A number of studies concerning the impact of air pollution on women's reproductive health and on the elderly<sup>102</sup> are particularly disconcerting.

At the same time, according to a report by the Bank of Greece Committee on Climate Change Impact<sup>103</sup>, the groups most vulnerable to climate change will be:

99 See UN Women (2020). *From insights to action: Gender equality in the wake of COVID-19*. Obtained from: [www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2020/Gender-equality-in-the-wake-of-COVID-19-en.pdf](http://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2020/Gender-equality-in-the-wake-of-COVID-19-en.pdf)

100 Information taken from the United Nations website: Obtained from: [www.un.org/](http://www.un.org/)

101 See WWF (2009). *Climate change impacts in Greece in the near future*. Obtained from: [www.bankofgreece.gr/RelatedDocuments/WWF\\_Climate\\_change\\_impacts\\_in\\_Greece\\_in\\_the\\_near\\_future.pdf](http://www.bankofgreece.gr/RelatedDocuments/WWF_Climate_change_impacts_in_Greece_in_the_near_future.pdf)

102 See Koman, P.D. et al. (2018). Examining joint effects of air pollution exposure and social determinants of health in defining "at-risk" populations under the Clean Air Act: susceptibility of pregnant women to hypertensive disorders of pregnancy. *World Med Health Policy*.

103 Bank of Greece, Committee on Climate Change Impact Assessment (CCISC), (2011). *Climate Change and Health (in Greek)*. Obtained from: [www.bankofgreece.gr/RelatedDocuments/Κλιματική%20Αλλαγή%20και%20Υγεία.pdf?mode=preview](http://www.bankofgreece.gr/RelatedDocuments/Κλιματική%20Αλλαγή%20και%20Υγεία.pdf?mode=preview)

- Seniors
- Children
- People in chronic disease monitoring
- Poor, malnourished and undernourished people, living in low-income areas with limited access to health services.

If we attempt to relate the vulnerability of the population groups with the findings on the impact of climate change, and focusing on the quantitative and quality characteristics of the female population we can note the following:

According to the most population recent census in Greece, in the 10 largest Municipalities of the country, i.e. Athens, Thessaloniki, Patra, Heraklion, Piraeus, Larisa, Volos, Peristeri, Rhodes and Ioannina, 52.5%, 54.3%, 51.3%, 51.1%, 52.2%, 50.9%, 51.4%, 51%, 49.9% and 52%, respectively, were women. In other words, only in the Municipality of Rhodes the number of men is higher than that of women<sup>104</sup>. Therefore, even considering the population ratio in urban centres, women will be impacted more than men.

In terms of the elderly and people who are vulnerable due to poverty, we note that women are again more so than men.

According to the population census (2011) women are more vulnerable than men in the over 50 age groups<sup>105</sup>. Moreover, based on the data by the General Secretariat for Equality in Greece<sup>106</sup>, the country's aging population is mostly made up of women. Taking into consideration the latest population census of the Hellenic Statistical Authority (2011), we see that the percentage of women increases as we go into older age groups, reaching 60.27% in the 80+ group.

In terms of the educational attainment, the percentage of illiterate women is high (over 2/3 of the total illiterate population), and, at the same time, the percentage of highly educated women is very low (65.30% men doctoral graduates compared to 34.70% women doctoral graduates).

In Greece, according to the Hellenic Statistical Authority figures<sup>107</sup>, the risk of poverty in 2019 was slightly higher for women (18%) compared to men (17.7%). However, the gap becomes wider in older age groups. More specifically:

- The risk of poverty for people over 65 is estimated at 13.4% for women compared to 10.9% for men.
- The risk of poverty for women over 75 is estimated at 15.4%, compared to 9.3% for men of similar age.

The data reveals that women fall into all three of the categories most vulnerable to the climate change impact. In other words, they outnumber men in cities, they make up the largest part of the elderly population, and they are particularly exposed to the risk of poverty. This situation becomes even graver, if we also take into account the high illiteracy rate among women.

### 5.3.1.2 | THE COVID-19 EXAMPLE

Viewing climate change as a stress factor, both for the health infrastructure and for the health of the general population, conclusions can be drawn by examining the

104  
Hellenic Statistical Authority (2021). *Greece in Figures (in Greek)*. GreeceInFigures\_2021Q4\_GR.pdf

105  
Hellenic Statistical Authority (2021). *Greece in Figures (in Greek)*. as above

106  
See Ministry of Interior, General Secretariat for Gender Equality (2018). *Information Bulletin*.  
Obtained from: [isotita.gr/var/uploads/ANNOUNCEMENTS/2017/Paratiritirio%20GGIF%20-%208o%20Enimerotiko%20Simeioma.pdf](https://isotita.gr/var/uploads/ANNOUNCEMENTS/2017/Paratiritirio%20GGIF%20-%208o%20Enimerotiko%20Simeioma.pdf)

107  
Hellenic Statistical Authority (2020). *Information Bulletin, Risk of Poverty: A survey on the income and living conditions of households (in Greek) (Income reference period: year 2019)*.  
Obtained from: [www.statistics.gr/documents/2018/e944c120-8160-e879-8ca6-203c8f298156](https://www.statistics.gr/documents/2018/e944c120-8160-e879-8ca6-203c8f298156)

consequences of COVID-19 on women, who were heavily impacted by the pandemic.

We note that the impact of the pandemic has been unevenly heavy on women. Based on data from the Greek Government, 51% of the cases involves women (1,265,693) and 49% involves men (1,238,180)<sup>108</sup>. At the same time, based on a recent Eurobarometer survey<sup>109</sup>, the COVID-19 pandemic has led to a 93% increase of physical and emotional violence against women in our country. The corresponding percentage for Cyprus is 83%. In Greece, more than half of the respondents have experienced a negative impact on their income, a figure significantly higher than the European average, which is 60%. The corresponding figure for Cyprus is 57%. Moreover, in Cyprus, 68% of women responded that the pandemic has had a negative impact on their work/life balance. That's the highest rate among all countries, with the EU average at 44% and Greece also ranking high on the list, standing at 59%. The COVID-19 restrictive measures, including lockdowns, have also affected women's mental health (41% at the EU level, 54% in Cyprus and 58% in Greece), as have the social distancing measures (38% at the EU level, 37% in Cyprus and 43% in Greece).

What the numbers tell us is that women have taken many of the direct and indirect shocks of the pandemic. Aside from the fact that the majority of COVID-19 cases involve women, we also observe the major problems in family and work relationships.

Climate change can affect human health, as mentioned in previous chapters, through a sequence of causes and effects. These include relatively direct impacts from risks such as heatwaves and floods, and natural resource depletion, and indirect impacts caused by ecosystem disruption, spread of infectious diseases and/or population movements. Women's position and the multiple roles they perform in modern societies leave them particularly vulnerable and underline the need for women to actively be involved in decisions and policies related to climate change adaptation.

#### 5.4 | WOMEN'S EMPOWERMENT SUSTAINABLE DEVELOPMENT GOAL 5 IN THE MEDITERRANEAN AND GOOD PRACTICES OF SUSTAINABLE ENTREPRENEURSHIP IN THE MEDITERRANEAN

In September 2015, the United Nations General Assembly (UNGA) adopted the 2030 Agenda, which includes the 17 Sustainable Development Goals and aims at achieving sustainable development by 2030<sup>110</sup>. The key feature of these goals is that they are complementary to each other, and attainment of one goal has a positive impact on the others. Among them, Goal 5 is about Gender Equality and Goal 13 about Climate Action.

The requirements for meeting Goal 13 create new opportunities for Goal 5 and women's empowerment, centred around green jobs and green entrepreneurship. Based on practical experience, women's economic independence allows them to weigh in on and ultimately make the decisions related to their financial resources and gives them access to funds for investments<sup>111</sup>. At the same time, women limit the environmental impact, actively contributing to the fight against climate change.

In the Mediterranean region, women in North Africa are found in the most disadvantageous position. Despite all the progress that has been achieved towards empowerment, women still have a lot of ground to cover compared to countries in Latin America and, of course, Europe. The main problem in these countries comes from traditions and patriarchal systems, which, even if not enforced uniformly across

108 Greek Government (2022). *Update on the evolution of COVID-19 in Greece (in Greek)*. Obtained from: [covid19.gov.gr/covid19-live-analytics/](https://covid19.gov.gr/covid19-live-analytics/)

109 Eurobarometer (2022, January-March). *Women in times of COVID-19*. Obtained from: [europa.eu/eurobarometer/surveys/detail/2712](https://europa.eu/eurobarometer/surveys/detail/2712)

110 Sustainable development, as defined by the UN Conference on Environment and Development held in Rio in 1992, is a global phenomenon, composed by three pillars: environment, society, and economy, which are interconnected, interdependent and nonhierarchical. See Tsaltas, G. I. (2010). *Development Phenomenon and Third World (in Greek)*. Athens: Papazisi, 244-248.

111 Quagliariello, R., & Ciannamea, C. (2016). Building resilience of Mediterranean rural communities through the empowerment of women. *CIHEAM Watch Letter*, 36, 2. [vmcorporate.iamm.fr/uploads/attachments/300/020\\_Quagliariello.pdf](https://vmcorporate.iamm.fr/uploads/attachments/300/020_Quagliariello.pdf)

all regions, pose great obstacles to women's empowerment, ignoring the important role that women play in poor regions and activities such as irrigation, farming and water transport – also taking into account that climate change makes water even more difficult to reach.

However, in the European countries of the Mediterranean region, too, gender equality is often only on paper, especially in the workplace. The tourist sector, which is largely male-dominated, provides valuable insights on this. Specific domains, such as tourist accommodations, are the exception to the rule, as women are the majority there<sup>112</sup>. However, in this case too, very few women hold leadership positions and therefore have the ability to shape and develop policies.

In this context, governments, international organisations, NGOs, institutions and private bodies have carried out a number of programmes, on a local, national and regional level, with the aim of fighting unemployment by creating new jobs and promoting women's entrepreneurship, and so asserting women's rights and position in society.

Women's empowerment in the MENA countries is supported by European organisations through regional collaborations. The case of GIZ is a good example. GIZ, in tandem with existing projects in Morocco, Libya, Tunisia and Jordan, and through different economic integration programmes, is promoting women-friendly policies. Another example is DAI, which aims to facilitate women's access to markets, through pilot microfinancing programmes<sup>113</sup>. Such actions include many economic domains, such as agriculture and tourism, and aim at introducing sustainable practices and green jobs, based on policies of adaptation, greenhouse gas emission reduction and waste minimisation.

The case of Lemnos in Greece and Menorca in Spain serve to provide similar examples in Europe. In those islands, MAVA Partners is working with farmers to promote the use of sustainable management practices (for the case of Lemnos) and to help preserve ecological values and traditional practices (for the case of Menorca)<sup>114</sup>. Particularly in Lemnos, this project complements government efforts to promote women's entrepreneurship through programmes for reducing inequalities and corresponding initiatives. The data on this is limited and does not permit a precise assessment of the impact this specific state intervention has on the area. However, supporting such initiatives, through funding and the implementation of training programmes for the educational sector will have a positive long-term effect on workforce productivity, also enhancing women's decision-making skills.

Moreover, information programmes on new initiatives are also very helpful. One such example is the SwitchMed Programme, which aims to support women's business initiatives and strengthen their training, networking and financing skills<sup>115</sup>. The Programme also works with pilot projects, so as to create new jobs, on the one hand, and promote the adoption of environmental protection measures, on the other hand. Moreover, SwitchMed's platform helps women from Mediterranean countries share their success stories, which can become models for promoting women's economic empowerment and ingenuity. This is particularly important, as the promotion of role-models can foster decision-making and potentially lead to innovative initiatives and business ideas.

112 Menegaki, A., Agiomirgianakis, G. & Arvanitaki, E. (2019). The Tourism Sector in Greece: A Sociological Perspective and Review. *Tourismos*, 14(1), 68. Obtained from: [tourismosjournal.aegean.gr/article/view/562](http://tourismosjournal.aegean.gr/article/view/562)

113 European Committee of Regions. (2017). *Women's Empowerment in the Mediterranean Region*. European Union, 22. Obtained from: [cor.europa.eu/en/engage/studies/Documents/Women%E2%80%99s%20Empowerment.pdf](http://cor.europa.eu/en/engage/studies/Documents/Women%E2%80%99s%20Empowerment.pdf)

114 Sabater, L. (2020). *Gender, culture, and sustainability in the Mediterranean. Cultural landscapes and biodiversity in the Mediterranean Basin*. Washington, DC: IUCN, 13-14. Obtained from: [portals.iucn.org/library/sites/library/files/documents/2020-038-En.pdf](http://portals.iucn.org/library/sites/library/files/documents/2020-038-En.pdf)

115 UNEP (2020). *Celebrating women's contributions to a healthy Mediterranean. Women at the helm of green entrepreneurship in the Mediterranean*. Obtained from: [www.unep.org/unepmap/news/news/celebrating-womens-contributions-healthy-mediterranean](http://www.unep.org/unepmap/news/news/celebrating-womens-contributions-healthy-mediterranean)



## 5.5 | CONCLUSIONS

We note that the serious lack of updated and comparative information in relation to women's participation and contribution in the agricultural, tourism and health sector, makes it difficult to quantify the important role that women perform in these three areas. In the agricultural sector, women's role is particularly prominent, due to the multiple activities they undertake within and outside the household and farm. In tourism, the lack of representation, especially in leadership positions, is quite evident. On the other hand, women's involvement in soft business activities demonstrates the ease by which women can meet the requirements of sustainable tourism. In the health sector, it is obvious that women are more heavily impacted on an economic and social level. At the same time, as seen during the COVID-19 health crisis, women carry a disproportionate burden. The managerial and supportive roles that women fulfil in these three sectors are found particularly important in terms of climate change adaptation.

## CHAPTER 6

## The Integration of the Gender Dimension and Women's Participation as Agents of Change for the Climate Issue

The Bali Conference in 2007 was pivotal for gender equality and relation to tackling climate change. The Conference adopted the Bali Road Map, which integrated the gender dimension in climate politics, associating climate justice with gender justices. The priorities of the Nairobi Forward-Looking Strategies for the Advancement of Women, from the Nairobi Conference held in 2006, which, *inter alia*, mandate that women's rights to land be secured to ensure they have access to land and other productive resources that they need, as a means to promote climate change mitigation and adaptation<sup>116</sup>. Moreover, the Forward-Looking Strategies favour women's participation in decision-making processes and promote research on science and technology, so that developments have a positive impact on women. They stress the fact that women's participation in the energy sector ensure their needs are taken into account in energy planning. Lastly, the Paris Agreement put the emphasis on adaptation policies, the implementation of which require women's participation.

This development constitutes significant progress towards climate justice – a prerequisite of which is gender equality – with fair division of the benefits derived from measures for combating climate change and safeguarding the rights of vulnerable groups. Women, especially in rural areas, have experience in managing natural resources, whereas in urban centres, household management means they have the ability to influence and shape mitigation and adaptation policies on a local scale.

It is therefore clear that integrating the gender dimension in climate politics is a priority, as it will enhance the level of commitment required for implementing said politics, while also asserting women's rights and upgrading their role. However, this has not been achieved to the desired level, which means that gender mainstreaming efforts must be intensified. What is needed is a national plan for women's empowerment, with the assistance of governments, NGOs, international and local organisations<sup>117</sup>.

### 6.1 | EMPHASIS ON ADAPTATION, DIGITAL TRANSITION AND WORK. PARTICIPATION IN DECISION-MAKING CENTRES AND FUNDING

In spite of the efforts for combating climate change, it is now clear that we are already dealing with the consequences; extreme weather events, long periods of drought, sea level rise and biodiversity loss make the adaptation pillar into a priority. Therefore, it is necessary to adopt measures for addressing the impact of climate change and protecting people from the dangerous fallout.

According to the IPCC, adaptation is the “initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects.”<sup>118</sup> Therefore, designing these measures must take into account the vulnerable groups, the exposure of which the measures are attempting to limit.

116 See Kameri-Mbote, P. (2013). *Climate Change and Gender Justice: International Policy and Legal Responses*, στο Ruppel, O. C., Roschmann, C. & Ruppel-Schlichting, K. (eds.), *Climate Change: International Law and Global Governance*. Vol. I: *Legal Responses and Global Responsibility*, Baden-Baden: Nomos, 323-348.

117 See Alston, M. (2014). *Gender Mainstreaming and Climate Change*. *Oxford Research Encyclopedia of Natural Hazard Science*, 12-13.

118 See Rodenberg, B. (2009). *Climate Change Adaptation from a Gender Perspective*. *DIE Research Project Climate Change and Development*, Bonn, 8. Obtained from: [refubium.fu-berlin.de/bitstream/handle/fub188/16126/Internetfassung\\_DiscPaper\\_24.2009\\_Rodenberg\\_engl.pdf;jsessionid=7340195692AF3FBEADF8B6FAEE852C68?sequence=1](https://refubium.fu-berlin.de/bitstream/handle/fub188/16126/Internetfassung_DiscPaper_24.2009_Rodenberg_engl.pdf;jsessionid=7340195692AF3FBEADF8B6FAEE852C68?sequence=1)

Adaptation policies must be based on both genders, without exclusions. If women are not consulted or included in action-planning, the measures taken might be insufficient<sup>119</sup>. This will only intensify women's vulnerability to the climate change impact and exclude a critical factor from the action.

Women's experience in handling natural resources and their capacity to manage household needs makes their participation key for achieving more fair and effective policies in the fight against climate change.

The existence of participatory methods for community consultation makes women a true agent of change and leads to breaking down stereotypes about their knowledge and ability to contribute.

The digital transition we are going through these days is an important factor for implementing mitigation and adaptation policies. The integration of digital technologies in our daily lives points the way forward in designing measures to tackle climate change and monitoring their effectiveness. Owing to interconnection and smart technologies, accessing and sharing information has become easier even for the most vulnerable population groups. Women using these capabilities contributes to the introduction of sustainable practices, especially in natural resource management, leads to a reduction of their workload from mitigation and adaptation activities, and, therefore limits their exposure to the phenomenon.

Rapid technological advances have created a raise in demand for tech sciences, and especially Information and Communications Technology (Data Science, AI, Machine Learning), which is a useful ally for preventing climate change impact, monitoring policy implementation and promoting adaptation through smart systems for the sustainable use of natural resources. According to estimates, women are less interested in working in the ICT sector.<sup>120</sup> This has a negative impact on their contribution to the fight against climate change, as they fail to take on the new green jobs that are being created and, consequently, are not able to integrate their needs into a significant range of actions. Therefore, it is necessary to increase awareness about the importance of using new technologies and provide incentives for women's employment in ICT.

What is more, green jobs also involve a wide range of specialties in the sectors of tourism, farming and energy. Which means there is also a requirement for corresponding training and skills development, also using technology transfer, for women to be able to thrive in the new conditions. And all of that must take place within a frame of maintaining social cohesion and profiting equally from professional opportunities.

In this new environment, women's education and training will promote innovation, especially in the development of early warning systems for natural disasters. In fact, experience has shown that communities fare better during natural disaster when women play a leadership role in natural disaster management<sup>121</sup>.

In any case, the increase in women's participation as representatives in international climate negotiations and generally in organisations and decision-making bodies is a positive development of recent years. This way women are able to have their needs taken into account in the final decisions. In fact, their participation in high decision-making levels, despite their under-representation, has also been deemed positive in critical efforts regarding climate change, such as the adoption of the Kyoto Protocol. Women's organisations on a national and international level also aim at increasing women's participation, in the context of incorporating gender equality in climate policy decisions. The different impact of climate change on women, if reflected in decision-making processes, may have a positive effect on im-

119 See UNDP (2010). *Gender, Climate Change and Community-Based Adaptation*, New York.

120 The European Commission study "Women in Digital Age" (2018) revealed that for every 1,000 women female tertiary graduates, only 24 are employed in relevant sectors and only 6 work in digital jobs. See Gomar, V. (2021, September 17). Women In Climate: An Opportunity to Bridge the Tech Gender Gap and accelerate the Green Transition. *Women's Forum for the Economy and Society*. Obtained from: [www.womens-forum.com/2021/09/17/women-in-climate-an-opportunity-to-bridge-the-tech-gender-gap-and-accelerate-the-green-transition/](http://www.womens-forum.com/2021/09/17/women-in-climate-an-opportunity-to-bridge-the-tech-gender-gap-and-accelerate-the-green-transition/)

121 See International Labour Organization. (2009). *Green jobs: Improving the climate for gender equality too!*, 1-8, [www.ilo.org/wcmsp5/groups/public/-dgreports/-gender/documents/publication/wcms\\_101505.pdf](http://www.ilo.org/wcmsp5/groups/public/-dgreports/-gender/documents/publication/wcms_101505.pdf)

proving the protection and management of common resources.<sup>122</sup>

Moreover, a bottom-up approach in decision adoption and implementation mandates women's participation, especially in sectors such as farming, where women's local knowledge and practical experience, combined with the corresponding male expertise, may lead to effective policies, which will also enjoy the necessary acceptance and commitment for implementation.

In addition, it has been observed that women's participation in decision making leads to improvements in health, life expectancy, diet and access to water through the realisation of public investments<sup>123</sup>. This stems from their increased interest in and sensitivity towards the social and environmental issues that should dictate climate policies, and which issues women can actively help integrate into the environmental policy agenda.

In terms of climate policy, gender mainstreaming depends on funding to a great extent. Funding allocation must be socially fair, aiming not only at combating the impact of climate change, but also at addressing gender inequalities. This will be the catalyst in women's empowerment and ability to effectively contribute to climate action, moving past their perfunctory, and lacking any real influence, participation in decision-making bodies.

Nonetheless, existing funding, from public and private resources, is small and inadequate, given the size and impact of climate change. According to a Bank of Greece report, the cost of adaptation measures in Greece until 2100 stands at close to 570 billion euro, whereas the cost of not adopting any measures might be as high as 700 billion euro<sup>124</sup>. This projection reveals, on the one hand, the significant national and international efforts required to fund climate change policies, and, on the other hand, the urgency of securing the necessary funds and proceeding to implement adaptation policies.

Despite the difficulty of this exercise, it would be useful to establish criteria for allocating the funds, also taking into consideration women's needs. The prevailing trend is to promote project funding without quality criteria and benefits for the most vulnerable populations, focusing on quantitative targets and the evaluation of the geographic characteristics and infrastructures of affected territories. Women are an important vulnerable group which should be targeted by adaptation projects, through participatory procedures on a local level, where both genders are equally represented<sup>125</sup>.

## 6.2 | EQUAL REPRESENTATION AND PARTICIPATION

In 1992, the United Nations Conference on Environment and Development (UNCED, byname Earth Summit) recognised the full and equal participation of women in issues and decision-making in the environment sector as a fundamental requirement for sustainable development. Agenda 21 is one of the first documents associated with a UN convention, which includes a systematic reference (Chapter 24) to women's position and roles. Chapter 24 of Agenda 21 proposes to governments to:

- i. Ensure women's participation in national ecosystem management and control of environmental degradation.

122

See Ergas, C., et al. (2021). Does Gender Climate Influence Climate Change? The Multidimensionality of Gender Equality and its Countervailing Effects on the Carbon Intensity of Well-Being. *Sustainability*, 13(7), 3956, 6-7.

123

See Ergas, et al. (2021), Does Gender Climate Influence Climate Change? The Multidimensionality of Gender Equality and its Countervailing Effects on the Carbon Intensity of Well-Being, as above, 5.

124

The study covers the period 2011-2100. See Climate Change Impacts Study Committee (2011). *The Environmental, Economic and Social Impact of Climate Change on Greece (in Greek)*. Bank of Greece, 425-426. Obtained from: [www.bankofgreece.gr/Publications/Πλῆθος\\_Εκθεση.pdf?mode=preview](http://www.bankofgreece.gr/Publications/Πλῆθος_Εκθεση.pdf?mode=preview)

125

See Röhr, U. (2007, August). Gender, Climate Change and Adaptation. Introduction to the Gender Dimensions. Background Paper prepared for the Both Ends Briefing Paper. "Adapting to climate change: How local experiences can shape the debate", as above



- ii. Increase the proportion of women decision makers, planners, technical advisers, managers and extension workers in environment and development fields.
- iii. Consider developing and issuing a strategy of changes necessary to eliminate constitutional, legal, administrative, cultural, behavioural, social and economic obstacles to women's full participation in sustainable development.
- iv. Take measures to review policies and establish plans to increase the proportion of women involved as decision makers, planners, managers, scientists and technical advisers in the design, development and implementation of policies and programmes for sustainable development.

During the 2000s, and following the Earth Summit, a number of conferences were held on sustainable development. In 2002, the World Summit on Sustainable Development (WSSD)<sup>126</sup> was held in Johannesburg, while 10 years the United Nations Conference on Sustainable Development (UNCSD) or Rio+20 was organised. All these conferences stresses the importance of promoting and guaranteeing women's participation<sup>127</sup>.

The year 1995 was another milestone, marked by the signing of the Beijing Declaration and Platform for Action, which was the outcome of the Fourth World Conference on Women. The fourth chapter of the Beijing Platform for Action includes strategic objective K, on women and the environment. In the context of this objective, governments are urged to: *Integrate women, including indigenous women, their perspectives and knowledge, on an equal basis with men, in decision-making regarding sustainable resource management and the development of policies and programmes for sustainable development, including in particular those designed to address and prevent environmental degradation of the land* and to *develop a strategy for change to eliminate all obstacles to women's full and equal participation in sustainable development and equal access to and control over resources.*<sup>128</sup>

Until 2000, the objective of the Millennium Declaration and Millennium Development Goals was *"to promote gender equality and the empowerment of women as effective ways to combat poverty, hunger, disease and to stimulate development that is truly sustainable."* In 2005, the United Nations World Conference on Disaster Risk Reduction<sup>129</sup> (WCDRR) approved the Hyogo Framework for Action (HFA), which was updated during the Third UN World Conference on Disaster Risk Reduction, held in Sendai, Japan. Sendai Framework for Disaster Risk Reduction 2015-2030 stipulates, inter alia, that *"disaster risk reduction requires an all-of-society engagement and partnership"*, and proposes that *"gender, age, disability and cultural perspective should be integrated in all policies and practices, and women and youth leadership should be promoted."* A decade later, the UN Agenda 2030 and Sustainable Development Goals<sup>130</sup>, further underlined the importance of women's participation in the efforts to end poverty, protect the planet and promote peace and well-being by 2030.

The United Nations High-level Political Forum on Sustainable Development (HLPF) SDG Report 2019 confirms all of the above in relation to the progress achieved. The Report notes that climate change and gender equality are two crucial issues and observes that *"the compounded effects will be catastrophic and irreversible: increasing ocean acidification, coastal erosion, extreme weather conditions, the frequency and severity of natural disasters, continuing land degradation, loss of vital species and the*

126

The report referenced the need for taking action to *"enhance the participation of women in all aspects and at all levels relating to sustainable agriculture and food security."* See UNFCCC (2002). Report of the World Summit on Sustainable Development. Obtained from: [www.unfccc.int](http://www.unfccc.int) (Accessed on: 2 March 2022).

127

See Alam, M., Bhatia, R. & Mawby, B. (2015). Women and Climate Change. Impact and Agency in Human Rights, Security and Economic Development, *Georgetown Institute for Women, Peace and Security*, 16-20.

128

See UN (1995). Beijing Declaration and Platform for Action, *op. n.*, 158.

129

Hereinbelow: DRR

130

Hereinbelow: SDG

collapse of ecosystems. These effects, which will render many parts of the globe uninhabitable, will affect the poor the most. They will put food production at risk, leading to widespread food shortages and hunger, and will potentially displace up to 140 million people by 2050”<sup>131</sup>.

Further to the aforementioned agreements, there is also the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), which was signed in New York in 1979, and was the first international constitutional charter on women’s rights. Despite the fact that CEDAW does not include specific references to the sector, Article 14 specifies that States Parties “shall take into account the particular problems faced by rural women and the significant roles which rural women play in the economic survival of their families [...] and shall take all appropriate measures to ensure the application of the provisions of the present Convention to women in rural areas,” and continues to state that Parties “shall take all appropriate measures to eliminate discrimination against women in rural areas in order to ensure, on a basis of equality of men and women, that they participate in and benefit from rural development.”<sup>132</sup>

Until the mid 2000s, these international commitments and agreements were essential for integrating women’s rights to full and equal participation in the policies and plans for action related to the three Rio Conventions: the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification<sup>133</sup> (UNCCD), and the United Nations Framework Convention on Climate Change (UNFCCC), as well as the Ramsar Convention<sup>134</sup>, and the Basel<sup>135</sup>, Rotterdam<sup>136</sup> and Stockholm<sup>137</sup> Conventions. (Basel, Rotterdam, and Stockholm Conventions).

### 6.3 | FUNDING

Most multilateral public mechanisms involved in climate change funding, until recently, were not tasked with issues touching on gender equality and women’s empowerment or had not given proper attention to gender mainstreaming. However, in recent years, many of these mechanisms have made significant efforts and substantial progress in terms of gender mainstreaming with regard to policies, programmes and benefits.

Now, for the first time, all major financing mechanisms involved in climate change are also tasked with formulating gender policies or action plans. This is an important step forward, serving as a guideline for the future of funding strategies on climate change. The integration of gender equality principles promotes the value of equal division and fair access to resources without exclusions. However, the challenge remains to ensure that gender policies are followed and implemented by financing mechanisms on a national and regional level.<sup>138</sup>

131 See Schlenzka, N. (2020). Women in Poverty. Breaking the Cycle. A Discussion Paper. *Equinet*, Brussels, 22-29.

132 See UN (1979). Convention on the Elimination of All Forms of Discrimination against Women New York. Obtained from: [www.ohchr.org](http://www.ohchr.org) (Accessed on: 2 March 2022).

133 According to Article 5 of the Convention, the parties are obligated to “promote awareness and facilitate the participation of local populations, particularly women and youth, with the support of nongovernmental organizations, in efforts to combat desertification and mitigate the effects of drought.” See UN (1994). United Nations Convention to Combat Desertification. Obtained from: [www.unccd.int](http://www.unccd.int) (Accessed on: 2 March 2022).

134 The “Convention on Wetlands of International Importance Especially as Waterfowl Habitat” is an intergovernmental treaty that was adopted in 2 February 1971 in Ramsar, Iran. It entered into force on 21 December 1975 and has come to be known as the Ramsar Convention.

135 Adopted on 22 March 1989 and entered into force on 5 May 1992.

136 Adopted on 10 March 1998 and entered into force on 24 February 2004.

137 Adopted on 22 May 2001 and entered into force on 17 May 2004.

138 See Aguilar Revero, L. (2021). *La Igualdad de Género Ante el Cambio Climático. ¿Qué Pueden Hacer los Mecanismos para el Adelanto de las Mujeres de América Latina y el Caribe?*. Comisión Económica para América Latina y el Caribe (CEPAL), 26-33.

## CHAPTER 7

## Conclusions – Afterword

This study attempts to highlight the connection of two – fundamentally – critical issues of concern for the academic community, the civil society and the state, on a local, regional, national and international level. The relationship between inequalities and climate change has been a key area of focus for scientific research, leading to important realisations which, in turn, became the basis for political actions and measures, with varying degrees of success.

In this paper, our research team analysed the concepts of climate change and gender equality, not as two parallel notions and phenomena, but in light of their relationship, as documented in international literature, and then focusing on our neighbourhood, the Mediterranean and Greece.

Climate change is already evident on our planet, with grave consequences that interact with each other, as we have already seen; deforestation, land erosion and desertification, uncontrollable wildfires, floods, loss of animal life, public health risks, and infrastructure downgrade or distraction, with significant social and economic costs.

The detailed bibliographic analysis captured the major impact of climate change on women, mainly, but not just, in poorer countries. If we attempt to examine the parameter of poverty, we find that the poorer countries, the residents of which, ironically, have the lowest greenhouse gas emissions per capita, are more heavily impacted by climate change<sup>139</sup>.

The poorest areas of the more developed countries are similarly impacted by climate change, as are populations living in deprived areas and regions<sup>140</sup>. As we know, women are heavily impacted by poverty and social exclusion and are, therefore, more vulnerable to climate change and its aftermath (see Chapter 1, 2).

Taking one step further, we have found that natural disasters affect women more and differently. This does not mean that men are not affected or that all women are worse off than men in terms of their vulnerability to the environmental situation caused by disasters<sup>141</sup>. However, women, unfortunately, are up to 14 times more likely to die when natural disasters strike. More specifically, women, children, and especially elderly women have higher death rates than elderly men. Examples of this are the European heat waves in 2003, when more women than men died, and the cyclones in Bangladesh in 1991 and 2007, when the number of women killed was much higher than men (*what is encouraging to note is that this correlation becomes weaker where men and women are more equal*).

Our research found that women are more isolated, i.e. they lack access to emergency information sources or preparedness programmes taught in schools, foundations etc.

The literature review, the papers and the research reveal a clearly noticeable and persistent gap between genders<sup>142</sup> with regard to climate change and its impact<sup>143</sup>.

Another important finding is that women are more concerned about the effects of climate change and more involved in movements and actions, in contrast to men. In fact, we have noted that especially on a local and regional level, women are much

139 Cutter, S. L., Boruff, B. J. & Shirley, W. L. (2003). Social vulnerability to environmental hazards. *Social Science Quarterly*, 84, 242–261.

140 Enarson, E. (2000, September). *Gender and natural disasters, In focus program on crisis response and reconstruction*, Working Paper 1.

141 Sarathi De, P. (2010). Culture Sensitivity and Gender Specificity in Disaster Scenario, *oro Dasgupta, S., Siriner, I. & Sarathi De, P. (eds.). Women's Encounter with Disaster*. London: Frontpage, 90.

142 Kahan, D. M. et al. (2007). Culture and identity-protective cognition: Explaining the white-male effect in risk perception. *Journal of Empirical Legal Studies*, 4, 465–505.

143 Arnocky, S. & Stroink, M. L. (2011). Gender differences in environmental concern and cooperation: The mediating role of emotional empathy. *Current Research in Social Psychology*, 16, 1–14.

more sensitive to the impact of climate change on public health, and more determined to take action<sup>144</sup>. It seems that in developed countries, too, (e.g. USA, Canada, Great Britain, Italy) women are more likely to mobilise and take action compared to men, advocating that large changes must be made to our daily lives<sup>145</sup> in order to mitigate the impact of climate change.

According to a Gallup study from 2001-2008 (McCright, 2010)<sup>146</sup>, women are more aware and knowledgeable on climate change issues (search interest etc.) but unfortunately, because of common stereotypes, they underrate themselves and their actions to combat climate change, thinking their are less recognised or effective than men.

A consequence of this and of the general under-representation of women in decision-making centres is women's unequal access to climate policy-making<sup>147</sup>.

Therefore, our goal, among other things, should be to increase women's representation in the environmental policy sector and to overcome the social, political and cultural barriers in order to promote and achieve their equal participation. Based on a comparison involving 130 countries<sup>148</sup>, increased representation of women in national parliaments was associated with higher environmental treaty ratification and political support for pro-environmental policies, in relation to national parliaments with less women.

Lastly, the influence of the feminist perspective in the fight against climate change is also of great interest. Awareness of gender inequalities and commitment to the ideals of equality<sup>149</sup> (hence, a feminist consciousness) is associated to increased support for environmental issues, both between men and women.

Our report continues with a geographical analysis, focusing on the Mediterranean and Greece. Unfortunately, the environmental burden for the Mediterranean basin is especially high, as confirmed by the First Mediterranean Assessment Report (February 2021), which has been composed by almost 190 scientists from 25 countries<sup>150</sup>.

The geographic and environmental characteristics of the Mediterranean basin "favour" degradation and loss of biodiversity, pollution and increased climate burden, causing serious and possibly irreversible damage to the ecosystem and public health.

More specifically, based on our findings from the analysis carried out in Chapters 4 and 5, we note the following:

- a) The temperature in the Mediterranean region is increasing 20% faster compared to the global average. As a result, heat waves will become more intense, more frequent and longer. In the summer of 2021, we had a taste of those extended heat waves and their consequences, with wildfires being one of them. Such consequences are particularly damaging when the relevant infrastructures and prevention and response measures are not adequately updated.
- b) Water reserves are decreasing dramatically. It is projected that 250 million people will be characterised as "water poor", as they will not have access to water resources and will be facing significant water scarcity and exposure to unclean water.
- c) Another point of concern is high population increase, migration, and refugee flows from other areas and due to internal migration, which is made worse by climate change and its impact.

144 Xiao, C. & McCright, A. M. (2012). Explaining gender differences in concern about environmental problems in the United States. *Society & Natural Resources*, 25, 1067-1084.

145 Stokes, B., Wike, R., & Carle, J. (2015). *Global concern about climate change, broad support for limiting emissions*. Pew Research Center. Obtained from: [www.pewglobal.org/files/2015/11/Pew-Research-Center-Climate-Change-Report-FINAL-November-5-2015.pdf](http://www.pewglobal.org/files/2015/11/Pew-Research-Center-Climate-Change-Report-FINAL-November-5-2015.pdf)

146 McCright, A. M. (2010). The effects of gender on climate change knowledge and concern in the American public. *Population and Environment*, 32, 66-87.

147 Scannell, L. & Gifford, R. (2013). Personally relevant climate change the role of place attachment and local versus global message framing in engagement. *Environment and Behavior*, 45, 60-85.

148 Goldsmith, R. E., Feygina, I. & Jost, J. T. (2013). The gender gap in environmental attitudes: A system justification perspective, στο Alston, M. & Whittenbury, K. (eds.). *Research, action, and policy: Addressing the gendered impacts of climate change*. Dordrecht: Springer, 159-171.

149 Conover, P. J. & Sapiro, V. (1993). Gender, feminist consciousness, and war. *American Journal of Political Science*, 37, 1079-1099.

150 [www.europarl.europa.eu/doceo/document/A-8-2016-0066\\_EL.html](http://www.europarl.europa.eu/doceo/document/A-8-2016-0066_EL.html)

As already noted, women are more vulnerable to climate change, and this is confirmed both in the Mediterranean region and Greece (Chapter 4, 5). Therefore, we conclude that urban areas will be more heavily impacted and, unfortunately, these areas are unprepared for extreme weather events. Consequently, city dwellers, and particularly women, will be more vulnerable.

Nevertheless, rural areas will not remain unaffected. The environmental burden on the Mediterranean region will also impact agricultural production, due to droughts or floods, and therefore an inability to cultivate the land. As a result, crop and animal farmers and will be driven to unemployment. Due to the fact that most farm workers are women, who often work without pay or insurance, women will experience even more poverty and exclusion from subsidies or opportunities to change work in the event of climate/environmental disasters (floods, loss of crop etc.).

Nonetheless, as we have already noted, women must become visible and be part of the solution. It has been established that women in leadership positions formulate and improve climate policies more frequently than men. It is, therefore, time for policy makers, the state, local governments, private individuals, and investors to realise that women can serve as a huge force of change, leading their communities and the world towards a more sustainable future.

When women are authorised to actively participate in the redesign process following disasters and emergencies, they prove to be a unique source of knowledge and skills, helping communities to recover faster and more effectively<sup>151</sup>.

The “gender dimension” of climate change and its consequences is important not only for those who are interested in making the world better for women, but to anyone who is interested in safeguarding peace, strong alliances, protection of all vulnerable populations, social justice, democracy, and climate adaptation.

151 Kellstedt, P. M., Zahran, S., & Vedlitz, A. (2008). Personal efficacy, the information environment, and attitudes toward global warming and climate change in the United States. *Risk Analysis*, 28, 113–126.

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