



Universitat d'Alacant
Universidad de Alicante

Facultat de Dret
Facultad de Derecho

LAW FACULTY

DEGREE IN INTERNATIONAL RELATIONS

END OF DEGREE THESIS

ACADEMIC YEAR [2022-2023]

TITLE:

**CLIMATE CHANGE ON RURAL WOMEN IN EAST AFRICA:
ANALYSIS OF CONSEQUENCES AND RECOMMENDATIONS
FROM A GENDERED APPROACH**

AUTHOR:

ANDREA HERNÁNDEZ MARTÍNEZ

ACADEMIC TUTOR:

DR. D. SAMUEL ORTIZ PÉREZ

SUMMARY: Climate change affects people and regions differently. The East Africa region is one of the most affected by the changes in the climate. There, women, especially the most marginalised and disadvantaged, are the most impacted, in many ways. Despite being the most heavily burdened, rural women are underrepresented and overlooked in tackling weather change. This can be changed by adopting a gender perspective that empowers women. This would allow them to improve their lives exponentially and to become key actors in mitigating and adapting to climate change effectively.

KEY WORDS: Rural women, East Africa, climate change, vulnerability, gender equality, women empowerment

INDEX

1. INTRODUCTION.....	3
2. JUSTIFICATION.....	3
3. OBJECTIVES	5
4. METHODOLOGY.....	5
5. THEORETICAL FRAMEWORK	6
5.1 CLIMATE CHANGE AFFECTS REGIONS DIFFERENTLY	6
5.2 CLIMATE CHANGE FROM A GENDERED APPROACH	10
5.2.1 LIVELIHOODS.....	10
5.2.2 HEALTH	16
5.2.3 SECURITY.....	21
6. RESULTS.....	27
6.1 RECOMMENDATIONS	27
7. CONCLUSIONS.....	35
BIBLIOGRAPHY	37

1. INTRODUCTION

Climate change is one of the greatest global challenges of the twenty-first century. Its impacts vary among regions, generations, age, classes, income groups, and gender (Osman-Elasha, 2021). Therefore, it is known that its effects and consequences disproportionately affect women and girls, especially those who live in developing countries and in precarious contexts.

The vulnerability that women suffer can be explained by socio-cultural, economic-financial and political reasons, that harm the collective humanity as well as the whole environment and wildlife. In this investigation, it will be analysed how rural women are differentially affected by climate change, mainly in the East African region, through a review of regional and international literature. Based on the information and data obtained and analysed, a series of general recommendations to address and improve the situation rural women face will be included, emphasising the need to implement a gender perspective in all areas addressed in order to reduce gender inequality and combat climate change more effectively.

2. JUSTIFICATION

Many authors, such as Case (2006) indicates that “*one region of the world where the effects of climate change are being felt particularly hard is Africa*”, due to the low economic, development, and institutional capacity that African countries have.

Africa is a vast continent with different regions, which will be affected by climate change in different ways. This research will show that Sub-Saharan Africa, and more specifically the East African sub-region, is one of the areas most at risk and affected by climate change, due to climatic factors intrinsic to the territory, as well as historical, economic, and socio-cultural external factors. For this investigation, the East African region included countries such as Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, Sudan, South Sudan, Tanzania, and Uganda.



Figure 1: Map of East Africa countries. Source MapChart

In this region there are different climates and diverse landscapes, such as savannah, desert, mountains, snow-capped mountains, lakes, rivers, beaches, jungle, among others. Geographical highlights include Mount Kilimanjaro and Mount Kenya, the two highest peaks in Africa, the second largest freshwater lake in the world, Lake Victoria, and the second deepest lake in the world, Lake Tanganyika.

Moreover, in terms of population groups, those who live in rural and vulnerable areas and depend more directly on the environment are and will be much more affected by the various changes in the environment. Furthermore, with respect to gender, women are much more vulnerable in different aspects, which ultimately impacts on their ability to survive and adapt to climate change and its various and multiple effects, as it will be analysed.

On the other hand, COPs 26 and 27 will be briefly analysed from a gender approach, as they are the two most recent ones. COP26 took place in Glasgow, Scotland during November 2021. COP27, was held in Sharm El-Sheikh, Egypt during November 2022. More focus would be put on COP27, as it was the last one carried out until the date.

In this work, the most relevant information on the particular impact on rural women in the area that each document deals with have been rescued and put together, complemented by additional data and information from other sources.

3. OBJECTIVES

The overall objective of this paper is to review existing literature to analyse how rural African women are impacted by climate change, to defend the idea that women are more affected by the climate crisis, they are essential to tackle it, when creating and implementing measures to mitigate and to adapt properly to climate change. Based on the literature reviewed, three main areas where women are more affected by climate change have been identified. These are, in order of appearance: livelihoods, health and security. Within each of these three areas, four key problems have been identified. In addition, the reason for each problem has been explained and data on African women has been added for each problem. When possible, information and data has been analysed and included for the East African region, which is the main focus of the study, but this has not always been possible due to the lack of available data. In the cases that information and data was not possible to find about East African countries or of the region itself, data and information was included about sub-Saharan Africa, as East Africa is a subregion of this other one, counting with more available and reliable information.

Once the information about how climate change affects differently rural women in East Africa is collected, a series of general recommendations were drawn up to reduce the problems previously analysed. Recommendations cover the areas of policy, research, economics, project management and finance, stressing the idea that a gender perspective that seeks to improve the situation of women should be adopted in each of these areas.

4. METHODOLOGY

The study aimed to review specialised literature on the gendered impact of climate change, focusing on rural women in sub-Saharan Africa, more specifically in the East Africa region. The work is based on a review of international and regional literature, related to the impact of climate on women in these regions. The information analysed comes from secondary public sources of data from existing sources, including reports, journals, studies, articles, and other relevant papers. The documents and reports analysed are from international organisations with expertise in the field. The principal literature consulted comes mainly from United Nations (UN) agencies and attached bodies, such as

UN Women, the Food and Agriculture Organization (FAO), the World Health Organization (WHO), the UN Development Programme (UNDP) and UN Fund for Population Activities (UNFPA).

These organisations, eventually publish papers, articles and reports dealing with issues related to climate change and its consequences on different populations. In many cases, there is literature that discusses the impact of climate change on women, emphasising the area of focus of the organisation. Some of the main documentation selected for this work include reports and informs such as *Women, Gender Equality and Climate Change*, from UN Women Watch, 2009; *Tackling Violence Against Women and Girls in the Context of Climate Change*, from UN Women, 2022; *Gender, Climate Change and Health*, from WHO, 2014; *Five ways climate change hurts women and girls*, from UNFPA, 2021 and *Gender, Climate & Security*, from UNEP et al., 2020.

The chosen literature is dated between 2000 and 2022, and it shows that climate change does not affect all regions and all people equally.

5. THEORETICAL FRAMEWORK

5.1 CLIMATE CHANGE AFFECTS REGIONS DIFFERENTLY

The United Nations defines climate change as long-term shifts in temperatures and weather patterns, accelerated by human activities such as burning fossil fuels, mainly coal, oil and gas; industry, transport, building, agriculture and land use. These activities generate greenhouse gas (GHG) emissions that act like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures, as well as pollute the air, the land and the waters. All that might intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms, and declining biodiversity (UN, 2022). The emissions that exacerbate climate change come from every part of the world, but some countries produce much more than others. According to the UN (2022), the 100 least-emitting countries generate 3% of total emissions, in comparison to the 10 countries with the largest emissions, who contribute 68%.

In 2019, the world’s largest polluting countries were, from the most pollutant to lowest:

Figure 2: Ranking of countries by amount of CO2 emissions. Year 2019.

COUNTRY	MILLIONS OF TONS OF CO2
1. China	10,065
2. United States	5,416
3. India	2,654
4. Russia	1,711
5. Japan	1,162
6. Germany	759
7. Iran	720
8. South Korea	659
9. Saudi Arabia	621
10. Indonesia	615

Source: Own elaboration based on data from Climate Trade (2022).

In the same sense that emissions are disparate from regions and countries, so are the effects of climate change. The Intergovernmental Panel on Climate Change (IPCC), the UN body for assessing the science related to climate change, claimed that vulnerability of ecosystems and people to climate change differs substantially among and within regions, driven by patterns of intersecting socioeconomic development, unsustainable ocean and land use, inequity, marginalisation, historical and ongoing patterns of inequity such as colonialism, and governance (IPCC, 2022). In addition, IPCC experts evidence that degradation and deconstruction of ecosystems by humans increases the vulnerability of people, stressing these regions and populations with considerable development constraints have high vulnerability to climatic hazards.

In the same report, the IPCC locates the global hotspots of high human vulnerability in West-, Central-, and East Africa, South Asia, Central and South America, Small Island Developing States, and the Arctic; locations with poverty, governance challenges and limited access to basic services and resources, violent conflict and high levels of climate-sensitive livelihoods. The panel adds that between 2010–2020, human mortality from floods, droughts and storms was 15 times higher in highly vulnerable regions, compared to regions with very low vulnerability. Vulnerability levels is exacerbated by inequity and

marginalisation linked to gender, ethnicity, low income, or combinations thereof, especially for many Indigenous Peoples and local communities.

Other international platforms, such as Ecologist in Action, argue that although the countries of the North and southern countries' elites are the ones most responsible for GHG emissions, the negative consequences of global warming will be much more devastating, and will reach the countries of the South and the most vulnerable populations, in general (Hernández, 2007). Baraibar and Salih (2017) point out that Africa contributes only 3.6% of the total global emissions but is disproportionately affected by the impacts of climate change. According to Case (2006), Africa as a whole has warmed by 0.7°C over the 20th century and is projected to increase by about 0.5°C each subsequent decade. These severe temperature increases have and will have far-reaching negative impacts on water availability, food and agricultural security, human health, tourism, coastal development, and biodiversity in the region (Case, 2006).

Furthermore, within the African continent, not all regions are equally affected by the various effects of climate change. Richardson et al. (2022) point out that the East African region is and will be one of the most affected regions. One of the most potentially devastating impacts of climate change in East Africa are the changes in the frequency, intensity, and predictability of precipitation, due, in part, to the increase in temperatures, in the atmosphere, on the ground and in the sea. Projections suggest that in this region temperatures would rise notably. This might provoke that rainfall would increase hardly during the wet season (5-20%) and would decrease in the already dry season (5-10%) (Case, 2006), triggering on one hand devastating rainstorms and floods, and on the other hand, severe droughts, and increased desertification. Also, rivers are running dry, decreasing the amount of water they hold by up to 10%, as in the case of the River Ruvu in Tanzania (Case, 2006). Glaciers are also melting rapidly, as in the case of Mount Kilimanjaro previously described.

Decreasing water supply due to the rise in temperatures produces droughts, that reduces crop productivity and causes widespread famine in East Africa, as well as loss of biodiversity, sea-level rise, increase in diseases, especially vector-borne diseases such as malaria, and deaths, both in livestock, wildlife, and humans. These phenomena have been occurring steadily and devastatingly over the past decades in the region, causing thousands of people to die and thousands more to be forced to migrate. According to the

UN Refugee Agency, the number of refugees in need of support has tripled in this region in the last decade, going from 1.82 million in 2012 to more than 5 million in 2022 (UNHCR, 2022), this being one of the regions with the highest rates of refugees and displaced persons on the African continent and in the world.

Even within the East African region, not all people are affected by climate change in the same way. This will depend very much on the socio-economic status of the person, their gender and sexual preferences, their ethnicity, the environment in which they live, urban or rural, inland or coastal, among other factors.

Amnesty International (2022) identifies which communities and groups are more affected by climate change. According to their report, some of these groups are:

- Populations in developing countries, especially coastal or small island states, where political and socio-economic factors, such as long-lasting consequences of colonialism, reduce their ability to adapt to climate-related catastrophes, amplifying their effects.
- Communities that suffer environmental racism, as they are discriminated against because of their ethnicity, religion, gender, age, among others, being excluded from the decision-making structures or the leadership positions in the environmental movement.
- Marginalised women and girls, who are often relegated to roles and labours that make them more dependent on natural resources. They are less able to adapt to climate change because of the barriers they face in accessing technical, judicial or economic resources. This means that they are at greater risk of being affected by climatic phenomena, as they are less able to protect themselves against them and, if affected, will find it more difficult to recover.

Therefore, considering that although climate change is a collective problem, its impacts affect *vulnerable and poor populations* more, mainly in regions in the *global South*. Furthermore, within the most vulnerable sectors of society, climate change disproportionately impacts *women and girls*, as Alok Sharma, president of the 26th Conference of the Parties (COP) pointed out (Marcos, 2021).

In the following section, the specific effects of climate change on women and girls will be analysed, especially those in vulnerable and rudimentary situations in East Africa.

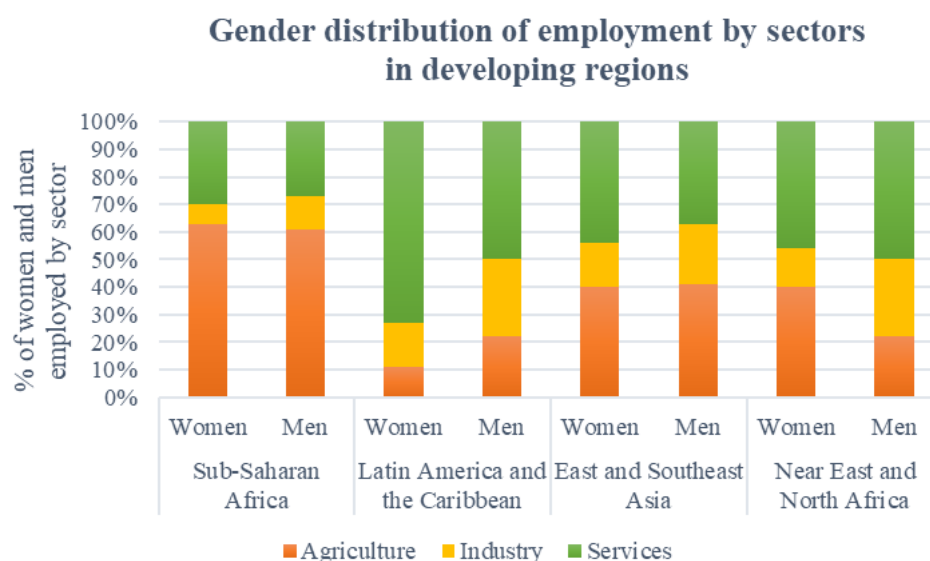
5.2 CLIMATE CHANGE FROM A GENDERED APPROACH

Climate change is not gender neutral. Gender and climate are deeply intertwined, as highlighted on the COP26’s Women’s Day. According to UN Women (2022), women and girls experience the greatest impacts of this phenomena, that also exacerbates existing inequalities, causing them to experience unique threats to their livelihoods, health, and safety. In the following section, we will analyse the impacts of climate change on rural women in these three different areas, identifying some problems amplified by climate change, as well as the reasons.

5.2.1 LIVELIHOODS

Livelihoods refer to the means that individuals, households and communities use to earn a living, such as wage income, farming, fishing, foraging, other natural resource-based livelihoods, petty trading and bartering (Law Insider Dictionary). According to the Food and Agriculture Organisation (FAO) (2011), agriculture, industry and services’ sectors are occupied differently by men and women in the developing countries:

Figure 3: Gender distribution of employment by sectors in developing countries. Year 2011.



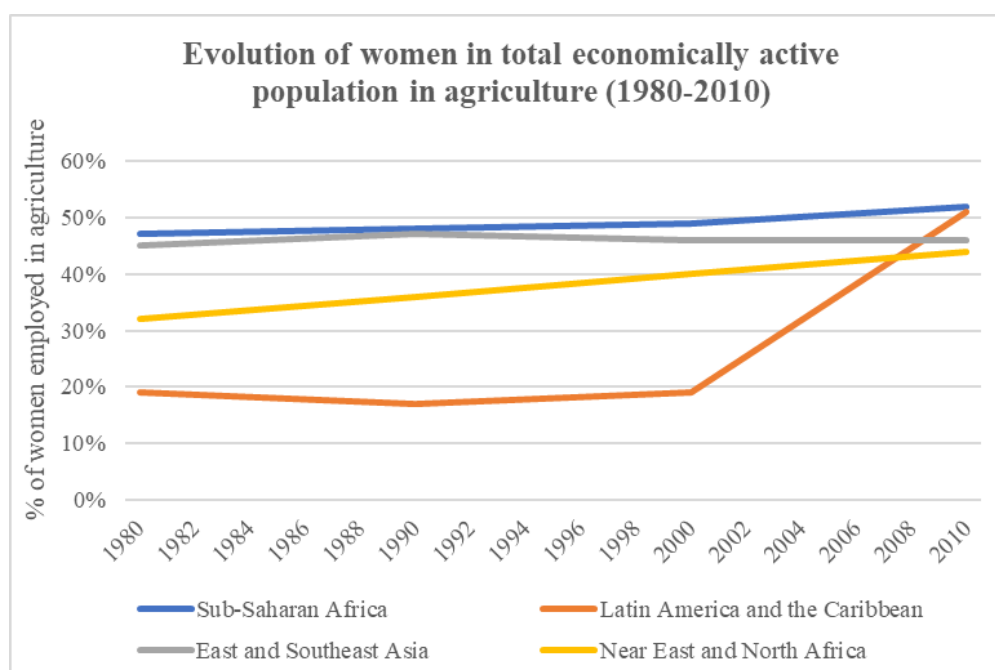
Source: Own elaboration based on data from FAO (2011)

The table created based on data compiled from the FAO report (2011) illustrates that agriculture is, in most of the cases, the main source of employment for women. This occurs notably in sub-Saharan Africa, where agriculture is, relative to manufacturing and services, the main source of employment for women, even more than for men.

As in many developing countries and regions, the agricultural sector is performed in part for women, climate change affects them greatly, through their roles as farmers, labourers, and entrepreneurs in the rural context. According to the data collected in the report, in the developing world, women comprise over 40 % of the agricultural labour force. In the sub-Saharan and East Africa regions, this value rose to more than 50% , an increase of about 45% in 1980.

As shown in Figure 4, the percentage of women working in the agricultural sector has increased since 1980, and this trend is likely to continue and even increase over time.

Figure 4: Evolution of women in total economically active population in agriculture (1980-2010).



Source: Own elaboration based on data from FAO (2011)

Alongside their work in the agricultural field, rural women often have to manage complex and impoverished households, so they have to pursue multiple livelihood strategies in order to provide for them as best as they can. Among the activities they typically perform, they include the production of agricultural crops, the care of animals, food processing and

preparation, working for rural and agricultural enterprises, fuel and water collection, trade and caring for the family members and the household.

Many of these activities are not defined as “economically active employment” in national accounts and are considered to be of low economic significance, even if they are essential to the wellbeing of (rural) households and communities.

The changes in climate and the occurrence of extreme weather events are increasing problems and risks concerning the way rural communities earn their livelihoods. These difficulties are exacerbated for women and girls.

Unpaid work burden

As we can observe, most activities performed by rural women are linked to local natural resources; therefore, they are highly dependent on natural assets. These natural resources are at risk due to climate change, as it increases water scarcity and reduces crop yields and wood availability (UN, 2021). Therefore, activities that are natural resources-dependent, as well as those who are dependent on them, would be severely affected, especially during extreme weather phenomena such as droughts and floods, strongly present in the East African region. When these natural events occur, rural women tend to work more to secure household livelihoods, for example, walking longer distances to collect fuelwood and water, which leave them less time for other activities such as education or income-earning activities (UN, 2021). In consequence, East African rural women have to face an unpaid work burden that men do not. For example, a study of household surveys realised by Malmberg-Calvo (1994), cited in FAO (2011) found that in Tanzania, women (and daughters) are responsible for about 65% of all transport activities in rural households, including going for firewood, water and to the grinding mill. If natural resources are more and more scarce, girls and women will have to dedicate even more of their time and energy to provide for their households, which means that they can spend less time on other activities (FAO, 2011).

Furthermore, the gender-specific assignment of tasks, such as the care of children and elderly family members, can cause considerable stress for women and girls (Brody et al, 2008), and are time-consuming activities that also require them to stay close to home, thus limiting their options to improve their education and skills, or work for a wage or in

other better remunerated activities and less dependent on external factors. Due to that, East African rural women are generally less able than men to participate in economic opportunities (FAO, 2011).

Gender occupational segregation

The unequal allocation of care responsibilities between male and female household members adversely affects women's ability to work in jobs that, for example, they may desire. Lopsided domestic responsibility may also force women to choose to work at home or close to home, which restricts their choice of occupations (World Bank, 2018). Moreover, when rural women are within the labour market, they are frequently relegated to particular sectors and certain jobs in low-technology and low skill level. This occupational segregation limits their opportunities to generate new skills and capabilities, hindering future professional development and reinforcing discrimination towards these low-pay and low-status occupations.

According to the definition of the World Bank (2018), occupational segregation refers to the unequal distribution of female and male workers across and within job types. It is often at the heart of gender gaps in job quality, wage and employment trajectories, provoking gender disparities in positions with different statuses, managerial responsibilities, or potential for promotion.

On a global level, women are driven to concentrate in low productivity sectors. Also, within each sector, women are concentrated in low-productivity industries, named wholesale and retail trade, health and social work, and education (World Bank, 2018). Employment segregation is highly dependent on local social norms and beliefs, the percentage of female participation in an occupation, and local labour supply and demand constraints (World Bank, 2018). Woetzel et al. (2015), cited in World Bank (2018), found that women dominated the services sector in every region of the world except South Asia, and men dominated the industry sector in every region. Agriculture was dominated by women in South Asia, Sub-Saharan Africa, Middle East and North Africa; and gender balanced or dominated by men elsewhere. In most regions, industry was the highest productivity sector and agriculture was the lowest (World Bank, 2018). So, we can observe that sectoral disparity occurs in rural but also in metropolitan areas.

A study about occupational segregation by sectors, conducted in Nairobi, Kenya, in 2006, showed that women are highly represented in the teaching industry (more than 60% of teachers were women) and in the hospital industry (more than 85% of nurses were women); but they are very poorly represented in the engineering sector (around only 3% of engineers were women) and in the TIC sector (around 17% of TIC professionals were women). Moreover, in the sectors where women were more present, they normally occupied lower positions within the hierarchy of the administration in the industries studied (Wambui, 2006).

It is therefore important that the analysis of women's labour market outcomes comprises an analysis of employment segregation, as this underlies gender differences in wages, benefits, workplace productivity and opportunities for growth (World Bank, 2018). In addition, employment segregation can have key implications for vulnerable families and their survival, regarding household wellbeing and economic growth. Hence, addressing employment segregation is central to reducing the gender wage gap, improving job quality and earnings for rural women, and increasing female labour force participation, resulting in the empowerment of women in the labour market. This will lead to rural women, specially those living in more rudimentary and marginalised places, being able to access other jobs, with all the advantages that this entails.

Differences in salaries

Wage inequalities is a worldwide problem that affects women in general, who typically receive lower wages for the same work than men. Wage inequalities are typically due to contractual arrangements that differ for men and women, with rural women usually having worse conditions of employment, and typically receiving lower wages for the same work (FAO, 2011); consequence of a patriarchal society and economy. The wage gap is also exacerbated by employment segregation (World Bank, 2018), and the unequal intra-household allocation of time over rural women's life cycle. Social norms around gender, care and domestic responsibilities continue to affect East African rural women's wages and choice of employment. The gender wage gap is directly tied to views on their role in household activities. These situations are amplified in contexts in which rural women have limited decision making power or low access to resources and household income.

Evidence contained in the FAO report (2011) confirms that women are typically displaced to lower-paid industries. Among the industries with the lowest salaries we find the agricultural sector that tends to pay on average less than the non-agricultural ones. In rural areas, where women typically work in the agricultural sector, they are paid 28% less than men, according to FAO (2011).

Moreover, even in metropolitan backgrounds, in which women have more access to education, the gender wage gap is inversely related to the gender gap in education, suggesting that on average, while women have higher educational attainment than men, they still earn less (Blau and Kahn, 2016 in World Bank, 2018).

According to UN Women (2009), in sub-Saharan Africa, the gender pay gap is 30%, compared to 24% globally. The less money rural women earn, the more time and effort they have to spend to earn more money. Another direct consequence of this is that the quality of life of both rural women and their families decreases, thus increasing the risk of precariousness and thus vulnerability to external factors, such as crises, changes in the climate, etc. This can also make them more dependent on other people, thus diminishing their economic freedom and independence, and therefore other liberties.

Unequal access to assets

In addition to the pay gap, East Africa rural women are also affected by the assets gap, including financial assets, land, and real property (UNFPA, 2009).

According to Aguilar (2008), rural women worldwide have less access than men to resources such as land, credit, agricultural inputs, technology, education, training, and decision-making structures. For example, in developing regions where rural women predominate in food production (up to 50%, as previously discussed), they own less than 10% of the land. Moreover, when they do own the assets, their median value is almost always lower than that of their male counterparts. Some reasons that the author remarks for this gap in asset ownership, is the insecurity over, or even the denial of land and inheritance rights. Therefore, this exclusion is sometimes based or maintained by formal legal restrictions, maintained by the lack of enforcement of legal provisions for equality (Aguilar 2008), again, the consequence of a patriarchal system that favours men to the detriment of women.

Without access to assets, rural women must often resort to financial credit and may face discrimination in credit markets. According to the World Bank (2018), in economies with less developed credit histories, lenders may use demographics as signals of creditworthiness, resulting in gender-based discrimination. It is recorded that female-run enterprises are less likely to receive a loan than those run by men, and when they have it, they must pay more in interest on the loans taken. This situation is perpetuated over time because countries do not have laws prohibiting gender discrimination in accessing credit. As the World Bank reported, in 2017, only 47 out of 189 countries had a law that prohibits discrimination by creditors on the basis of gender (World Bank, 2018).

Then, as a consequence of the difficulties they face in owning assets and their lower value, and the difficulties in obtaining credit, in conjunction with the burden of unpaid work they have to face and the gender division of labour, East Africa rural women face a higher risk of poverty and precarity, which leads them having fewer options to cope with the effects of climate change.

5.2.2 HEALTH

According to the World Health Organisation (WHO) (2021), climate change influences the social and environmental determinants of health, such as clean air, clear water, food, and safe housing. The extreme weather phenomena, such as heat waves, storms, and floods, provoke disruption of food supplies, increases in water and food diseases, zoonoses, vector-borne infections and mental health problems, to name a few.

Climate change also undermines social determinants of good health, such as livelihoods, equity and access to health care and social support structures. The risks to health, increased by the effects of climate change, affect the most vulnerable and disadvantaged people, such as women, children, ethnic minorities, poor communities, migrants, displaced people, older populations, and people with underlying health problems (WHO, 2021). Regarding the consequences on rural women's health, the gender differences, and inequalities, already existing in the different cultures, systems, and societies, can raise inequities between men and women in the access to health care (WHO, 2011), disparities that are further aggravated by climate change.

Where the access to health care services is already difficult, as in the realities of rural areas in East Africa, the situation is much more critical. Rural people, especially women, and even more so those who are pregnant, postpartum, or breastfeeding, see their health increasingly at risk, which is a major present and future public problem. From the literature reviewed, regarding health and climate change issues and challenges, rural women in East Africa are strongly affected in the following areas:

Increase in natural disasters

Natural disasters such as floods, droughts, earthquakes, volcanic activities, or landslides, to name a few, have a devastating socioeconomic impact on affected communities. When extreme events occur, women and men suffer different negative health consequences.

East African rural women play an important role in agriculture and pastoralist livelihoods, where they are directly involved in managing productive resources, ensuring food security, and providing unpaid domestic labour and care work. These traditional gender roles and socioeconomic responsibilities place on them a disproportionate burden when disaster strikes (Ochola & Akinyi, 2022). Disaster risk affects women not only in time and place, but there are several complex factors that influence and shape their capacity to anticipate, prepare for, respond to, and recover from disasters, such as role differentiation, vulnerability, socio-cultural customs and attitudes, and existing institutional structures. A study released by Neumayer & Plümper (2007) shows *the impact of catastrophic events on the gender gap in life expectancy*. Based on census information on the effects of natural disasters in 141 countries, they found that disasters kill more women than men, or kill women at an earlier age than men, on average.

The study pointed out that physical differences between men and women are unlikely to explain this unequal effect, and that social norms might provide some further explanation. Therefore, it is a matter of gender, not of sex. The authors emphasised that these differences between genders persist in proportion to the severity of the disasters and depend on the relative socioeconomic status of women in the affected country: this effect is stronger in countries where women have a very low social, economic and political status. In countries where women have a status comparable to that of men, natural

disasters affect men and women almost equally (Neumayer & Plümper, 2007). This highlights the socially constructed, gender-specific vulnerability of women to natural disasters, which is part of everyday socioeconomic patterns and which results in relatively higher disaster-related mortality rates in women than in men (Neumayer & Plümper, 2007). And even when they survive catastrophe, the aftermath and the challenges of rebuilding and moving forward affect women the most, due to the impoverishment and highly feminised vulnerability they already face. A study of gender differentiated vulnerability in the Budalangi flood plains in Kenya established that women and men are affected differently by flooding, with the man often running to urban centres leaving the women to deal with a host of challenges, ranging from displacement and loss of property and livelihoods to exposure to injuries, disease and sexual violence and increased domestic workload in disaster response and reconstruction (Ochola & Akinyi, 2022). Disasters expose women to unique physical, psychological, and socioeconomic impacts aggravated by among other things financial constraints, household dynamics, increased risk of gender-based violence due to existing cultural attitudes and the absence of gender-responsive plans and action from the response agencies (Ochola & Akinyi, 2022).

Food insecurity

Another important factor that influences (women's) health is proper nutrition and food security, as nutritional status partly determines the ability to cope with the effect of natural disasters (Cannon, 2002) and to have good health. FAO, in a report released in 2001, already emphasised that women are more susceptible to nutritional deficiencies because of their unique nutritional needs, especially when they are pregnant or breastfeeding. In regions where cultural and social norms implant food hierarchies in the household and climate change effects are more pronounced, women are more at risk to suffer nutritional deficiency. For example, in sub-Saharan Africa, women bear greater burdens than men, but have lower caloric intake because typically men receive more food, due to cultural norms (FAO, 2001).

Another influential factor is the loss of biodiversity and agricultural difficulties, accelerated by the change in climate. For example, inadequate access to water impedes agricultural production. That decreases food production, thus increasing food prices and making it harder for rural women to economically access it. Therefore, food insecurity

might lead to precarious situations. According to FAO (2002), for women and girls, poor nutritional status is associated with an increased prevalence of anaemia, problems during pregnancy and childbirth, increased rates of intrauterine growth retardation, low birth weight and perinatal mortality. Pregnant and lactating women face additional particular challenges, as they have a greater nutritional need, and their mobility is limited. For example, in regions where iron deficiency is prevalent, the risk of women dying during childbirth can increase by up to 20% (FAO, 2002). These biological factors, worsened by the devastating effects of climate change, create a highly vulnerable population within a group that is already at risk (FAO, 2002).

Increase of vector-borne diseases

Climate change also increase the spread of vector-borne diseases, such as the Malaria, dengue fever, cholera or the Zika virus, according to UNFPA (2021), which in pregnant women can cause serious birth defects, miscarriages and premature births, among other effects, affecting pregnant women and their neonatal and new born children. Thus, climate change also increases risks during gestation and childbirth, and neonatal mortality. As reported by the IPCC (2022), vector-borne diseases will increase with longer seasons and a wider geographic distribution of the insects in Asia, Europe, Central and South America and sub-Saharan Africa particularly, potentially putting additional billions of people at risk. According to UN WomenWatch (2009), weather defines the geographical distribution of infectious diseases, and influences the timing and severity of epidemics. Diseases transmitted by mosquitoes. Warmth accelerates the biting rate of mosquitoes and speeds up the maturation process of the parasites they carry. Sub-Saharan Africa is already home to the most efficient mosquito species and to the most severe forms of malaria. Rising temperatures are likely to accelerate the lifecycle of the malaria parasite and to spread malaria to new areas. Reported by Alegana et al (2019), in that year, more than 12.7 million people resided in communities where malaria parasite prevalence was predicted $\geq 30\%$, including 6.4%, 12.1% and 6.3% of Kenya, mainland Tanzania and Uganda populations, respectively. This data is already alarming, because of the high levels of parasite prevalence, which endangers the health of the population. Considering predictions of temperature increases and thus vector-borne diseases, these data will

increase exponentially in the coming years, strongly threatening the health of pregnant women, new-borns and children.

Disruption of sexual and reproductive health and rights services (SRHR)

In accordance with UNFPA (2021), when disasters or emergency situations occur, health resources are diverted toward combating them and away from services that are considered less essential, including sexual and reproductive health. Emergencies due to climate change will become increasingly frequent, which means that SRHR services could be among the first to be reduced. This would further increase the potential problems that pregnant women might already experience, as explained above, putting them in an even more vulnerable situation. However, even in the case that SRHR services would be maintained, they are not always accessible for all rural women and girls, due to the poor control over economic and other assets to avail themselves of health care, and cultural restrictions on mobility (WHO, 2014). Also, displaced women and girls often can not access those services due to their disadvantaged and precarious situation.

A report made by the Centre for Reproductive Rights (2021) examines the impacts of the COVID-19 Pandemic on the access to SRHR in some African countries. The COVID-19 Pandemic has been the most relevant global health emergency since 2020, which has put the health services of the countries of the world at stake. Regions that regularly deal with shortages and public-health crises have felt the impacts of these disruptions to health care services the hardest. In Ethiopia, Kenya and Uganda, the study shows that girls and women living in rural and low income areas have faced various barriers to access sexual and reproductive health services since the pandemic started. The study found that people in underserved communities often experienced limited access to contraceptives, maternal health care, abortion services, and HIV/AIDS prevention and management. Therefore, the pandemic has led to an increase in unwanted pregnancies, sexual and gender-based violence, unsafe abortions, and maternal and neonatal deaths. The report's findings reflect that the pandemic has had adverse effects on access, availability, and utilisation of critical SRH services in all countries. These disruptions to critical services and government actions to curb the spread of the pandemic have combined to widen inequalities and insecurities, especially among certain communities, such as young women, adolescents, and members of the LGBTQI+ community.

The evidence reported by the CRR (2021) in the case of the COVID-19 health crisis can be extrapolated to potential health crises due to climate change, showing that sexual and reproductive health services are among the first to be undermined, severely increasing health problems for many affected people.

5.2.3 SECURITY

Climate change impacts have already increased the insecurity of vulnerable communities in several regions of the world, exacerbating loss of livelihoods, food insecurity, competition for scarce resources, human mobility, and political and economic instability.

According to UNEP et al., (2020), the impacts of climate change and its associated security risks have important gender dimensions that determine how men and women from different backgrounds experience insecurity.

As the report points out, climate change generates a range of risks across the security spectrum. In already fragile contexts, climate change impacts can exacerbate conditions that threaten security, such as an increased risk of all types of violence, including rape, sexual assault and harassment, intimate partner violence, child marriage, trafficking, and sexual exploitation. At the same time, conflict and insecurity undermine resilience to external shocks and make it difficult to adapt to the impacts of a changing climate. The risk management would differ depending on the gender norms, roles and power structures existing in the different communities.

Violence against women and girls (VAWG)

According to UN Women (2022), climate change and environmental degradation exacerbate the risks of violence against women and girls due to displacement, resource scarcity and food insecurity and disruption to service provision to survivors.

Violence against women and girls is the most widespread human rights violation worldwide, estimated to affect more than 1 in 3 women in their lifetime (WHO, 2021). The United Nations Development Programme (UNDP) affirms that gradual environmental degradation exacerbates risk and causal factors of gender-based violence

(UNDP, 2020), manifested in different forms, including sexual, physical and emotional abuse (UNFPA, 2021). This is due to the impact of climate change on their ability to securely obtain resources and generate income, exacerbating harmful social norms and structural inequalities, and creating tensions and stressors in the household and community.

Due to the change in weather, as it was discussed above, women and girls have to make more frequent and longer journeys to obtain food or water. During those journeys they are exposed to greater risks of sexual violence while in public and/or isolated spaces, and this can also lead to greater tensions in the household, as they have less time to fulfil other domestic responsibilities (UNFPA, 2021). At the same time, men may feel that their traditional role as "provider" is threatened due to poor harvests, loss of livestock and consequent food insecurity, so they may attempt to reassert harmful notions of masculinity through violent behaviours (UNDP, 2020). Family structures may also be destabilised, and the resulting social isolation may provide an environment where violence can occur undetected (UN WomenWatch, 2009).

The International Union for Conservation of Nature (IUCN) has also collated information on how the weather disasters further negatively impact rising rates of violence and conditions of vulnerability faced by women and girls. Disasters, such as flooding, cyclones and other events have also led to situations of isolation and risk for VAWG (IUCN, 2020). For example, in an assessment undertaken by the United Nations International Children's Emergency Fund (UNICEF), in Somaliland, Somalia in January 2022, nearly a quarter of those interviewed reported an increase in gender-based violence due to the drought, including child marriage, domestic violence and sexual violence, with increases of more than 50% in some localities (UNICEF 2022).

According to UN WomenWatch (2009), another reason that VAWG is further intensified because women and girls face greater barriers in reporting violence and in accessing essential services such as health and social services. In many cases there is a breakdown of law enforcement and resources that were used on violence prevention interventions may be diverted. That can lead to an increase in tensions and stressors, heightening the risk of violence at home, at school, at work, and in public spaces.

Child marriage and Female Genital Mutilation (FGM)

The exacerbation of poverty derived from the livelihood loss might incentivize families to marry off their young daughters as a survival strategy, increasing then the child marriage cases (UNFPA, 2021). There is growing evidence that crises, whether generated by the impacts of climate change or conflict, exacerbate the risk of girls being forced into marriage. East and Central Africa, for example, has one of the highest prevalences of child marriage. Sahelian countries such as Niger, the Central African Republic and Chad, which are heavily affected by drought and other climate change impacts, are among the three countries with the world's highest rates of child marriage, followed by Sudan, South Sudan, Tanzania and Ethiopia (ECODES, 2019).

Andy Brooks, UNICEF's Regional Child Protection Advisor for Eastern and Southern Africa stressed that *“child marriage and Female Genital Mutilation end childhoods, driving girls out of school and leaving them more vulnerable to domestic violence and a lifetime of poverty [...] married to men more than five times their age”* (UNICEF, 2022).

Based on the UNICEF analysis (2022), in the regions worst affected by the drought, child marriage has on average doubled in one year. In Ethiopia, for example, child marriage has increased by an average of 119% across regions worst hit by the drought. As UNICEF (2022) warned, *“girls were forced into child marriage and Female Genital Mutilation at “alarming rates” in the Horn of Africa, as the most severe drought in forty years pushes families to the edge”*.

In Kenya, Maasai families are pushed to marry off their daughters at younger ages (under 12) in exchange for livestock. This is also increasing female genital mutilation in these communities, as cultural norms among Maasai people generally consider girls who have undergone this practice to be of greater value as brides/wives (ECODES, 2019). Despite the 1981 Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and the 1989 International Convention on the Rights of the Child prohibiting child marriage, the practice continues to occur in some regions of the world and disproportionately affects girls (ECODES, 2019).

Consequently, the impacts of climate change increase the risks of both child marriage and female genital mutilation at alarming levels.

Migration and forced displacement

The effects of climate change, both those linked to slow- and sudden-onset events, also result in the migration or forced displacement of populations living in the areas most affected by extreme weather conditions. Owren (2021) alleges that gender roles, relations, norms, and expectations significantly affect women's and men's decisions to migrate, and their experiences of migration in the context of climate change. This is in consequence of the differentiated protection issues, access to services and assets, their unique health impacts, the gender norms that might expose them to additional risks, among others (Owren, 2021). Reportedly by ECODES (2019), migrating is a very costly process physically, emotionally, psychologically, and economically. People fleeing their homes in the face of sudden disturbances, such as hurricanes, floods, or other extreme events, often must seek shelter in temporary settlements in their home country or elsewhere. In those situations, women and girls are more prone to suffer sexual and reproductive health risks, mental illnesses, violation and sexual violence, especially in refugee or internal displaced people camps (ECODES, 2019).

According to UN Environment, around 80% of people displaced by climate related disasters are women (OHCHR, 2022). The High Commissioner for Human Rights, Michelle Bachelet, stated that when women are displaced, they are at greater risk of violence, including sexual violence, human trafficking or child forced marriage. In the case of East Africa region, refugees and internally displaced people often reside in climate hotspots, where they are particularly exposed to and affected by climate variability (WMO, 2020).

Although most disaster and climate-related displacement in sub-Saharan Africa is internal, cross-border displacement also occurs and may be interlinked with situations of conflict or violence, with climate change acting as a threat multiplier (WMO, 2020). According to the report *A Region on the Move, 2021*, produced by the IOM (2022) women and girls represent the largest share of migrants in East Africa and the Horn of Africa (50.4%). Thus, women represent the largest number of refugees and asylum seekers as they are more likely to be forcibly displaced.

In 2020, in Eastern Africa the total international migration stock reported was 7 682 801 people, of which 3 846 978 were male and 3 835 823 were female.

In the same year, in the East Africa region, the total internal displacements due to disasters reported was 1,6 million of people (no data disaggregated by gender). In this area, 13.2 million forcibly displaced persons were registered in 2021, comprising 9.6 million internally displaced persons and 3.6 million refugees and asylum seekers (IOM, 2022).

Both flows, internal and cross-border human migration over the next decades are likely to increase, due to the gradual process of environmental deterioration. This means that millions of women will be affected by the particular consequences and difficulties that affect them during their displacement process. The number of women climate refugees will undoubtedly increase in the coming years.

Key policy instruments have been developed and adopted to address human mobility in the context of climate change. These include the Kampala Declaration on Refugees, Returnees and Internally Displaced Persons in Africa; the Global Protection Cluster; the Platform for Disaster Displacement; the Global Compact on Migration; and the Global Compact on Refugees, among others. It is critical that gender considerations are fully integrated into these frameworks and all efforts to implement them to ensure that they address the specific needs and experiences of women and girls, and do not exacerbate existing inequalities and vulnerabilities or create new ones (UNEP, 2020).

In addition to the previous exposed consequences, migrant rural women and girls, regardless of the reasons for their movement, are exposed to trafficking for sexual exploitation, precarious employment, racism and xenophobia, among other forms of discrimination and gender-based violence.

Human trafficking and sexual exploitation

The IOM report (2022) also reveals that human trafficking is an issue of concern. Trafficking in persons, which usually occurs at the origin or during the transit stage of migration, usually involves coercion, fraud, force and violence, and often involves the crossing of an international border and takes place all over the world (ECODES, 2019). The United Nations Office on Drugs and Crime (UNODC) confirmed in its report (2009) that the most common form of human trafficking is sexual exploitation (79%). The victims of sexual exploitation are predominantly women and girls.

When available, the collected data indicates that women (66%) and girls (13%) are the most frequently detected victims of trafficking in persons for forced prostitution or exploitative domestic work. As the Spanish Commission to Help Refugees (CEAR by its initials in Spanish) states, "*victims of trafficking for sexual exploitation are victims of a heteropatriarchal system that feeds violence against women; a capitalist system in which some people and countries get rich at the expense of the misery of others; and a xenophobic system that violates people's right to migrate. It is no coincidence that they are women, foreigners, arriving from impoverished economic contexts*" (CEAR, 2018).

As the IOM report indicates, more than 3,000 cases in the East Africa region in the last decade were reported. The majority of trafficking victims were identified as coming from Ethiopia, Uganda and Kenya, with women and girls being the most affected victims at a rate of 78%, compared to men and boys (22%).

In areas where trafficking already occurs, natural disasters can lead to unstable conditions that make it easier for traffickers to operate, as the vulnerability of women and children increases (ECODES, 2019). Thus, as climate change increases rates of unsafe migration, it also increases rates of human trafficking, especially affecting the most vulnerable people, again rural women and girls in precarious and conflict- and disaster-ridden areas.

As we can see, climate change and its severe consequences particularly and disproportionately affect women, who must adapt their lives to a changing climate that forces them to cope with increasingly challenging situations in many ways. Gender-based vulnerabilities and the fact that women are disproportionately exposed to the impact of climate change, as it is explained above, are based on the roles that societies impose on them, that limit their rights and opportunities. These roles are defined by gender norms and socio-economic status, imposed by a patriarchal society and system that subjugates women and makes them vulnerable and dependent. The discrimination suffered by rural women is therefore much greater than in other sectors of society. This leaves them as the most vulnerable part of the population to conflicts and changes in climate that are currently occurring and will be magnified in the future.

6. RESULTS

Rural women in East Africa face particular socio-cultural, economic and political barriers that limit their capacity to cope and adapt to the effects of climate change, as discussed above. Rural women have been made more vulnerable in many spheres, making them the main victims of environmental change. However, they are much more than just victims; rural women are also the solution the world needs to deal effectively with the climate crisis.

Rural women are important and effective change agents, in relation to climate crisis mitigation, disaster reduction and adaptation strategies, due to their knowledge and expertise. They are essential to construct gender-environmental sensitive strategies to respond to the humanitarian and natural crises already existing, and all those yet to come.

The responses and initiatives undertaken to deal with the effects of climate change need to incorporate gender perspectives and of course, involve rural women as active agents of change. The consultation and participation of rural women in the decision-making processes and initiatives must be ensured, and their roles, as well as women's groups and networks, strengthened. Rural women's empowerment is imperative in all senses and in all areas, at the personal and individual level, as well as collectively. Also, the developments related to climate change, whether technological, judicial, analytical, or social, should take rural women into account, as they have specific problems and priorities, needs, roles, knowledge, and expertise that can ensure that they are user-friendly, affordable, effective and sustainable (UN WomenWatch, 2009)

For achieving that, changes need to be made and a gender perspective should be adopted at all levels. In the following, several areas where changes need to be made to increase gender sensitivity will be named, taking into account what was discussed in the previous section, as well as key actions to achieve it.

6.1 RECOMMENDATIONS

Balanced political representation and decision making

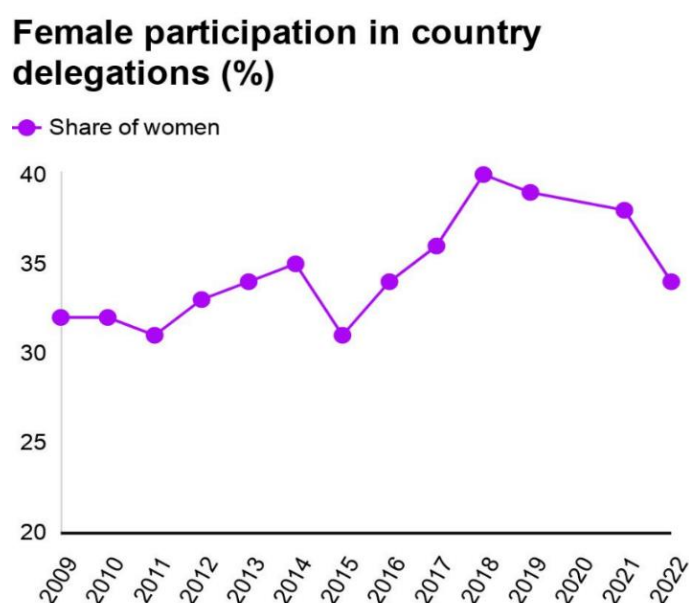
It is essential to recognise systemic and structural gender inequalities in order to generate gender-responsive climate policies that overcome approaches that only victimise women, in order to take real action to avoid, minimise and best address climate change and the specific challenges for rural women and girls. To this end, it is necessary to promote the integration and participation of rural women in political and decision-making systems at all levels.

There is huge inequality in access to decision-making and (top) positions in climate policy and initiatives. It is crucial that East Africa rural women have access to and full participation in decision-making processes, at international, regional, national and local levels. Incorporating rural women's unique knowledge of natural resources into climate change adaptation can strengthen the design and implementation of adaptation plans. This can highlight rural women's capacities as influencers and decision-makers and increase their access to other political and peacebuilding processes.

Gender gaps related to participation and leadership in decision-making processes, must be addressed, from local to global levels. For example, at the national level, women hold only 15 % of the world's ministerial positions relating to environmental matters.

Related to the international level, until 2011, gender did not have a formal place on the UN' climate agenda. At international climate negotiations, such as the Conference of Parties (COP), undertaken by the United Nations each year to fight climate change, men are far more frequently included in the representative delegations. It was after the COP17, held in South Africa in 2011, that women had an official status as a formal interest group in the UNFCCC process (Kwao & Morrow, 2021). Efforts to improve women's participation in the negotiations of the Convention have followed, such as the Lima work programme and the Gender Action Programme, but in reality, progress has been uneven and limited. Despite the fact that these declarations were made more than ten years ago, women's representation in the major climate conventions remains under-represented and alarmingly low. Yet the gender balance in COP delegations remains, on average, at 65% male to 35% female, as shown in the graphic below:

Figure 5: Female participation in country delegations (2009-2022).



Source: BBC, 2022

In COP27, the last one carried out to date, celebrated during November 2022 in Egypt, women made up less than 34% of the country negotiating teams. Of 110 leaders present, only 7 were women (BBC, 2022). According to the Women’s Environment and Development Organization (WEDO), (2022), women’s participation tends to be highest in delegations from Latin America, Eastern Europe, and Western Europe, often between 45% and 50%, and lowest in Africa and Asia, often between 30% and 35%.

According to the official data presented by UNFCCC (2022a), in the list of participants of the representatives sent by the States, it is possible to find the following data from the East Africa States attending the COP27:

Figure 6: Disaggregated data by gender of the State representants attending COP27

EAST AFRICA STATE	TOTAL OF DELEGATES	WOMEN	MEN
Burundi	64	16	48
Djibouti	42	4	38
Eritrea	6	1	5
Ethiopia	87	8	79
Kenya	307	110	197
Rwanda	107	30	77
Somalia	76	18	58

South Sudan	35	11	24
Sudan	85	32	53
Tanzania	150	48	102
Uganda	135	55	80
Overall total	1094	333	761

Source: Own elaboration based on data from UNFCCC (2022a)

As we can deduct from the data in Figure 6, female representation by East African states is much lower than that of their male counterparts, at 30.43% versus 69.56%, respectively. This is not only the case for state representation, but also for representatives of agencies, organisations and bodies related to Africa and East Africa that participated in COP27.

According to the official data presented by UNFCCC (2022b), it is possible to find the following information about those who represented the agencies, organisations and bodies related to Africa and East Africa in different topics:

Figure 7: Disaggregated data by gender of twenty-five African related agencies, organisations and bodies attending COP27

AFRICA RELATED AGENCIES AND ORGANISATIONS	TOTAL OF REPRESENTANTS	WOMEN	MEN
Africa Centre for Citizens Orientation	7	3	4
African Centre for Climate Actions and Rural Development Initiative	8	4	4
African Centre for Technology Studies	4	2	2
African Centre of Meteorological Application for Development	30	12	18
African Climate Change Research Centre	7	2	5
African Climate Foundation	18	8	10
African Development Bank Group	69	20	49
African Forest Forum	3	1	2
African Smart Cities Innovation Foundation	2	1	1
African Trade Center LTD/GTE	2	1	1
African Union Commission	58	14	44
African Wildlife Foundation	8	3	5
African Women's Development and Communication Network	3	3	0
Alliance for Food Sovereignty in Africa	2	2	0
Business Unity South Africa	3	1	2
Commission des Forêts d'Afrique Centrale	7	2	5
East African Community	11	4	7
Economic Community of West African States	11	5	6
Food and Trees for Africa	5	4	1
Indigenous People of Africa Coordinating Committee	12	9	3
International Foundation for African Children	6	0	6
Pan African Climate Justice Alliance	46	14	32
Power Shift Africa	5	1	4
Sustainable Energy Africa	3	2	1

United Cities of Local Governments of Africa	4	3	1
Overall total	334	121	213

Source: Own elaboration based on data from UNFCCC (2022a)

According to Figure 7, in the twenty five agencies, organisations and bodies analysed, women represented a 36,23% of the total, in comparison to men, that represented a 63,77% of the total of representatives.

As we can see, there is still a long way to go to improve women's representation in climate action, not only in international negotiations, but in the regional and local conversations, in governments or in the communities themselves, where women are not adequately represented in local decision-making bodies, where patterns of marginalisation are much more deeply rooted in society. Therefore, rural women have fewer opportunities to be part of representative and decision-making bodies at all levels. It is therefore necessary to place special emphasis on the need to include them in these processes, for if they are not properly represented and heard, the problems and challenges they face, magnified by climate change, will intensify over time, severely damaging the social structure, economy and environment in the countries and communities of the East African region.

Rural women's full and effective participation in climate decision-making requires establishing effective and institutionalised participation mechanisms that are representative of women's diversity, facilitating access to public information and encouraging consultation among women. This can help make institutions and policies more representative, and better involve rural women in the decisions that shape environmental planning and policy-making, as well as sustainable solutions and practices. To achieve that, governments must adequate institutional support, resource allocation and gender expertise, in order to integrate gender equality and environmental and climate action into development frameworks and policies, putting women not only as the beneficiaries but also as change agents.

Governments, at all levels, must ensure that gender equality is fused to environmental and climate action through all stages of the policy cycle, to ensure effectiveness, efficiency and quality in the policies and actions to be taken.

Sex-disaggregated data and gender-sensitive indicators

It is crucial that the different roles, relations and inequalities between men and women are recognised and made visible, especially in relation to climate change.

For this, research is needed on the diverse ways in which climate change affects different people, based on rigorous sex-disaggregated data.

Sex-disaggregated information is essential, as it allows for a better understanding of the gender perspective of the facts related to climate change under investigation. By using data sources that disaggregate information by sex, society can understand better the rural women's more precarious situation, and policy makers would be able to develop effective programmes based on evidence, accurate and reliable data.

However, there are some limitations related to existing data and data sources, as sex-disaggregated data are not always collected, or it is difficult to know, especially in certain contexts, such as displacement situations (IDMC, 2021). Sometimes it is not easy to find information and data related to different topics of East Africa, especially if the information wanted is disaggregated by sex, social background, or ethnicity.

This might lead to difficulties in knowing and understanding the situations and realities in the region. Also, in terms of law and policy making, as well as direct action and funding.

With the proper information, it is possible to provide an intersectional gender analysis, including disaggregated data and indicators. The gender-disaggregated indicators should be part of any standardised methodology developed for climate change and risk analyses that inform global, regional, and national policy development.

It is necessary to promote research projects, programme development and case studies from the policy and academic spheres, at regional, local and international level, that analyse the effects of climate change and that are designed and implemented from a gender transformative and feminist perspective, in order to adequately address the climate change consequences on East Africa rural women, as well as other socio-economic problems, through more effective and realistic policies, that materialise into radical and significant changes.

Integrated action plans and gender-sensitive programs

Rural women in East Africa play a critical role both outside and inside the household, where they are key to changing the attitudes and behaviour of their families and providing livelihoods. Therefore, international, national, regional, and local climate change strategies will have much greater potential to ensure efficiency, effectiveness, and quality of implementation if they are developed to include a gender component, paying particular attention to the role and contributions of women and involving them at all stages. Developing effective climate change adaptation strategies requires the knowledge and experience of those who experience its impacts most directly. As previously argued, rural women are often on the frontline of climate change. Therefore, they have distinct knowledge and experience to bring to the creation of effective adaptation strategies. Governments and other actors with action power should therefore encouraged gender in their policies, action plans and other measures on sustainable development and climate change, considering systematic gender analysis; using sex-disaggregated data; establishing gender-sensitive benchmarks and indicators; and developing practical tools to support greater attention to gender, including gender expertise in capacity building and technical assistance.

Integrated action to respond to the gender dimensions of climate security risks is key to minimising threats to peace and security, including deepening socio-economic inequality and tensions over access, use and control of natural resources (UNEP, 2020). It is important to implement gender-sensitive strategies, such as action plans or programmes, to prevent and respond to human security needs and environmental and humanitarian crises caused by climate change. These efforts should focus on: reducing the vulnerability of rural women, especially those living in marginalised and more precarious contexts; promoting gender-sensitive emergency responses; and incorporating rural women as key environmental agents in natural disaster management, harnessing women's skills, wisdom and leadership in mitigation and adaptation plans.

Effective approaches should include the more systematic application of a climate lens to women's programming and vice versa, as well as in peace and security issues, and the design of gender-sensitive climate adaptation and peacebuilding programmes in affected contexts. It is also important to monitor and evaluate the progress of the plans and programmes to prevent them from negatively affecting either populations or ecosystems,

or even reinforces existing discriminations at all levels. This, along with other measures, will ensure that gender equality issues are fully integrated into the instruments developed to address the complexity of issues in the context of climate change and conflict.

Open access to resources and capital

East Africa rural women must be able to access assets and capital when they request them. Gender inequalities in access to resources, including credit, extension services, information, and technology, must be taken into account when developing activities to curb climate change. They must also have equal access to training, credit, and skills development programmes to ensure their full participation in climate change initiatives. These barriers must be removed by targeted and gender-sensible policies and laws that guarantee equal ownership, access and usage of land for men and women (GAGGA, 2021). In addition, financial mechanisms must be flexible enough to reflect rural women's priorities and needs. According to UN WomenWatch (2009), under the current climate change finance regime, women have not sufficient access to funds aimed at covering weather-related losses, nor to service adaptation and mitigation technologies. According to UNEP (2020), the bilateral aid for dedicated programmes targeting gender equality and women's empowerment as a main objective remains low at 4% of total aid, while 62% of all bilateral aid remains "gender blind." To change these numbers, it is needed a women's active participation in the development of funding criteria and resource allocation for climate change initiatives, especially at the local level. A gender analysis of all budget lines and financial instruments is needed to ensure that investments in adaptation, mitigation, technology transfer and capacity building programmes are gender-sensitive (UN WomenWatch, 2009).

Therefore, on one hand, it is necessary to change regulations and different mechanisms to ensure that women can access services, goods, and capital on an equal basis with men. On the other hand, credit and financial instruments need to open and adopt a more friendly stance towards the needs of women, especially those with fewer resources. This will be possible if East Africa rural women are integrated into the different mechanisms and an intention to shift towards a more eco-feminist approach is adopted.

7. CONCLUSIONS

As discussed in the course of the study, rural women face several socially imposed barriers created by men to the detriment of women. These limits cause problems in all areas of rural women's lives, challenges that are further magnified by the effects of climate change on the environment and on people. As a result, rural women in East Africa are more vulnerable to changes in climate and find it more difficult to adapt well to new circumstances. It can therefore be confirmed that rural women in East Africa are strongly affected by climate change in unique ways, due to the marginalisation and discrimination that the patriarchal system, intertwined with the capitalist economy, impose on them.

Rural women in East Africa suffer discrimination in multiple spheres. The study has analysed the areas of livelihoods, health, and safety, as well as key issues within them, which affect African women and girls living in rural and impoverished contexts the hardest. With this into consideration, a series of general recommendations have been identified which, if implemented, would improve the situation of these women, and therefore of society and the environment in general.

One of the key recommendations is the effective representation of (rural) women in decision-making processes to deal with the effects of climate change, as well as their participation in all processes to implement it.

At the international level, although the UN has made efforts to promote women's participation in such processes, the results are not as expected in reality. East African women remain under-represented and under-considered in creating, adopting, and implementing measures to mitigate the effects of climate change. Furthermore, the most vulnerable women, who live in the most precarious situations, are the least taken into account, despite being those who suffer most directly, and indirectly, the effects of climate change. The UN and its agencies must make real efforts to ensure that rural women in the global south are truly heard and considered in decision-making and implementation processes, giving them a chance to become key agents of change to effectively combat climate change, as the efforts made so far are clearly insufficient. As previously analysed, parity has not yet been achieved in representation at international meetings, such as COPs, where gender equality, as well as traditional knowledge, should be essential pillars to achieve the goals and overcome the increasingly threatening challenges facing the planet and its people, but is not yet the case. Without an inclusive

gender vision that contains real action to achieve gender parity, international society will fail to combat climate change.

Also, at the national and local level, East African governments must take into consideration the voices of their rural women when making national and local action plans to mitigate the effects of climate change. They should be equally represented as their male counterparts at all levels. They must also be agents of change directly involved in the implementation and execution of measures and actions to combat climate change effectively. To achieve this, a sociocultural, political, legislative, and fiscal transformation is needed within the East Africa region. For that, it is imperative that rural women are allowed to be empowered and heard in all senses and areas, both at the personal and individual sphere, as well as collectively. And of course, a more women-friendly and fairer perspective should be adopted at a general level. If this shift to an egalitarian perspective is not realised, efforts to combat climate change and mitigate its effects will continue to be insufficient, weak and ineffective, as it will not be taking into account those who are most affected, nor their experience and knowledge.

This is not just a question of equal representation, but of achieving gender equality at all levels. Enabling East Africa rural women to be properly represented and included in all processes, and to have equal access to services, assets, and capital, will result in a fairer society and a less damaged and more resilient environment, which benefits nature and humanity. Therefore, adopting a gender perspective across the board is crucial to achieve real and effective climate change mitigation and adaptation in East Africa, one of the regions where the negative consequences of climate change are and will be felt the most.

BIBLIOGRAPHY

- ActionAid, Both ENDS, WECF and WO=MEN. (2021). [Report / Intrinsically linked: gender equality, climate and biodiversity](#). Global Alliance for Green and Gender Action (GAGGA).
- Aguilar, L., (2008). *"Is there a connection between gender and climate change?"*, International Union for Conservation of Nature (IUCN), Office of the Senior Gender Adviser.
- Alegana VA, et al. (2021). *Plasmodium falciparum parasite prevalence in East Africa: Updating data for malaria stratification*. PLOS Glob Public Health.
- Amnesty International (2021, August 16). [Stop burning our rights! What governments and corporations must do to protect humanity from the climate crisis: executive summary](#). Amnesty International.
- Baraibar, M. & Salih, A. (2017, April 7). [10 Climate Change impacts in East Africa you didn't know about](#). IGAD Climate Prediction and Applications Centre (ICPAC)
- Brody, S. D., Zahran, S., Vedlitz, A., & Grover, H. (2008). [Examining the Relationship Between Physical Vulnerability and Public Perceptions of Global Climate Change in the United States](#) Environment and Behavior, 40(1), 72–95.
- Case, M. (2006, November). [Climate Change Impacts on East Africa](#). World Wide Fund For Nature (WWF).
- CEAR. (2018). *10 recomendaciones para informar sobre la trata con fines de explotación sexual desde el derecho de asilo*. Bilbao: Comisión de Ayuda al Refugiado en Euskadi.
- Center of Reproductive Rights. (2021) [Impact of the COVID-19 Pandemic on Sexual and Reproductive Health Services in Burkina Faso, Ethiopia, Kenya, Malawi and Uganda](#). African Population and Health Research Center.
- Das Smita & Kotikula, A. (2018). *"Gender-Based Employment Segregation: Understanding Causes and Policy Interventions."* World Bank, Washington, DC.
- Doss, C. (2011, March). [The Role of Women in Agriculture](#). ESA Working Paper No. 11-02. Food and Agriculture Organization (FAO).
- FAO. (2001). [Gender and Nutrition](#). Rome, Food and Agriculture Organization (FAO).

- FAO. (2002). *The state of food insecurity in the world: Food insecurity – when people must live with hunger and fear of starvation*. Rome, Food and Agriculture Organization (FAO).
- Gevers, A., Musuya, T., & Bukuluki, P. (2020). [*Why climate change fuels violence against women | United Nations Development Programme*](#). United Nations Development Programme (UNDP).
- Guzmán, J. M. Martine, G., McGranahan G., Schensul D., Tacoli, C. (2009, June). [*Population Dynamics and Climate Change*](#). United Nations Fund for Population Activities (UNFPA).
- Hernández, L. (2007, September 1). [*Desigualdad y cambio climático*](#). Ecologistas en Acción.
- IDMC. (2021). [*Global Internal Displacement Database*](#). Internal Displacement Monitoring Centre.
- IOM. (2022). *A region on the move 2021: East and Horn of Africa*. Nairobi, Kenya. International Organization for Migration (IOM).
- IPCC. (2022): Summary for Policymakers, in: [*AR6 Climate Change 2022: Impacts, Adaptation and Vulnerability Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*](#). Cambridge University Press, Cambridge, UK and New York.
- IUCN. (2020 November). [*Gender-based violence and environment linkages during COVID-19: Information note, Second edition*](#). International Union for Conservation of Nature (IUCN).
- Kwao, J. & Morrow, K. (2021). [*Gender in Climate Governance: Telling Numbers but Who is Listening?*](#). Green European Journal.
- Law Insider. [*Livelihood Definition*](#).
- MapChart. [*Africa | MapChart*](#)
- Marcos, P. (2021, November 18). [*El techo de cristal para las mujeres en la agenda de cambio climático - ¿Y si hablamos de igualdad?*](#) Banco Interamericano de Desarrollo (BID).
- Neumayer E & Plümpert 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, 97:551–566.

- Ochola Elizabeth & Marygorety Akinyi. (2022). *Impact of Floods on Kenyan Women: A Critical Review of Media Coverage, Institutional Response and Opportunities for Gender Responsive Mitigation*, The African Resources Development Journal, Vol.5, no.1, June 2022.
- OHCHR. (2022, July 12). [Climate change exacerbates violence against women and girls](#). Office of the High Commissioner for Human Rights (OHCHR).
- Osman-Elasha, B. (2021). [Women...In The Shadow of Climate Change](#) . United Nations (UN).
- Owren, C. (2021). *Understanding and addressing gender-based violence as part of the climate emergency*. CSW66 Expert Group Meeting Paper. UN Women.
- Pérez, B. F. (2019, November). [Gender Perspective in Climate Migrations](#). Fundación Ecología y Desarrollo (ECODES).
- Quiñones, L. (2021, November 9). [Women bear the brunt of the climate crisis, COP26 highlights / UN News](#). United Nations.
- Richardson, K., Calow, R., Pichon, F., New, S. and Osborne, R. (2022). [Climate risk report for the East Africa region](#). Met Office, ODI, FCDO.
- Stallard, E. (2022, November 16). [COP27: Lack of women at negotiations raises concern](#). BBC News.
- United Nations. (2022). [What Is Climate Change?](#). United Nations.
- United Nations Department of Economic and Social Affairs. (2020). [International Migrant Stock / Population Division](#). United Nations.
- UNICEF. (2022, June 28). [Child marriage on the rise in Horn of Africa as drought crisis intensifies](#). United Nations International Children's Emergency Fund (UNICEF).
- UNEP, UN Women, UNDP and UNDPPA. (2020, June). [GENDER, CLIMATE & SECURITY Sustaining inclusive peace on the frontlines of climate change](#). UN Environment Document Repository Home.
- UNFCCC. (2022). [COP27. List of participants. Part one. Parties and observer States](#), (CP/2022/INF.3/Part I). United Nations Framework Convention on Climate Change.

- UNFCCC. (2022). *COP27. List of participants. Part two. United Nations Secretariat units and bodies, specialised agencies and related organisations, intergovernmental organisations and non-governmental organisations*, (CP/2022/INF.3/Part II). United Nations Framework Convention on Climate Change (UNFCCC).
- UNFPA. (2021, August 16). [*Five ways climate change hurts women and girls*](#). United Nations Population Fund (UNFPA).
- UNHCR. (2022 April 13). [*Spiraling costs, surging conflict, and soaring climate disasters create a desperate future for millions of refugees across Eastern Africa*](#). UN Refugee Agency (UNHCR).
- UNODC. (2009). [*Global Report on Trafficking in Persons*](#). United Nations Office on Drugs and Crime (UNODC).
- UN Women. (2022, February 28). [*Explainer: How gender inequality and climate change are interconnected*](#). UN Women.
- UN WomenWatch. (2009). [*Women, Gender Equality and Climate Change*](#). UN Women.
- Climate Trade. (2022, July 6). [*Which countries are the world's biggest carbon polluters?*](#) Climate Trade.
- Wambui, S. (2006, November). [*OCCUPATIONAL SEGREGATION IN THE EMPLOYMENT SECTOR: A CASE STUDY OF NAIROBI. KENYA*](#). UNIVERSITY OF NAIROBI.
- WEDO. (2022). [*Women's Participation in the UNFCCC: 2022 Report*](#). WEDO
- WHO. (2014). [*Gender, Climate Change and Health*](#). Geneva, World Health Organization (WHO).
- WHO. (2021, October 30). [*Climate change and health*](#). World Health Organization (WHO).
- WMO. (2020). [*State of the Climate in Africa 2020*](#) (WMO-No. 1275). World Meteorological Organization (WMO).