



Roots for the Future

The Landscape and Way Forward on
Gender and Climate Change



This publication was produced by the International Union for Conservation of Nature (IUCN) Global Gender Office (GGO) under the auspices of the Global Gender and Climate Alliance (GGCA) joint programme, which has been made possible by the generous support of the Government of Finland. A wide range of collaborators, including from across the diversity of the GGCA membership, have contributed content, case studies, and peer review. The views expressed in this publication do not necessarily represent the whole of IUCN, nor the views of all collaborators.



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Roots for the Future: The Landscape and Way
Forward on Gender and Climate Change

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The GGCA, founded by IUCN, United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) and Women's Environment and Development Organization (WEDO) in 2007, is a unique alliance comprised of nearly 100 members—UN, intergovernmental and nongovernmental organizations from around the world, working together to ensure climate change decision-making, policies and initiatives at all levels are gender responsive and improve the lives and livelihoods of women and men.

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Finally, inside the GGO, this publication was a team effort: Global Senior Gender Advisor, head of the GGO, Lorena Aguilar was supported by publication coordinators Cate Owren and Margaux Granat, who were in turn joined by Ana Rojas, Jackeline Siles, Molly Gilligan, A.E. Boyer, and Maggie Roth in writing sections of chapter narrative, reviewing dozens of drafts, identifying illustrative cases, formatting and researching citations, and analyzing and including original data, including from the GGO’s own Environment and Gender Index (EGI). GGO team members Itza Castaneda, Natalia Armijo, Barbara Clabots, Erin Knight, and Maria Prebble also contributed research and support—and nothing in the GGO is possible without the financial and administrative backbone provided by Celia Steele and Roxanne Halley. GGO moreover expresses its appreciation to IUCN and especially to the Washington, D.C. office for its support.

Prologue

Women living in developing countries face two different, but intrinsically linked scenarios when it comes to climate change.

On the one hand, they are disproportionately vulnerable to the effects of climate change. On the other hand, they are powerful agents of change.

Because these women are the ones adapting to droughts, floods and other extreme weather events right now, they are at the front lines in the battle against climate change. This puts them in a better position to recognise some of the opportunities that climate change presents.

For example, nearly 2.4 billion people—the majority of them women—still cook on open fires inside their homes. New, clean technologies are allowing many of these women to switch from open fires to fuel-efficient cookstoves that improve their health, use less wood and cut down on emissions.

At the UNFCCC, we work hard to showcase the critical role women play in responding to climate change through our Momentum for Change initiative. The initiative highlights women-led activities that are making a real difference in the fight against climate change—activities that can be replicated and scaled up at the local, national and international levels.

We tell the stories of women making transformational change, such as the Thai industry leader who has turned her solar company into a billion-dollar business, or the Australian trailblazer who is creating a movement to get 1 million women across the country to act on climate change, or the Ghanaian entrepreneur who is bringing bamboo bicycles to the global market.

But if women are to be true agents of change, real and measurable action at all levels must be ramped up.

This new publication is a valuable tool to help increase the capacity of policy and decision makers to develop gender-responsive climate change policies and strategies that ensure women are engaged at all levels of the decision-making process. This publication comes at a crucial moment in time, as governments around the world work toward a new, universal climate change agreement in Paris, France, this year.

It is my sincere hope that the practical examples contained in this publication will strengthen efforts toward a new agreement, one that enables women to act as agents of change at all levels.



Christiana Figueres,
UNFCCC Executive Secretary

Foreword

Climate change will have direct or indirect impacts on everybody's life. It is unfair that it will affect most the lives of the poorest people, in the poorest regions, who have contributed least to the causes. The majority of these deeply affected are women. What we can do first to change this injustice is to ensure that those perspectives and experiences shape and drive our action on climate change.

In the recent years, our collective understanding of the various roles and responsibilities of men and women in our societies has increased considerably. It has convinced us that the engagement and leadership of both men and women, equally, are needed to make our global response to climate change fully effective. Women's contribution is essential, for example, in moving toward sustainable consumption and production, as women do most of the purchasing in developed countries and decide on consumption patterns in households and in some workplaces. In developing countries, women play a powerful role in sustainable agriculture and food security, in particular, as well as conservation of soil, forests and water resources.

Understanding of these roles led to the establishment of the Global Gender and Climate Alliance (GGCA) in 2007, when negotiations were launched toward a

new international climate agreement. The founding partners decided to consolidate and strengthen efforts toward gender equality in combating climate change. Finland has supported the work of the GGCA from the very beginning and cooperated with interested partners to make progress toward a truly gender responsive agreement.

Our objective in this cooperation has been to act against climate change in the most efficient way and prevent it from further exacerbating gender inequality. We cannot allow climate change to undermine our efforts toward poverty eradication. Lifting millions out of poverty is still the overall target of the Sustainable Development Goals. They build on the best achievements of the Millennium Development Goals. Combating climate change and promoting gender equality are both explicitly among the new goals. I am particularly pleased that gender equality is also integrated in a horizontal way in many activities under the other goals and is a stand-alone priority in spotlight.

This vision is shared by all partners of the GGCA. It has grown under our cooperation from four founding members to a powerful, unified actor of nearly a hundred organizations. This is a convincing indication that there is a growing understanding of the need to

advance gender equality in all development efforts and support for the participation of women in international and national work on climate change.

The co-operation of the GGCA members and active Parties has brought many arrangements, which encourage women to participate on full and equal basis in efforts to fight climate change.

Together, we have contributed to great results in the international cooperation within the UNFCCC. These include establishment of “Gender and Climate” as a permanent agenda item under the Conference of Parties and more than 50 decisions by the Conference on various climate actions. They cover all major programmes of the Convention and a specific Lima Work Programme on Gender agreed in 2014. Gender issues are highlighted during a Gender Day in the Conference and the official web page of the Convention also includes now a dedicated page on Gender. The UNFCCC Secretariat now benefits from a Gender Focal Point, too.

These points of progress would not have been achieved without the tireless efforts of the International Union for Conservation of Nature (IUCN) and other GGCA members. The Women Delegates Fund conceived by Finland

and the Women’s Environment and Development Organization (WEDO) within the GGCA has supported the least developed countries female delegates participation in the negotiations. Capacity building of developing countries’ female delegates, training and awareness raising of all delegates and decision-makers as well as national Climate Change Gender Action Plans (ccGAPs)—all discussed more in depth in this publication—are practical steps that have empowered women and amplified their voices in global negotiating spheres.

Finland is proud to be a partner in this cooperation. The best lessons and experiences are described in this publication. It is a forward-looking testimony of success stories, and I hope it inspires us for strong partnerships and further practical steps promoting successful work for combating climate change and gender equality.



Tarja Halonen,

President of the Republic of Finland 2000-2012

Introduction

In 2008, under the auspices of the Global Gender and Climate Alliance (GGCA)—a first-of-its-kind multi-stakeholder network to advance gender-responsive climate change policies, plans, and actions—the International Union for Conservation of Nature (IUCN), together with key partners including especially UNDP, WEDO, and the Government of Finland, created the Training Manual on Gender and Climate Change (https://cmsdata.iucn.org/downloads/eng_version_web_final_1.pdf). This was, at the time, one of the first comprehensive collections of information on gender and climate themes—ranging from the normative international policy framework to support then-nascent gender-responsive decision making, to gender mainstreaming across adaptation, mitigation, technology, and finance.

Translated into all the UN languages, the Training Manual has been used in dozens of technical trainings, including Trainings of Trainers with women's organisations and thematic orientation sessions for delegates to the UNFCCC, and was—and continues to be—downloaded tens of thousands of times from all over the world. The appetite for user-friendly training information and tools on gender and climate concerns proved to be strong. Given that the Training Manual is still widely used, and requests for updated information have increased in light of significant progress in recent years, the demand appears only to be growing.

Given that, seven years later—thanks in part to the technical support and capacity building for a range of stakeholders; awareness raising and advocacy; and progress in gender-responsive climate planning at regional, national, and subnational levels that the

GGCA joint programme has undertaken—significant progress has been made and thus updates to the 2008 version are necessary to aid the global community in remaining proactive and intently focused on advancing a gender-responsive climate agenda.

Purpose of this publication

While not a training manual per se, this publication is intended as a full update and overhaul to the 2008 manual content. In other words, this publication was inspired by the 2008 manual, its authors, and its thousands of users, who have continued to request up-to-date information on policy, planning, and—especially—concrete examples of action on the ground. It is therefore a celebration of progress and results achieved. Even more importantly, this publication joins the global call for implementation that is fair and equitable—and demonstrates that is possible.

The target audience is wide: from policy makers at international level who seek a political framework upon which to advance decision-making in line with women's rights and gender equality mandates; to grassroots practitioners who might benefit from best-case project strategies; to those entirely new to these topics but curious to understand the basics or the links—this publication is written for you. Some readers may be gender experts while some may be climate change or sector-specific professionals; this publication aims to fill knowledge gaps and possibly inspire new questions, as well as solutions. The language, while technical, has been drafted to be as 'user-friendly' as possible.

Inside the pages ahead

The line-up of chapters aims to serve as a comprehensive presentation of major issues related to gender and climate change decision making; international, regional and national policies; adaptation and mitigation; sustainable cities; and finance mechanisms. The chapters are intended to flow together but, especially as they have been uniquely authored, they are also meant to stand independently and can thus be individually accessed online. There is overlap across the chapters, as the nature of gender and climate change concerns are inextricably linked. This is as true for gender equality issues as it is for climate and climate mechanisms: the Clean Development Mechanism (CDM), for example, is touched upon in both the energy chapter, Chapter 4.1, as well as the finance mechanisms chapter, Chapter 6. These overlaps are not errors—but signals that one issue cannot be taken in isolation from others.

Along those lines, the table of contents that shapes this publication is far from exhaustive. Important issues and sectors have been left out as subject headings—not for any political reasons, but only because of space, time, or capacity. Education, capacity building, information sharing across broad traditional and untraditional modes, and other public outreach issues, for example, are not addressed here as an independent chapter; profoundly important issues relative to social protections and welfare are likewise not adequately delved into as stand-alone issues.

Many of these concerns, however, find home in the targeted recommendations that culminate each chapter; ‘Moving Forward’ sections aim to both summarise key issues but also trigger new ideas and approaches for a range of stakeholders and decision makers. Even more importantly, capacity building and information exchange drive the numerous programme and project examples featured throughout this publication: from women solar engineers empowering and training other women entrepreneurs, to advocates employing best practices across levels to inform forest, agriculture, or disaster risk reduction policy reform, cross-sectoral and cross-contextual learning and collaboration shines as a key issue of importance throughout the chapters.

Also useful to note: there are tools offered in specific chapters that are most certainly applicable or valuable to others. The gender analysis tools in the energy chapter, Chapter 4.1, might be applicable to cross-sector adaptation projects, as well, for example, while the tools provided in the REDD+ chapter, Chapter 4.2, echo some of the resources suggested in the chapter on sustainable cities, Chapter 5. Readers are invited to consider the numerous ways in which lessons and tools from one sector can benefit the policy making and programming in another.

A special focus of this publication has been on spotlighting new ideas and real examples of positive change, of transformation, happening all over the world. Tremendous gains at policy level go hand-in-hand with an upsurge of innovative implementation approaches with tangible results—from national policy

reform programmes to village-level projects that are resulting in enhanced resilience, food security, safety, and more. The last chapter of case studies¹ celebrates this in particular.

Taking advantage of the diverse, unique ways in which, especially, the GGCA membership working across all levels have programmed ‘gender and climate change’, the final chapter presents a range of case studies, which, in brief, showcase effective strategies and outcomes toward climate mitigation, adaptation, resilience, and sustainable development, and—in tandem—toward gender equality.

The Momentum for Change: Women for Results initiative of the UNFCCC Secretariat recognises activities that demonstrate the critical leadership and participation of women in addressing climate change. These activities show measurable results, which can be potentially replicated and scaled up at the local, national and international levels. They celebrate a wide range of activities happening across sectors all over the world, from women energy entrepreneurs in Indonesia to women transforming waste to reusable products in Peru.

Look for these tags throughout the chapters to learn more about specific examples of these initiatives:

READ MORE IN CHAPTER 7!

THROUGHOUT THIS PUBLICATION, ‘READ MORE’ TAGS SUGGEST SPECIFIC INITIATIVES INCLUDED IN THE CASE STUDY CHAPTER AHEAD – ‘LEADING THE WAY: CASE STUDIES ON GENDER-RESPONSIVE INITIATIVES’ OFFERS 35 EXAMPLES OF PROJECTS AND PROGRAMMES HAPPENING ALL OVER THE WORLD AND ACROSS SECTORS.



Learn, apply and share feedback

Given that this publication is not a training manual—but, again, builds upon and updates thematic content of the 2008 manual—it is suggested that readers carefully consider the narratives, cases, and recommendations posed and explore meaningful ways to take action in their own trainings, project activities, programme design and evaluation processes, and decision making spheres.

As lessons and best practices continue to emerge and knowledge evolves, IUCN GGO welcomes your feedback and your updates. Please send them to:

GlobalGenderOffice@iucn.org

1. It is important to note, as the case study chapter itself states, that the case studies presented in this publication have been drawn from GGCA member submissions and websites, as well as public information on UNFCCC Momentum for Change: Women for Results, applicants and winners, and from other sources, such as the Climate and Development Knowledge Network (CDKN). IUCN has not vetted the results claimed by the implementing organizations, nor has it verified or made an assessment of the value of their strategies.

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1

ROOTS FOR A MORE EQUAL AND SUSTAINABLE FUTURE:

An introduction to
climate change – and the value of
a gender-responsive approach to
tackling it



By Manuel J. Oliva (Independent Consultant)
and Cate Owren (IUCN)





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ACRONYMS

C	Celsius	REFACOF	African Women's Network for Community Management of Forests
CO₂	Carbon dioxide	UN	United Nations
ECOSOC	United Nations Economic and Social Council	UNESCO	United Nations Educational, Scientific and Cultural Organization
EGI	Environment and Gender Index	UNFCCC	United Nations Framework Convention on Climate Change
FAO	Food and Agriculture Organization	UN Women	United Nations Entity for Gender Equality and the Empowerment of Women
GHG	Greenhouse gas	WHO	World Health Organization
ILO	International Labour Organization		
IPCC	Intergovernmental Panel on Climate Change		
IPU	Inter-Parliamentary Union		
IUCN	International Union for Conservation of Nature		
REDD+	Reducing Emissions from Deforestation and Forest Degradation in developing countries, including the role of conservation, sustainable management of forests and enhancement of forest carbon stocks		



Key messages

- Climate change will have varied impacts across geographical regions, but it will also impact people differently based on socio-cultural norms and structures within those regions. Women and men are likely to experience climate change differently, with some common gender inequalities pervading and persisting around the world.
- The impacts of climate change will derive not only from the regional and global effects of climate change (e.g., sea level rise, stronger storms), but also from the national and local actions taken to combat and adapt to climate change (e.g., conversion to clean energy sources, changes in agricultural or fishing practices). The actions taken are an opportunity to perpetuate patterns of inequity and inequality or to be transformative.
- Climate change does not occur in a vacuum: issues are interlinked across sectors, regions, ecosystems, and sociocultural and economic systems.
- Successful long-term solutions to address climate change must recognise the important contributions of women, along with men, as decision-makers, stakeholders, educators, caretakers, and experts—across the spectrum of sectors, from forests and fisheries to large-scale energy infrastructure and sustainable cities.
- Actions already being taken all over the world point to the important co-benefits for climate change adaptation and mitigation, as well as for progress toward gender equality, social justice and overall wellbeing for the world community.
- In countless examples, women have also proven to be leading the way toward more equitable and sustainable solutions to climate change. Across sectors, women's innovations and expertise have profound impact—and this publication seeks especially to highlight that message and spotlight those examples.



1.0 Introduction

“Climate change is the defining issue of our age. It is defining our present. Our response will define our future. To ride this storm we need all hands on deck.”

– UN Secretary-General Ban Ki-moon, Opening address of UN Climate Summit, 23 September 2014¹

“Women are disproportionately affected by climate change impacts such as droughts, floods and other extreme weather events. They also have a critical role in combatting climate change, but need to be better represented at all levels in the decision-making. Empowering women will be a significant factor in meeting the climate challenge.”

– UNFCCC Executive Secretary Christiana Figueres, 2014²

Climate change is a global issue that will impact all people. However, the impacts of climate change will vary significantly for people depending on their geographical, economic and social conditions. Across societies, women and men will feel the impacts in differentiated ways, with a disproportionate burden on women very likely in some contexts due to structures that marginalise them socially, politically and economically. In parallel, these same structures prevent women from being active participants in addressing climate change. Women represent

approximately half of the world’s population; unleashing their knowledge and abilities together with men’s is necessary to craft successful climate change solutions for the benefit of the global community.

Climate change in its most basic terms refers to changes to regional or global climate patterns that persist for an extended period of time, generally decades or longer. The Earth has many naturally occurring variables that bring about periodic, temporary episodes of climate change, such as volcanic eruptions or episodic warming periods of ocean regions associated with El Niño. However, over the last 200 years the planet has experienced a continuous and drastic level of climate change in the form of rising global temperatures. Since 1800, the measured increase in global average temperatures has been 0.85° Celsius (C),³ and based on current trends is predicted to rise between 1.5° to 4°C by 2100 as compared to the average temperatures between 1850 and 1900.⁴ It should be noted that the temperature changes will not occur uniformly throughout the globe, with possible temperature increases over certain land regions of 4.8°C (8.6° Fahrenheit).⁵ This global warming effect is due to a dramatic surge in the amount of heat-trapping gases in the atmosphere, commonly referred to as greenhouse gases (GHG), which are now at the highest levels in 650,000 years. The current level of carbon dioxide (CO₂), the most abundant GHG in the atmosphere, is shown in comparison to the earth’s historic levels of CO₂ in Figure 1.



Figure 1: Historic levels of global CO₂ concentration⁶

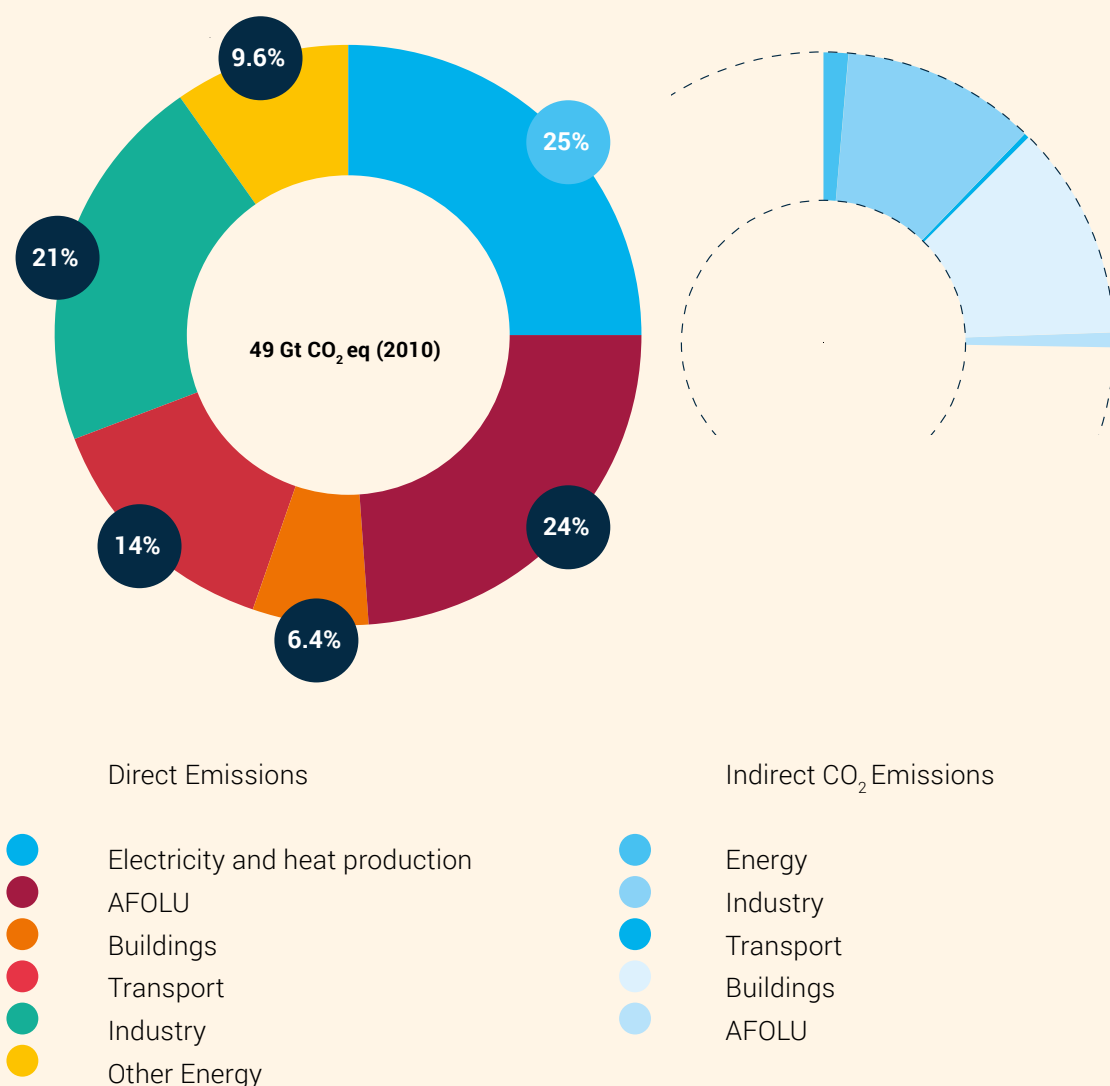


As illustrated in Figure 1, the concentration of GHG in the atmosphere will vary over time based on the earth's natural cycles. However, the significant rise in atmospheric GHG concentrations in modern times is from human activity, primarily the burning of fossil fuels (i.e., fuels formed by the decomposition of organic matter within the earth's crust, such as coal, petroleum and natural gas). Since the beginning of the industrial revolution in approximately 1800, humans have made the burning of fossil fuels the primary basis of energy and industrial production. While before 1800 global fossil fuel usage was almost non-existent, by 2013 the global economy consumed approximately 4 billion tons of coal, 91 billion barrels of fuel oil and 3 trillion cubic meters of natural gas⁷, which resulted in GHG emissions of approximately 36 billion



tons being emitted into the atmosphere by 2013.⁸ Although fossil fuel combustion is the main source of anthropogenic, or human-caused, GHG emissions, other human activities, such as agricultural practices, industrial processes, and the destruction of standing forests and other land use changes contribute significantly to the rise in global GHG emissions. Figure 2 illustrates the contribution of each economic sector to total global GHG emissions for 2010; the emissions from electricity and heat production are further broken down by the sector that is consuming the produced electricity or heat.

Figure 2: Global GHG emissions by economic sector 2010⁹





GHGs vary in their ability to trap heat and the length of time they stay in the atmosphere, and are designated with a global warming potential (GWP) based on these properties. For example, methane (CH_4) over a 100-year time scale is 28 times more potent as a GHG than CO_2 ¹⁰ in its ability to trap other GHGs. Because many of these gases have atmospheric lifespans of decades or centuries they continue to build as more emissions are released to the atmosphere. Therefore, it is the cumulative total of the GHG emissions from human activity that has led to an unbalancing of the earth's natural cycles and is the main cause of the currently observed period of climate change.

Box 1: Climate change and human activity

Based on a review of the world's scientific data, the leading body studying climate change, the Intergovernmental Panel on Climate Change (IPCC), has determined that climate change is occurring and that human activities are the main cause. The most recent assessment report prepared by the IPCC on the observations

and causes of climate change stated: *"Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history...Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia."*



1.1 The impacts of climate change

The increase in GHGs is having, and will continue to have, a dramatic impact on the earth's natural systems, such as droughts from prolonged heat waves, or flooding from more powerful and more frequent storms. It is important to note that climate change—though global in nature—has significantly different regional effects. For example, dry regions already susceptible to drought will likely experience stronger and longer lasting heat waves, and areas already prone to flooding will likely experience increased flooding due to stronger and more frequent storms. These impacts of climate change on the Earth's natural systems directly affect the health and livelihoods of the people in these regions. A recent report issued by the IPCC on the observed and predicted impacts of climate change provides valuable insight into human vulnerability to climate change. Some of the findings of this IPCC report¹¹ include the following:

- The number and intensity of hot days have increased, and in many areas the occurrence of heat waves, defined as multiple hot days in a row, has more than doubled. Heat waves are associated with negative agricultural yields, increased wildfires and drought, as well as higher incidents of severe health and psychological distress, and loss of life. Heat waves are predicted to continue to grow in frequency and strength, and current 20-year high temperature events will occur every 2 years or annually in many regions.
- Although a prediction of how climate change will affect the number of storms each year is difficult to make, the intensity of storms, measured by the maximum wind speed and rainfall rates, for example, is expected to increase with warming temperatures. Currently, approximately 90 tropical storms including typhoons, hurricanes, monsoons, occur each year around the world, with each inflicting significant damage and loss of life. Tropical cyclone Nargis, which hit Myanmar in May of 2008, for example, caused 138,000 fatalities.
- The global sources of fresh water have been put under tremendous stress from a continuing growth in human consumption, as well as the rising needs of agricultural and energy development worldwide. About 80% of the world's populations already suffer serious threats to its water security. As the demand for fresh water continues to increase, the quantity of surface and groundwater resources is expected to decrease due to climate change, especially in the dry subtropical regions of the globe. For each degree of warming, a 20% reduction in freshwater supplies is predicted for various regions.
- Natural ecosystems, which serve as critical habitat and an important resource of food, water and other services for humans, have already been severely degraded in many regions due to climate change. As global temperatures continue to rise, these ecosystems will continue to be degraded and many plant and animal species that are supported by these ecosystems will suffer significant harm and possible extinction. It is estimated that 30% of global plant and animal species will experience an increase in the risk of extinction with a global temperature rise of 2° to 3°C.
- The world's major crops of wheat, rice, and maize are already being impacted by hotter temperatures and reduced availability of fresh water access. Significant reductions in yields are predicted with



a temperature increase of 2°C in the tropical and temperate regions of the globe. Many regions already suffer from severe undernourishment. Over 26% of the population in sub-Saharan Africa is undernourished, and 300 million people in Asia are undernourished. Given current consumption trends it is estimated that present food production will have to be increased by 60% to feed the global population by 2050. However, this increase will be severely threatened by climate change.

- Dramatic shifts in the quantity and composition of fisheries catches has already been observed and is expected to continue as global temperatures rise. For example, coral reefs, which currently account for 25% of fish catch for developing countries, are already suffering significant damage due to climate change, and are expected to yield a 20% reduction in fish catches for many countries by 2050. Globally three billion people depend on fisheries for 20% of their animal protein intake.
- As global temperatures increase, the amount of glacier and ice sheet melting will increase and help drive a significant rise in global sea levels. In fact, the average sea level is expected to rise by approximately one metre by 2100 and subject many low-lying areas and entire small islands to inundation. Approximately 600 million people (10% of the world's population) live along low-lying coastal areas. About 360 million people live in urban areas less than ten metres above sea level.
- Although the production of energy continues to be the largest single source of GHG emissions (while energy production and consumption account for two-thirds of the global GHG emissions),¹² energy demand continues to grow worldwide. However, as the severity and frequency of extreme weather events increase, the risk of disruptions to energy production and distribution systems will increase, particularly in developing countries. In sub-Saharan

Africa as a whole, only 290 million out of 915 million people have access to electricity,¹³ and the ability of countries in this region to increase access to affordable and reliable energy will be challenged by climate change.

The impacts of climate change are not limited to observed effects such as increased drought or flooding, but also include the actions we take to address climate change. For example, measures taken by a national government to address increased episodes of drought or flooding may involve radical changes to regional land use and agricultural practices that can cause hardships for the affected communities. On the other hand, climate change response can serve multiple benefits, including enhancing livelihood options for local communities. The establishment of a system of payment to local communities to protect standing forests and reduce GHG emissions from the destruction of these forests can provide significant opportunities, for example.

Depending on existing local legal, social and cultural structures, the level of hardship or opportunity can vary drastically between countries and communities. Therefore, how climate action decisions are made and applied, such as who participates in the decision-making, where and when these actions occur and how benefits from these actions are distributed, will have a significant impact.



Box 2: Climate change action: Mitigation and adaptation

Actions responding to climate change fall into two distinct but related groups: 1) climate change mitigation actions; and 2) climate change adaptation actions. Climate change mitigation actions are designed to reduce or eliminate GHG emissions (e.g., replacing coal power plants with solar power plants, planting more trees that can absorb CO₂ from the atmosphere). In other words, mitigation tries to stop or slow climate change. Climate change adaptation, on the other hand, aims to deal with its effects. Adaptation actions are measures

to limit or counteract the expected and already occurring effects brought on by climate change (e.g., building sea walls to protect against increased flooding, changing agricultural practices to contend with changes in regional temperatures or precipitation patterns). In many cases, actions to address climate change can have both mitigation and adaptation benefits, for example, protecting tropical forests reduces GHG emissions by absorbing CO₂ from the atmosphere, while simultaneously protecting freshwater supplies and critical biodiversity.

Although climate change actions, both mitigation and adaptation, may be implemented at the local level, there is a concerted effort by the international community to develop unified national actions through various forums and agencies. The United Nations Framework Convention on Climate Change (UNFCCC) is the leading body for international climate change policy development. Since its adoption in 1992, the UNFCCC has been tasked with creating a global forum in which countries cooperate and develop climate change mitigation and adaptation

actions. As part of its duties, the UNFCCC guides important scientific research, the development of financial mechanisms in support of climate change actions, and the creation of international agreements to address climate change. It should be noted that the UNFCCC also supports policy development to protect the rights of all communities and groups that may be impacted by climate change.



Box 3: Climate change decision-making: Harnessing diversity for innovation and resilience

Climate change poses one of the most unique challenges of our time in its extraordinary reach across sectors, regions and populations. Making decisions on such a complicated issue is not easy—as the long negotiation process under the UNFCCC demonstrates and the various ways in which governments have tackled climate change response at the national level further proves. At all levels, however, making sure that diverse populations are represented in key decision-making processes is essential to safeguard against ineffective or even counterproductive actions and to maximise possible outcomes. Equitable and inclusive decision-making means ensuring that women and men are both included at decision-making tables. Representatives from typically marginalised groups such as indigenous and local, rural communities should also be a focus. To ensure this, enabling activities are necessary, including education and capacity building, as well as financial resources to directly support participation.

A wide body of literature now exists to support the importance of diversity. Diversity improves business performance; diverse groups are more effective in completing a given task; and working in diverse settings even makes people smarter and more creative.¹⁴ This is especially important in the context of climate change, for which creative solutions boost resilience and capacity to deal with the unknown.

Heterogeneous groups excel at complex problem solving.

This is true because of two different dynamics at play at the same time: the dynamics of prediction and the dynamics of selection. The more diverse the team, the more likely its prediction in the face of uncertainty and ambiguity will be correct because each person puts things into categories based on his or her background and experience. How someone categorises affects how he or she predicts a certain outcome. Someone's talent and their background have equal weight in terms of their ability to predict.¹⁵

The World Bank's 2015 World Development Report emphasised the difficulty in understanding and coping with the complexity—much of which is the uncertainty—of climate change. As the Report emphasised, people interpret scientific information in light of their cultural worldviews, obtain information through social networks and favored media channels, and rely on trusted messengers to make sense of complex information.”¹⁶ Ensuring diverse perspectives—those of women and men, young and old, wealthy and poorer, contribute to climate change discussions and decision-making—is key to comprehensively tackling the complexity of climate change and preparing for the unknowns it presents.



1.2 Gender matters: Advancing equality for global wellbeing

The term ‘gender’ refers to socially ascribed roles, values, responsibilities and opportunities associated with women and men, as well as the power structures—both hidden and overt, customary and legally prescribed—that govern relationships between them. Gender is

... in essence, a term used to emphasize that sex inequality is not caused by the anatomic and physiological differences that characterise men and women, but rather by the unequal and inequitable treatment socially accorded to them. In this sense, gender alludes to the cultural, social, economic and political conditions that are the basis of certain standards, values and behavioral patterns related to genders and their relationship.¹⁷

Gender implies far more than a binary relationship between individual women and men; it also implies more than a static set of roles and responsibilities permanently fixed for women and men. A gender perspective aims to identify and take into account the multiple, often overlapping and mutually reinforcing, set of structural inequalities, power dynamics, and social and cultural expectations that create the day-to-day lived reality for people in every community around the world—and tries to improve it.

Individual women and men are as unique and diverse as their needs and capacities are. It is important to flag that gender interacts with other social variables or ‘identities’—such as age or ethnicity—which

factor into and define differentiated rights, roles and responsibilities. Women, or men for that matter, are not a homogenous group.

Despite recent advances, it still remains the case that in most societies there are significant differences between the rights realised and opportunities available for women and men. These include, among others, differences in relation to land and resource rights; possibilities for employment, as well as salaries and advancement at work; and spaces to participate in and influence decision-making processes. The reality is that inequality between men and women is ingrained in sociocultural norms and values around the world. Even in those countries demonstrating the highest levels of equality, discriminations and inequities persist, creating obstacles for families and communities to attain their highest levels of wellbeing. The wage gap in Sweden, considered to be the world’s most gender-equal country, for example, means women bring home on average 14% less than they could, comparable to men’s wages.^{18,19} While across Africa, nearly 90% of women’s jobs are in the informal sector—an inequity recently described by the Executive Director of UN Women, the United Nations Entity for Gender Equality and the Empowerment of Women, specifically in the context of agriculture and development:

As a result [women] are not covered by labour relations laws, have no minimum wage and bring no social protection, no maternity benefits, nor old age pension. Agriculture, in which



almost all employment is currently informal, can be a key contributor in Africa to growth and poverty reduction. As a major employer, its transformation into a formal sector would

be influential. [Advancing gender equality] is a priority for creative and innovative action by both governments and business.²⁰

Box 4: Gender gaps

Pervasive gaps persist between women's and men's ability to realize the full spectrum of their rights, including in their access to and control over resources, in unpaid work burden, health and safety, and political voice, among other interconnected issues.

For example:

- *Women and girls experience extreme levels of poverty disproportionately to men and boys:* Of more than 1 billion people living in the deepest levels of poverty, women are widely considered to be the majority.²¹
- *Vast differences exist between women's and men's land tenure:* According to Food and Agriculture Organization (FAO) in 2011, globally less than 20% of all landholders are women.²² The Social Institutions and Gender Index (SIGI) found that women had the same legal rights as men to own and access land in only 28 of the world's countries.²³
- *While the total size of the global illiterate population is shrinking, the female proportion has persisted:* Women make up two-thirds (493 million) of the 774 million illiterate adults (15 years and older) in the world, and among youth, more than half—76 million of a total 123 million—are girls.²⁴
- *When women are paid for a job, they earn on average 10% to 30% less than men for work of equal value:* The International Labour Organization (ILO) estimates that at the current rate of progress it will take 75 years to make the principle of 'equal pay for equal work' a reality for women and men.²⁵
- *Women also have less access to labour markets, especially formal markets:* In 2013, the male employment-to-population ratio stood at 72.2%, while the ratio for females was 47.1%.²⁶
- *Women bear the burden of unpaid care work:* "Women devote one to three hours more a day to housework than men; two to ten times the amount of time a day to care (for children, elderly, and the sick), and one to four hours less a day to market activities."²⁷ In the European Union for example, 25% of women report care and other family and personal responsibilities as the reason for not being in the labour force, versus only 3% of men. This directly and negatively impacts women's participation in the labour force."²⁸



Box 4: Gender gaps (Cont.)

- *Decision-making spheres across all levels remain unbalanced:* As of September 2015, only 22% of all parliamentarians are women, a small increase from 11.3% in 1995.²⁹
- *High-level decision-making on the environment is inequitable, too:* According to Inter-Parliamentary Union (IPU) 2014 data, women hold approximately 17% of the total ministerial positions worldwide, but in 2015, according to the Environment and Gender Index (EGI), women held only 12% of top ministerial positions in environment-related sectors.³⁰

But gender dynamics can be fluid; they do, and must, change. Identifying and overcoming gender discriminations, barriers and gaps and advancing gender equality have been a major focus of the global community for decades. A policy framework supporting equality and women's empowerment, (much of which is discussed ahead in Chapter 2.1), has been developed and strengthened over the years, guiding how countries should implement commitments to human rights and equality. This commitment is implemented mainly via gender mainstreaming.

Gender mainstreaming is a globally agreed strategy—or set of approaches, methods and tools, as well as technical and institutional processes and policies—for the international community to identify gender inequalities and advance proactive actions toward gender equality.

At its most basic level, gender mainstreaming implies simply being aware and attuned to recognise gender concerns and attempting to improve equality. In that way, anyone can, and should, participate in gender mainstreaming. In its more strategic and technical capacity, gender mainstreaming implies a process by which to conduct a gender analysis, prepare gender-responsive actions to comprehensively improve equality, and then monitor and evaluate that process to ensure positive outcomes. This necessitates participatory consultations amongst a wide range of stakeholders, as well as guidance by gender experts, to maximise holistic outcomes.

GENDER MAINSTREAMING

The UN's Economic and Social Council (ECOSOC) officially defined gender mainstreaming in 1997 as:

The process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetrated. The ultimate goal is to achieve gender equality.³¹



Box 5: Definitions for key gender terms: From *do no harm* to *do better—much better*

Gender sensitive: Understanding and taking into consideration socio-cultural factors underlying sex-based discrimination. In application, gender sensitive has come to mean ‘do no harm’.

Gender responsive: Identifying, understanding, and implementing interventions to address gender gaps and overcome historical gender biases in policies and interventions. Gender-responsiveness in application contributes, pro-actively and intentionally, to

the advancement of gender equality. More than ‘doing no harm’, a gender-responsive policy, programme, plan or project aims to ‘do better’.

Some organisations have now started to use the term **gender transformative**, as well—meaning that gender is central to a policy, programme or project, promoting gender equality as a priority and aiming to transform unequal relations, power structures, access to and control of resources, and decision-making spheres.

Gender mainstreaming—or pursuing decision-making, policies, and initiatives at all levels with a gender perspective, as it is often referred—serves the interests of both women and men in its long-term purpose of eradicating inequities, transforming discriminatory laws and practices as well as structural barriers, and achieving a higher level of wellbeing for all. Importantly, women and men are viewed and positioned as equal stakeholders and actors, including for sustainable development, as well as equal beneficiaries.

***“One can walk only so far on one leg.
You need both legs to stand strong.”***

– Lorena Aguilar, IUCN

GENDER MAINSTREAMING RESOURCE HUB

The UN Women website pages on Gender Mainstreaming consolidate practical tools, government and organisational policies, and political mandates for gender mainstreaming. Access valuable information here:

<http://www.unwomen.org/en/how-we-work/un-system-coordination/gender-mainstreaming>



Box 6: Equity and equality: Complementary but not the same

While they are sometimes wrongly used interchangeably, equality and equity in fact mean different, yet complementary things:

Gender equality is the concept that all human beings, both men and women, are free to develop their personal abilities and make choices without the limitations set by stereotypes, rigid gender roles, or prejudices. Gender equality means that the different behaviours, aspirations and needs of women and men are considered, valued and favoured equally. It does not mean that women and men have to become the same, but that their rights, responsibilities and opportunities will not depend on whether they are born male or female.

Gender equity means fairness of treatment for women and men, according to their

respective needs. This may include equal treatment or treatment that is different but considered equivalent in terms of rights, benefits, obligations and opportunities. In the development context, a gender equity goal often requires built-in measures to compensate for the historical and social disadvantages of women.

Hence, both gender *equity* and gender *equality* must be pursued in a complementary manner where **gender equality is the ultimate goal**. In other words, in order to achieve gender equality, it is often necessary to pursue gender equity measures. The achievement of gender equality is not a one-off goal. Because progress can all too easily be eroded, gender equity needs to be constantly promoted and actively sustained.³²

Necessarily, because women still experience disproportionate discrimination; violation of or restrictions on the realization of their rights; and violence, among other things, efforts to identify and rectify gender inequalities often focus on women. Inverting inequities is, however, by no means the purpose of gender-responsive policies, plans or programmes. Rather, eradicating inequities and inefficiencies, which undermine development and hamper the realisation of global human rights, aims to improve the lives and livelihoods of all people on Earth. Where gender inequalities are enshrined

in cultural practice—and/or national or customary law—resistance to change may be strong. This kind of resistance is in no small part exacerbated by fears that gains by women may signify loss by men of power, prestige and benefits. Indeed, gender equality demands a transformation across many levels and interlinked aspects of society but pursuing the co-benefits of gender equality unleashes profound potential to progress the human experience and to ensure a healthy, sustainable environment, as well, especially in light of climate change.



Box 7: Equality is power: Driving economic, social, political and environmental transformation

Realising gender equality means women and men are equally able to access and employ the full spectrum of their human rights—which is imperative for justice, in and of itself, everywhere around the world and a prerequisite for an equitable and sustainable world. But driving economic, social, political and environmental transformation is another key opportunity and outcome of advancing gender equality: from household to corporate levels, women’s full and equal participation and empowerment, and their access to and control of spaces and resources, allows for multifold benefits to the global community, including:

- *Raising healthier, more educated families:* Educating girls, often referred to as the single best investment for development, leads to better employment opportunities for those girls in adulthood, and to those adults raising healthier, more educated children. Moreover, “A study using data from 219 countries from 1970 to 2009 found that, for every one additional year of education for women of reproductive age, child mortality decreased by 9.5%”.³³
- *Translating equitable land tenure into wellbeing:* Countries where women lack any right to own land have on average 60% more malnourished children and a lower proportion of the population has access to safe drinking water.³⁴
- *Guaranteeing inclusive decision-making benefits the community as a whole:* Ensuring women are involved in community-level decision making processes tends to produce increased focus on public goods, such as education and water and sanitation services.³⁵
- *Dramatically reducing food insecurity:* “Closing the gender gap in agriculture would generate significant gains for the agriculture sector and for society. If women had the same access to productive resources as men, they could increase yields on their farms by 20–30%. This could raise total agricultural output in developing countries by 2.5–4%, which could in turn reduce the number of hungry people in the world by 12–17%”.³⁶
- *Growing the global economy:* Over the last decade, the increased employment of women in developed economies has contributed significantly more to global economic growth than China.³⁷
- *And national economies, too:* When women are able to develop their full labour market potential, there can be significant macroeconomic gains. Raising the female labour force participation rate to country-specific male levels would, for instance, raise gross domestic product (GDP) in the United States by 5%, in Japan by 9%, in the United Arab Emirates by 12%, and in Egypt by 34%.³⁸



Box 7: Equality is power: Driving economic, social, political and environmental transformation (Cont.)

Making smart sustainable development decisions: Countries with higher parliamentary representation of women are more likely to ratify environmental agreements and more likely to set aside protected land areas.³⁹

- *Harnessing the potential for environmentally friendly purchasing power:* “Surveys suggest that women make perhaps 80% of consumers’ buying decisions— from healthcare and homes to furniture and food”.⁴⁰

- *Improving the business bottom line:* Having women in leadership positions, such as on boards, councils or governing bodies, has shown to be directly linked to higher business performance. Among a multitude of research leading to similar conclusions, one study revealed that of Fortune-500 companies ranked according to the number of women directors on their boards, those in the highest quartile in 2009 reported a 42% greater return on sales and a 53% higher return on equity than the rest.⁴¹

1.3 Interlinked roots: The value of a gender-responsive approach to tackling climate change

“Women’s dependence on and unequal access to land, water and other resources and productive assets, compounded by limited mobility and decision-making power in many contexts, also mean that they are disproportionately affected by climate change. Natural disasters, including those related to climate change, have greater impacts on poor women.”

– UN Women Summary Report: The Beijing Declaration and Platform for Action Turns 20⁴²



Climate change, and the actions to address climate change, may have similar effects throughout a geographic region, however the realised impact for different people in the region will vary dramatically depending on economic, cultural and social factors. For example, the world's poorest populations, with limited economic resources and a weaker political voice, will have significantly reduced abilities to enact measures to adapt to climate change impacts, such as the threats of increased flooding. In almost every region of the world, certain groups of people face systematic social exclusion as the result of multiple inequalities that restrict their options and opportunities; age, class and ethnic or racial identity—not to mention gender—all factor into a person's privilege or disadvantage, inclusion or exclusion.

“Differences in vulnerability and exposure arise from non-climatic factors and from multidimensional inequalities often produced by uneven development processes. These differences shape differential risks from climate change... People who are socially, economically, culturally, politically, institutionally, or otherwise marginalised are especially vulnerable to climate change and also to some adaptation and mitigation responses... This heightened vulnerability is rarely due to a single cause. Rather, it is the product of intersecting social processes that result in inequalities in socio-economic status and income, as well as in exposure. Such social processes include, for example, discrimination on the basis of gender, class, ethnicity, age, and (dis)ability.”

– IPCC 2014 Summary for Policymakers⁴³

Women who in many parts of the world make up the majority of the poorest populations are therefore likely to experience more severe impacts associated with climate change due to their economic status. However, women are not simply impacted by their economic status, they are also further marginalised by broader societal and cultural structures that limit their rights on account of gender. The latest Global Development Report published by the World Bank concludes that although advances have been made on gender equality initiatives globally, many disparities remain, including: excess deaths of girls and women; disparities in girls' schooling; unequal access to economic opportunities; and differences in voice in households and in society.⁴⁴ These gender disparities exist in some form in both developed and developing countries, and continue to exist because of ingrained government policies (e.g., access to education or health care), economic constraints (e.g., gender earnings gap), and social norms (e.g., restrictive gender roles, limits in the societal and household decision-making process). Therefore, women are among those particularly vulnerable to the impacts of climate change due to long standing gender inequalities.

Based on current trends, the impacts of climate change will continue to grow in magnitude. If actions are not taken to proactively and comprehensively address existing inequities and in particular gender inequality, climate change will serve to intensify the disproportionate vulnerability of women, exacerbating inequities and inequalities across the board.

Over decades, research, policy-making and programming have made concerted links between gender and environmental concerns. From the knowledge base on, for example, gender and forests, gender and agriculture, and gender and water



concerns, assumptions could be drawn early on as to how climate change would likely exacerbate inequalities and intensify feminised cycles of poverty in specific sectors. Recent IPCC data, as included throughout this chapter, unmistakably confirms these trends. As the effects of climate change are becoming more evident, so too is the reality that the impacts are differentiated, not least by gender.

Examples of how climate change affects women and men differently—and how advancing gender equality changes those scenarios—are discussed in this publication. Key issues include the following:

- During tropical storms and other disasters, more women than men lose their lives. This disparity is not due to physical differences but instead primarily to social and traditional constructs that limit the ability of women to protect themselves and survive. Contributing factors include little or no access to rescue and disaster response training; restrictive clothing that hampers movement; or the inability to move freely due to their traditional roles as caregivers or behaviour restrictions (e.g., disproportionate responsibility for dependents such as children and elderly, or inability to relocate without being accompanied by a male relative). A further factor is the inability of many women to relocate without being accompanied by a male relative. Many examples of the outcomes from this discrepancy exist in analyses of the mortality rates associated with disasters, such as the 2004 Indian Ocean tsunami (70% of all fatalities were women) or the 1991 Cyclone Gorky (women died at a 14 to 1 rate higher than men).⁴⁵ By comparison, in a study of the role gender plays in disasters conducted in 2007, during a review of disasters in 141 countries from 1981 to 2002, when economic and social rights are equally distributed the death rates between men and women are similar.⁴⁶ Climate change is expected to significantly increase the severity of future tropical storms and this threatens the health and safety of a greater numbers of people—but taking a gender-responsive approach to preparedness and fostering resilience can dramatically change outcomes.
- Standing water can pose a significant health threat to people via water-borne diseases such as typhoid fever and cholera, or vector-borne diseases, including malaria, dengue, yellow fever and chikungunya. Women are generally exposed to areas of standing water significantly more than men due to their assigned roles to collect drinking water, prepare food, or take care of family members and livestock. In addition, women may sometimes be more susceptible than men to vector-borne diseases due to physiological characteristics. For example, pregnant women are twice as likely to attract mosquitoes, which kill over one million people per year.⁴⁷ The rise of global temperatures is expected to bring about greater instances of standing water, through stronger storms or more frequent inundations, and an increase in the incidents of exposure to the associated water-borne and vector-borne diseases. Water management, including for both rural and urban areas, needs to account for gender-differentiated vulnerabilities and capacities.
- Rising sea levels are already impacting lives and livelihoods all over the world, with 44% of the world population living within 150km of the sea.⁴⁸ Migration, resettlement, loss of livelihoods—not to mention significant cultural heritage and spiritual losses—are serious long-term effects that will have differentiated impacts on women and men. Moreover, even prior to displacement and economic and social infrastructure disruptions, rising sea levels, severe storms and other disturbances of fresh



water sources are increasing salinity in drinking water due to saltwater intrusion in various parts of the world. Drinking saltier water can have severe health impacts—especially for pregnant women, whose rates of hypertension and preeclampsia in some regions have begun to escalate. In coastal Bangladesh, for example, a 2011 study sought to identify “seasonal excess of hypertension in pregnancy”; the conclusions emphasised that climate change-induced sea level rise was having serious health impacts for local populations and especially the target group.⁴⁹ Gender-responsive planning and action across sectors must safeguard the health and safety of future generations.

- Globally, women suffer from pervasive structures that limit their ability to own land, borrow and invest money, or start a business. According to a recent study performed by the World Bank, 155 out of 173 economies have at least one legal difference between men and women that may significantly reduce the economic opportunities of women.⁵⁰ As the need for climate change mitigation and adaptation actions grows, the distribution of related financing will increase—as will the potential gap in access to and control over resources between men and women under the prevailing systems and mechanisms. Due to existing economic structures, financial resources to aid in the mitigation and adaptation of climate change are not as likely to be available to women as to men. Unequal disbursement will intensify inequity. By 2030 climate change related costs are expected to range from USD 249 billion to USD 1,371 billion per year.⁵¹ Some strides have been made in creating climate finance mechanisms that are gender-responsive, and yet ensuring women’s participation in decision making on all aspects of climate-related financing is vital to the efficacy and efficiency, as well as equity, of resources.

- The United Nations Educational, Scientific and Cultural Organization (UNESCO) recently found that among the 775 million adults worldwide without basic literacy skills, approximately 64% were women. This gender disparity in education can vary significantly by country; for example, in India half of all women cannot read or write (187 million people), and in Senegal 61% of women are illiterate compared to 38% of men.⁵² Although global efforts have made progress in closing this gender education gap, even when educated, women worldwide face biases in research and policy development environments that marginalise their abilities to contribute and advance to leadership positions. Many studies have clearly demonstrated that diversity improves the decisions of groups. Therefore, the importance of promoting the participation of women in developing successful climate change research and policies cannot be understated. In addition, improving the education of women worldwide will help broaden societal awareness of climate change and empower a large segment of society to take action to address climate change. As more women have access to college and post-college education, they will help strengthen and diversify climate change related scientific research and policy development.
- Currently, over half the world’s population⁵³ lives in urban areas and, through rapid urbanisation and increasing populations, this figure is projected to grow to over 60% by 2050.⁵⁴ These urban populations will face unique and pressing challenges related to climate change, including sea level rise, waste and water management, resource distribution, and disaster risk reduction, prompting the need for immediate and extensive adaptation action. In addition, cities represent over 70% of global energy-related CO₂ emissions,⁵⁵ meaning there is significant opportunity for mitigation



policies to help curb these emissions in cities. Vulnerabilities are highly variable between social classes, age groups, race demographics, and gender; and poor populations, most of whom are women, are often the most vulnerable in urban areas. This puts women at a significant disadvantage because of their lack of access to resources, rights and services. Furthermore, research concerning women, cities and climate change is fairly limited, inciting the need for extended studies and understanding of the specific vulnerabilities and opportunities of women in urban areas. There is a huge opportunity to address gender gaps in current and future urban policy, planning and development to ensure more sustainable, resilient and gender-responsive cities.

- Well over one billion people around the world still lack access to electricity, and just under three billion people lack access to modern cooking and heating solutions, according to the World Bank.⁵⁶ According to the World Health Organization (WHO), 7 million deaths were attributable to the joint effects of household and ambient air pollution in 2012.⁵⁷ FAO estimates that 25% of the world population—1.6 billion people—rely on forests and forest products for their livelihoods, and many countries in the developing world draw on fuelwood

to meet as much as 90% of energy requirements.⁵⁸ As demands for energy increase, and as progress toward meeting development goals ensures that energy access must indeed increase, environmental and gender impacts will result multi-fold. The global community will need to make concerted and comprehensive choices for sustainable energy to offset—even without the added layer of climate change—environmental burdens, while mitigating exacerbated cycles of poverty and marginalisation of already vulnerable populations.

But the IPCC asserts that up to 80% of the world's energy supply could be met with renewable energy by 2050.⁵⁹ This offers a tremendous opportunity for co-benefits. Women are already energy managers at household level, and women have demonstrated that they are key stakeholders in the value chain of small-scale renewable energy, particularly in advancing energy access for those in the poorest economic tier. Women are part of the solution for climate mitigation—and gender-responsive climate solutions can mean complementary progress in expanding renewable energy labour markets, job creation for both women and men, their livelihood diversification and security, household health and wellbeing—and so much more.



Box 8: Men matter: Gender equality means equality for all

As this chapter has briefly introduced, specific climate change vulnerabilities of women extend from persistent patterns and cycles of gender inequalities. However, by no means does this imply that men around the world do not and will not suffer as a result of climate change, do not have distinct vulnerabilities, or do not have a stake in ensuring gender-responsive climate change solutions and actions. On the contrary, men around the world are more likely to bear the brunt of climate change in certain sectors or with respect to certain issues. For instance, as the effects of climate change threaten livelihoods, men are more likely to migrate away from home in search of additional

income.⁶⁰ In addition, a recent study from Australia indicates that the intense impacts of climate change on rural farms have led to the increased suicide rates of male farmers, due to the psychological distress of failed crops.⁶¹ Another study from Australia found that men are more likely to be involved in and die while fighting bushfires, an increasingly risky activity with increased incidences as a result of warmer, dryer conditions.⁶² The roles and responsibilities socially ascribed to men—just as those ascribed to women—can have profound impacts on wellbeing, lives, and livelihoods in the face of climate change.

Climate change action can thus reinforce or exacerbate inequalities—or intentionally aim to overcome and transform them, for the resilience of all people. As countries and communities take a closer look at their physical and sociocultural structures in response to climate change, long standing gender inequalities can be identified and addressed. However, it is important to recognise that resolving gender inequalities is not only a matter of 'righting a wrong' but also an important

opportunity to make use of previously underused (and under-recognized) abilities, knowledge and talents. For example, as global temperatures continue to rise, a re-evaluation of regional agricultural practices will be required. Because women represent 43% of the world's agricultural labour force,⁶³ and in some regions a much higher percentage, they hold a vast amount of important knowledge that will inform these needed re-evaluations of agricultural practices—as well as be a major part of that labour force to implement solutions.



Box 9: Climate change as opportunity

While climate change presents one of the most complex challenges of our time, the transformation required to deal with it presents one of the most profound opportunities. Not least when it comes to gender, effective climate change policymaking and programing offers the chance to do development better, ensuring more equitable and sustainable outcomes. Many programmes and projects from different corners of the world have already demonstrated how climate change response can offer an invaluable chance to overcome long-standing barriers to women's rights.

In Cameroon, the regional women's network REFACOF—the African Women's Network for Community Management of Forests—has facilitated women's engagement in national REDD+ (reducing emissions from deforestation and forest degradation) processes (read more about REDD+ in Chapter 4.2, ahead) to ensure women's voices were heard and responsive plans were thus developed. Moreover, though, REFACOF saw REDD+ as an opportunity to bring a new focus on a longstanding barrier to gender equality—pushing for and winning sweeping land tenure reforms. “REDD+ let us shine a new light on old issues,” REFACOF founder and president Cecile Ndjebet said⁶⁴ (see Figure 3).



Figure 3: A story of transformation

Tackling climate change and realising gender equality demand societal transformation across interlinked themes, sectors, and levels. Transformation takes time and energy; it takes specific strategies and designated resources—but it is more than merely a vision. Transformation is already happening.

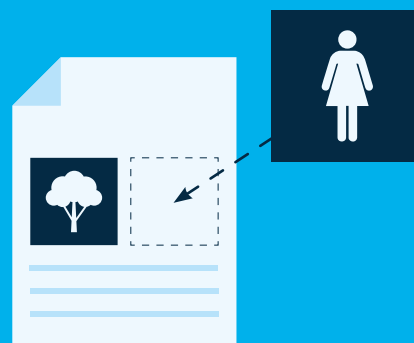
REFACOF’s extraordinary achievements in securing opportunities for women’s participation and experiences to shape national planning—and in transforming age-old challenges to women’s rights—is a shining example.

Sector-specific climate change issue:
Land degradation/ forest loss—a significant contributor to GHG emissions and thus climate change.



Women’s/gender issue:
While they rely upon land, forests and forest products, and other natural resources, women are typically unable to own or inherit land, and the only way they are able to access it is through marriage, or their children.

Gender and climate change strategy: Employing REDD+ as a window of opportunity and through its advocacy work, REFACOF has proposed legislative articles and forest policies that include women’s interests and ultimately will secure women’s rights in forestry and natural resource management in the coming years.

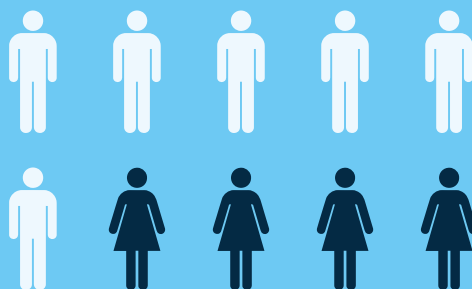


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Figure 3: A story of transformation (Cont)

Gender and climate change opportunity or co-benefit: REFACOF has realised impressive results; for example, now in Cameroon, 30-40% of women are included in decision-making positions at the village, district, regional, and national levels—contributing toward integrating gender into REDD+ policies and planning, as well as other processes.



Transformative results: Beyond REDD+ results, REFACOF has contributed to progress on solving a longstanding issue – by presenting women’s legislation for land tenure reform, remarkable progress was made in reforming national land tenure laws.

Read more about REFACOF: <http://gender-climate.org/member/african-womens-network-for-community-management-of-forests-refacof/>



The importance of fully including women and a gender perspective into climate change response has been reflected in recent policy making, (as the next chapter, Chapter 2.1, will elaborate). To date, more than fifty decisions of the UNFCCC include mandates on gender issues.⁶⁵ These efforts to ensure participation of women in the decision-making process and the crafting of gender-responsive climate change solutions are critical to the success of addressing the immense challenges posed by climate change, and therefore must be expanded at all levels.

Finally, women around the world have already demonstrated that they are leading the way on mitigating and adapting to climate change—from

cooperative seed banks, to early warning networks; from solar engineers to women politicians carving a path of sustainable policymaking—climate change solutions exist, but it takes the whole of the global population to find them and *act* on them. Highlighting these lessons, strategies, innovations and visions for a better, more equitable and more sustainable world makes up a significant purpose for this publication. Throughout each subsequent chapter, women’s innovative approaches and projects are featured, along with specific gender-responsive strategies, policies, and programmes that have taken the understanding of and commitments to advancing gender equality off the written page to reality, improving the lives of people all over the world.

READ MORE IN CHAPTER 7!

Throughout this publication, ‘Read More’ tags suggest specific initiatives included in the case study chapter ahead – ‘Leading the way: Case studies on gender-responsive initiatives’ offers 35 examples of projects and programmes happening all over the world and across sectors.





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2

POLICY



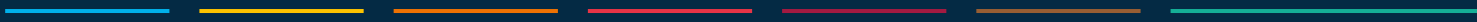
2.1 GLOBAL POLICY LANDSCAPE:

A supporting framework for gender-responsive action on climate change



2.2 FROM GLOBAL STANDARDS TO LOCAL ACTION:

National and regional approaches to integrating gender into climate change policy and planning



2

2.1 GLOBAL POLICY LANDSCAPE:

A supporting framework for
gender-responsive action on
climate change



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ACRONYMS

ADP	Ad Hoc Working Group on the Durban Platform for Enhanced Action	KP	Kyoto Protocol
APWLD	Asia Pacific Forum on Women, Law and Development	LDCs	Least Developed Countries
BAP	Bali Action Plan	LWPG	Lima Work Programme on Gender
BPfA	Beijing Declaration and Platform for Action	MDGs	Millennium Development Goals
CBD	UN Convention on Biological Diversity	NAPs	National Adaptation Plans
CEDAW	Convention on the Elimination of all Forms of Discrimination Against Women	NAPAs	National Adaptation Programmes of Action
COP	Conference of the Parties	NAMA	Nationally Appropriate Mitigation Action
CSW	Commission on the Status of Women	OPEC	Organization of Petroleum Exporting Countries
DRR	Disaster Risk Reduction	SBI	Subsidiary Bodies on Implementation
GCF	Green Climate Fund	SBSTA	Scientific and Technological Advice
GGCA	Global Gender and Climate Alliance	SDGs	Sustainable Development Goals
GHG	Greenhouse gas	UN	United Nations
HFA	Hyogo Framework for Action	UNCCD	UN Convention to Combat Desertification
ICCPR	International Covenant on Civil and Political Rights	UNCED	United Nations Conference on Environment and Development
ICESCR	International Covenant on Economic, Social and Cultural Rights	UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
ICPD	International Conference on Population and Development	UNFCCC	United Nations Framework Convention on Climate Change
INDC	Intended Nationally Determined Contributions	WDF	Women Delegates Fund
IUCN	International Union for Conservation of Nature	WEDO	Women's Environment and Development Organization
		WGC	Women and Gender Constituency



Key messages

- Over the last few decades, a strong international policy framework spanning human rights, gender equality, environmental conservation and sustainable development has recognised the links between gender equality and climate change.
- While the United Nations Framework Convention on Climate Change (UNFCCC) itself was unique in not integrating any social or gender concerns from the outset, great strides have been made by Parties recently to agree on decisions that include mandates on key gender issues. Such mandates include promoting women’s participation and leadership, gender mainstreaming of the Green Climate Fund (GCF), and formulating national adaptation plans with gender-sensitive approaches, among others.
- Despite progress in achieving gender mandates in climate change decision-making at a global level, gaps remain both in advancing more substantive understanding of gender and climate dynamics in policymaking and in ensuring that decisions are acted on, such as through guidance under UNFCCC programmes.
- Women’s participation in global decision-making on climate change has increased in recent years—due in large part to awareness raising and to subsequent mandates on this topic—but has stagnated overall, with women comprising just over a third of delegates.
- The complexity of global challenges and global policy-making demands strategic and focused attention across sectors, financial mechanisms and at all levels of society. Advancing gender equality can leverage progress on multiple fronts, delivering co-benefits for climate change.



2.1.0 Introduction

International norms and policies specifically related to gender and climate change have been slow to emerge. However they are increasingly surfacing, carving out space in the nexus between longstanding regimes – the environmental regime and the human rights regime. Principles expressed in the international agreements of these two arenas currently provide the foundation, and in some cases specific language, from which principles and policies have been drawn to address the gender dimensions of climate change.

– Gender and Climate Change: An Introduction¹

Between 2009 and 2015, the UNFCCC—the major international treaty and governing sphere for climate change policy and programming—has witnessed a paradigm shift in recognising social and gender considerations in its policies and practices. The complex causes and impacts alike of climate change require multifaceted solutions that go beyond technical measurements of greenhouse gas (GHG) emissions or concentrations, to incorporate and proactively address interlinked economic, environmental, and socio-cultural dimensions, including in particular gender equality issues. This chapter explores the international policy framework relevant to climate change and gender, key moments in its evolution, and next steps toward ensuring gender-responsive implementation.

The United Nations Framework Convention on Climate Change

While a number of multilateral environmental agreements and other international policy frameworks are relevant to combatting and coping with climate change, the UNFCCC was developed to specifically address the urgent issue of climate change, with the ultimate objective to stabilise GHG concentrations “at a level that would prevent dangerous anthropogenic interference with the climate system.”² While Parties ratify it, thereby entering it into force or validating it, the treaty provides only a legal framework for further action; thus, given the nature of the climate change challenge and need for decisive action, the international community established the complementary Kyoto Protocol (KP) that legally binds signatory developed countries, who are primarily responsible for GHG emissions, to reduce those emissions. The first commitment period of the KP was 2008-2012, and the second is 2013-2020. In addition to the KP, the UNFCCC has Subsidiary Bodies on Implementation (SBI) and on Scientific and Technological Advice (SBSTA), as well as a Bureau, a Secretariat, and other related bodies, to support and guide comprehensive action on climate change.

At the time of this publication, the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) established under the UNFCCC in 2012 is working to develop a protocol—another legal instrument or an agreed outcome with legal force under the Convention—applicable to all Parties, no later than 2015 at the Twenty-first Conference of the Parties (COP21) in Paris. If, and when, this new



agreement is reached, it is expected that it would begin implementation in 2020. With key agreements on gender-responsive action on climate change having recently come to fruition, the current and burgeoning period of decision-making, programming, and action on climate change is critical for the long-term wellbeing, lives, and livelihoods of women and men all over the world.

Engendering climate policy: An ongoing process

The global community has come a long way in identifying and making strides to address climate change since 1992, when the UNFCCC was formulated and agreed. The UNFCCC was originally a technocratic, top-down policy space focused solely on mitigation, but the Parties and stakeholders to the UNFCCC have advanced a much more comprehensive decision-making arena, one that is focused in all its complexity in addressing the dynamic and interlinked aspects of climate change, from adaptation to mitigation, from technology to education and capacity building, and to financing solutions. The agreements under the UNFCCC in recent years have also recognised and begun to substantively address gender equality concerns. Having been the only one of the three 'sister' Rio Conventions (the other two being the Conventions on Biological Diversity (CBD) and on Combatting Desertification (UNCCD)) without

mandates on women's rights and gender equality from the outset, these recent gender-sensitive decisions mark significant progress. As of mid-2015, the UNFCCC has over 50 mandates³ on gender across multiple decisions and programmes. These include three decisions specifically related to enhancing gender balance and gender equality under the Convention, most notably through the 2014 launch of the Lima Work Programme on Gender (LWPG).⁴

In 2001, at COP7 in Marrakesh, Parties to the UNFCCC agreed upon the first text on gender equality and women's participation concerns, adopting a decision on gender balance and women's participation, alongside a guiding mandate that National Adaptation Programmes of Action (NAPAs) be guided by gender equality. Implementation of these, however, was slow at best. It took another nine years of awareness raising, capacity building, and advocacy on gender and climate interlinkages before there was more progress: in 2010, the Parties stated that gender equality and women's participation are necessary for effective action on all aspects of climate change. Since then, UNFCCC Parties, supported by civil society organisations and United Nations (UN) agencies, have included gender equality issues in adopted decisions on nearly every UNFCCC thematic area, including the 2012 Decision 23/CP.18 on gender balance and women's participation, as well as the 2014 Decision 18/CP.20, launching the two-year LWPG.



Box 1: GGCA in action: Uniting forces to facilitate change

In 2007, at the 13th COP to the UNFCCC in Bali, four organizations with a long track record of collaborating and driving action on gender and environment concerns came together to advance progress integrating gender equality issues comprehensively into the climate change debate. The International Union for Conservation of Nature (IUCN), the United Nations Development Programme and Environment Programme (UNDP and UNEP, respectively), and the Women’s Environment and Development Organization (WEDO), a women’s global advocacy organization, officially launched the Global Gender and Climate Alliance (GGCA) to ensure that climate change decision making, policies and programmes, at all levels, became gender-responsive. Uniquely merging inter-governmental organisations, including more than a dozen UN organisations, with non-governmental organisation

perspectives and capacities, GGCA now has nearly 100 members. GGCA represents all regions of the world, and has focused intensively since its start on international policymaking to build awareness and capacity for gender-responsive decisions and action. In collaboration with a wide range of governments and civil society organisations—especially those allied under the Women and Gender Constituency of the UNFCCC (see below)—GGCA founders and members have had a strong voice in UNFCCC spaces and have contributed technical support to the achievement of decisions related to gender. The GGCA has benefitted from the steadfast financial support and technical partnership of the Government of Finland since 2008, with other partners supporting specific projects over the years, as well.

The driving factors of this policy evolution from 1992 to 2015 are myriad and interlinked. Factors include the influence of the evolving human rights framework and sustainable development framework over this same period, and of the efforts of global, national, and regional advocates and other champions across civil society, governments, UN, and research institutions to ensure that climate policy is able to address human rights, and development challenges, along with its core mandate of mitigation. The evolution is also influenced by factors such as the increasingly obvious impacts of a changing climate

on communities around the world; the interlinked political, environmental and economic global crises of recent years; the growing understanding that gender equality is integral to development and wellbeing of all people, of all ages, in all communities; and also the rising production of and attention to research that links issues of inequality, gender, rights, poverty, economy, and the environment.

Another critical aspect in evolving policy is the role of women’s direct participation and women’s leadership in international policy generally, but also specifically



within the UNFCCC where women, in 2014, accounted for around 35% of all national Party delegates and around 26% of the Heads of Delegations.⁵ The GGCA, through the Women Delegates Fund (WDF) has been a key actor in supporting both participation and leadership, as well as keeping a record of statistics (Box 2).

It is crucial to enshrine gender equality as a key principle for all climate policies and actions. Progress

toward that end at the UNFCCC builds on the foundational international treaties, conventions, declarations, and decisions that pushed the world towards a more holistic understanding of the interlinked challenges of the 21st century, on the varied technical tools and capacity building to shape policies and programmes, as well as on mechanisms to hold governments and other key stakeholders accountable to their commitments. The following sections explore this dynamic further.

Box 2: Enhancing women's participation and leadership at the UNFCCC: The Women Delegates Fund (WDF)

At the UNFCCC, where all key international decisions on climate change are made, women make up just over one-third of delegates. Research shows that gender imbalances differ across countries and regions. Women's participation in Eastern and Western Europe, for example, is around 46%, while it is around 30% in Africa and the Asia-Pacific region.⁶ These differences can also be seen when looking at participation by UNFCCC negotiating blocks, with countries from the African Group, Least Developed Countries (LDCs), and Organization of Petroleum Exporting Countries (OPEC) having less representation of women on national delegations.

Recognising a need to support the equitable participation and leadership of women in the UN climate negotiations, particularly from countries most affected by climate change,

in 2009, the Government of Finland partnered with WEDO under the auspices of GGCA to launch the WDF. The WDF works to enhance women's participation on national delegation to the climate negotiations in three key ways: first, by providing travel support; second, by offering opportunities for capacity building and networking; and third, via outreach and advocacy. Recently, the Governments of Iceland and the Netherlands have also contributed to the WDF.

First and foremost, the WDF works to address a gap in women's participation, particularly focusing support toward LDCs that have already limited capacity and resources to attend and effectively participate in the climate negotiations. In tandem with travel resources, the WDF prioritises building leadership skills through knowledge and capacity building on



Box 2: Enhancing women's participation and leadership at the UNFCCC: The Women Delegates Fund (WDF) (Cont.)

technical issues related to the negotiations, media, and communications. Since 2012, the WDF has worked to develop comprehensive and sustained negotiation skills modules, including the creation of a Night School during key preparatory and negotiating meetings. As of September 2015, in over six and a half years, the WDF has supported 191 trips for over 50 women across 40 countries to attend 22 sessions of the UNFCCC. During these sessions, eight Night Schools have been held and a further 250 women have been trained in technical language and negotiations skills.

A final and critical element of the WDF is advocacy, in particular assisting organisations and delegates to highlight the importance of innovative strategies to enhance women's leadership, and to provide a platform for wider discussion on women's leadership in decision-making, as well as to promote policy change at international and national levels.

There is progress to note: in the last 7 years, there has been a steady increase in women's participation in the process, both in overall participation and at the highest levels of decision-making. The numbers of total women delegates has increased from 31% to 35% in this time frame, and there are more women as Heads of Delegation, a rise of 16% to 26%. This progress can be attributed to various factors: the adoption of decisions promoting women's participation in climate change mitigation and adaptation efforts at the UNFCCC, the implementation of gender quotas and the introduction of climate change and gender plans at the national level, as well as the introduction of initiatives by civil society to enhance women's leadership in climate change negotiations and in broader awareness raising efforts.



2.1.1 A framework for supporting gender equality and women's human rights and empowerment in climate change response

As indicated above, over the last decades, a policy framework has evolved that intricately links commitments to realising human rights, advancing gender equality, evolving sustainable development, and effectively mitigating and adapting to climate change⁷.

Human rights

The International Bill of Rights^l, the cornerstone of which are the 1948 Universal Declaration of Human Rights and the 1966 Covenants on Civil and Political Rights (ICCPR) and on Economic, Social, and Cultural Rights (ICESCR). It provides the foundation for promoting and protecting human rights for all people. These covenants are considered binding (Box 3), and are broadly supported by UN Member States with 167 parties and 74 signatories to ICCPR and 160

parties and 70 signatories to ICESCR. Each element of these covenants reiterates that “recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world” and declares that people are entitled to human rights without distinction of any kind, including being based on “race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.”^{ll} As a whole, this entails both a moral and a legal obligation to ensure equality and non-discrimination.

These agreements also have components applicable to gender and climate change:

- *United Nations Universal Declaration of Human Rights (1948)* - Articles applicable to women's ability

- I. The 9 major treaties in the human rights treaty system include: International Convention on the Elimination of all forms of Racial Discrimination (CERD) (in force 4 January 1969); International Covenant on Civil and Political Rights (ICCPR) (in force 23 March 1976); International Covenant on Economic, Social and Cultural Rights (ICESCR) (in force 23 March 1976); Convention on the Elimination of all forms of Discrimination Against Women (CEDAW) (in force 3 September 1981); Convention Against Torture, and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT) (in force 26 June 1987); Convention on the Rights of the Child (CRC) (in force 2 September 1990); International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (CMW) (in force 1 July 2003); Convention on the Rights of Persons with Disabilities (CRPD) (in force 3 May 2008); International Convention for the Protection of all Persons from Enforced Disappearance (CED) (in force 23 December 2010)
- II. Preambles of all and UDHR Article 2, ICCPR Article 26, ICESCR Part II Article 2



to adapt to climate change include the right to own property, consensual marriage, freedom of movement, and equal protection before the law,

- *International Covenant on Economic, Social and Cultural Rights (ICESCR) (1966)* - Article 7 calls to ensure fair wages, equal compensation and good work conditions for all, especially women, which

are principles that should underlie all climate change policies for technology transfer and capacity building, and

- *The International Covenant on Civil and Political Rights (ICCPR) (1966)* “ensures the equal right of women and men to the enjoyment of civil and political rights set forth by the covenant.”

Box 3: Binding vs non-binding agreements and signatories vs parties

A range of commitments are made at international level to indicate global priorities. Some are ‘harder’ laws than others:

‘Hard law’ or binding agreements (legally binding agreements made by/between countries) include:

- Treaties (also known as conventions, covenants or international agreements),
- United Nations Security Council Resolutions, and
- Customary International Law.

‘Soft law’ or non-binding agreements (non-legally binding agreements on principles and codes of conduct, which are key to defining global priorities and standards for action) include:

- Most Resolutions and Declarations of the UN General Assembly,
- Elements such as statements, principles, codes of conduct, codes of practice etc. often found as part of framework treaties,

- Action plans (for example, Agenda 21, Beijing Platform for Action),
- Other non-treaty obligations.

Signatory vs party

A Signatory to a treaty is a State that is politically in support of the treaty, and its signature implies that support. A signature does not imply that the treaty has entered into force for that country. For example, the President of the United States of America (USA) can sign a global treaty, but then the USA Congress must ratify it to enter it into force.

A Party to a treaty has given its explicit consent to be bound by the agreements of that treaty.



In addition to these agreements, the 1979 Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) is fundamental to advancing gender equality and regarded as the first international bill of women's rights. Signatory governments are bound to take action to promote and protect the rights of women. Parties also agree to include the principle of equality in legislation and ensure it is operationalised.ⁱⁱⁱ

CEDAW has direct implications for climate change, obliging parties to 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” and participate in all levels of development planning. It further addresses issues of resources, credit, family planning, education, and the right to work, to participate in forming and implementing government policies and to represent the country at international level—all of which impact on a woman's capacity to adapt to impacts of climate change and to participate in planning and implementation to address climate change.

Box 4: CEDAW—the international bill of women's rights

- **Article 1** Defines the term “discrimination against women” for the purposes of the Convention
- **Article 2** Governments shall take concrete steps to eliminate discrimination against women
- **Article 3** Governments shall take all appropriate measures to ensure that women can enjoy basic human rights and fundamental freedoms
- **Article 4** Governments can adopt temporary special measures to accelerate equality for women, i.e. affirmative action
- **Article 5** Governments shall take appropriate measures to eliminate sexist stereotyping
- **Article 6** Governments shall take all measures to stop trafficking and exploitation of women for prostitution
- **Article 7** The right of women to vote, to participate in forming and implementing government policies and to join public and political organisations
- **Article 8** Right of women to represent the country at international level
- **Article 9** Equal rights with men to keep and change their nationality and to grant their nationality to their children
- **Article 10** Women and girls should receive career and vocational guidance and have

iii. “Optional Protocol to the Convention on the Elimination of Discrimination against Women”
<<http://www2.ohchr.org/english/law/cedaw-one.htm>>



Box 4: CEDAW—the international bill of women’s rights (Cont.)

access to education opportunities on par with men or boys

- **Article 11** Women have an equal right to work with men, which includes pay, promotions, training, health and safety
- **Article 12** Women have the right to family planning services
- **Article 13** Woman have a right to family benefits, bank loans, mortgages, and other forms of financial credit
- **Article 14** Governments should undertake to eliminate discrimination against women in rural areas so that they may participate in and benefit from rural development
- **Article 15** Women are to be equal before the law
- **Article 16** Women have the same rights as their husbands in marriage, childcare and family life

Sustainable development

In the 1990s, Member States to and stakeholders of the UN system embarked on a series of world conferences that ushered in a new era of global partnership, defining over two decades of development. These included major conferences on women as well as conferences that addressed the environment, human rights, population, and social development.^{IV}

Their outcomes furthered the international mandates and frameworks defining global cooperation. They reinforced the foundational covenants through subsequent binding international conventions,

optional protocols and ‘soft’ declarations and plans of action, addressing equal human rights with regard to women, race, children, migrant workers, and people with disabilities. The foundations are also translated into practice through human rights mainstreaming mechanisms aimed at strengthening interagency collaboration, technical support, and national capacity building for human rights.^V

United Nations Conference on Environment and Development (UNCED), Rio (1992)

Also known as the Earth Summit, the UNCED led to several historic outcomes related to sustainable development. Agenda 21, the outcome document of the Summit, is a blueprint for sustainable

IV. 1992- United Nations Conference on Environment and Development, Rio (UNCED); 1993- World Conference on Human Rights, Vienna (Vienna Declaration on Human Rights ‘women’s rights are human rights’); 1994- International Conference on Population and Development, Cairo (ICPD); 1995- World Summit for Social Development, Copenhagen; 1995- Fourth World Conference on Women, Beijing

V. These include the 1997 launching of the UN Programme for Reform, the 2003 Interagency Workshop on a Human Rights-based Approach, and the 2009 UN Development Group’s Human Rights Mainstreaming mechanism (UNDG-HRM).



development (Box 5) and among the first UN conference documents to systematically refer to women's positions and roles, including a stand-alone chapter on women. Follow-up conferences on sustainable development took place in 2002 at the World Summit on Sustainable Development (WSSD) in Johannesburg, and in 2012 at the United Nations Conference on Sustainable Development (UNCSD, or "Rio+20") in Rio de Janeiro.

World Conference on Human Rights, Vienna (1993)

The Vienna Declaration and Programme of Action reaffirms and strengthens human rights around the globe, including the right to development. Governments and regional and international organisations are urged to facilitate women's access to decision-making processes. Also, monitoring bodies are urged to use gender-specific data and include the status and the human rights of women in their deliberations and findings. Both are vital for responsive climate change policies that recognise women as agents of change.

International Conference on Population and Development (ICPD), Cairo (1994)

The ICPD stands out as a pivotal moment in the history of rights-based development, asserting that individual and human rights are the centre of population and development concerns. It highlighted the links between the cornerstones of women's empowerment—reproductive health and rights—and other aspects of development. Conference participants agreed to a 20-year Programme of Action that focuses on people's reproductive needs, particularly women's, rather than demographic targets. The rights-based consensus of the ICPD

highlights that the health needs of women, men and children must be met. It squarely considers population from the perspective of women, through the lens that women have the right to family planning and reproductive health services, which can impact sustainable development and poverty, and thus potentially their resilience to climate change.

Fourth World Conference on Women, Beijing (1995)

The conference resulted in the Beijing Declaration and Platform for Action (BPfA), a commitment to ensure that a gender perspective is included in policies and programmes at all levels—local, national and international—with the UN and governments agreeing to promote mainstreaming a gender perspective in all developments efforts. The Beijing Declaration addresses population issues, land and credit policies, and makes an explicit link to sustainable development. In the BPfA, Strategic Objectives K and C respectively address women and the environment and resources for and access to health care for women, including preventive programmes, initiatives to address sexual and reproductive health and HIV/AIDS, information dissemination, and follow-up health care.

World Summit for Social Development, Copenhagen (1995)

At the end of their deliberations, the delegates at the Summit agreed on the adoption of the Copenhagen Declaration on Social Development, and the Programme of Action of the World Summit for Social Development. This declaration included the recognition that women carry a disproportionate share of the burden of coping with poverty, social disintegration, unemployment, environmental degradation and the effects of war.



Box 5: A framework for sustainable development and addressing climate change

The 1990s was a critical time for development, including setting out the framework for action on environmental protection and climate change through the outcomes of the Earth Summit—most notably by the establishment of the UNFCCC.

The Earth Summit

A key aspect of that framework is Agenda 21, which builds upon and recognises previous plans and conventions^{vi} that advocate for gender equality in areas such as land ownership, resource stewardship, education and employment.⁸ The Agenda is to be achieved through actions that recognise women's critical economic, social and environmental contributions to environmental management and sustainable development.⁹ It recognises the synergies between sustainability and issues such as demographic dynamics, health, human settlements, waste, water, chemicals, work, and technology, and the chapter on women calls upon governments to eliminate all obstacles to women's full involvement in sustainable development and public life.

In addition to this, the Earth Summit saw the launch of the three Rio Conventions: the UN Convention on Biological Diversity (CBD), the

UN Convention to Combat Desertification (UNCCD), and the UN Framework Convention on Climate Change (UNFCCC):

UN Convention on Biological Diversity (CBD)

The CBD was adopted in 1992 for the conservation and sustainable use of biodiversity. The CBD has clear sustainable development and climate change implications, but it mentions women only in the preamble. It also recognises women's knowledge, practices, and gender roles in food production in the Subsidiary Body on Scientific, Technical and Technological Advice. In 2014, the CBD adopted a Gender Plan of Action for 2015-2020 to promote gender equality and mainstream gender into activities, building on the first Gender Plan of Action that was developed in 2008, facilitated by IUCN. Parties have, over the years, agreed a number of decisions that well integrate gender concerns cohesively; gender mandates over the last decades were compiled in a 2012 publication, aiming to consolidate information on gender and biodiversity and propel more gender-responsive decision-making.¹⁰

vi. E.g., Nairobi Forward-looking Strategies for the Advancement of Women, CEDAW and conventions of ILO and UNESCO



Box 5: A framework for sustainable development and addressing climate change

UN Convention to Combat Desertification (UNCCD)

The UNCCD, adopted in 1994, is implemented through participatory National Action Programmes (NAPs) to address ecosystem-specific needs.¹¹ The UNCCD recognises the role of women in rural livelihoods and the importance of local women's knowledge in addressing issues such as climate change. The convention instructs the NAP to "provide effective participation of women and men, particularly resource users, including farmers and pastoralists and their organisations."¹² Several COP decisions have addressed the importance of gender in relation to multiple aspects of the UNCCD, and in Decision 9/ COP.10, Parties approved the Advocacy Policy Framework (APF)¹³ on gender with a focus on promoting the integration of gender within the implementation of the UNCCD.

UN Framework Convention on Climate Change (UNFCCC)

The UNFCCC was presented for signatures at the Earth Summit, and unlike the 'sister' Conventions, it did not include references to issues related to women or gender. Even years later, many of the texts were limited to gender balance concerns in UNFCCC processes and encouraging but not requiring women's participation. However, in more recent years, with technical decisions integrating recognition of gender considerations, significant progress is noted and establishes a framework by which adaptation, mitigation, and climate finance can, and should be pursued with gender responsiveness.



2.1.2 Building political momentum in the new millennium: A growing web of gender and climate change linkages

With a foundation of international conventions and norms that furthered the recognition of the social and gender dimensions of environment and development, the first decade of the new millennium witnessed further milestones. Many of these are already being updated and enhanced in 2015 to shape the next 15 or more years of sustainable development. These include exercises in goal setting to address the major challenges of poverty, inequality, and environmental degradation towards a global partnership in development; a Declaration recognizing the rights of indigenous peoples; and policymakers drafting various resolutions with explicit references to the deep connections between gender and environment.

Development goals

The Millennium Declaration and Millennium Development Goals (MDGs) resulted from the 2000 Millennium Summit. Member nations outlined a global partnership to address the world's most pressing development needs through specific targets

and timelines (2000–2015) of the eight MDGs. Of particular significance, the Declaration aims “to promote gender equality and the empowerment of women as effective ways to combat poverty, hunger and disease and to stimulate development that is truly sustainable.”¹⁴ As part of the Post-2015 Development Agenda, and the Sustainable Development Goals (SDGs) arising from the Rio+20 Conference, Member States finalised in August 2015 a new set of goals that are much more comprehensive as well as universal and applicable to all states. These SDGs (Box 6) include a specific goal on climate change and one on gender equality and the empowerment of women. The other goals reflect an effort to integrate and mainstream gender and other issues throughout, creating the opportunity for further advancement in gender and climate change over the coming decades. For many actors in the process, the Post-2015 agenda has been critical and momentous, contributing towards advancing ambition and progress in combating climate change, especially as the new climate agreement will not officially begin until 2020, and the SDGs have a lifespan from 2016 to 2030.



Box 6: Sustainable Development Goals (SDGs): The universal priority blueprint through 2030

Goal 1. End poverty in all its forms everywhere.

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture.

Goal 3. Ensure healthy lives and promote wellbeing for all at all ages.

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Goal 5. Achieve gender equality and empower all women and girls.

Goal 6. Ensure availability and sustainable management of water and sanitation for all.

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all.

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.

Goal 10. Reduce inequality within and among countries.

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable.

Goal 12. Ensure sustainable consumption and production patterns.

Goal 13. Take urgent action to combat climate change and its impacts*.

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

Goal 17. Strengthen the means of implementation and revitalise the global partnership for sustainable development.

** Acknowledging that the UNFCCC is the primary international, inter-governmental forum for negotiating the global response to climate change.*



Disaster risk reduction

The 2005 Hyogo Framework for Action (HFA) was developed at the World Conference on Disaster Risk Reduction (DRR) and was updated in Sendai, Japan, at the Third World Conference on DRR at the first major conference of 2015. With a goal to substantially reduce disaster losses by 2015, the HFA states that “a gender perspective should be integrated into all disaster risk management policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training.”^{15,16} The Sendai Framework for DRR¹⁷ recognises climate change as exacerbating disasters and also as a driver of disaster risk and it calls for the coherence of DRR, sustainable development, climate change and other policies for improving efficacy and efficiency. The Sendai Framework expands somewhat in terms of gender: it includes guiding principles of a gender, age, disability and cultural perspective in all policies and practices and the promotion of women and youth leadership. It refers to women’s role in gender sensitive policies and highlights empowerment of women and persons with disabilities to publicly lead and promote gender equitable and universally accessible response, recovery rehabilitation and reconstruction approaches.

Indigenous rights

In 2007, after 20 years of negotiations, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) was adopted as a non-binding statement that recognises indigenous rights to self-determination, education, institutions, political and economic development, as well as the right to participate in the life of the state.¹⁸ By confirming the rights of indigenous peoples, the declaration strengthens a rights-based development agenda and encourages better understanding of traditional land tenure and the need to recognise its validity for women and other vulnerable or marginalised groups in the face of climate change and shifting population dynamics. In the development of new climate change mitigation mechanisms, such as REDD+, (which stands for Reducing Emissions from Deforestation and Forest Degradation in developing countries, including the role of conservation, sustainable management of forests and enhancement of forest carbon stocks), reinforcement and safeguarding of indigenous rights is increasingly important.



Box 7: Key resolutions linking gender and climate change

At its seventh session in March 2008, the UN Human Rights Council adopted by consensus Resolution 7/23 on Human Rights and Climate Change, and as a result, the Office of the High Commissioner released a follow-up report in January 2009. The report recognises the need for more country-specific and gender disaggregated data to effectively assess and address gender-differentiated effects of climate change. It simultaneously reports that women have high exposure to climate-related risks exacerbated by unequal rights, and that women's empowerment and the reduction of discriminatory practices has been crucial to successful community adaptation and coping capacity.¹⁹

In 2011, at the 55th Commission on the Status of Women (CSW) which meets annually to follow-up on implementation of the Beijing Platform for Action to ensure the mainstreaming of a gender perspective into UN work and to identify emerging issues and trends important to gender equality, Parties adopted a resolution to mainstream gender equality and to promote the empowerment of women in climate change policies and strategies. The resolution (E/CN.6/2011/L.1) is the first resolution by the CSW to address the link between gender equality and climate change. In 2014, the 58th session of the CSW passed a resolution entitled "Gender equality and the empowerment of women in natural disasters," which outlined the link between women, gender equality and disasters, and referred to the climate resolution from CSW55.

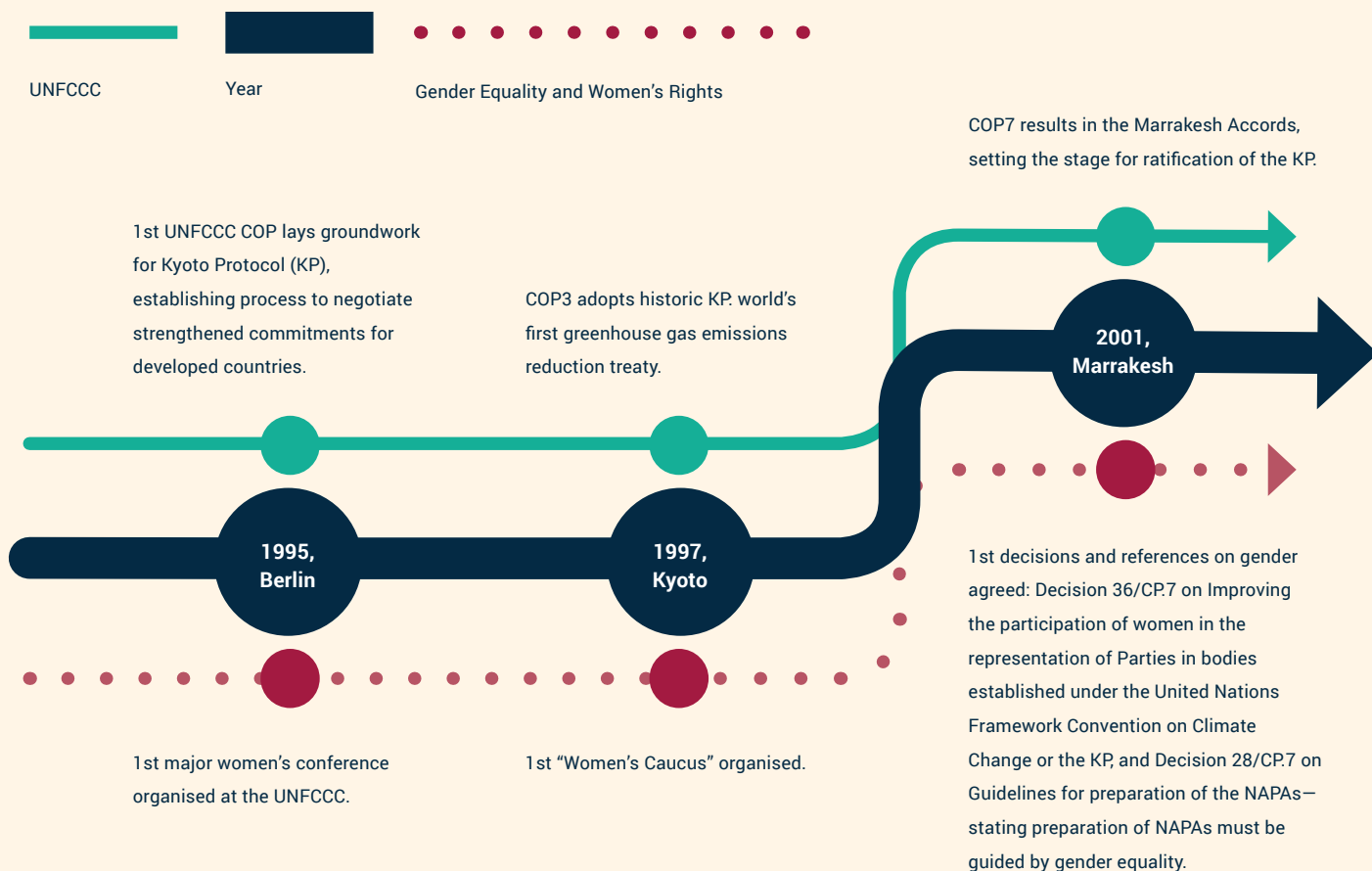


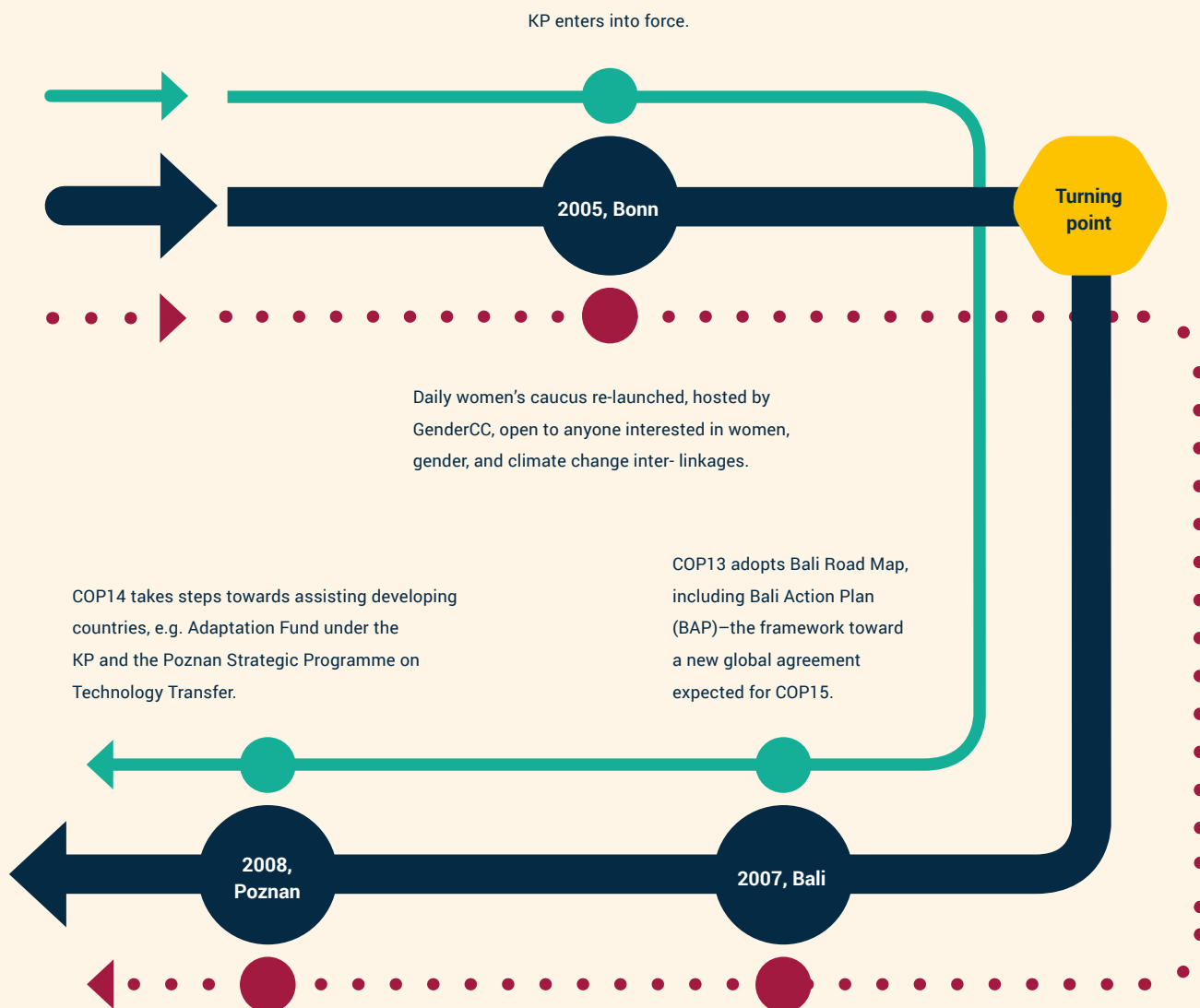
2.1.3 Gender in the UNFCCC: From gender ‘blind,’ to gender balance—and beyond

As the links between gender equality, human rights, sustainable development and climate change response and resilience have become increasingly understood and recognised—not least because the gender-differentiated impacts of climate change are increasingly being felt—decisions under the UNFCCC have, more and more, reflected this reality and

have included specific mandates to ensure gender considerations are integrated into policy-making, programming and finance. The figure below presents a timeline of key milestones in the UNFCCC process, demonstrating how decisions have progressed to substantively reflect gender concerns.

Figure 1 Timeline of gender mainstreaming in the UNFCCC





IUCN as part of the GGCA launched a Gender and Climate Change Training Manual and hosted the first orientation session on gender dimensions of climate change for Party delegations, supporting awareness raising and increased understanding among a wide range of Parties.

Gender advocates from the GGCA and other groups provided technical support directly to delegates, built strong relationships with Parties, and advocated suggestions for gender text.

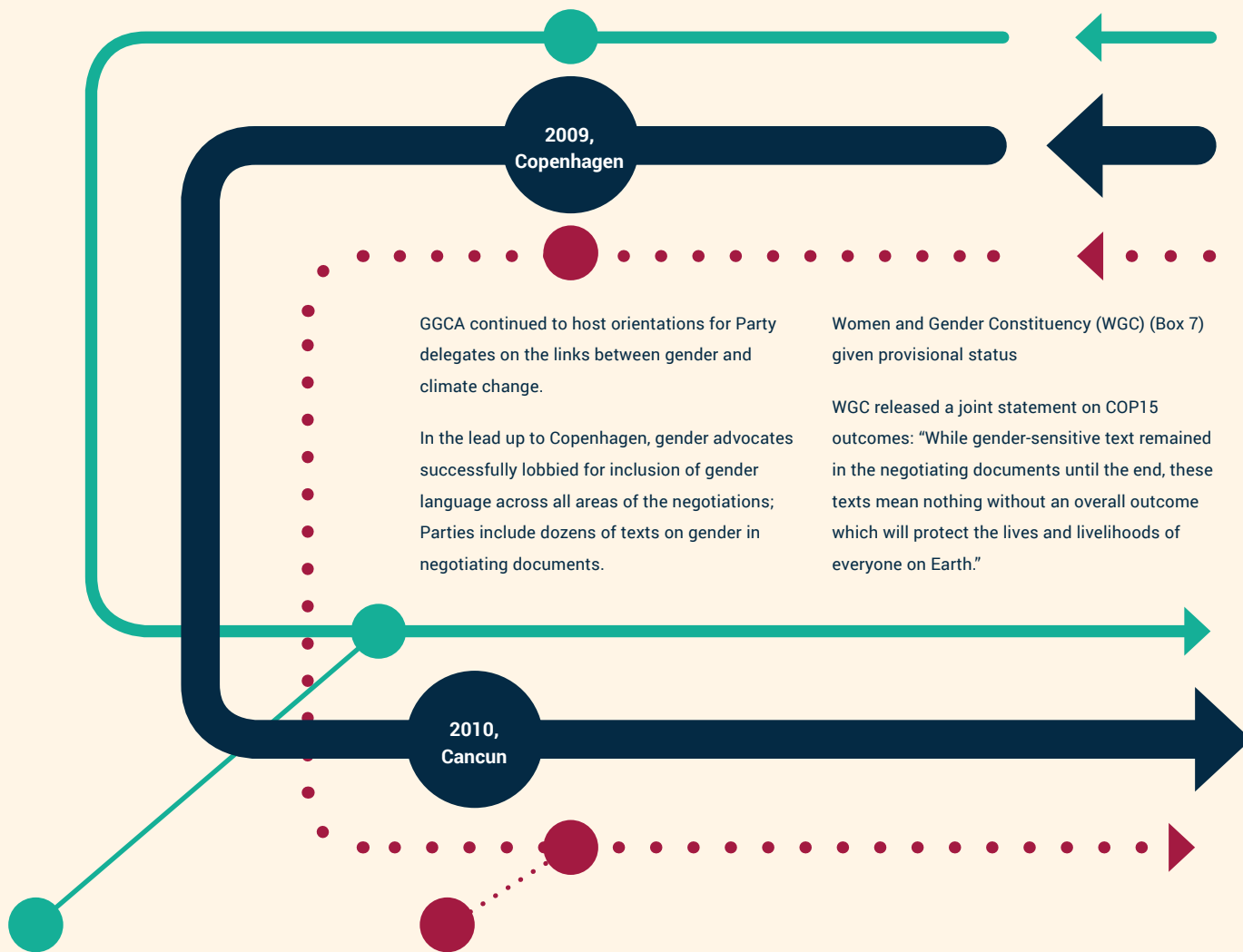
BAP marked a turning point in the UNFCCC negotiations.

GGCA launched in 2007 by 4 founding members, IUCN, UNDP, UNEP and WEDO, joining forces to propel gender into the climate agenda.

Women's groups began discussions to establish a Women and Gender Constituency, to facilitate a formal relationship between women's civil society and the UNFCCC.



COP15 fails to produce an ambitious outcome in line with the Bali Action Plan, instead agreeing on a short Copenhagen Accord



2009, Copenhagen

GGCA continued to host orientations for Party delegates on the links between gender and climate change.

In the lead up to Copenhagen, gender advocates successfully lobbied for inclusion of gender language across all areas of the negotiations; Parties include dozens of texts on gender in negotiating documents.

Women and Gender Constituency (WGC) (Box 7) given provisional status

WGC released a joint statement on COP15 outcomes: "While gender-sensitive text remained in the negotiating documents until the end, these texts mean nothing without an overall outcome which will protect the lives and livelihoods of everyone on Earth."

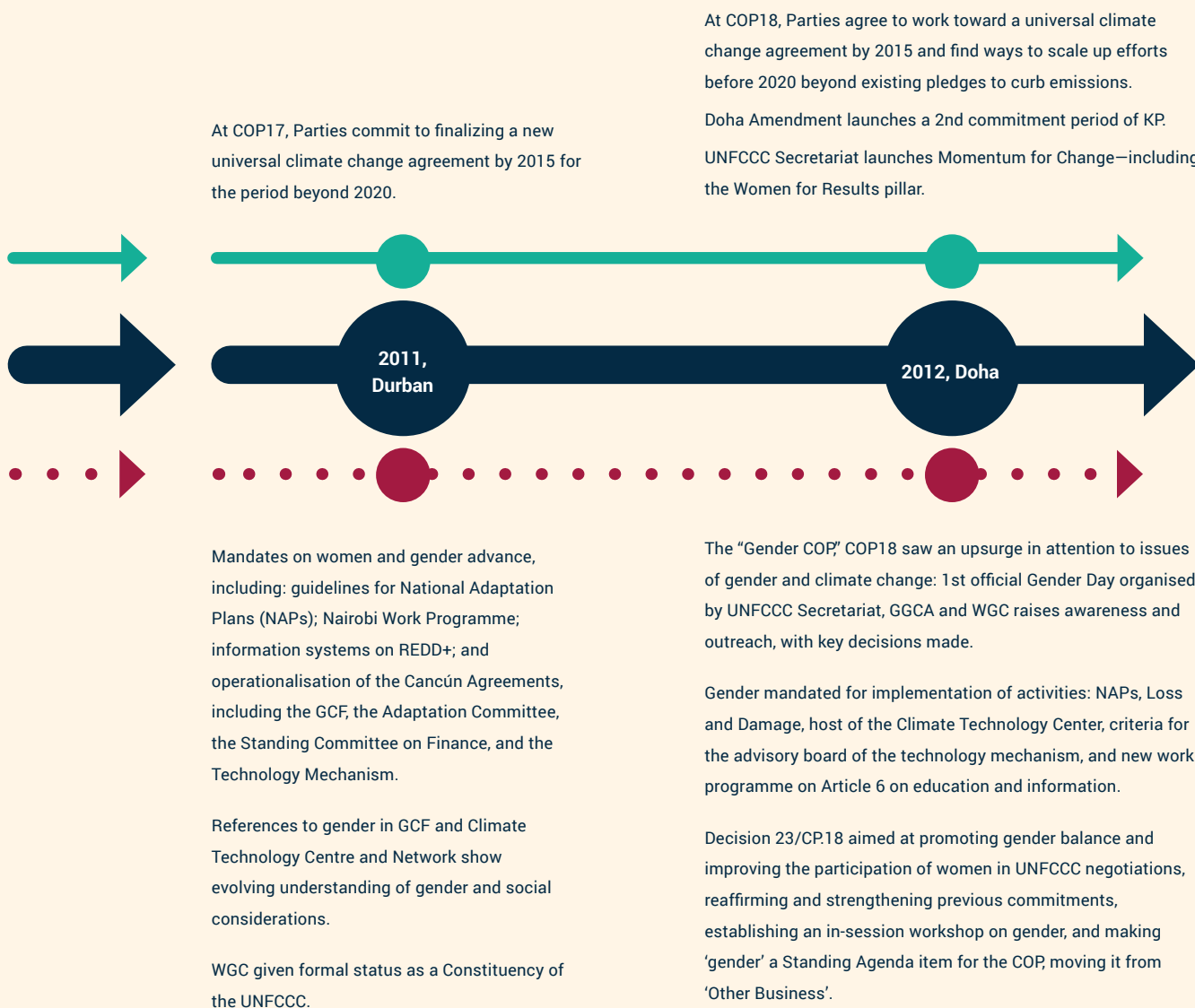
2010, Cancun

COP16 results in Cancun Agreements, a comprehensive package by governments to assist developing nations in dealing with climate change. The Green Climate Fund, the Technology Mechanism and the Cancun Adaptation Framework are established.

GGCA and other gender advocates actively lobby governments and media; IUCN, UNDP-Mexico and other GGCA partners organise capacity building session for Mexican delegation.

Cancun Agreements included 8 references to women and gender across seven sections of the decision texts: foundational language under

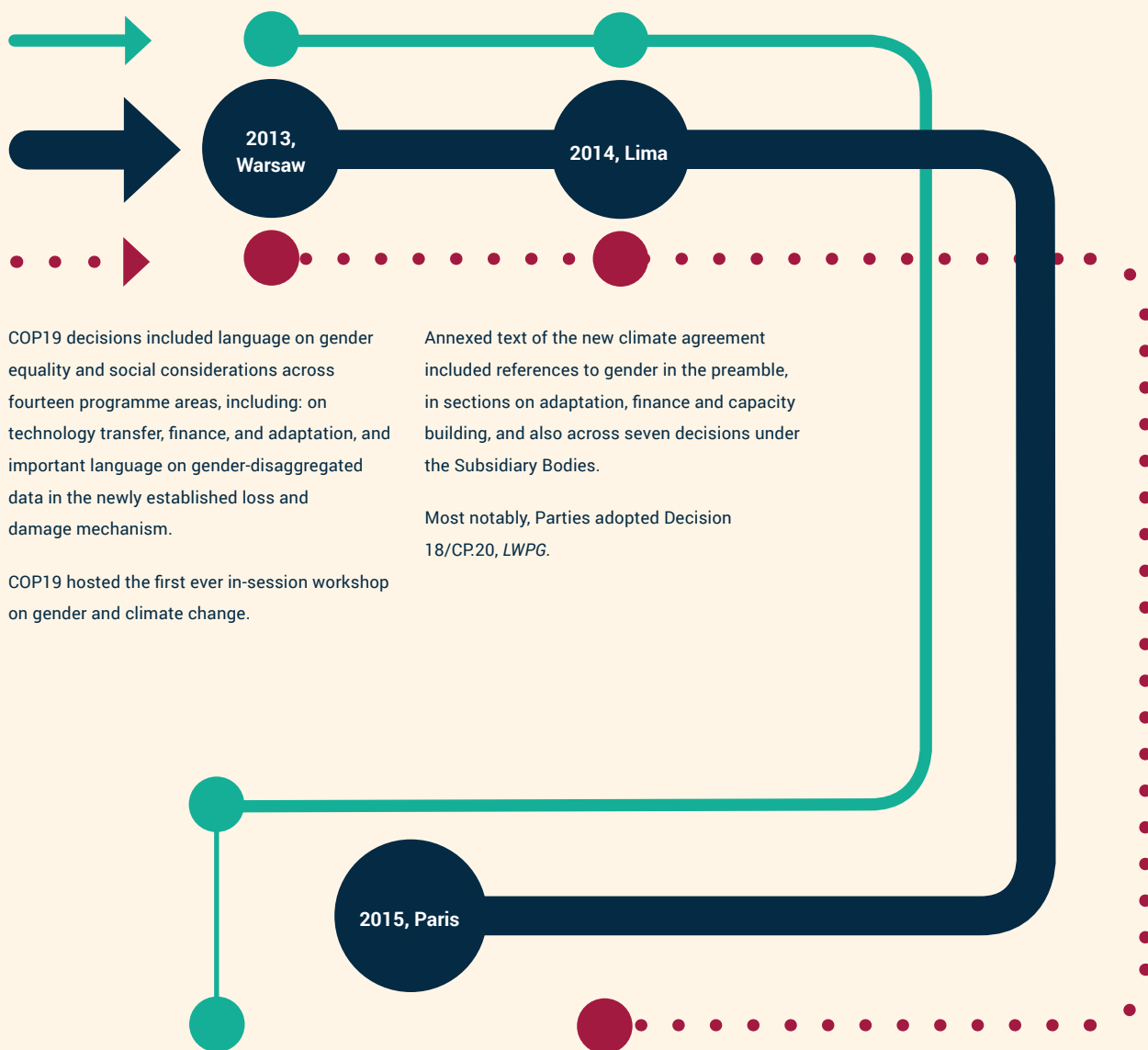
the 'Shared Vision' for long-term cooperative action which recognises that "gender equality and the effective participation of women are important for effective climate action on all aspects of climate change", and references under Adaptation, REDD+, Technology Transfer, and Capacity Building sectors/themes.





COP19 produces the Warsaw Outcomes, including a rulebook for REDD+ and a Loss and Damage mechanism.

At COP20, Parties produce a decision on the submission of countries' Intended Nationally Determined Contributions (INDCs) and submit the foundational text for the new climate agreement in 2015.



COP19 decisions included language on gender equality and social considerations across fourteen programme areas, including: on technology transfer, finance, and adaptation, and important language on gender-disaggregated data in the newly established loss and damage mechanism.

COP19 hosted the first ever in-session workshop on gender and climate change.

Annexed text of the new climate agreement included references to gender in the preamble, in sections on adaptation, finance and capacity building, and also across seven decisions under the Subsidiary Bodies.

Most notably, Parties adopted Decision 18/CP.20, *LWPG*.

Final year of negotiations toward new 2015 climate agreement launches in Geneva in February; negotiations conclude with adoption of a 'Geneva Text' to serve as foundation for ongoing discussions.

Mexico – then supported by Uganda and Chile, kicks off Geneva negotiating session with progressive statement on gender: "Parties to respect human rights and gender equality in implementation of all climate policies and actions."

European Union, LDCs, and African Group all put forward proposals on gender equality.

By mid-year, language on gender equality, women's rights, public participation and indigenous peoples mainstreamed across all areas of the negotiating text.

In GCF Board Meeting, Gender Policy and Action Plan adopted—making it the first financial mechanism with gender mainstreamed before fund dispersal/operationalised.



Marking a key point in this process, in 2007 the BAP established a new comprehensive framework to advance negotiations around five critical pillars—mitigation, adaptation, finance, technology development and transfer, and capacity building—guided by a shared vision of all Parties to take into account “social and economic conditions and other relevant factors”. The BAP opened a window for recognising more comprehensive roles, responsibilities, and differentiated risks and impacts of climate change. With regard to women’s and

gender concerns, a significant opportunity arose to build awareness on gender and climate inter-linkages and introduce negotiating text to reflect gender differentiated impact and women’s right to participate in climate change planning, among other things. Another critical moment evolved in 2010 and 2011, when an enhanced understanding of gender considerations was reflected in the gender mandates relevant to the Green Climate Fund and the Technology Mechanism.

Box 8: Women and Gender Constituency (WGC): ‘Formalising’ women’s engagement in the UNFCCC process

While women’s organisations, including leading networks like LIFE e.V. and GenderCC, were active in the UNFCCC since its start, women and gender-focused civil society participation was informal during the first 15 years of the Convention and its processes. In 2008, active women’s civil society organisations applied for provisional constituency status to gain official recognition and be afforded formal channels through which to provide input into negotiating processes. Provisional status was granted in 2009, when the WGC included active organisations such as GenderCC, LIFE e.V. Women in Europe for a Common Future (WECF),

WEDO, the Asia Pacific Forum on Women, Law and Development (APWLD), ETC Foundation, ENERGIA, The Huairou Commission, and International Council for Adult Education (ICAE). The WGC became fully operational in 2015 and is able to make submissions and interventions on the floor, as well as participate in a range of in-session workshops and other events. The WGC also collaborates closely with other major constituencies, including youth, indigenous peoples, trade unions, and environmental non-government organisations (NGOs).



Box 9: UNFCCC Momentum for Change: Women for Results

In 2012, the UNFCCC Secretariat itself, with support from Rockefeller Foundation, launched an initiative to spotlight particularly innovative—but also scalable and replicable—projects that help to create a highly resilient, low-carbon future. Momentum for Change recognises innovative and transformative solutions that address both climate change and wider economic, social and environmental challenges.²² Called Lighthouse Activities, the projects that are chosen as winners of this prestigious competition fall into specific categories—including one called Women for

Results. Among the winners are extraordinary examples of projects that “demonstrate the critical leadership and participation of women in addressing climate change,” and that are having real impact at local, national and international level. The leadership of the UNFCCC Secretariat in soliciting and promoting these innovative examples is to be acknowledged, especially in light of relatively slow political negotiations overall (see some of the Momentum for Change projects in the case study chapter, Chapter 7, of this publication).

Sometimes referred to as the ‘Gender COP’ because gender issues garnered so much attention, COP18 in 2012 produced a Decision promoting gender balance, women’s participation and, among other things, called for an in-session technical workshop on gender issues for the next year. That workshop, held during COP19 in 2013 in Warsaw, produced draft conclusions and an annex with Party proposals on actions for governments, the UNFCCC Secretariat, and civil society, including: the establishment of a two-year work programme on gender balance under the Convention; workshops to further substantiate a gender lens across mitigation, adaptation, technology and finance; capacity building for female delegates organised by the UNFCCC secretariat; and monitoring of gender balance, gender budgeting and gender sensitive climate policies and actions by Parties. At COP20 in Lima in 2014, Parties adopted Decision 18/

CP.20, the LWPG, building on much of the above and establishing a two-year work programme that includes:

- A review of implementation of all gender-related mandates by the UNFCCC Secretariat,
- Training and awareness raising for delegates on gender-responsive climate policy,
- Training and capacity building for women delegates,
- Two in-session workshops on gender, in relation to mitigation, technology, adaptation and capacity building at SBI 42 in 2015 and SBI 44 in 2016,
- Submissions by Parties and accredited organisations on these workshops,
- A technical paper by the Secretariat on guidelines for implementing gender considerations in climate change activities, and
- Appointing a senior focal point on gender at the UNFCCC Secretariat.



In early 2015, Parties and Observer organisations had the opportunity to make submissions on gender and mitigation and technology, with a particular eye toward shaping the first LWPG-mandated workshop. While the workshop—which was implemented in Bonn in June 2015, at the mid-year inter-sessional—was an important step, more substantive examples of practical and effective ways in which governments and other stakeholders have indeed mainstreamed gender through relevant mitigation and technology sectors are needed. The workshop was noteworthy in convening national delegates from over 40 countries in a two-session workshop and sharing the need for,

and progress on, gender equality in climate change in the Convention and national and local level policy, programs and measures.

The timeline demonstrates how far decisions under the UNFCCC have progressed in the last several years in terms of recognising the gender dimensions of climate change. However, counting the gender references is not enough; understanding and propelling progress requires capacity building for gender-responsive implementation at all levels and accountability for the operationalisation of mandates.

Box 10: The power of words: Text that demands action

Across the gender text itself—that is, the references to gender and gender equality considerations agreed in UNFCCC decisions, gaps do remain. A number of mandates refer only to gender balance and enhancing women’s participation on boards and bodies. For instance, Decision 23/CP. 18, which specifically sought to, “Promot[e] gender balance and improve[e] the participation of women in UNFCCC negotiations and in the representation of Parties in bodies established pursuant to the Convention or the Kyoto Protocol” while others recognise both the need for gender balance and a gender-sensitive approach. But operationalising gender mainstreaming—and pursuing gender equality in a transformative fashion, as delivering co-benefits to the fight against climate change—will require much more than simply getting women to the

decision-making tables, despite of course the importance of this step as a means toward an end, and a critical recognition of women’s right to participate in political and practical decision-making processes.

To date, decisions on adaptation have the most robust gender-sensitive language integrated, for example, a number of decisions that specify Parties to pursue adaptation with a “gender-sensitive, participatory, and fully transparent approach”. This could be due, in part, to the following:

- The first decision to integrate a gender-sensitive approach mandated that national adaptation programmes of action be guided by gender equality (COP7 in 2001),



Box 10: The power of words: Text that demands action (Cont.)

- From the outset of the current UNFCCC adaptation framework, a gender-sensitive approach was mandated, and
- Early research and awareness raising on the linkages between gender and climate change predominantly framed women in terms of their vulnerability to climate impacts; this made the link to adaptation more relevant to policy-makers than the link to areas such as mitigation and technology.

Mitigation issues have the lowest number of decisions that reference gender, with no guiding mandate for gender-sensitive mitigation actions. Gender considerations are limited to REDD+ and response measures, with the latter only referring to women as a 'vulnerable group'.

Progress is clear with respect to decisions on climate finance and more recent decisions of the finance mechanisms themselves (as discussed in the finance chapter). The GCF addresses gender in a more holistic manner, across several aspects of the GCFs governing rules and procedures from the outset, and

mandating a gender-sensitive approach to the GCF's actions, promoting gender-balance in the Board/Secretariat composition, and promoting the input of stakeholders, particularly women (although not specifically framed as vulnerable in this instance). These specific mandates imply a stronger push toward action and toward the distribution and governance of gender-responsive resources.

While mandates 'on paper' are crucial, mitigating and adapting to climate change in a gender-transformative manner requires that the full and appropriate implementation of these policies is realised and that Parties are accountable to their commitments. Implementation lags behind, even in meeting gender balance goals, which jeopardises potential impact of the mandates. The current composition of UNFCCC boards and bodies, for example, which are explicitly mandated to target gender balance, especially via decision 23/CP.18, remains notably inequitable and inadequate.



2.1.4 Moving forward

There can be no doubt that significant progress has been made over the last twenty years on the ways in which international policy is addressing the complexity and intersectionality of global environment and development challenges. It is visible in the shift from the MDGs to the SDGs, both in terms of their scope and in the ways in which they were developed. It is equally visible in the UNFCCC, which is currently undertaking a two-year work programme on gender-responsive policies, and where people and countries are beginning to tackle climate change impacts as an issue of human rights.

However, while global policy may better reflect our complex world, the effectiveness of multi-lateral processes leading to implementation of actions calls for clear strategies and further steps to create real change for gender equality and a sustainable future.

Although there are many legal norms and mandates, the current trend is to move away from legally binding international agreements and towards voluntary commitments, often without clear pathways for financing, capacity building, or technology transfer. This trend is visible in the SDGs and in climate change. There is momentum toward bilateral and regional partnerships for solving development challenges, whether it be among governments or between the State and the private sector. With climate change as an example, recent rounds of negotiations and high-level calls for action are largely defined by voluntary commitments and a showcase of ‘solutions’, partnerships, and actions that fall outside of the frame of international policymaking.

This makes the challenges for effective gender-responsive climate policy clear. Firstly, turning words in the global policy realm into action at regional, national, and local levels and, secondly, identifying alternative spheres of influence to build awareness and capacity on the linkages between gender and climate change.

There are some key next steps to address the first main challenge of ‘turning words into action’:

- For the UNFCCC, the LWPG provides a first step towards a more institutionalised approach to gender mainstreaming across all climate policies. However, to be truly effective, the next step involves the development of monitoring, evaluation, and reporting guidelines and systems to hold governments accountable to mandates on gender equality,
- For governments, effectiveness in understanding and implementing gender-responsive actions must be enhanced via a clear set of tools which:
 - Define methodologies for gender-mainstreaming under the UNFCCC,
 - Create specific action guidelines for all mandates across UNFCCC decisions (for example, if a decision calls for undertaking gender analysis, a clear methodology and set of questions to conduct gender analysis should be developed and easily accessible to all Parties and practitioners of the UNFCCC), and
 - Provide templates and examples for what a ‘gender-responsive’ NAP or Nationally Appropriate Mitigation Action (NAMA) looks like.



Those focused on implementation must be vigilant in monitoring and analysing climate finance flows, as well as ensuring that the multiple ‘gender action plans’ and mandates are being articulated in project implementation, design, and monitoring.

The participation of civil society is key to success, and thus relevant actors must also emphasise capacity building for women’s organisations and their allies at the local level to understand national mandates on gender and climate, along with legal tools and practices they can use to hold their governments to account.

Addressing the second challenge of alternative spheres of influence is also crucial. One sphere is the SDGs, which, although voluntary, will have a strong influence on development financing over the next 15 years. With individual goals on gender equality and climate change, and mentions of both in relation to education, there is a strong opportunity for awareness raising of the inter-linkages of these issues in all countries and for demanding more inclusive approaches from governments and large donor networks.

Similarly, tracking the implementation of INDCs in each country and encouraging the development of national gender and climate change action plans could substantially influence gender-responsive policies.

Thirdly, investing time into awareness raising and movement building, beyond just interaction with governments and practitioners, towards capacity building of women’s groups, feminist organisations, gender expert groups, and foundations to understand climate change as a critical women’s human rights issue and to make it integral to their programming will support their ability to advocate and act on the inter-linked issues.

New challenges for effective gender-responsive climate policy will likely continue to surface, but having tools to identify and tackle them head on from multiple fronts will support progress in implementation—and soon, transformation.



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2

2.2 FROM GLOBAL STANDARDS TO LOCAL ACTION:

National and regional approaches
to integrating gender into climate
change policy and planning



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ACRONYMS

CC	Climate change	NORAD	Norwegian Agency for Development Cooperation
CCAFS	Climate Change, Agriculture and Food Security	OECD	Organization for Economic Co-Operation and Development
ccGAP	Climate Change Gender Action Plan	PAGeREDD+	<i>Plan de Acción para la Transversalización de la Perspectiva de Género en REDD+ México</i>
CIAT	The International Center for Tropical Agriculture	REDD	Reducing Emissions from Deforestation and Forest Degradation
CIF	Climate Investment Funds	REDD+	Reducing Emissions from Deforestation and Forest Degradation in developing countries, including the role of conservation, sustainable management of forests and enhancement of forest carbon stocks
COP	Conference of the Parties	SADC	Southern African Development Community
DANIDA	Danish International Development Agency	SPCR	Strategic Program for Climate Resilience
DFID	Department for International Development (United Kingdom)	UN	United Nations
EGI	Environment and Gender Index	UNDP	United Nations Development Programme
ENAREDD+	National REDD+ Estrategias (Mexico)	UNEP	United Nations Environment Programme
FAO	Food and Agriculture Organization of the United Nations	UNFCCC	United Nations Framework Convention on Climate Change
GEF	Global Environment Facility	UN HABITAT	United Nations Human Settlements Programme
GGCA	Global Gender and Climate Alliance	UNISDR	United Nations Office for Disaster Risk Reduction
GRB	Gender responsive budgeting	USAID	United States Agency for International Development
GTF	Gender Task Force	WEDO	Women's Environment and Development Organization
ICT	Information, communication and technology		
INDC	Intended Nationally Determined Contributions		
IUCN	International Union for Conservation of Nature		
LDCs	Least Developed Countries		
LECB	Low Emission Capacity Building		
LEDs	Low-Emission Development Strategies		
NAMA	Nationally Appropriate Mitigation Action		
NAP	National Adaptation Plan		
NAPA	National Adaptation Programme of Action		
NGO	Non-governmental organization		



Key messages

- Global policy commitments are only as powerful as the actions they inspire: turning ‘words into action’ at national and regional level demands technical capacity, political will, and a range of responsive resources.
- Climate change decision-making differs among countries, with various ministries leading and collaborating. Cross-sectoral partnerships are vital for effective and efficient planning and programming.
- Ensuring women’s participation in national climate change planning and programming upholds both women’s right to participate in such spheres and is necessary under national commitments on women’s rights and gender equality. Further, it ensures that diverse perspectives and experiences shape sound plans and programmes.
- The Climate Change Gender Action Plan (ccGAP) methodology delivers a process to unite sectors and stakeholders towards more innovative action.
- Women’s innovations must be fostered and championed at national and local level. Gender-responsive programmes and projects can deliver powerful co-benefits for climate change and gender equality (as ccGAPs exemplify).



2.2.0 Introduction

Policymaking is a two-way street: agreed global frameworks are created because of—and thus, at least to large extent, reflect—the realities on the ground in-country; they establish standards for implementation and agree objectives, targets, and ways in which governments can take action on their commitments. At the same time, governments—who are of course the architects of the global policy frameworks—must then ensure in their home countries that their words are turned to action, aiming to improve the lives and livelihoods of their constituents. In principle, this implies a natural synergy, while in practice this is no easy task. Political processes and priorities shift, resources may or may not be readily available, and stakeholder interests may be conflicting, for example. When it comes to action on gender and climate change—expansive in its scope and breadth, and dire in its urgency—there is no magic solution to ensuring that all rights will be protected, all lives will be improved, all citizens will be resilient and safe in light of a changing climate.

The interpretation of international agreements in individual countries is an art, not a science, with no formulaic solution. Creating real change requires consistent and meaningful attention; a range of skills, methodologies, and resources; and rigorous monitoring and accountability. The same is true for effective gender mainstreaming.

Countries, as well as the numerous non-governmental and inter-governmental international development organisations that aim to support them, have taken different approaches to implementing commitments on gender and climate concerns. From the forest sector to renewable energy, women's equitable participation in decision-making and gender-responsive policies and plans have shown to be both important and impactful.

This chapter, while not exhaustive in its representation of national policies or strategies by any means, presents current examples of:

- Select strategies employed by various governments,
- National planning efforts via United Nations Framework Convention on Climate Change (UNFCCC) mechanisms,
- Sector-specific strategies,
- Cross-sectoral strategies and action plans on gender and climate change, and
- Regional approaches.

It should also be noted that, to a significant extent but not exclusively, this chapter draws upon varied recent experiences of the International Union for Conservation of Nature (IUCN) in its efforts to facilitate and strengthen national approaches to gender and environment policy-making and planning.



2.2.1 Diverse government approaches for merging priorities

Significant strides have been made by various countries across all regions to incorporate gender equality and climate change considerations in tandem with poverty reduction and resilience-building efforts in their policies, plans, and strategies. Various examples stand out from the Least Developed Countries (LDCs)—African countries in particular. The government of Lesotho, for example, endorsed its 2012-2017 National Strategic Development Plan (NSDP), which not only integrates climate change but also recognises gender inequality as a major challenge contributing to poverty. Among its objectives is a focus on promoting the greening of the economy and improving environment and climate change governance. In Malawi, although its National Gender Policy does not specifically address climate change, its National Adaptation Programme of Action (NAPA) and National Climate Change Policy have integrated gender as a cross-cutting issue. On the other hand, in Tanzania, the Initial National Communication (INC) to the UNFCCC and the NAPA did not incorporate gender considerations, but the government responded to this gap by developing a national policy framework on gender and climate change, integrating it subsequently into the National Climate Change Strategy and Second National Communication (SNC).

Uganda's draft Climate Change Policy also includes gender as a cross-cutting theme, highlighting the importance of gender mainstreaming and gender

responsiveness in all climate change adaptation and mitigation strategies, plans, budgeting and implementation of issues. In Burkina Faso, the Ministry of Economy and Finance, with the support of the United Nations Development Programme (UNDP), developed methodological guidelines for gender mainstreaming in sectoral and national plans, leading to the operationalisation of the National Policy on Gender. As a result, the capacity of the local development committees was developed to integrate gender and climate change imperatives into the community development action plans.

In light of the increasing climate change effects being felt in the country, the Government of Pakistan has established a specific Ministry of Climate Change. Its 2012 National Climate Change Policy includes gender among its ten objectives: “to focus on pro-poor gender sensitive adaptation while also promoting mitigation to the extent possible in a cost-effective manner,”¹ and moreover includes a sub-section on gender that presents specific policy measures to undertake, including to:

- Mainstream gender perspectives into climate change efforts at both national and regional levels,
- Take steps to reduce the vulnerability of women from climate change impacts, particularly in relation to their critical roles in rural areas in providing water, food and energy,



- Recognise women's contribution in the use and management of natural resources and other activities affected by climate change,
- Undertake a comprehensive study of the gender-differentiated impacts of climate change with particular focus on gender difference to create climate change adaptation and mitigation strategies in Pakistan,
- Develop gender-sensitive criteria and indicators related to adaptation and vulnerability, as gender differences in this area are most crucial and most visible,
- Develop and implement climate change vulnerability-reduction measures that focus particularly on women's needs,
- Incorporate an appropriate role for women into the decision-making process on climate change mitigation and adaptation initiatives, and
- Develop climate change adaptation measures on local and indigenous knowledge particularly held by women.

While it is not yet entirely clear how resources or capacity will be invested in gender-responsive implementation, the Framework for Implementation of Climate Change Policy (2014-2030) further emphasised that reducing women's distinct vulnerability in the context of climate change, "would be achieved by countering the disproportionate burden of climate change on women by ensuring their empowerment and recognition of their critical role in the management of climate change plans and strategies."² The close engagement of national gender authorities and non-governmental organisations (NGOs), as well as IUCN, in developing the government gender mandates has had significant impact on integrating gender concerns in climate change planning. Importantly, too, a gender focal point has also been appointed within the Ministry of Climate Change.

In Mexico, the Special Climate Change Program (PECC) 2014-2018 includes a section on gender and climate change in Chapter One, eight gender specific lines of action, as well as 11 strategies and 35 cross-cutting lines of action related to gender and environment, which correspond to the National Program for Equal Opportunities and Non-Discrimination against Women (PROIGUALDAD 2013-2018). These actions seek to reduce the gap between men and women and also to face gender-differentiated impacts of climate change. A partnership between the government of Mexico, UNDP, IUCN and the Alianza Mexico REDD+¹ (as also discussed in the chapter on REDD+, Chapter 4.2, ahead in this publication), were fundamental in this process.

In the Global North, gender and climate commitments have not only shaped development aid and partnership modalities, some attempts have been seen in creating domestic policy that responds to global knowledge and commitments on gender and climate concerns, not least to promote the rights and resilience of women in those countries. A Resolution on women and climate change was adopted in 2012 by the European Parliament (2011/2197(INI)),³ for example, which observes that climate change is not gender-neutral and, among other things, calls for other European institutions and Member States to consider introducing a minimum female quota of 40% in their climate change delegations. The United States has seen a few attempts at Congressional action: a 2015 resolution on women and climate change was put forward, following an earlier version, in the House of Representatives that spells out a number of specific actions on gender-responsive climate action, including

I. "REDD+" is reducing emissions from deforestation and forest degradation in developing countries, including the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.



“the use of gender-sensitive frameworks in developing policies to address climate change, which account for the specific impacts of climate change on women”. It moreover “encourages the President to—

- A.** Integrate a gender approach in all policies and programs in the United States that are globally related to climate change; and
- B.** Ensure that those policies and programs support women globally to prepare for, build resilience for, and adapt to climate change.”⁴

2.2.2 National planning via UNFCCC mechanisms

By way of various mechanisms and programmes defined under the UNFCCC, countries have had opportunities to identify climate change needs, priorities, strategies, and actions in a range of ways. To varying but increasing extent, these national plans and reports include women and gender concerns.

Adaptation

The NAPA guidelines, one of the early UNFCCC resources that sought to help LDCs identify urgent adaptation needs and prioritise proposed projects, encouraged countries to develop NAPAs in a participatory manner, taking into account the importance of gender equality, especially in light of women’s generally more vulnerable position.⁵ While a number of early NAPAs followed such guidance in a relatively superficial way with a mention of women’s vulnerability, few NAPAs or national communications on adaptation submitted by LDCs to the UNFCCC

addressed gender considerations in a comprehensive manner, and some did not mention gender considerations at all. In its 2013 pilot phase that ranked 73 countries’ overall performance on gender and environment concerns, the Environment and Gender Index (EGI)⁶ found in the category examining national reports to the UNFCCC, including NAPAs and National Communications related to adaptation issues specifically, that India was the highest performing country for inclusion of gender in UNFCCC reports. In addition, the EGI found that Organization for Economic Co-Operation and Development (OECD) countries often performed comparatively low on inclusion of gender in their reports to the Rio Conventions, while many low-income countries, including Pakistan, Bangladesh, and Malawi performed well on mainstreaming gender in these reports. The worst performers were Costa Rica, Nepal, and Norway, three countries that, in other areas, excelled at gender mainstreaming—thus perhaps indicating the wide gaps in gender and climate



capacity regarding interlinkages at a national level, or in effectively communicating actions that may be occurring on the ground. The more recent NAPAs have

taken more intentional steps to mainstream gender or focus on women as direct beneficiaries.

Box 1: Cambodia's NAPA: Empowering rural women as adaptation leaders

Recognising women's particular vulnerabilities and the opportunities for rural women's empowerment, Cambodia's NAPA included some basic gender aspects. In response to results of a gender assessment, a NAPA follow-up project launched in 2010 and scaled up in 2013 prioritises improved access to climate information for women, along with better access to water resources, climate-resilient farming practices and seed varieties, and extension services. The project included four districts, 60 villages, and 32 communes, covering 5,500 households, and women from the villages and communes were key stakeholders and beneficiaries of the project. Results were realized at multiple levels, including empowering women as leaders in Water User Groups (WUGs) and in introducing new agricultural practices, improving access to resources, and building institutional gender capacity of sub-national and national authorities responsible for climate

change. Since the project's implementation, women have become contributors of household income and key drivers of climate change adaptation, and have also been empowered to make decisions regarding domestic water use, an area affecting them directly and of which they have valuable insight, experience and expertise. Women have also shared knowledge with the wider community, proving themselves as highly valued leaders on climate change adaptation. Further, when women have the opportunity to engage in income earning opportunities like cultivating vegetables in their garden or on their land, men have tended to see them as contributing to household income and will support them by fetching water for the vegetable plots and the like. This recognition as economic contributors has increased women's confidence and empowered them to participate in decision-making both inside and out of the home.



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With adaptation becoming a “routine and necessary component of planning at all levels” (as the Adaptation chapter, Chapter 3 ahead, discusses in far greater depth), and with the impacts of climate change dramatically redefining development pathways, the Parties to the UNFCCC agreed, in 2011, the National Adaptation Plan (NAP) process to further assist developing countries in adaptation preparation.⁷ The structure of plans prepared under the NAP process will vary widely by country as national adaptation planning is continuous and evolving and must incorporate local strategies and priorities in coordination with national documents, policies and programmes, while in tandem following international guidelines. The NAP process, reflecting the Conference of the Parties (COP) mandate, asserts that adaptation plans at country level should: “follow a country-driven, gender-sensitive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems; [and] be based on and guided by the

best available science and, as appropriate, traditional and indigenous knowledge, and by gender-sensitive approaches, with a view to integrating adaptation into relevant social, economic and environmental policies and actions, where appropriate.”

Identifying the NAPs development process as a crucial opportunity to advance gender equality in climate planning and preparedness, IUCN was among the institutions to develop and submit to the UNFCCC comprehensive guidelines to aid countries in creating gender-responsive processes and outputs.⁸ With user-friendly checklists applicable from the Concept/ Planning Phase to the Monitoring and Evaluation Phase, the submission takes care to mention the importance of aligning climate planning with existing mandates and machineries for women and gender equality:

It is therefore fundamental that the NAP process acknowledges the international and national policies and laws such as women's rights chapters and national women programs, regulations and rules, thus promoting:

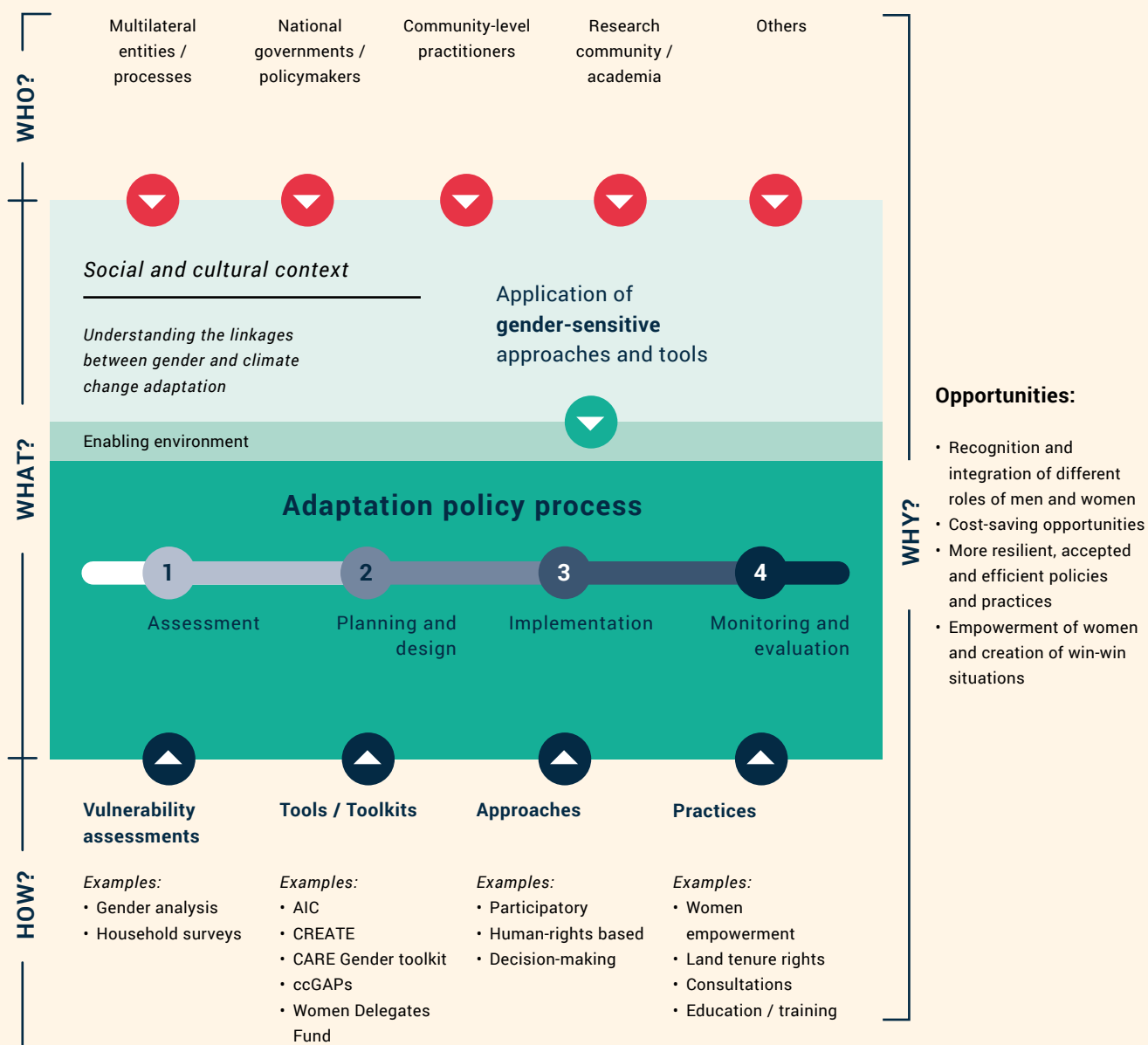
- i.** the equitable use, management and control of natural resources;
- ii.** disaster risk reduction;
- iii.** equitable participation in decision making;
- iv.** equitable distribution of benefits that the country has signed; and
- v.** other constitutional mandates.



The UNFCCC itself, in organizing and participating in expert groups and capacity building workshops, has taken significant steps to enhance Parties' and stakeholders' understanding of gender dynamics and gender-sensitive approaches and tools for climate planning. In a presentation describing the “who, what,

how and why” of gender in adaptation policy and planning processes, UNFCCC has made available an overview of key issues, approaches, stakeholders, and rationale for the importance of gender mainstreaming in NAPs and other adaptation plans (see Figure 1).

Figure 1: An overview of key issues discussed in relation to the application of gender-sensitive approaches and tools for adaptation⁹





Resilience

Many countries are finding need to prioritise building capacity for resilience as an important partner to adaptation, (also discussed in greater depth in the Adaptation chapter, Chapter 3, ahead). Taking advantage of its eligibility in the Pacific region to access technical and financial support from the Climate Investment Funds (CIF) toward enhancing resilience, Samoa emphasised gender as a cross-cutting theme in its Strategic Program for Climate Resilience (SPCR) developed in 2011. The design of its two key projects, enhancing resilience of road infrastructure and coastal communities, built upon the gender-sensitive approach pioneered to develop its earlier NAPA: “this involved a community participatory approach that involved local communities and men and women at the grassroots level who are the most vulnerable to the impacts of climate change. Countrywide public consultations were held with the three main inter-related social groups, namely village council of chiefs, the untitled men, and the women’s committees and/or women’s council.”¹⁰ With the Ministry of Women and Community and Social Development fully integrated in its development, the Program recognised the need to understand the root causes of inequality by making clear the difference in access to capital between men and women and how this translates in terms of gender-differentiated vulnerability to natural disasters and incremental climate change impacts. The SPCR further included innovative ways of ear-marking resources: in selecting the civil society organizations (CSOs) for the envisaged capacity building and grants, advantage was given to groups that promote greater equality and gender sensitive inputs into national and local policy and decision making.^{11,12}

Through five national projects implemented jointly by the Government of Bhutan and UNDP, a methodology for mainstreaming gender in disaster risk reduction and climate change and environment projects was developed and implemented. UNDP also supported national capacity by helping the Government construct a Gender Analysis Matrix and develop Gender Action Plans to feed into the national policy positions on gender and climate change and its perspective on the post-2015 climate agreement.

Mitigation

Mitigation mechanisms and planning have been, across the board, slower to integrate gender concerns. (Mitigation sub-chapters ahead investigate this in greater depth and also reveal a range of impressive examples.) Low-emission development strategies (LEDS), which countries around the world are designing and implementing in effort to achieve socioeconomic and environmental development goals as co-benefits, while pursuing mitigation and increasing resilience to climate change impacts in the long term, are gradually evolving to be more comprehensive strategies that recognize gender concerns and women as actors and leaders toward more sustainable communities. Nationally Appropriate Mitigation Actions (NAMAs), which can be defined and formally submitted to the UNFCCC at national level or at ‘Individual Action Level’, have begun to be crafted, and—as of the date of this publication—a few interesting examples of integrating gender concerns and women have emerged. For example, a NAMA from Vanuatu describes increasing private sector involvement in rural electrification and encourages fostering women-run enterprises, while the Republic of Georgia’s NAMA has been designed to improve access to solar water heaters and improved stoves for 100,000 women and men in rural Georgia, while reducing 48,000 tons of CO₂.¹³



Box 2: Low Emission Capacity Building in Bhutan: Taking steps toward gender mainstreaming NAMAs and LEDS

In Bhutan, widely considered to be a matriarchal society, gender disparities are perceived to be low, and the law outlines equal status for both men and women. However, UNDP's Low Emission Capacity Building (LECB) programme which identifies measures to reduce greenhouse gas (GHG) emissions while delivering on the nation's top priorities, uncovered through stakeholder consultations that development strategies across the transportation, housing, and waste management sectors are largely created without consideration to gender concerns. This prompted the LECB program to create capacity building arrangements to include gender as a major component in Bhutan's Nationally Appropriate Mitigation Actions (NAMAs) and Low Emission Development

Strategies (LEDS). Through a three-day gender mainstreaming capacity building workshop and a Rapid Gender Assessment, UNDP and relevant stakeholders identified gender gaps and entry points for gender mainstreaming in climate projects. Demonstrating significant outcomes, this project resulted in the establishment of a Mainstreaming Reference Group (MRG) that played a crucial role in implementing gender issues in policies and programs, including NAMAs and LEDS, setting targets for women's direct participation and mainstreaming gender in key climate change-related projects. By building technical capacity of women in decision-making, LECB has helped to identify and alleviate the previously invisible gender gaps.

READ MORE IN CHAPTER 7!

LOW EMISSION CAPACITY BUILDING (LECB) IN BHUTAN: TAKING STEPS TOWARD GENDER MAINSTREAMING NAMAS AND LEDS

National Environment Commission of the Royal Government of Bhutan, UNDP's LECB Programme, funded by the European Commission and the governments of Germany and Australia, in cooperation with The Global Gender and Climate Alliance (GGCA), UNDP Asia-Pacific Regional Center (APRC), UNDP Bhutan, World Bank, and the Global Environment Facility (GEF)



With countries across the globe committed to a new international climate change agreement under the UNFCCC at COP21 in 2015, each signatory country to the UNFCCC was invited to outline the domestic climate actions they intend to take under the new agreement. These outlines are known as Intended Nationally Determined Contributions (INDCs). An INDC couples national policy setting, taking into consideration priorities, circumstances and capabilities, with the international framework agenda, to drive progress in combating climate change. The INDCs reflect a country's ambition by indicating the steps the government will take to address climate



change, and foster transparency, accountability, environmental integrity, and capability. Countries are being encouraged to ensure that INDCs are ambitious in addressing both mitigation and adaptation techniques, however depending on the development status of the country, the scope and priority focus areas may differ. Considering the need to define strong, new commitments and not backslide on existing targets, accountability for meeting countries' self-professed commitments will be an area to monitor carefully and improve in the long term.¹⁴

A key reference point for countries in developing, communicating, and implementing their INDCs should be considering capabilities. Analysis of the capabilities should form part of the criteria used in deciding the types and levels of contributions put forward by each country. This is particularly important from a gender

perspective because emissions reductions need to be not only determined, but should also indicate how equitable a country's response is. Countries should consider climate equity factors to enhance their goals for tackling climate change including: human development, economic capacity, resilience to climate impacts, governance capacity, and social support structures. Designing and implementing climate policies that take into consideration the common but differentiated responsibilities, at all levels, will contribute to resilience while strengthening the capacity of the marginalised and vulnerable.¹⁵

From the 132 INDCs submitted as of November 2015, 52--or 39%--include mention of women or gender.¹⁷ Three INDCs (Peru, Liberia and Jordan) refer specifically to their ccGAPs, which are discussed later in this chapter.



Box 3: Gender in INDCs

Ethiopia's long-term plan for adaptation aims to "integrate actions that improve the status of women and the welfare of children", while Morocco notes that "respect for human rights and gender balance are two pillars of Morocco's vision for its work on climate change". With respect to monitoring and evaluation, Morocco has also put in place a system to monitor and assess vulnerability and adaptation to climate change. It offers an institutional mechanism that allows for the monitoring of climate vulnerability and the results of adaptation actions, taking into account gender issues.

Kenya's July 2015 INDC submission notes that Kenya aims to achieve a low-carbon, climate resilient development pathway, which includes strengthening the adaptive capacity of the most vulnerable groups and communities through social safety nets and insurance schemes, specifying "Gender, Vulnerable Groups and Youth" as a priority sector. The INDC further includes that "in addressing climate change issues, public entities are required to undertake public awareness and consultations, and ensure gender mainstreaming, in line with the Constitution and the Climate Change Bill (2014). Estimating that USD 40 billion will be needed for adaptation and mitigation until 2030, Kenya's INDC does not make it clear how gender concerns will be practically addressed.

Mexico's INDC, published early in 2015, is a very good example of planning. It includes a specific section on a "gender perspective":

These policies and actions include a cross-cutting human rights and gender perspective in order for the measures to be implemented to take into account women as important decision makers regarding energy consumption. They also emphasise the importance of implementing them such that they do not exacerbate the impacts of climate change that already have disproportionate adverse effects based solely on gender.¹⁸

It also emphasises the importance of a gender and human rights approach in awareness-raising, capacity building, and adaptation, and technology development and transfer, specifying a range of specific actions, such as "ensur[ing] capacity building and participation of the society, local communities, indigenous peoples, women, men, youth, civil organisations and private sector in national and subnational climate change planning."

Published in September, 2015, Jordan's INDC¹⁹ exhibits among the most references to "gender" and "women" and is even more comprehensive in its attention to gender equality concerns,



Box 3: Gender in INDCs (Cont.)

including as it addresses vulnerability and gender mainstreaming as complementary but unique priorities. Among other commitments, the INDC proposes:

- Integrating gender considerations and the interests of vulnerable groups in climate change policies and strategies in all relevant sectors particularly in national strategies for social development, poverty eradication, childhood and early childhood development in Jordan and to develop, compile, and share practical tools, information, and methodologies to facilitate the integration of gender into policy and programming,
- Ensuring that financing mechanisms on mitigation and adaptation address the needs and conditions for implementation of poor women and men equally,
- Building capacity at all levels to design and implement gender-responsive climate change policies, strategies and programs; [and],
- Ensuring that sector ministries will adopt the Action Plans suggested by the Program for Mainstreaming Gender in Climate Change Efforts in Jordan, the action plans specified the objectives, the actions and the indicators required.

2.2.3 Sector-specific approaches

Building on significant knowledge from research on policy and programming, for example on gender and forests or gender and water, can lead to progress in more sector-specific gender responsive approaches. According to survey respondents for the latest EGI data,²⁰ while only 25% of environment-related ministries have a specific gender policy or plan, 38% have gender otherwise mainstreamed to some extent in their policies or programmes and 35% have a gender focal point. The potential, then, for gender-

responsive sector-specific strategies for adapting to and mitigating climate change is significant.¹¹

The Government of Nepal has made a noteworthy effort to mainstream gender through its renewable energy sector, setting it apart as a leader on gender

¹¹ The other chapters of this publication, 4.1 in particular on Energy, offer many national and subnational examples in addition to those presented in brief here.



and mitigation. Gender has been considered a priority across the energy sector, with plans and programmes focusing on livelihood enhancement, inclusive development, and sustainability of the system. With a national gender and social inclusion commitment, Nepal institutionalized a gender responsive budgeting (GRB) approach in the public finance system in 2007. (Up from 11.3% in 2007, the direct gender responsive budget received nearly 22% of total national budgeting in 2014.) As a result, gender has been prioritised and integrated in every level of renewable energy planning.²¹ Five indicators for GRB calculation in Nepal's energy sector include:

- Women's participation in planning, implementation and monitoring,
- Capacity building of women,
- Equitable benefit sharing to/for women,
- Employment and income generation for women, and
- Workload reduction and quality time reform.

With climate impacts being already felt so strongly across the agriculture sector —where women comprise the majority of small-holder and subsistence farmers in developing countries and tend to be predominantly responsible for the nutrition of their families around the world — gender mainstreaming in climate-resilient agricultural practices is increasing. The Food and Agriculture Organization of the United Nations (FAO) estimated in 2011 that women tend to have smaller yields than their male farmer counterparts because of inequitable access to information, inputs and extension services. In many countries,²² women are only half as likely as men to use fertilizers, for example. The FAO went on to estimate that if women had the same access to productive resources as men, they could increase yields on their farms by 20–30%. This could raise total agricultural output in developing countries by 2.5–4%, which could in turn reduce the number of hungry people in the world by 12–17%. Data like this drives the work of organisations such as CGIAR's Research Program on Climate Change, Agriculture and Food Security (CCAFS), which promotes climate-smart agricultural policies and practices with a strong gender-responsive approach.²³

GENDER-RESPONSIVE BUDGETING

Gender-responsive budgeting (GRB) is government planning, programming and budgeting that contributes to the advancement of gender equality and the fulfillment of women's rights. It entails identifying and reflecting needed interventions to address gender gaps in sector and local government policies, plans and budgets. GRB aims to analyse the gender-differentiated impact of revenue-raising policies and the allocation of domestic resources and Official Development Assistance. In addition, GRB initiatives seek to create enabling policy frameworks, build capacity and strengthen monitoring mechanisms to support accountability to women.

(United Nations, www.gender-budgets.org).



Box 4: Building capacity of agricultural decision makers in Latin America

Countries across Latin America are developing climate change mitigation and adaptation strategies—and when these strategies are gender-sensitive, they allow for the opportunity that both women and men might be better prepared to cope with climate change. The International Center for Tropical Agriculture (CIAT) and the CGIAR research program on CCAFS support policymakers to ensure that gender is being considered and that negotiators are well prepared to represent their countries

at UNFCCC negotiation meetings. Recognising gender units within or linked to Ministries of Agriculture as potential allies and exploring opportunities to coordinate has been a key to success, as well as capitalising on opportunities for collaboration with other organisations involved in gender-sensitive climate change planning in order to create gender policy expertise and networks. Importantly, this also fosters knowledge exchange in Latin America, as it works in several countries on related topics.

READ MORE IN CHAPTER 7!

INFLUENCING GENDER-INCLUSIVE CLIMATE CHANGE AND AGRICULTURE POLICIES FOR LATIN AMERICAN COUNTRIES: BUILDING CAPACITY OF AGRICULTURAL DECISION MAKERS

CIAT and the CGIAR research program on Climate Change, Agriculture and Food Security (CCAFS)



A number of countries have begun integrating gender considerations in forestry initiatives and in particular in REDD+ preparedness, planning, and pilot projects. In a recent submission to the UNFCCC,²⁴ the Government of Sudan emphasised that gender issues are considered throughout all climate change mitigation activities, including especially activities related to forest

management and REDD+. This call for consideration is coupled with the UNFCCC Cancun Agreements from 2010 and Durban Outcomes in 2011 calling for REDD+ national strategies and systems for providing information on how safeguards are being addressed and respected to integrate 'gender considerations'.



In 2011, IUCN, with support from the Danish International Development Agency (DANIDA), and in collaboration with the Women’s Environment and Development Organization (WEDO), facilitated participatory, multi-stakeholder workshops in Cameroon, Ghana, and Uganda to create national strategies called Gender and REDD+ Roadmaps. The Roadmaps, the first of their kind, were produced during the first phase of the project for each country process and identified context-specific gender and REDD+ concerns, as well as stakeholders, and concrete actions to integrate and enhance gender in REDD+ processes and initiatives. (More information on Roadmaps is contained in the ccGAPs section ahead).

In each of the three countries, different strategies and methodologies have been used to mainstream gender into the national REDD+ strategy, including the following:

- Cameroon’s Gender and REDD+ Roadmap strategy included the creation of a Gender Task Force (GTF); the development of a national strategy for the involvement of women in the REDD+ process; and the development of an action plan for mainstreaming gender into it. The GTF was established as part of the working groups within the National REDD+ and Climate Change Civil Society Platform to collaborate at all levels of Government. Since its development, the Roadmap has paved the way for the elaboration of a national strategy for the involvement of women in the REDD+ initiatives and policies.
- In Ghana, the gender advocacy approach has generally tried to dispel the notion that gender is only about women and forests are only relevant to men. In view of the socio-cultural context and how gender roles are perceived, bringing men on board

to buy into and support gender actions is extremely important, as this will significantly increase success and effectiveness of interventions. Engagement with key government agencies, particularly the Forestry Commission, has been a critical element of Ghana’s Gender and REDD+ Roadmap strategy.

- In Uganda, identifying key Government and non-government institutions and engaging stakeholders in participatory processes has been a significant element of its Gender and REDD+ Roadmap strategy and central to integrating gender as a safeguard in the National REDD+ Strategy. The Roadmap process was meant to enhance the understanding of gender considerations in REDD+ and prepared for a gender-responsive National REDD+ Strategy, as well as recognising gender stereotypes and norms in Uganda’s forestry sector and in natural resource governance more broadly.

The three Gender and REDD+ Roadmaps in Cameroon, Ghana, and Uganda were pilot efforts to support the respective Governments through strategies to identify and mainstream key gender issues in REDD+. The Roadmaps processes—which have achieved varying results so far in each country—have mainly consisted of two layers of capacity building: first, women’s networks were mobilised, constructively engaging in REDD+ issue discussions and identifying actions needed; and secondly, joint capacity building workshops with civil society, women’s organisations, policymakers, and relevant stakeholders to create the roadmaps, fostering an understanding that REDD+ and gender equality are intricately linked. In each country, IUCN’s technical support has assisted these efforts in forging ahead and achieving the next necessary steps for gender equality in REDD+. Today, the Roadmaps are setting the stage for other countries to follow suit in taking steps to ensure that both women and men are equally recognised



as important forest stakeholders and guaranteed the opportunity to learn about and participate in REDD+ policy, planning, and implementation—as well as on processes related to broader climate change concerns.

M-REDD+ is a five-year national implementation project that aims at strengthening policies and laws for implementing the national REDD+ strategy, strengthening institutional and technical capacity, creating a financial architecture, establishing monitoring, reporting and verifying (MRV) systems and contributing to the construction of the dialogue and broader public participation in the REDD+ process in Mexico. IUCN has had opportunity, drawing on lessons and concrete experience from the above Roadmaps processes, and with support from United States Agency for International Development (USAID), to offer technical support toward a comprehensive process integrating gender concerns into national REDD+ policies—and has influence across broader climate change planning. Four key results include:

- The REDD+ Gender Action Plan (PAGeREDD+): The PAGeREDD+ (*Plan de Acción para la Transversalización de la Perspectiva de Género en REDD+ México*)—the first in Latin America—identifies national context-specific gender and REDD+ concerns, and includes concrete lines of action to integrate and enhance gender in REDD+ processes and initiatives. It was developed through a participatory process.
- The National REDD+ Strategy (ENAREDD+): The public consultation version of the ENAREDD+ (Estrategia Nacional de Reducción de Emisiones por Deforestación y Degradación de los Bosques) includes 15 references to women and gender

equality throughout the text and establishes 13 lines of action related to gender equality.

- The National Consultation process of the ENAREDD+: The consultation, which took place in September 2015, carried out a special session on gender and REDD+ with 100 women (rural women, academia and civil society) participating in the legislative agenda related to gender, climate change and forests. In 2014, IUCN, along with M-REDD+, the Environment Commission and the Gender Equality Commission of the Chamber of Deputies, carried out a forum to address the legislative agenda related to gender, climate change and forests. It concluded with an agreement with both Presidents of the Commissions to, firstly: install a work group made up of experts to generate proposals to reform and include a gender perspective in the General Climate Change Law (LGCC) and the General Sustainable Forest Development Law (LGDFS), and secondly: carry out a detailed study of how the federal budget has been applied to gender and climate change. This will be carried out by the Studies Centre on Gender Equality of the Chamber of Deputies (CEAMEG).

It is important to note that these two last achievements are the result of the continuous effort and collaboration of government, civil society, academia and international organisations such as IUCN and UNDP.



2.2.4 Cross-sectoral strategies and action plans on gender and climate change

While the opportunities for advancing gender equality are ripe, sector-specific or issue-specific climate change planning and programming at national level have limitations—mainly in that they neglect to account for tremendous opportunity for synergy, innovation, and holistic sustainable development and poverty reduction. Government commitments to gender and climate change—as agreed under the auspices of the UNFCCC, but also related frameworks on gender and environment—span sectors, contexts, and strategies, and some countries have begun pursuing integrated, participatory approaches to ensure a diversity of needs and experiences, expertise and capacities, inform gender responsive climate change policymaking and planning at national level.

Climate Change Gender Action Plans (ccGAPs)

Under the auspices of the GGCA joint programme, with support from the Government of Finland, IUCN developed the ccGAP methodology to promote an integrated approach to implementing gender and climate change plans and activities. The ccGAP methodology—now employed by 16 national Governments, and through three regional processes, continuing to draw the attention of other donors and Governments to pursue ccGAP development—has produced innovative, multi-sectoral, and multi-stakeholder plans of action spanning each governments' designated priority sectors, from health to forests and from energy to coastal and marine environments (see Table 1 and Table 2 below).

**Table 1: Overview of ccGAPs**

	Mozambique ^{III}	Jordan	Egypt	Haiti
Date	June 2010: First ccGAP August 2013: Update ccGAP	November 2010	May 2011	July 2011
Title	2010: Gender, Environment and Climate Change Strategy and Action Plan 2013: Climate Change and Gender Action Plan (Phase II) for the Republic of Mozambique	Programme for Mainstreaming Gender in Climate Change Efforts in Jordan	National Strategy for Mainstreaming Gender in Climate Change in Egypt	<i>Programme pour la généralisation de l'analyse selon le Genre dans les efforts de lutte contre les changements climatiques en Haïti</i>
Participants	2010: 35 representatives of government and civil society 2013: 112 representatives of government, women organisations, academia, United Nations (UN) agencies and civil society Validation: 140 representatives in 3 regions	22 representatives of government, civil society, academia, research institutions, UN agencies, and international organisations as well as donors	35 representatives of civil society, academia, UN agencies, and government	48 participants from various government ministries and civil society organisations
Priority Areas	2010: <ul style="list-style-type: none"> • Empowerment of women • Empowerment of communities • Climate change mitigation • Climate change adaptation • Natural resources use • Participation, education and training • Gender equity 2013: <ul style="list-style-type: none"> • Water • Agriculture • Health • Mitigation, including forests and energy • Disaster risk reduction • Coasts and fisheries 	<ul style="list-style-type: none"> • Water • Energy • Agriculture and food security • Waste reduction and management 	<ul style="list-style-type: none"> • Integrated coastal management • Agriculture • Water • Tourism • Health • Energy and transport • Urbanisation • Waste management 	<ul style="list-style-type: none"> • Agriculture and food security • Management of water resources • Disaster risk management • Health

^{III} Mozambique with the support from UNIFEM (now UN Women) developed its first Gender, Environment and Climate Change Strategy and Action Plan in June 2010. In August of 2013, together with IUCN, the Government conducted an update of its ccGAP.

**Table 1: Overview of ccGAPs (Cont.)**

	Tanzania	Costa Rica	Panama	Nepal	Liberia
Date	September 2011	September 2011	December 2011	February 2012	May 2012
Title	National Strategy on Gender and Climate Change	<i>Crterios para la incorporación de género en el Plan de Acción de la Estrategia Nacional de Cambio Climático</i>	<i>Aportes para la equidad de género en la revisión de la Política Nacional y la Estrategia de Cambio Climático</i>	Climate Change Gender Action Plan	Climate Change Gender Action Plan
Participants	42 participants from government, UN agencies, and indigenous and civil society organisations	50 representatives of government, women national mechanism, women's organizations, civil society, international cooperation and academia	33 government, indigenous, and civil society representatives	115 representatives of government, civil society, academia, women organisations, donors, UN agencies, and parliament Validation: more than 300 people	113 representatives of government, civil society, women organisations, local governments, academia, research institutions, UN agencies, parliament, and international organisations
Priority Areas	<ul style="list-style-type: none"> • Agriculture • Water • Health • Energy • Forestry/REDD+ • Integrated coastal management 	<ul style="list-style-type: none"> • Energy • Transport • Agriculture • Water 	<ul style="list-style-type: none"> • Land use and land use changes • Energy • Water • Agriculture 	<ul style="list-style-type: none"> • Agriculture and food security • Forests and REDD • Water • Energy • Health • Urbanisation 	<ul style="list-style-type: none"> • Agriculture and food security • Coasts • Forests and REDD • Health • Water and sanitation • Energy

**Table 1: Overview of ccGAPs (Cont.)**

	Bangladesh	Cuba	Yucatan Peninsula, Mexico	Peru
Date	February 2013	January 2014	March 2015	August 2015
Title	Bangladesh Climate Change and Gender Action Plan 2013	<i>Propuesta de lineamientos para transversalizar el enfoque de género en las acciones para enfrentar el cambio climático en Cuba</i>	<i>Lineamientos para transversalizar género en la adaptación y mitigación al cambio climático en la Península de Yucatán</i>	<i>Plan de Acción de Género y Cambio Climático del Perú</i>
Participants	105 representatives of government, women organisations, UN system, academia, donors and civil society	120 representatives of government, academia, donors and civil society	71 representatives of government, academia, women's organisations, donors and civil society	150 representatives of government, civil society, international cooperation, indigenous organisations, unions and academia Validation: 200 people in 4 macro-regions
Priority Areas	<ul style="list-style-type: none"> • Food security, social protection and health • Comprehensive disaster management • Infrastructure • Mitigation and low-carbon development 	<ul style="list-style-type: none"> • Agriculture and food security • Water • Biodiversity and coasts • Energy • Forests • Health • Transport 	<ul style="list-style-type: none"> • Water • Forest • Coasts • Agriculture and food security • Biodiversity • Land tenure • Tourism • Energy • Disaster risk reduction 	<ul style="list-style-type: none"> • Food security • Energy • Forest • Health • Waste • Water • Education • Disaster risk reduction



Table 2: Overview of REDD+ Roadmaps

Following the same methodology of the ccGAPs, Gender and REDD+ Roadmaps are included here, as they consider broader climate change concerns, champion women's and gender issues and innovations beyond REDD+-specific considerations, and include broader policy reform actions.

	Ghana	Uganda	Cameroon	Mexico
Date	November 2011	January 2012	January 2012	March 2013
Title	Mainstreaming Gender Considerations into REDD+ Processes in Ghana	Mainstreaming Gender Considerations into REDD+ Processes: A Gender and REDD+ Roadmap for Uganda	Mainstreaming Gender Considerations into REDD+ Processes in Cameroon	<i>Plan de Acción para la Transversalización de la Perspectiva de Género en REDD+ México (PAGeREDD+)</i>
Participants	27 representatives of government, civil society, and UN agencies	27 representatives of government, civil society, and international organisations	40 representatives of government, civil society, and international organisations	27 representatives of government, academia, civil society and international organisations

IUCN's ccGAP methodology presents a path to gender mainstreaming that moves away from a business as usual approach by building capacity across stakeholder groups to construct nationally appropriate non-conventional solutions that are concrete, practical and innovative. These plans foster a comprehensive approach that span from the assurance of gender equality in the policy frameworks of technical sectors to the reduction of barriers in institutional practices to innovative activities that are driven by and engage women as entrepreneurs, leaders, and partners in climate change response for more resilient communities and countries. A ccGAP moves beyond framing women as vulnerable victims

and rather recognises gender equality as a driver for transformational change.

Methodology

While each country presents a distinct context, at the heart of the methodology used for all countries is an understanding of the political, governance, socioeconomic, and environmental circumstances; capacity building on targeted themes is key to ensure that strong engagement and ownership; and a meaningful participatory and multi-stakeholder process.



The ccGAPs are nationally recognised strategies with a unique methodology for training and building the capacity of women and women's organisations, as well as environmental and climate change institutions and ministries, on the links between gender and climate change. This is done through a series of workshops with local women identified as leaders in their communities, and also with women's advocacy organisations that support their rights and development, not only in the environmental sector, but across sectors, to increase their knowledge on these issues.

A ccGAP is the result of a series of inputs: desk research, interviews with policy makers, stakeholder consultations and peer reviews, among others. The process begins at the request of a country's Environment Ministry, or whichever Ministry is responsible for climate planning, and continues in coordination with the Ministry, at their guidance. A ccGAP focuses on identified key sectors including, but not limited to water, agriculture, health, mitigation (including energy and forests), disaster risk reduction (DRR), infrastructure, tourism and coastal management. In this way, the process is uniquely multi-stakeholder and multi-sectoral, often representing the first time when technical staff of different Ministries such as from Water, Energy or Women's Affairs departments have a chance to build mutual capacity on key issues related to gender and climate change. The engagement of donors and a

wide range of stakeholders is also key, especially women's organisations and networks both versed in and new to 'climate change', as they contribute experience and expertise of on-the-ground realities and context to policymaking, as well as innovative ideas for action, which often build on current projects participants (see Table 3).

The ccGAP documents are then drafted on the basis of an analysis of the current national priorities (e.g., specific sectorial policies or plans, or national reporting and communications to the UNFCCC), and draw substantially from the discussions and outputs of two multi-stakeholder workshops convened of representatives from ministries, donors, government agencies, NGOs and civil society, including women's organisations and networks. While the workshops to formulate the zero-draft of a ccGAP are multi-sectoral and multi-stakeholder, a validation process is then conducted at regional/local levels to enrich the national outcome document with experiences and lessons learned across the field of gender and climate change, from the multiple projects and programmes spread over a country, to improve and validate the ccGAP and to inspire its comprehensive implementation.



Figure 2: ccGAP Roadmap





The underlying principle of ccGAPs is the transformative nature of gender interventions. To achieve this the process is based on six principles, which IUCN recognises as the 'I's' necessary for, and enhancing, successful ccGAP implementation.

The ccGAPs are:



INCLUSIVE

by ensuring the participation and voice of all groups, irrespective of caste, ethnicity, religion, gender, region, age, or class,



INNOVATIVE

in their purpose and process for reaching beyond ordinary/traditional solutions and finding new and inspiring tools and techniques, while expanding capabilities for a stronger more comprehensive approach to climate change,



Set to
IMPROVE

the quality of life for women and men in regards to both their basic (e.g., water) and strategic (e.g., land tenure or political participation) needs, but also by recognising gender-differentiated priorities, roles, and knowledge useful in responding to climate change,



Creating an
IMPACT

on the overall goal of climate change response by reducing anthropogenic emissions and providing adaptive resilience opportunities for both women and men to engage at local, regional, and national levels,



Championing strategies to
INCREASE

sustainable development and climate change outcomes by ensuring nature-based solutions are within the limitations of the planet, and more importantly do not exceed local and regional natural resources,



INCITING

transformational change, by rearranging how climate change needs to be approached. Providing equal opportunities for women and men to champion the solutions, but also providing the necessary means to build the capacity and capability to secure lives and livelihoods that are equitable for all,



INSPIRING

actors at all levels to push beyond 'business as usual,' demonstrating that implementing gender and climate change commitments are possible.



As a result of the 'I's' being an integral part of each ccGAP, the strategies also derive unique characteristics that set them in their own bracket for development and climate change response by engaging not only women, but entire communities, sectors, and governments to build a more cohesive, and just approach in responding to climate change.

The resulting strategies:

- Are demand-driven, tailor-made, multi-stakeholder in nature, and designed from the bottom-up,
- Function as a vehicle for capacity building and coordination inside and between government institutions,
- Constitute a platform for enhanced cooperation between government and constituencies,
- Represent a wide range of issues as agreed by stakeholders, and
- Are filled with actions and indicators at multiple levels, from the household to national policy, and for both rural and urban communities.

But the strategies are also diverse in terms of:

- Geo-political context (local area, country, region, Global North or South),
- Ecosystems (drylands/desert, coastal, mountainous, etc.),
- Prioritisation of adaptation, mitigation, or linking both,
- Proposed solutions based on the country context, and
- Positioning as a strategy, roadmap, action plan, or otherwise.

Mapping each country's priority sector, agreeing key objectives, identifying specific actions and associated targets, the ccGAPs present a comprehensive plan of action on gender equality and climate change. Table 3 presents examples from a range of countries.



Table 3: ccGAP priority sector areas with examples of action steps and indicators

Agriculture and Food Security		
Objectives	Action Steps	Indicators of Success
Nepal	Develop a national campaign to incentivise and encourage the registration of land under both the names of husband and wife (joint land ownership).	Increase in joint land registration across Nepal
	Build community resilience on food security through the establishment of local climate-smart seed banks owned and managed by women.	Number of women’s groups using and benefitting from seed banks
	Revise the existing strategies that enable the flow of credit from public/commercial banks and financial institutions to support and increase women’s access to credit.	Amount of credit extended to women farmers
	Institutionalise alternative provisions to accommodate women, women’s groups, and cooperatives that are unable to provide the collateral needed for accessing agricultural credit.	Rate of return on credit extended
	Amend and monitor existing subsidy provisions by government on an ongoing basis to enable women to equitably benefit from them.	Number of new alternative collateral options made available to women, women’s groups, and cooperatives by banks other than land/housing/salary
To increase women’s access to productive resources (land, seed, fertilizer, credit, and equipment)	Increase in food production based on access to productive resources	
Tanzania	Sensitise local community to be aware of land issue through traditional leaders that will support knowledge and implementation/enforcement of the statutory law.	Number of communities sensitised
	Promote women’s awareness and exercising of their rights, allowing them to access and control land to which they are entitled.	Development and implementation of local community guidelines. Men who are conscious of women’s rights
	Mobilise local community to develop and incorporate gender in their traditional/customary guidelines.	Women who are conscious of their rights
To incorporate women’s access and title to land in land tenure and customary law		



Table 3: ccGAP priority sector areas with examples of action steps and indicators (Cont.)

Agriculture and Food Security			
Objectives	Action Steps	Indicators of Success	
Cuba		Number of peasant women who teach courses in professional training centers in the agricultural sector	
	To include in the pertinent university curriculum gender issues, agriculture and climate change	Promote women farmers as facilitators of theoretical and practical courses on gender and climate change on agriculture at the university level.	Number of women implementing technologies and innovations to mitigate and adapt to climate change
	To increase the productive capacity of women to mitigate and adapt to climate change	Support the creation of women's groups in the cultivation and harvesting of species that increase yields in response to climate change as well as the rescue of traditional knowledge. Promote women's leadership in seed banks and genetic reserves.	Number of seed banks and genetic reserves led by women Studies on performance and innovation promoted by women
Mozambique		Improvement in nutrition of children 0-5 years	
	To increase availability and access to land and efficient and sustainable technology that enables women farmers to cope with the impacts of climate change	Advance sustainable agriculture (demonstration fields, organic fertilisation, schools in peasant farm, mixed crops, crop irrigation by gravity, among others) through high-yielding crops. Introduction of clean technologies for food processing, such as solar fruit and vegetable driers and other techniques that do not rely on traditional sources of energy.	Reduction of anemia in women
		Promote and disseminate new post-harvest technology resilient to climate change consequences (new insects, humidity, temperature variances) to communities.	Number of women using food processing technologies Number of female farmers using post-harvest technology



Table 3: ccGAP priority sector areas with examples of action steps and indicators (Cont.)

Integrated Coastal management		
Objectives	Action Steps	Indicators of Success
Bangladesh		Number of coastal communities expanding green belt through women's participation
	Expand coastal green belt including mangroves through women's participation.	Number of kilometres covered by social forestry on roadsides and plantation on river/coastal polders/embankments
	Expand social forestry and plantations on river/coastal embankments through women's participation.	Number of nurseries developed and owned/managed by women
To mainstream gender considerations in coastal and social forestry programs or initiatives	Support women establishing nurseries for making mangrove tree saplings available.	
	Consult with stakeholders in the selection of gender-balanced coastal monitors (women whistleblowers).	
	Develop Terms of Reference to guide women's participation in coastal zone monitoring. The system will rely on the use of mobile phones for women.	Number of women trained in coastal monitoring
	Establish alliance with mobile phone companies to support/patronise this programme.	Number of incidences reported by women monitors
Liberia	Train and empower women coastal monitors.	Disaggregated information on anthropogenic activities and impacts in coastal zones available
	Monitor coastal zones and assess measures put in place for women's participation.	



Table 3: ccGAP priority sector areas with examples of action steps and indicators (Cont.)

Integrated Coastal management		
Objectives	Action Steps	Indicators of Success
Tanzania To develop gender-responsive programs/projects addressing climate change adaptation in coasts	Promote preparation and implementation of gender-responsive action plans related to climate change in all districts along the coast.	
	Implement projects/programmes that address climate change adaptation in coastal zones (restoration of coastal forests and coral reefs, sand dune restoration, sea walls, revetments, headlands, and beach nourishment).	Number of action plans that are gender-responsive
	Enhance and encourage women’s participation in integrated coastal management projects.	Number of gender-related projects implemented
	Train and involve women so that they can participate in research studies (i.e., monitoring and data gathering methods; gathering of flora and fauna species; physical-chemical analysis; studies about the populations of birds, fish, sea grasses, mammals, and studies about the medicinal properties of coral).	Number of women participating in climate change adaption projects Women and men trained on the sustainable use of coastal resources
	Establish a network of women’s organizations engaged in protection, management, and development of coastal and marine areas.	Women and men who receive benefits from the project (productive benefits, training, or credit)
	Support and develop women’s organisations’ capacity so that they can be in charge of monitoring coastal and coral erosion, sea level and tide, light detection, and ranging, amongst others.	Women and men participate actively in the conservation of marine-coastal resources



Table 3: ccGAP priority sector areas with examples of action steps and indicators (Cont.)

Health		
Objectives	Action Steps	Indicators of Success
Mozambique	<p>Identification of plants by region that have positive impact to vectors (e.g., lemongrass), water quality (e.g., muringa), and other health risks associated with climate change.</p> <p>Definition and distribution of a ‘Climate Change Health Kits,’ containing plants identified by region.</p>	<p>Number of identified plants</p> <p>Number of Kits distributed to the communities</p> <p>Number of women and men trained in use of Climate Change Health Kits</p>
	<p>To introduce innovative approaches that use traditional medicine knowledge to adapt to climate change</p> <p>Training of women and men in local communities in collaboration with the Association of Traditional doctors on the use of ‘Health Kits for climate change’ and the supply of seeds, nurseries or cuttings.</p>	<p>Reduction in morbidity of diseases intensified by climate change</p>
Tanzania	<p>Establish a disease surveillance system in communities in the hands of women.</p>	<p>Surveillance system in the community established and handled by women</p>
	<p>Enhance capacity and recognition by government of women community nurses, similar to midwives, to address climate change related diseases.</p>	<p>Government recognition of the role of community nurses</p> <p>Number of community nurses trained to handle climate change (CC) related diseases</p>
	<p>Involve and capacitate women to reduce breeding sites of climate change-related diseases.</p>	<p>Reduction of mortality and morbidity of CC-related diseases</p>
	<p>Involve women in the distribution of mosquito nets in urban/rural areas.</p>	<p>Number of women involved in distribution of mosquito nets</p>
<p>To improve disease surveillance and control programme</p> <p>Comprehensive studies of nutritional values of women custodians local/native plants and utilise them to address malnutrition due to climate change impacts.</p>	<p>Decrease of malnutrition in children ages 0–5</p>	



Table 3: ccGAP priority sector areas with examples of action steps and indicators (Cont.)

Health		
Objectives	Action Steps	Indicators of Success
<p>Nepal</p> <p>To build the capacity of national and other professional, technical and scientific institutions to conduct research in the area of climate change and health from a gender perspective</p>	<p>Identify disease patterns for new and emerging diseases and feed into an early warning system, raise awareness and mobilise women and women’s groups.</p>	<p>Disease patterns mapped</p> <p>Policy change/shift and projects/programs design as response and for early warning</p> <p>Number of groups active in the health sector and women organisations informed and mobilised</p>
DRR		
<p>Bangladesh</p> <p>To increase women’s role as whistle blowers for monitoring and maintenance of infrastructure (early warning, embankment breach, river erosion, infrastructure breakage)</p>	<p>Increase women’s access to information, communication and technology (ICT), (e.g., mobile and community radio.)</p> <p>Develop a network of women and local groups for efficient infrastructure management.</p> <p>Orientation on monitoring, maintenance and dissemination of early warning messages.</p> <p>Documentation of best practices, lessons learnt. Replicate the best practices to other disaster prone areas.</p> <p>Construct strong radio and mobile transmitting towers at different disaster prone and remote areas.</p>	<p>Women in the community using mobile phones and part of community radio network</p> <p>Functional infrastructure networks in place</p> <p>Hotlines established with different ministries and agencies</p> <p>Examples documented and linked to databases in science, technology and ICT</p> <p>Uninterrupted mobile and radio network available in remote areas</p>



Table 3: ccGAP priority sector areas with examples of action steps and indicators (Cont.)

DRR		
Objectives	Action Steps	Indicators of Success
Tanzania	Tap into women’s indigenous knowledge to predict disasters.	Indigenous knowledge documented and used
	Develop gender-responsive understanding of early warning system to predict disasters.	Early warning messages/ information are delivered to and used by women
	Establish and strengthen/maintain link between women groups and local authority health officers to share information on development of diseases and curative measures.	Working relationship between health officers and women groups established and functioning effectively
To enhance the capacity of women in the community to prepare and cope with disasters	Recognise and encourage and develop the role of influential women (e.g., wives and mothers of traditional leaders) to act as agents of change on climate change related issues.	Position of women in community enhanced
Mozambique	Train local women in the collection of meteorological data.	Number of women trained in meteorological data collection
	Provide women with appropriate tools for accurate data collection.	Number of women collecting meteorological data
	Design incentive mechanism for women to collect data for income generation.	Number of women receiving economic benefits
To establish an innovative meteorological data collection system led by women		
Peru	Development of resilient schools certification.	
	Definition of certification criteria this could include: appropriate infrastructure, trained teachers and students on climate change, alternative schedules for beginning of school year according to climate variability, curricula incorporating gender and climate change.	Number of certified schools
Build or renovate educational institutions considering the impacts of climate change		



While ‘gender and climate change’ discussions tend to overwhelmingly focus on women’s vulnerability and on adaptation, it is important to note that ccGAPs foster women’s direct ideas, engagement, and leadership in innovative ways, and champion women’s role in sectors vital to mitigation. Across a wide span of mitigation themes, ccGAPs from around the world have produced new ways of viewing gender and climate change concerns, including via the examples reflected in Table 4.

Table 4: Women leading the way on mitigation: Examples of women’s innovative activities in ccGAPs

Sector	Country	Women’s Mitigation Activity
Transport	Egypt	Reduce emissions and expand livelihoods by creating a women-managed water-taxi network on the Nile.
	Bangladesh	Safe ticketing and sitting areas for women in bus and train terminals, and the introduction of day passes and a common ticket for buses, trains and boats.
	Mozambique	Reduce emissions and reliance on traditional fuel sources by establishing and running women’s community ‘energy shops’.
Energy	Jordan	Cut national carbon footprint by conducting campaigns directed toward women for reducing household emissions by improving energy efficiency and consumption patterns.
	Mozambique	Advocate for sustainable forest governance through education campaigns for women and girls in the forest sector.
Forestry	Tanzania	Identify and implement REDD+ benefit-sharing schemes for women.
	Peru	Creation of “Clean Neighborhoods” programme that establishes a collaborative relationship between neighbours and local waste-pickers.
Waste	Nepal	Develop “waste to wealth” programs via non-traditional waste management (i.e., recycling, reusing) jobs specifically for women.



Table 4: Women leading the way on mitigation: Examples of women’s innovative activities in ccGAPs (Cont.)

Sector	Country	Women’s Mitigation Activity
	Bangladesh	Create and include a methodology for consumption reduction in national school curriculum.
	Mozambique	Establish an inter-ministerial fund for women to facilitate access to green technologies
Energy	Haiti	Train women in repair and extension components of solar photovoltaic systems and the production of improved stoves.
Technology transfer	Haiti	Develop the capacity of men and women in the design of green buildings.

Around the world, ccGAPs are beginning to reveal the transformative potential of gender equality. In Mozambique, the ccGAP was the catalyst for the inclusion of gender equality measures in the development of the country’s Strategic Program for Climate Resilience under the Climate Investment Funds. In Jordan, the ccGAP inspired the government to declare gender equality as a national priority in the country’s response to climate change; this was then evident in the country’s third National Communication to the UNFCCC (2014) and in its INDC (2015)—the latter of which specifically mentioned the ccGAP process and influence.

The demand for ccGAPs has grown over the last five years, not least in response to developing countries’ real-life experience of increasing climate change impacts, as well as the mandates to address gender considerations in global policy and national planning. The unique methodology a ccGAP fosters through a multi-stakeholder and multi-sectoral process seeks to create, perhaps for the first time ever in a country, technical staff in different ministries or sectors to communicate and collaborate toward the best climate change responses. These responses take into consideration not only the marginalisation and vulnerability of women but, in addition to sex, other categorisations, such as age, ethnicity, and culture. Also important is including local/rural and indigenous women and men, in an effort to provide an inclusive approach and to reach results that are beneficial for all.



2.2.5 Regional strategies

While international agreements provide frameworks and mandates for national policymaking, so too do regional strategies and platforms for action. The Southern African Development Community (SADC), for example, has put a strong emphasis on gender and environment interlinkages in their development protocols, such as the 2008 Gender and Development Protocol, which includes key categories related to women in governance and women's rights to productive resources.

As translation of the international climate change framework and policies begins to take shape at a regional scale, the ccGAPs have followed suit becoming another strategy in facilitating this process. Two regional (inter-state) ccGAPs have been developed as of 2015, including the Arab League of States, and Central America, (as referenced above in Table 1,) with another in the initial stages of development for the Southern Africa region.

The region represented by the Arab League of States has actively participating in IUCN/GGCA orientation sessions on gender and climate, becoming strong advocates for gender equality in international climate change negotiations. Building the capacity of delegates from the Arab League of States, particularly in supporting women delegates, has strengthened the knowledge on and identified the need for gender-responsive climate policies. A strong relationship between IUCN and its member states, drawing in support from the IUCN Regional Office for West Asia, on gender mainstreaming and decision-making prompted the development of a regional framework on climate change by local gender experts. Development

of the regional framework demonstrates a dedication by decision makers in the region that valuing gender and viewing women as agents of change builds the resilience of countries to climate change. As a result of the Arab League Regional ccGAP, gender is now included as a standing agenda item with preparation of technical material in meetings of the Council of Arab Ministers Responsible for the Environment (part of the League of Arab States).²⁵

In Central America, the regional vulnerability and the unique capacities and needs of women and men confronting climate change prompted national leaders to pay attention to the different priorities of women and men, particularly giving a voice to women who were recognising and cataloguing varied impacts of increasing disasters around them.

Gender experts throughout Central America engaged with local and rural women and based on their experiences and recommendations formed a technical committee to approach Sistema de Integración de Centroamericana (SICA), the institution responsive for developing the regional climate change strategy, with a formal proposal for a gender-responsive climate change strategy. IUCN was invited into the process and provided capacity building to enhance the committee's impact at the regional and global levels. The committee also reviewed the draft climate change strategy and identified significant gaps in addressing women's concerns. However, it was the bottom-up collaboration through political channels and provision of gender expertise that led to a strategy encompassing considerations of and responses to the needs and priorities of various stakeholders and



key populations in the region. The strategy was upheld at a meeting with the network of Women Ministers, approved, and legalised by the Council of Ministers of the Central American Commission for Environment and Development. It created such political pressure as to lead to the incorporation of gender as a mandate in the Heads of State declaration in relation to the climate change strategy for the region in July 2010, which then carried the message of gender equality and equity to the international stage for outcomes at the UNFCCC climate negotiations in Cancun later that year.

While the regional and global political processes are valuable, it is equally important to find ways to implement the strategy in specific locales and validate any actions with the communities that share their experiences at the outset. The success of this regional strategy may hinge on the collaboration of Central American governments with NGOs in

coordination with the women's movement in the region due to prior support for establishing gender units and gender equality in political processes within the environmental ministries.

In March 2015, IUCN—with the support of the of the German Federal Ministry for the Environment, Nature Conservancy, Building and Nuclear Safety (BMUB), the Norwegian Agency for Development Cooperation (NORAD) and the UK Department for International Development (DFID)—further collaborated with the Yucatan Peninsula states' governments to develop regional guidelines for gender mainstreaming in adaptation and mitigation processes for the Yucatan Peninsula. The Yucatan Peninsula is the first (intra-state) region of Mexico to demonstrate the commitment to fulfill the agreements and mandates signed by Mexico before the UNFCCC regarding the inclusion of gender in climate change programmes.



Box 5: Fostering regional learning exchanges

UNDP, under the auspices of its GGCA programming as well as via other partnerships, has conducted various regionally focused projects to enhance gender and climate change learning and planning. In partnership with the Government of Israel, for example, UNDP organised a three-week training on agri-business for the empowerment of rural women that made a direct contribution to climate resilience in Africa. Twenty-six women entrepreneurs from six countries (Rwanda, Ethiopia, Kenya, Uganda, Tanzania and South Sudan) participated in this capacity development training that provided women entrepreneurs with business management skills and knowledge to undertake successful agribusiness and renewable energy strategies, including in climate change mitigation and adaptation industries.

This training was very effective in making women successful entrepreneurs and at the same time helped them address climate change. Kenya has introduced this training for its women entrepreneurs in three provinces (Machakos, Taita Taveta, and Bungoma). The African Union, in partnership with the UNDP Regional Service Centre in Africa, arranged a similar training in Israel for 50 women from 10 francophone countries in 2014. This is an example of a successful and tested initiative for women's empowerment and sustainable climate resilient development.

Another UNDP regional initiative in Africa comprised of a successful dialogue and learning exchange in Nairobi on gender, climate change and disasters in which participants were drawn from grassroots women leaders, national policy makers and development partners across 10 countries (Ghana, Kenya, Liberia, Madagascar, Mozambique, South Africa, Tanzania, Uganda, Zambia, Zimbabwe). The dialogue provided a platform for sharing country level experiences at the regional level as well as an opportunity for regional collaboration. The event, organised in partnership with the Huairou Commission, GROOTS (Grassroots Organisations Operating Together in Sisterhood) Kenya, the Pan African Women's Organization, United Nations Environment Programme (UNEP), the UN Economic Commission for Africa (UNECA), UN Women, the United Nations Human Settlements Programme (UNHABITAT), United Nations International Strategy for Disaster Reduction (UNISDR), and the African Union, also included field visits to three sites in Kenya where the participants travelled to eco-bio centres to observe biogas and farming technologies and natural resource conservation and farming practices. They also explored entrepreneurial opportunities for establishing similar ventures at home and the scaling up of such successful ventures at the community level.



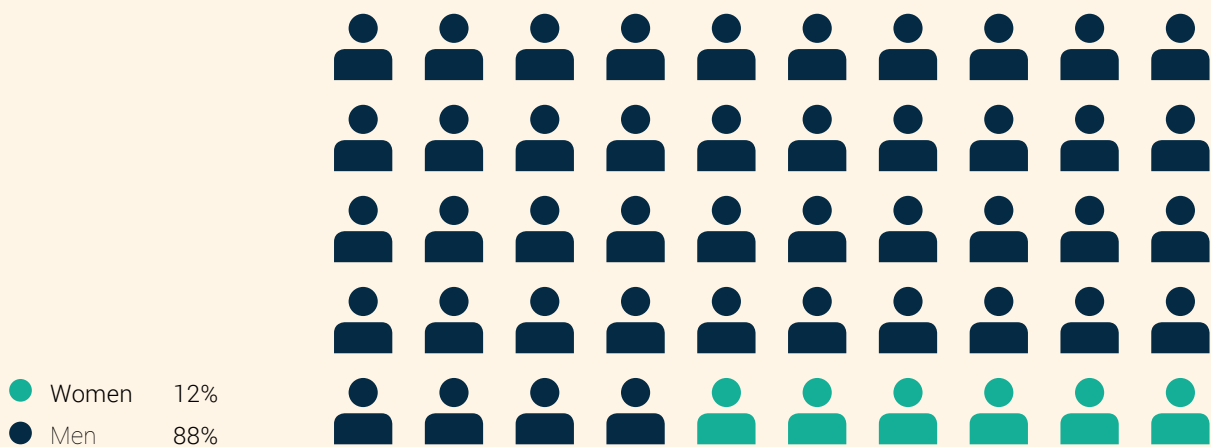
2.2.6 Climate change decision-making at national level: Varying authority for developing policies and plans

Policies and plans don't design themselves: people do. Ensuring that diverse perspectives are represented makes for more effective decision-making, as is discussed elsewhere in this publication. Women's participation in climate change decision-making processes is especially important, as women—in all their diversity—have unique needs, experiences, expertise, and capacities when it comes to adaptation and mitigation alike. Moreover, women's leadership delivers environmental results: countries with higher women's representation in parliament are more likely to ratify environmental agreements and more likely to set aside protected land areas.²⁶ Perhaps even

more importantly, research has shown that women are often considered better leaders in times of crisis, mainly due to their ability to foster and come to consensus and manage risk.^{27,28,29} These are essential traits for dealing effectively with the wide challenges of climate change.

And yet, the latest data from the EGI reveals that women are still vastly under-represented in key environmental decision-making spheres. Women make up, for example, a mere 12% of heads of environmental ministries, which are responsible for managing climate change planning (see Figure 3).

Figure 3: Heads of national environmental sector ministries by sex, 2015





While a ministry of an environment-related sector (e.g., Ministry of Environment, Forestry, or Natural Resources) is typically the designated authority to develop and implement climate change planning and programming in most countries, decision-making modalities differ among countries. How countries define their climate change authority makes a difference for gender responsiveness, not least in relation to systematic and intentional inclusion of and partnership with Ministries for Women or Gender Affairs or other national women's machineries in planning and implementation efforts. In IUCN's experience, developing ccGAPs—which demand cross-sectoral engagement, strategising, and action planning—ministry participants have very often emphasised that ccGAP workshops offered the first opportunity for cross-ministerial discussion on climate change, much less gender and climate change. Cross-sectoral and mutual capacity building and strategising is an essential component to comprehensive, effective, and efficient climate change response planning.

The Government of Tuvalu has, by its own reporting, established a process by which the women's ministry is actively engaged in climate change planning.³⁰ All environment-related ministries or departments are key stakeholders of climate change planning and sit on the National Coordinating Committee (NCC), and the Gender Affairs Department is a key stakeholder

and a member to the National Advisory Council on Climate Change that advises and reports directly to the Prime Minister and Cabinet. The integration of gender into these organisations and departments is witnessed by a steady increase in recognition of gender concerns and gender action lines in sector plans. However, Tuvalu's 2007 NAPA was criticised in a 2013 assessment for having only consulted men due to traditional norms.³¹ Yet, more recently, after capacity building efforts by a range of actors including UNDP and women's civil society networks, its energy development project plan, for example, includes 66 mentions of gender.³²

In many cases, women's mechanisms, or machineries, have not been included, or convened as a key stakeholder in development of climate planning, and even in some cases of ccGAP development as it is often not acknowledged as a player in the framework for technical implementation. Consultation of the Ministry of Women's Affairs, or the like, has existed but in piecemeal fashion, and often is a disjointed process due to the fact that the environmental ministry defines the process and institutional participation. This can constrain processes as there is progress made in one sector but without consultation of other sectors and institutions it does not cohesively digest and harmonise the intricate pieces required for real results.



2.2.7 Moving forward

The national actions included in this chapter demonstrate important steps in the right direction for advancing gender equality within the climate change agenda. Until recently, in light of relatively new, mindfully interlinked commitments to gender and climate change, national policies and plans have seldom reflected the comprehensive nature of these issues. There has been concerted effort by the international civil society focused on these issues to ‘double mainstream,’ that is, to both ensure that gender equality concerns are integrated into climate change decision-making, and moreover that climate change planning impacts cross-sectoral development planning, where much of the investment in advancing gender equality lies. So far, results have been largely piecemeal—with some glimmers of hope and leadership, including via UNFCCC programming and financing mechanisms, sectoral plans, and regional approaches—but opportunities continue to present themselves for enhancing the double mainstreaming.

As countries move forward with the implementation of a wide range of strategies, including developing policy, programming, and projects, there will be increasing demonstrations of gender as a catalyst for success, as gender considerations are effectively and cohesively integrated more and more into climate-resilient and low-emission development planning. To ensure that gender-responsive climate policy, planning, and measures continue to be developed and implemented for optimal results, the following recommendations should be considered:

- *Continue to build the capacity of stakeholders on the interlinkages of gender and climate change, across all levels.* Recognising the need for an international framework on climate change to be articulated at the national level, capacity building is essential across all sectors, to build bridges across sectors, and to specifically recognise and address women’s rights and gender equality concerns.
- *Scale-up attention to gender in climate strategies at national levels through continued political advocacy at international and national levels, encouraging a more integrated approach* for mainstreaming gender and climate change into national development policies and agendas, which move away from fragmented sectoral and institutional measures to achieve greater synergistic outcomes.
- *In the meantime and in tandem: champion women and gender equality concerns throughout climate-related sector-specific programmes, activities, and investments—*such as national agriculture investment programmes—and focus on implementing activities already identified and included in gender action plans. These activities and plans should be supported by gender responsive budgeting, as well as gender-responsive technology.
- *Ensure the inclusion of women’s machinery and mechanisms in implementation, and particularly focus on benefit sharing with—but also investment in—women and women’s organisations to empower and enable them to access and engage beyond the socio-cultural barriers, which continue to marginalise their participation in rural and urban development.*
- *Create space for and guarantee opportunities for women’s participation in national decision making processes on climate change.* As an example: when women constitute at least 33% of a forest users’



group, participate in planning, have tenure rights and training providing them with income generating opportunities and benefits that reduce their burdens, there is less degradation of forests, fewer cases of illegal logging and conflicts, resulting in better protected forests and productive farms. This is among the evidence that should result in ensuring space for women's participation in REDD+ spheres.

- *Mobilise, or increase, access to finance mechanisms to propel implementation of strategies and action plans.* In the past, countries have stated that funds or mandates did not exist for gender mainstreaming within climate change, but now the willingness and machinery alike exists to seize gender responsive financing on a national scale. The challenge lies in developing the know-how of all groups to achieve positive societal outcomes, especially for women and women's groups.
- *Review national gender and climate change policies and strategies, including already-developed ccGAPs, and update* in light of new UNFCCC communications, mechanisms, financing—particularly as the Green Climate Fund begins disbursement of funds.
- *Engage a wide range of partners working on gender equality and women's empowerment to better understand the root causes of gender inequality, drawing lessons from their experiences and consolidating partnerships among the national and international climate change adaptation and mitigation practitioners.* Build on past and ongoing initiatives to gain insight into women's and men's roles in climate change mitigation and adaptation and to avoid duplication. Raise awareness and exchange lessons and best practices through learning networks like the Adaptation Learning Mechanism (ALM).
- *Train and sensitise stakeholders and project staff on gender issues and the importance of gender equality and women's empowerment* not just for equitable efficient and sustainable outcomes but also to protect and promote human rights. Diagnostic studies, like gender equality strategies, conducted by independent gender experts, in consultation with major stakeholders, help in identifying gender gaps and in addressing gender concerns during the planning, execution and monitoring of climate change projects.
- *Identify and invest in monitoring and accountability.* For the past decade, governments have established international and national commitments to ensure that gender equality and women's empowerment are central to climate change. This strong policy framework has suggested great strides, and yet, without a mechanism to monitor and measure implementation of these commitments and drive further action, a void has remained in being able to identify real progress—not to mention persisting challenges, areas of comparative gains or gaps, or effective strategies for improvement. Therefore, there is a need for rigorous monitoring and accountability instruments. The Environment and Gender Index is one such mechanism.
- *Recognise and celebrate that the doubts surrounding gender and climate change have been put to rest: knowledge, communications, methodologies, and tools have been developed demonstrating the means to an end, illustrating gender equality and climate solutions as co-benefits.* Armed with examples, lessons learned, challenges and momentum, a gender-responsive approach can move forward through financing, implementation, and scaling-up.



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3

PROMOTING RESILIENCE, RIGHTS AND RESOURCES:

Gender-responsive adaptation
across sectors



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ACRONYMS

ADB	Asian Development Bank	LDCs	Least Developed Countries
CBA	Community-based adaptation	MDGs	Millennium Development Goals
ccGAP	Climate Change Gender Action Plan	MFF	Mangroves for the Future
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women	NAPA	National Adaptation Programme of Action
CO₂	Carbon dioxide	NAP	National Adaptation Plan
COP	Conference of the Parties	NGO	Non-governmental organization
DRR	Disaster risk reduction	PPCR	Pilot Programme for Climate Resilience
EbA	Ecosystem-based Adaptation	SDGs	Sustainable Development Goals
EGI	Environment and Gender Index	UN	United Nations
FAO	Food and Agriculture Organization of the United Nations	UNDP	United Nations Development Programme
FTFA	Food and Trees for Africa	UNEP	United Nations Environment Programme
GEF	Global Environment Facility	UNESCO	United Nations Educational, Scientific and Cultural Organization
GHG	Greenhouse gas	UNFCCC	United Nations Framework Convention on Climate Change
HFA	Hyogo Framework for Action	UNISDR	United Nations International Strategy for Disaster Reduction
IPCC	Intergovernmental Panel on Climate Change	WHO	World Health Organization
IUCN	International Union for Conservation of Nature		



Key messages

- Adaptation measures reveal the human dimension of climate change.
- The ability of communities to adapt to climate change is inextricably linked to their access and ability to exercise their basic human rights, their socio-economic conditions, and to the health of the ecosystems they depend on for their livelihoods and wellbeing.
- Vulnerabilities and exposure—which shape gender-differentiated risks of climate change—result not only from climatic factors, but from non-climatic factors such as multi-dimensional inequalities often produced (and reproduced) by uneven development processes and social norms.
- Adaptation efforts may be unsuccessful if isolated in sector-specific strategies; multi-dimensional, multi-sectoral, and multi-stakeholder approaches appear to tackle interlinked issues, e.g., food and nutrition security, with health, water management, livelihoods, gender considerations.
- Men and women can and do have different needs and interests in adaptation efforts; men and women also have different experiences, expertise and capacities that can and should influence adaptation efforts.
- While often overlooked, women’s knowledge is essential for shaping and enacting effective, efficient, and equitable adaptation measures and policies; full and effective participation of women is vital at every level to realise their rights and to ensure integration of diverse and unique knowledge and experience.
- Various adaptation approaches—from community-based to ecosystem-based approaches—have anchored gender equality as a guiding principle and have revealed valuable lessons and best practices upon which future adaptation initiatives should be based.



3.1 Understanding adaptation

As it became clear to the global community that mitigation efforts would not be sufficient to reduce impacts caused by climate change already felt by many people in the world, the role of adaptation as a response has become increasingly critical. Humankind, particularly communities experiencing societal inequalities who are at risk from climate-related impacts, have begun to experience these negative impacts and must develop adaptive capacities to prepare for the imminent effects of climate change. Societies must adopt approaches that build resilience at all levels—individual, household, community, national, and international—to withstand and recover from climate-related impacts. Despite rising awareness of the need for and prioritisation of adaptation interventions, many actions have not been pursued because of limited resources for implementation.

Many forms of adaptation are required to effectively deal with the varied array and levels of likely impacts of climate change that will affect various sectors, resources management, economic activities, and population dynamics.

The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as:

The process of adjustment to actual or expected climate change and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.¹

The development of adaptation strategies, at all levels, requires integrated, multidisciplinary, multi-sectoral planning. It is critical to understand the types and extent of climate impacts, vulnerabilities and capacities to effectively assess the appropriate adaptation interventions required. The IPCC assessments take the best available physical analysis of change—to temperature, rainfall, sea level rise, and other climate factors—and analyses the likely regional impacts to natural and built

KEY TERMS:

Vulnerability, as defined by the IPCC, is the level of inability of a system—such as a community, household, ecosystem, or country—to cope with the adverse effects of a shock, for instance, one caused by climate change.² Vulnerability is affected by the system's exposure to, sensitivity to, and ability to adapt to these effects. Overall, vulnerability is dynamic and changes with time; place; and social, economic, and political conditions.³

Adaptive capacity — the ability of a system to adjust to a shock—consists of both socio-ecosystem and socio-economic resilience.⁴ Adaptive capacity includes the knowledge systems, resources, financial institutions, economic systems, governance, and capability of the population. The resilience of an individual, household, community, institution, or government refers to its capacity to withstand and quickly recover from impacts—ideally rebuilding and reorganising even more strongly, soundly, and sustainably.



environments, economies, livelihoods, and other human dimensions. These assessments provide information for developing strategies to reduce risks, address impacts, and adapt to the projected changes over time.

Research has shown that there will be negative consequences and impacts from implementation of adaptation interventions if these interventions were designed without understanding and including the adaptive capacity of the community, region, or government.^{5,6} The vulnerability and capacity approach examines relations between human populations and their environment, whereby vulnerability, and associated risk, are largely social constructs that relate to development processes, structural (in)equalities, and sustainable resource management. Therefore, developing effective and beneficial adaptation strategies requires comprehensively considering the societal dynamics at work within a community. Strong adaptation policies will provide opportunities for communities to strengthen their resilience to climate change and other shocks, while reducing social inequalities and promoting the advancement of marginalised peoples. Adaptation strategies should aim toward positive development, despite climate change.

Gender dimensions of adaptation

Adaptation measures are implemented to reduce negative impacts from climate change and disasters. The causes and impacts of disasters are not merely the result of 'natural' phenomena, but result from decisions made within a social, economic, and political context—including before, during, and after a disaster incident. Gender relations play a major role in

structuring this context, and are therefore important for understanding vulnerability, risk construction, and the effects of disasters, as well as opportunities for reducing negative impacts.

“Disasters, when they strike, do not discriminate between people. Disasters have no mind. Anyone and everyone in the disaster zone is affected. However, whereas disasters do not discriminate against people, humans most certainly do. In the aftermath of disasters, humans perpetuate social patterns of discrimination, and these entrenched patterns of discrimination cause certain groups of people to suffer more.”

- Dr. Abhimanyu Singh, UNESCO Director and Representative Speech at the International Conference on Gender and Disaster Risk Reduction, 20 April 2009

There is significant socio-economic differentiation between men and women that is deeply rooted in social structures around the world.⁷ These include differences in access to resources such as land, credit, and education. Access to these fundamental resources provides women with the tools, skills, and preparation to effectively engage in environmental decision making,⁸ while a lack of access to these resources contributes to unequal opportunities for women to participate in and influence decision-making processes.

Although meaningful representation and participation of women in decision-making processes can have a powerful impact on policies and programmes, more



is required for the development and implementation of gender-responsive adaptation strategies. A case study of women in environmental decision-making in the Philippines completed in March, 2015, shows that even though the Philippines has a comparatively high participation rate of women in various levels of environmental decision-making (i.e., 20% of environmental-sector ministers and 67% of government delegates to the United Nations Framework Convention on Climate Change (UNFCCC) 19th Conference of the Parties (COP) were women), there is still a lack of implementation of gender-responsive policies and frameworks.⁹

Because women use and manage natural resources differently than men, and degradation of natural resources affects each group differently, patterns of disadvantage may increase with the change in or loss of natural resources associated with climate change. For example, rural women in developing countries are the principal producers of basic foods, and the agricultural sector is exposed to uncertain precipitation, especially with risk of drought; this means that climate change endangers food and nutritional security, the livelihood of women, and the wellbeing of families.¹⁰

A lack of access to resources and structural inequalities generally result in greater vulnerability for women to the impacts of climate change. The gender wage gap ensures that women will not have as many resources as men to recover from disasters.¹¹ In many regions, women conduct the lesser-paid work, and often there is no compensation for work such as household management and caretaking. These factors can hinder building community resilience, but recognising and supporting the roles that women play in homes and communities can aid in adaptation to climate risks.

The *Human Development Report (HDR) 2007–2008* affirms that the historic disadvantages of women—with limited access to resources, restricted rights, and little or no voice in decision-making—make them extremely vulnerable to climate change.¹² In order to address these factors in a systematic fashion throughout the development of adaptation strategies, the following key questions concerning representation, roles and responsibilities, rights, and risk should be comprehensively explored.



Box 1: Gender analysis for effective adaptation

Gender analysis is a tool that aids in understanding not only gender dimensions of climate change, but the socio-economic, cultural, and structural equality issues embedded in the impacts of interventions and adaptation strategies. In order for this to be effective it is important to identify:

1. Representation—*Who is involved in leadership and has decision-making authority at all levels (from local to international policies, agreements, and adaptation)? Who has access to information? Who has control of the distribution of resources? Who allocates benefits? Is traditional knowledge validated and represented?*
2. Roles and Responsibilities—*Who is involved in resource management? Who works with resources that earn cash incomes? Who is involved in subsistence and livelihood activities? Who provides caretaking in families? What are the ages of family members, and what are intergenerational activities, actions, and roles? How do cultural and indigenous knowledge factor into gender roles and responsibilities?*
3. Rights—*Who has rights and entitlements to resources and services? How are goods and services distributed? Do legal systems protect male and female citizens equally, regardless of class status, race, ethnicity, and age? What are entitlements (e.g., education, health, land ownership) and who receives them? Do institutional and legal systems support equality?*
4. Risk—*What are the differential risks, vulnerabilities, adaptive capacity, and resilience among women, men, girls, and boys at all levels? Are there added risks by gender from age, class status, race, or indigenous community? What is the autonomy of women and men in dealing with risks? Are capacities to deal with risks analysed and understood?*

These questions are relevant for developing, implementing, and evaluating strategies to understand the consequences of intervention and to ensure that positive benefits are achieved and equally distributed. Beyond the adage of adapting in ways that have ‘no regrets’ and that ‘do no harm’ while potentially increasing capacity and building resilience, it is important to recognise ways that these adaptation strategies will contribute to achieving greater good, such as poverty reduction, equality, and sustainable development.



It is important to note that the differences in men and women's social positions not only create specific gendered vulnerabilities and risks but also generate gender-specific capacities. The unique capacities that women have developed in different social and cultural settings can be very important for climate change mitigation and adaptation efforts, particularly during all phases of disaster management: mitigation, preparedness, response, and recovery.¹³ For example, research on women's risk at the local level in the Caribbean has shown that Caribbean women consider family and friend networks as their main support during disaster situations.¹⁴ Women in communities tend to have valuable information regarding community and family members, such as who is missing and who needs special attention.

Although women may be particularly vulnerable to the effects of climate change due to social inequalities and societal roles, they are more than just victims; women are vital agents of change, holders of valuable knowledge and skills, and can be powerful leaders from community to global level in adapting to climate change. Involving women in the development and implementation of strategies related to deforestation, economic growth, science, technology, policy development, among other sectors, can strengthen the effectiveness of these strategies for the entire community. Their leadership, capacities, innovations and knowledge, as seen in the development of national solutions in this chapter, is crucial in defining solutions related to adaptation.

3.2 Gender and adaptation concerns by sector

The following resource sectors, in addition to the forestry, energy, and other sectors outlined in related chapters of this publication, are relevant for finding equitable adaptation responses to climate change.



Disaster risk reduction

The field of disaster risk reduction (DRR) was the first area of adaptation to focus on identifying risk and developing methodologies that recognised the linkages with development, socioeconomic factors, and human rights-based issues of equality. Needing

to cope with disasters is not a new phenomenon. However, climate change is increasing the voracity and frequencies of disasters and it is changing the need to reduce and to build resilience in responding to these events.

Climate change adaptation measures and DRR practices are necessarily interlinked concepts as 91% of recorded major disasters caused by natural hazards from 1994 to 2013 were linked to climate and weather.¹⁵ Therefore, adaptation policies should consider lessons learned from DRR strategies, and DRR strategies must consider the impacts of climate



change as they are increasingly linked. Climate change is impacting both sudden onset disasters—by increasing the magnitude and frequency of disaster events, and slow onset disasters—by changing the average climate conditions and climate variability.¹⁶

The *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (HFA)*,¹⁷ the main international DRR framework, describes the cross-sectoral work required to reduce disaster risk for nations, communities, and ecosystems to adapt to the impacts of disasters due to climate change and other factors. The HFA does not differentiate between sudden onset and slow onset hazards. It does, however, “promote the integration of risk reduction associated with existing climate variability and future climate change into strategies for the reduction of disaster risk and adaptation to climate change”.¹⁸

Gender in DRR

In the last decades, there have been important efforts made toward including a gender perspective within DRR strategies. Methods aid in understanding how ‘gender’, as a socially constructed category that varies by place and time, can reveal differential risks and types of impacts that people will face from threats caused by hazards and climate change. These analyses assist in identifying the vulnerabilities and capacities that will need to be addressed in climate adaptation. As described previously, it is important to identify areas of representation, roles and responsibilities, rights and access to resources and services, and differential risk.

The HFA includes a principle mandate in relation to gender equality and empowerment of women in the context of DRR; this mandate includes integrating

gender perspectives into DRR policies, plans, and decision-making processes for all areas of risk management and through all phases of the disaster cycle.¹⁹ Nonetheless, the HFA mid-term review 2010-2011 concluded that the “inclusion of a gender perspective and effective community participation are the areas where the least progress seems to have been made”.²⁰ In fact, data from the 2009-2010 HFA Monitor shows that 62 out of 70 countries do not collect sex-disaggregated data on vulnerability and capacity information.²¹

In 2011, the HFA commissioned a report on women as agents of change for DRR. In this report, authors Gupta and Leung found that:

Women’s organisations with strong track records in advancing community development find themselves excluded and disconnected from national disaster risk reduction and recovery programs” and that “multilateral institutions report that they have inadequate knowledge and political commitment required to advance gender concerns in the field of resilience.”²²

Related to the aspect of DRR is the concept of loss and damage.²³ The Warsaw International Mechanism for Loss and Damage is the UNFCCC work programme on loss and damage that considers approaches in developing countries in relation to slow onset and gradual impacts of climate change.²⁴



Box 2: Loss and damage

‘Loss and damage’ refers to negative effects of climate variability and climate change that people have not been able to cope with or adapt to. ‘Damage’ can be seen as negative impacts that can be repaired or restored (such as windstorm damage to the roof of a building, or damage to a coastal mangrove forest). ‘Loss’

can be characterised as negative impacts that cannot be repaired or restored—such as loss of geologic freshwater sources related to glacial melt, or loss of culture or heritage associated with potential population redistribution away from areas that become less habitable over time.²⁵

Approaches to addressing issues related to loss and damage arising from the adverse effects of climate change mainly focus around the management of sudden onset events. Limited efforts are being made with regard to slow-onset climate change hazards, with little to no gender related knowledge and information regarding the impacts of such hazards. There is an urgent need to identify effective approaches to manage slow-onset hazards as they are expected to cause potentially the greatest loss and damage.²⁶ While there is a need to expand existing international legal frameworks dealing with issues of human displacement and migration as a result of slow-onset events, it is crucial that these frameworks specifically include issues related to gender.

A challenge that must be overcome is the lack of knowledge regarding the potential for large-scale disruption through loss and damage, especially in the context of slow-onset events, meaning that special attention must be paid to the needs and concerns of women. Economic and non-economic losses have disproportionate impacts on individuals depending on their socio-economic status and gender. Numerous studies have indicated that the poorest and most

marginalized people and women suffer most due to these losses. Rights-based approaches and gender considerations should be integrated into the loss and damage discourse and any future mechanisms established in this connection.²⁷

With these goals, successes, challenges, and recommendations in mind, the post-2015 framework—the Sendai Framework for Disaster Risk Reduction 2015-2030²⁸—was adopted at the Third United Nations (UN) World Conference in Sendai, Japan, on March 18, 2015.²⁹ The priorities of the Sendai Framework include the following: understanding disaster risk; strengthening disaster risk governance to manage disaster risk; investing in disaster risk reduction for resilience; and enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction. It formally recognises the importance of women’s participation in every stage of DRR strategies—from design to development and from implementation to monitoring. This framework promotes dedicating resources to empowering and building the capacity of women to participate in and lead DRR efforts.



Climate change is exacerbating certain aspects of disasters and disaster risk management. The gender-differentiated impacts of disaster risks must be considered in order to develop comprehensive

disaster risk management strategies that go beyond protecting resources to promoting positive development, social equality, and the advancement of women (Table 1).

Table 1: Key adaptation factors relating to DRR

Anticipated climate impacts

- Increased frequency or magnitude of catastrophic climate events,
- Cumulative and cascading hazards, decreasing ability for recovery,
- Sea level rise, and
- Loss of ecosystem integrity, and therefore decreased ecosystem protection from disasters.

Gender issues

- Lack of sex- and age-disaggregated data resulting in poor understanding of gender-differentiated risk,
- Limited/no inclusion of gender indicators in monitoring and evaluation,
- Lack of women's views integrated in planning, design, and implementation and response processes due to women's restricted representation in formal DRR leadership and decision-making activities,
- Little understanding of differentiated risk throughout the disaster cycle, and
- Gender inequalities affecting access to resources, information, early warning systems, health and social services, entitlements, land ownership, and institutional and government support.

Gender-responsive adaptation

- Use gender-specific data to monitor and evaluate programmes and interventions,
- Ensure gender equality and diversity within planning, design, decision-making, and leadership roles,
- Include gender and differentiated risk analyses within DRR policies, programmes, and interventions, and
- Improve equality in access, control and benefits derived from resources.



Roles and responsibilities, rights, and risks: Facts and figures

Countless examples and studies have revealed the gender dynamics of preparedness in periods of disaster and post-disaster situations. The following examples highlight the necessity of considering roles and responsibilities, rights, and risks. Assessing these factors can lead to the development of more informed and more equitable adaptation strategies, reflecting issues such as the following:

- Worldwide, women tend to suffer more from the impacts and fatalities caused by disasters compared with men. For example, women represented an estimated 61% of fatalities in Myanmar after Cyclone Nargis in 2008, 70% after the 2004 Indian Ocean Tsunami in Banda Aceh,³⁰ and during the heat wave that affected Europe in 2003, most deaths in France were among elderly women.³¹
- In Bangladesh, of the 140,000 people who perished from the flood-related effects of Cyclone Gorky in 1991, women out-numbered men by 14:1. The cause of deaths was associated to socially constructed gender norms such as preventing women from leaving their homes or staying in cyclone shelters without a male relative.³² As a result of this devastating situation, the government conducted improvements in hazard monitoring, community preparedness, and integrated response efforts. When Cyclone Sidr hit in 2007, the casualties were around 3,000 and the gender gap in mortality rates had shrunk to 5:1. This was achieved, for example, by addressing the sociocultural causes of why women were reluctant to use cyclone shelters, including paying particular attention to engaging women as community mobilisers—more likely to be heard by other women—and creating women-only spaces within cyclone shelters.³³
- Following a disaster, it is more likely that women will be victims of domestic and sexual violence; many women even avoid using shelters for fear of being sexually assaulted.³⁴ Gender-based violence is found to increase due to disaster-induced stress and the temporary breakdown of law and order.³⁵
- A 2007 study of 141 natural disasters over 1981–2002 found that when economic and social rights are realised equally for both sexes, disaster-related death rates do not differ significantly for men and women. But when women's rights and socio-economic status are not equal to those of men, more women than men died in disasters; boys were given preferential treatment during rescue efforts and, following disasters, both women and girls suffered more from shortages of food and economic resources.³⁶
- In some Latin American and Islamic countries, women's relative lack of decision-making power may pose a serious danger itself, especially when it keeps them from leaving their homes in spite of rising water levels, waiting for a male authority to grant them permission or to assist them in leaving.³⁷
- In some cases, gender differences in roles and responsibilities in disaster increase men's mortality in disaster situations. Men may engage in riskier behaviour that represents heroic actions in disaster situations—such as being firefighters—that may result in death or injury.³⁸ For example, there were more immediate deaths among men when Hurricane Mitch struck Central America in 1998, not only because they were engaged in outdoor activities, but because of less cautious behaviour in the face of risks.³⁹



Gender-responsive adaptation examples and lessons from DRR

Disaster risk management is a process where the ultimate aim, as part of a sustainable development proposal in the social, economic and territorial spheres, is the permanent reduction of risks leading to disasters.⁴⁰ Therefore, climate change adaptation efforts should be integrated.

Disasters could provide women—as well as men—with unique opportunity to challenge and change gender roles in their society.⁴¹ The following examples illustrate this:

- As part of its Climate Change Gender Action Plan (ccGAP), Liberia has proposed to conduct gender-sensitive vulnerability studies on coasts to be used in planning for disasters. For this they proposed to conduct gender disaggregated vulnerability studies in coastal zones; to develop a process for capacity building for women so that they can run local meteorological stations to report on coastal weather conditions and enhance the initiatives contained in their National Adaptation Programme of Action (NAPA); and mobilise these women to act as information focal points for weather information that has to be transmitted to communities regarding major metrological events along the coasts. (For more information, see Chapter 2.2 on national policies).
- In 1998, the Honduran community of La Masica received gender-sensitive community training about early warning and risk systems. With that training, the women in the community took charge of monitoring the early warning systems that had been abandoned. Six months later, during Hurricane Mitch, not a single death was reported in La Masica because the municipal government was able to evacuate the population in time.⁴² This strategy was successful because women were informed about risk and response measures, taking an active role in an area that was traditionally considered only for men.
- After Hurricane Mitch, the Nicaraguan non-governmental organization (NGO) *Puntos de Encuentro* organised the information campaign, “Violence against women is one disaster that men can prevent”. The campaign proved effective in changing men’s attitudes towards violence against women, and therefore tackled existing power structures.⁴³ Instances of gender-based violence typically increase following a disaster; this campaign contributed to the resilience of this community by helping to reorganise and rebuild stronger and safer after Hurricane Mitch.
- During the aftermath of Hurricane Georges in the Dominican Republic, local rural and urban women’s organisations were the first to deal with the situation in shelters. Due to their work with endemic medicinal plants, the women were able to help with remedies and providing care, before official medical personnel could arrive. These organisations also helped with reconstruction efforts, including getting aid for rebuilding homes for the community and encouraging women to take part in helping other women gain access to credit for rebuilding. This gave women a new status in their community, changed the way they are perceived, and increased their role in decision-making.⁴⁴



- In Bangladesh, Climate Change Adaptation and Disaster Risk Reduction is a women-centred initiative that sets out to curb and adapt to the negative impacts of disasters by bringing together groups of women who are charged with conducting vulnerability assessments of climate risks and identifying action plans, including building temporary dams to avoid salinisation of fresh water, and creating a raised cluster village for landless families in flood-prone areas while sharing knowledge and experiences with community members.
- In the face of disasters, in many countries, more women than men face difficulties in accessing information that could affect their wellbeing or survival. As part of an initiative of GrameenPhone in Bangladesh, mobile phones are now being used by women to alert authorities about risks in infrastructure, such as bridge collapses.⁴⁵
- During a drought in the small islands of the Federated States of Micronesia, the women's ancestral knowledge of the islands' hydrology allowed them to easily find places to dig wells for drinking water. The women do not normally become involved with decision-making, but the information they provided benefited the entire community.⁴⁶
- Projects supported by the World Bank in post-flooding reconstruction in Argentina, El Salvador, Mozambique, Indonesia, Viet Nam, and India have elevated women's status in society by including women in programme design and implementation while promoting land rights for women. This was accomplished through developing an understanding of the gender dimensions of disaster and promoting equality during the recovery process.⁴⁷

READ MORE IN CHAPTER 7!

CLIMATE CHANGE ADAPTATION AND DISASTER RISK REDUCTION IN BANGLADESH: WOMEN LEADING COMMUNITY-BASED ACTION TO BUILD RESILIENCE

ActionAid Bangladesh



As the importance of gender mainstreaming in DRR is increasingly understood, lessons and best practices have informed international policy-making, as indicated above with respect to the Sendai Framework, and should continue to shape national and subnational strategies for response and resilience. The following steps, adapted from "Gender Perspectives on Climate Change"⁴⁸ for gender mainstreaming in DRR plans, remain relevant guidelines for including women in all levels of reducing risks to climate change and disasters:

- Include gender perspectives in disaster reduction efforts at the national, regional, and international levels—including in policies, strategies, action plans, and programmes,
- Analyse climate change data (such as desertification, floods, drought and deforestation) from a woman's perspective,
- Take gender-conscious steps to reduce the negative impacts of natural disasters on women, particularly in relation to their critical roles in rural areas in provision of water, food and energy,



- Increase the participation of women in all levels of the decision-making process,
- Identify key women at local levels to guarantee gender perspectives are considered when preparing early warning mechanisms,
- Ensure that women are being visibly integrated as agents of change at all levels of disaster preparedness, including early warning systems, communication networks and educational opportunities,
- Consider the level of a woman's access to technology and finance in times of crisis, and
- Collect and analyse data that includes both men and women.



Water

Climate change causes increased water availability in humid tropics and at high latitudes and a decline in water availability and increase in droughts at mid latitudes and low semi-arid latitudes. These changes lead to hundreds of millions of people being exposed to increased water stress. There are two key components of water stress: water scarcity and water security. Water scarcity is the lack of water resources to meet the water usage demand of communities and ecosystems, whereas water security relates to the reliable availability of accessible, affordable, and improved drinking water sources and sanitation facilities.⁴⁹ In less developed countries, 663 million people do not have access to improved drinking water, and 2.4 billion people lack access to improved sanitation facilities.⁵⁰ Water scarcity and water security will both be exacerbated by climate change, leading to the necessity of adaptation strategies that implement a plan for how communities will cope with these stressors.

The changes in precipitation, melting ice patterns, and glacier reduction will affect the levels of rivers and lakes, limiting access to drinking water. This is vitally important for a sixth of the world's human population who live in regions that rely on melting mountain snow and ice as the source of their drinking water. The inhabitants of drylands will face more frequent and longer-lasting droughts. As this situation worsens, millions of people will be obliged to relocate as their water sources become impaired or depleted.

The natural response of human beings to the rise in temperature will likely be to increase their demand for potable water, particularly for agriculture and in growing urban environments. This will cause wetlands to be over-exploited, reducing flows in rivers and streams, with additional consequences on ecosystem resources and disasters affecting lives and livelihoods of surrounding communities. The rise in temperature will lead to increased evapotranspiration, reduced run-offs and infiltration, and, therefore, less availability of fresh water and soil humidity. Increasing incidence of drought also contributes to the increased risk of forest fires, and less of a means for fighting such fires.

Access to water resources results in increased humanitarian conflicts and violence where water is scarce,⁵¹ such as for regions of sub-Saharan Africa. Water scarcity presents an increased risk to men and male youth, as participation in such conflict increases mortality.

Climate change affects water resource availability, which will in turn have significant ramifications on every other sector. The Millennium Development Goals (MDGs) highlighted the importance of access to fresh water for drinking, health, and survival, and the post-2015 Development Agenda—the Sustainable



Development Goals (SDGs)—recognise the impacts from climate change and call to “Ensure availability and sustainable management of water and sanitation for all.”⁵² These development goals are key to reducing the drivers of risk to impacts from the lack of access to water and sanitation resources.

Gender analysis of risk in the water sector

In most parts of the world, domestic and public gendered roles dictate women and girls as responsible for collecting water for cooking, cleaning, health, hygiene, and—if they have access to land—growing food. This leads to women being disproportionately and adversely impacted by water accessibility, system design and management, and the high costs of water distribution.⁵³ While often not considered to be ‘work,’ women and girls spend a disproportionate amount of time on such resource management tasks and unpaid care work that is necessary to sustain their families but also local economies, development and infrastructure.⁵⁴

Women are often under-represented in decision-making processes, even though they can make important contributions to these discussions due to the knowledge of ecological and water-related conditions gained as a factor of their societal roles of natural resources managers.⁵⁵ Within water management policies, women are often cast as the role of victims instead of influential stakeholders and agents of change.⁵⁶

Extreme flooding has changed family structures and roles in families during recovery. Men leave communities to find paid income for recovery, while women stay at home as caretakers and try to restore the communities. Factors that should be studied further to gain a better understanding of the inter-relatedness of water fetching, gender inequity, and climate change concerns include the following: road casualties, assault and attack risks, health concerns, the number of trips taken and the weight of water carried on each trip, the conditions of the terrain, and water usage priorities.^{57,58,59}

Table 2: Key adaptation factors relating to water

Anticipated climate impacts

- Increased extremes in rainfall leading to floods or droughts,
- Increased wildfire and drought impacting ecosystem services,
- Increased salinity in coastal and low-lying lands/inundation from sea-level rise or storm surge,
- Increased sanitation problems,
- Increased potential for water-borne diseases and contributions to other health risks, and
- Decreased availability of potable water resources and water for agricultural use.



Table 2: Key adaptation factors relating to water (Cont.)

Gender-differentiated impacts

- Increased labour required to access and provide water for families, households, and communities,
- The lack of women's views being integrated due to lack of representation in formal water resource planning and decision-making activities,
- Less formal opportunity for women than men, (e.g., due to fewer technical roles in hydrology and engineering),
- Financial barriers for accessing water systems in urban areas,
- Health and sanitation risks for households and communities,
- Political rights constrain women's rights to access water resources, and
- Increased risk of assault and violence as women travel further to access water sources.

Gender-responsive adaptation

- Enhance water resources development, storage, conservation, and systems management,
- Increase gender equality and diversity in planning, design, decision-making, and leadership roles of water resource systems,
- Improve access for women in technical, scientific fields,
- Engage in sustainable development practices, and
- Improve equality in access to resources and services.

Roles and responsibilities, rights, and risks: Facts and figures

- Globally, women and girls spend an estimated 150–200 million hours a day collecting water, yet they are frequently shut out of decisions relating to water.⁶⁰
- In Kenya, fetching water may use up to 85% of a woman's daily energy intake; in times of drought a greater work load is placed on women, when some spend up to eight hours a day in search of water.⁶¹
- In Bangladesh, climate patterns have changed in recent years and rains have become increasingly stronger and less predictable. The floods of 2004 left enormous losses with 280 people losing life, around four million having to be evacuated, and thousands of others left without food or housing.⁶²
- A survey study from 45 developing nations shows that women are responsible for collecting water in 64% of households; in 12% of households, children were responsible, with girls being twice as likely to be responsible for this duty as boys.⁶³ In households with access to an improved water source—meaning they have local, affordable sources of potable water, there was a more equal gender and age distribution for who fetched water. Therefore, in communities where it does not take much time or effort to gather water, the responsibility for fetching the water is less gender-biased. On the other hand, in communities where water collection takes a substantial amount of time and effort, women are much more likely to be water carriers.⁶⁴ This disparity is growing as climate



change is leading to water quantity and quality issues, especially within the developing world. As women have to walk further and further away from their homes and communities to collect water, more of their time is spent on this task, leaving less time for other tasks that could increase their livelihoods and autonomy.^{65,66,67}

- There are a limited number of women professionals in the water sector—hydrologists, engineers, water technicians, environment specialists, and scientists—who are qualified and ready to fill professional positions in these fields.⁶⁸
- In addition to gender disparities, there is also a large urban-rural gap⁶⁹ impacting every aspect of water security—and making rural women particularly susceptible to the impacts of climate change on water—in many countries, including Uganda, where:
 - Piped water is used by 67% of urban households but by only 10% of rural households,
 - 71% of urban households are likely to boil their drinking water and only 38% of rural households do so,
 - 59% of rural households take no measures to treat their drinking water,
 - 28% of urban households and 2% of rural households have improved water sources on their premises,
 - 17% of urban households and 62% of rural households travel a half hour or more to reach their drinking water source, and
 - 21% of urban households and 15% of rural households have access to unshared improved sanitation facilities; these percentages change to 52% urban and 11% rural for households that have access to a toilet that separates waste from human contact but that is shared with other households.⁷⁰

Gender-responsive adaptation examples and lessons about water

A study by IRC the International Water and Sanitation Centre of community water supply and sanitation projects in 88 communities in 15 countries found that projects designed and run with the full participation of women are more sustainable and effective than those that do not involve women as full partners.⁷¹ Therefore, it is fundamental that women are fully engaged in adaptation measures to help reduce vulnerability associated with climate change. Some of the possible measures are to:

- Develop the capacity of women to improve observation and forecasting,
- Develop gender-sensitive early warning systems,
- Conduct gender-sensitive maps of hazards and vulnerabilities,
- Promote water conservation and market-based water allocation with active participation of women, and
- Increase irrigation efficiency for women's needs.

Seasonal floods and droughts in Gujarat, India, make it extremely difficult for poor farmers to have productive crop yields with water logging during peak cropping season and water scarcity in the rest of the year. Female farmers are particularly vulnerable as their livelihood depends on the monsoon, but these women are using this crisis as an opportunity and they are creating an improved water management system that stores water underground during excess rainfall, and then lifts it out for irrigation during dry spells. Farmers—especially female farmers—are benefitting from increased fresh water access and more consistent crop yields.



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BHUNGROO WATER MANAGEMENT IN GUJARAT, INDIA: EMPOWERING WOMEN TO BUILD FARMING RESILIENCE THROUGH IMPROVED IRRIGATION TECHNOLOGY

Naireeta Services Pvt. Ltd. with funding from the Rockefeller Foundation



The Asian Development Bank (ADB) highlights a community-based water project in Kegalle District, Sri Lanka. According to Lalitha Nanamearchchi, the manager of the Bisowela community-run water project, prior to the establishment of the project, women in this community had to walk significant distances to fetch water for domestic use; this 'women's work' gave them little time for anything other than domestic duties. As part of the ADB water project, Lalitha took part in technical training and capacity building and became a leader of a community-based organisation set up to improve access to water. Since the women desperately

needed water, and a household water supply was critical to them, they took the main role in leadership and shouldered the chief burden in project activities. They took a keener interest in pipe-laying than the men, even working through the night to complete the project. The women leaders also initiated tree-planting programs to protect water sources and to preserve the environment. They ensured that the views of women were taken into account when identifying water resources and in assessing water needs. In all these activities women's participation was relatively high compared to that of the men.⁷²



Box 3: Adapting water management in ccGAPs: Water as a priority sector in Nepal, Tanzania and Jordan

As shown, the negative effects of climate change on water stress disproportionately impact women. However, women are much more than victims. If women are provided equal opportunity to engage as actors, instead of characterised as victims or beneficiaries, they can improve resilience of their communities, as shown, for example, through some of the unique activities of the ccGAPs developed in Nepal, Tanzania and Jordan, where water was identified as a priority sector for managing and adapting to climate change.

Nepal⁷³

National mandates dictate that efforts be made to ensure gender equity in program planning and budgeting. Community water resource management projects are requiring 30% participation of women in user groups and committees such as the Water and Sanitation User Committees (WSUCs). However, active engagement remains limited. A study conducted by ADB revealed that within Nepal, each female water carrier must reserve 1.3 hours per day during the monsoon season and an average of 2-3 hours per day in the dry season to meet their daily household supply.⁷⁴

Within Nepal's ccGAP, objectives, action steps, and indicators of success were developed to:

- Develop water supply infrastructure addressing the needs of women,
- Ensure women's participation as decision makers,
- Ensure gender mainstreaming in existing water-related policies, and
- Promote research relating to gender and climate change dimensions in the water sector, among other goals.

Tanzania⁷⁵

In such an arid country, it is very difficult for people to find access to clean, sanitary water if they do not live near one of the three major lakes that border the country. As a result, Tanzania's ground water is the major source of water for the nation's people. However, it is not always clean. Many of these ground water wells are located near or next to toxic drainage systems that leak into the fresh ground water and contaminate it. Consequently, Tanzanians have no choice other than to turn to surface water that contains harmful bacteria and/or human waste. In 2011, only 54% of the population had access to improved water supplies and 24% had access to adequate sanitation. On average, women and children spend over two hours a day collecting water, and this figure increases to up to seven hours in remote areas.



Box 3: Adapting water management in ccGAPs: Water as a priority sector in Nepal, Tanzania and Jordan (Cont.)

To overcome these development obstacles, Tanzania has prioritised tapping into the expertise of women in the water sector.

Objectives include:

- Building the capacity of men and women in local communities on water management related to climate change,
- Establishing gender-based programs for improved conservation and management of lakes and river basins,
- Ensuring that national indicators for integrated water resource management are gender-responsive,
- Instituting gender-based programs for improved conservation and management of lakes and river basins,
- Training more women experts in the water sector, and
- Investing in private sector and NGO expertise to develop tailor-made and innovative solutions to improve women access to water.

Jordan⁷⁶

Residential water supply, irrigation, water quality, and socio-economic issues are addressed as priorities in the ccGAP, and women are viewed as agents of change in this sector, including by recognising that:

- Women are the main custodians of water at the household level, and therefore perform a crucial role in sustainable water use and management,
- Women in rural areas are able to adapt to and implement new techniques in water conservation,
- Women ensure household sanitation, and
- Women—and therefore families—can cope better with water security when they have access to information and decision-making.

Objectives, action steps, and indicators for enhancing Jordan's resilience to the effects climate change has on issues surrounding water, include:

- Enhancing the capacity of women and men from local communities to save water by providing refresher courses on water and gender issues at top management level,
- Ensuring gender sensitive budgeting to monitor the amount of funds made available for gender activities at the local level, and
- Ensuring that climate change and gender are integrated in water policies and strategies and adaptation measures proposed, national legislation related to water should be revised to ensure that gender and climate change considerations are fully integrated.



Agriculture, food and nutrition security, and food sovereignty

Agricultural ecosystems and food and nutrition security are especially vulnerable to climate change, variability, and extremes and will be at the forefront of adaptation planning and programming to secure the health and nutrition of the global population. There are localised negative impacts on small landowners, subsistence farmers, and fishermen, resulting in a decline in cereal crop yield, depending on the region.

Since the practice of agriculture began more than 12,000 years ago, about 7,000 species of plants have been cultivated for food, and today 90% of our food is provided by only 15 species of plants and eight species of animals. Conserving varieties of wild ancestors of these foods could provide alternatives so that, in the future, new species could be developed that are resistant to climate changes. Unfortunately, many of these wild ancestors are already in danger of extinction. For example, it is predicted that a quarter of the wild potato species will disappear in the next 50 years.⁷⁷ Projections made by the IPCC indicate that agriculture in hot subtropical countries will be more affected than in temperate subtropical countries.

Most people in the world are poor, and most of the world's poor people earn their living from subsistence farming—working as wage labourers, farmers, small-scale processors, or traders. Their circumstances are often difficult: roads are bad, distances between fields and markets are long, inputs (resources, equipment, tools, etc.), market information and services (business knowledge, accounting, accessing capital and loans, transportation services, etc.) may not be available, and access to secure markets can be cumbersome.^{78,79}

Food and nutrition security

Climate change and variability affect all four dimensions of food security: food availability (i.e., production and trade); stability of food supplies; access to food; and food utilisation.^{80,81} In addition, food security depends not only on climate, environmental and socio-economic impacts, but also on changes to market and trade flows, stocks and food-aid policy, social protection programs, safety nets, to name a few.⁸²

Climate extremes, variability, and change influence and exacerbate the three key determinants of under-nutrition, including: household food security, maternal- and child-care, and access to health services and environmental health.⁸³ Other factors, such as livelihoods, formal and informal institutions, economic and political structures, resources, and structural transformations shape these three key determinants, in turn.

Increasing concentrations of carbon dioxide (CO₂) in the atmosphere—the very same phenomenon that drives climate change—can directly affect the nutritional value of plant foods. Elevated CO₂ results in a reduction in protein concentration and other nutrients in many plant crops that humans eat.

Gender analysis of risk in agriculture, food and nutrition security, and food sovereignty

Climate-related nutrition insecurity and ill health are associated with poverty and gender inequality. Approximately 60% of chronically hungry people are women and girls.⁸⁵ Many of the world's poorest people are rural women in developing countries who rely on subsistence agriculture to feed their families. Women are on the frontline in food production, gathering



resources necessary for preparation (including water and wood), and distributing food within their households and communities, which makes them exposed to climate change impacts—particularly risks of drought and/or flooding—affecting food and nutrition security and health. Climate change is also contributing to water and energy insecurity, thereby increasing the work burden of women subsistence farmers who need access to these for food production and preparation.⁸⁶ These increasing insecurities will adversely affect health and nutrition security through lack of time for necessary childcare practices, such as breastfeeding, and reduced access to and availability of food, due to inadequate agricultural water supply

and quality.⁸⁷ In areas threatened with drought and desertification, women's increased domestic care responsibilities could reduce their opportunities to engage in alternative income-generating activities, with negative implications for household food security and nutrition.⁸⁸

The globalisation of food markets increase reliance on imported foods in many places in the world where land is no longer used, or unable to be used, productively for food—especially in places where land commands higher value for resort development and corporate profits, and labour is undervalued.

Table 3: Key adaptation factors relating to agriculture, food and nutrition security, and food sovereignty

Anticipated climate impacts

- Increased extremes in rainfall leading to floods or droughts,
- Increased wildfire and drought impact ecosystem services and availability of water for irrigation and growing,
- Increased salinity in coastal and low-lying lands prevent crop growth,
- Decreased availability of water resources for livestock and crops,
- Increased risk of pests, weeds and invasive species threaten plants, and
- Decline in food production, and food and nutrition security.

Gender issues

- Gender-differentiated risk in types of crops and food production (greater risk to cash crops production impacts more men, but greater risk to women for impacts on staples and household food crops),
- Increased labour in food production,
- Globalisation of food production impacts local autonomy for rural men and women in access to food production resources,
- The lack of women's representation in formal agriculture decision-making activities and leadership roles, and
- Health and nutrition risks for households and communities.



Table 3: Key adaptation factors relating to agriculture, food and nutrition security, and food sovereignty (Cont.)

Gender-responsive adaptation

- Enhance water and natural resources management with equal access to resources,
- Diversity in planning, design, decision-making, and leadership roles of agricultural systems to achieve gender equality,
- Engage in sustainable development practices,
- Improve methods for food production,
- Promote equal food distribution, and
- Integrate gender analysis and value-chain analysis to improve agribusiness, alleviate poverty, and improve markets as an adaptation strategy.

Roles and responsibilities, rights, and risks: Facts and figures

- Agricultural extension services are often directed to men, because they are normally deemed to be the heads of households. The assumption is that once the information reaches the head of the household, it will automatically be shared with the rest of the household. However, this is not always true, and often women have little technical information necessary to improve their farm and manage water resources. For activities in which women are the key actors, information is a must if they are to participate.^{89,90}
- As a result of low education levels, most women workers in the global South are small traders, casual labourers, cleaners, home-workers doing piece-work, and unpaid workers in family enterprises, amongst other 'hidden' roles in the informal sector.⁹¹ This informal work is often combined with subsistence farming and tends to be inferior to paid employment in that earnings, if existent, are lower and more irregular, working conditions are worse, there is less security, and there are no benefits such as pensions and sick leave.⁹²
- Although women and men both contribute to and benefit from rural development, women still lack legal and property rights, as well as access to finance and modern business practices to enhance their farm management, inputs, and outcomes.^{93,94}
- In most countries in sub-Saharan Africa, agriculture is the lifeline of the economy and women are key farmers, food producers and natural-resource managers. In the region, women produce 60-80% of domestically produced food, provide nearly half the farm labour, and shoulder over 90% of the domestic responsibilities. Women work almost twice as many hours as men. Nearly all rural women, 96%, work on family farms, providing 75% of the farm labour and 60% of farm-derived income.⁹⁵



Gender-responsive adaptation examples and lessons for agriculture, food and nutrition security, and food sovereignty

The Oslo Policy Forum recommends land use, land tenure and legal aspects concerning the poorest populations be taken into consideration when looking at climate change adaptation. As discussed above, in all of these aspects women have specific roles and responsibilities that could place them at a disadvantage.⁹⁶ Due to women's higher level of vulnerability, as a result of historic and existing socio-economic inequalities, their needs, perspectives, capacities and direct participation in climate change adaptation initiatives is critical. Furthermore, it may be expected that women could make a significant contribution to the efforts that will be required to confront climate risks in their specific relation to natural resources, through the conservation of soil and water, the building of embankments to avoid floods, and other types of related activities.

Women and men play different roles in community conservation efforts, with women often taking leadership in seed selection and preservation. Women have a profound knowledge of the flora and fauna in their environment and respective conservation methods, and traditionally have used indigenous resources for food, medicines, and energy. It has been found that women invest 90–95% of the money they receive related to biodiversity on improving the family's quality of life.⁹⁷ When species are lost, this has an impact on the most vulnerable groups, including women. While biodiversity management systems rely on women's knowledge, skills, and labour, it often does not include women in decision-making, including related to new technology or information.⁹⁸ Family farming contributes to gender-responsive climate change adaptation since in many countries homestead gardens are the domain of women.

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GENDER-RESPONSIVE INTEGRATION OF CLIMATE CHANGE ADAPTATION IN LOCAL PLANNING IN MOROCCO: EMPOWERING WOMEN FARMERS AND ENTREPRENEURS

UN Women and the Swiss Agency for Development and Cooperation, implemented with local partners in eight pilot municipalities; Annama Association for the Development of Rural Women



Recommendations from numerous reports guide various actions for adaptation in the agricultural sector to improve food security. Some of these recommendations include:

- Change in agricultural production and food crops available for sustenance and nutrition:
 - Involve women and men in conservation of biodiversity,
 - Provide training on agricultural extension for both women and men,
 - Supply better nutrition supplements for needy families,
 - Make marketing facilities available, and
 - Improve and ensure land rights for women.⁹⁹
- Integrate gender analysis and value-chain analysis:
 - Improve gender equality, access to resources, and agribusiness.¹⁰⁰

Ensuring a gender responsive approach is considered one of the key principles of nutrition-sensitive adaptation.¹⁰¹ Successful strategies have been proposed for addressing the challenges that climate



change poses to food and nutrition insecurity including the promotion of girl's education, promotion of women's engagement and leadership in climate-resilient sustainable development planning and decision-making, protection of women's rights, and empowering women to enhance their capacity to address climate challenges for nutrition by participating equally in the climate consultation processes at community local and national levels. Then, For example:¹⁰²

- In the community of Keur Moussa in Senegal, where erosion was making less water available, washing the soil off the land used for sowing crops, and causing young men and women to migrate to the cities, women's organisations helped to control erosion by building canals in the shape of a half-moon to retain the water, recover the croplands and improve agricultural output.¹⁰³
- Since 1990, Food and Trees for Africa (FTFA) has been addressing issues of food security, poverty and climate change in South Africa by teaching women skills and fostering their leadership to create a healthier and more sustainable environment. Through six programmes, FTFA focuses on fostering women's leadership in tree planting, gardening and farming projects to meet the goals of emission reductions while also working to improve food access, food security, and alleviate poverty.

- Tree Aid, an NGO working in the Sahel, developed a project called Village Tree Enterprise to support women and men using forest resources as a source of income in Ghana's three northernmost regions: the Upper West, Upper East, and Northern. This project was conducted in collaboration with the government's Wildlife and Forest Service, the Food and Agriculture Organization of the United Nations (FAO), and six local community-based organizations. The project also aimed to increase the number of trees needed to sustain market demand. The project partners helped local communities and entrepreneurs to recognise the importance of forest products like shea in generating income, and the significant role that women entrepreneurs can play in this value chain. The project enabled them to understand the products and the market system, their own roles in the value chain, and changes such as increasing demand. It showed them how to ensure their businesses remain profitable. It helped the producers to form business groups focusing on particular activities, and to develop business plans to link them with markets and banks. It trained women and men to better bargain and negotiate prices for their products. In addition, it trained women in leadership and family life skills so they could cope with existing and emerging social challenges and it arranged for women in the shea business to receive small loans to increase the volume of their businesses.¹⁰⁴

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FOOD AND TREES FOR AFRICA INITIATIVE IN SOUTH AFRICA: WOMEN LEADING SOUTH AFRICAN COMMUNITIES TO A HEALTHIER AND MORE SUSTAINABLE ENVIRONMENT

Food and Trees for Africa (FTFA)



Drylands and desertification

Desertification refers to the process of land degradation that results from various factors in arid, semi-arid, and dry sub-humid areas. It is a process



by which drylands lose their agricultural productive capacity, leading to food insecurity and poverty, in a cause-and-effect relationship. Characterised by climate variability, these lands sustain pastoralists and small-scale farmers, but are susceptible to desertification as a result of increasing human population and poverty, settlement, deforestation, expropriation of rangelands, land clearance, overgrazing, inappropriate land-use policies and irrigation practices, and, political instability, all of which are compounded by climate change.¹⁰⁵

Climate change accelerates the loss of vegetation and thus desertification. As rainy seasons become shorter and droughts increase, land erosion and infertile soils become the norm. Decreased vegetation cover causes an increase in evapotranspiration, which then perpetuates reduced rainfall creating a positive feedback loop exacerbating desertification.

Droughts are the most serious cause of food shortages, causing 60% of food emergencies.¹⁰⁶ In addition to threatening food and water security, rural communities may encounter conflicts over resources forcing families or whole communities to migrate. In West Asia, droughts have been shown to increase rural-to-urban migration in the region, but, in cities across the region flash floods are increasing as a result of more intense rainfall events with the number of people affected by flash floods doubling over the last ten years to 500,000 people across the region.¹⁰⁷

In arid regions of Africa, extreme events such as droughts and floods thus appear to have become both more intense and more irregular over the last three decades. The reduction in the overall length of the rainy season and the increase of dry pockets are explicit indicators of climate change and increased risks for local communities.¹⁰⁸

In areas, such as the Sahel, where major droughts have occurred, populations have developed several forms of adaptation measures. These include:

- Changing management practices for agro-silvo-pastoral systems—the development of a combination of farming and livestock breeding,
- Using diverse plant varieties that may be drought-resistant, have shorter growing cycles, and other adaptation features,
- The development of irrigated farming through water management; market and greenhouse gardening,
- Improved forest management, through promoting improved cook stoves, use of butane gas, and management by villagers of forest edges,
- Water management of domestic and agricultural water through storage and wells,
- Pastoralism and mobility of herds, and
- Migration.¹⁰⁹

Most of these measures provide economic diversification to support their livelihoods as pastoralists and small-scale farmers, but can also offer alternative options.

Gender analysis of risk in drylands and desertification

The World Bank's Middle East and North America (MENA) flagship report on adaptation to climate change in Arab countries launched in 2012 and indicated that in rural areas, climate change is forcing communities to rethink long-standing gender roles. This has led men to migrate to cities looking for paid work, leaving women to assume the men's household and community duties but with the additional challenges of being poorly educated, being responsible for childcare, and lacking legal authority, thus perpetuating gender inequality. As a result, climate change presents many opportunities, not



only to reduce vulnerability, but also to contribute to greater long-term development.¹¹⁰

Women's traditional roles and knowledge in natural resource management and agricultural practices are central to preserving food, water, and medicines. Yet in drylands throughout the world, particularly in much of Africa, women are affected by erosion and decreased crop and livestock productivity. In addition, women suffer more from extra responsibility for tending to the land around her house and livestock, keeping them occupied outside the dwelling for most of day in addition to tending to household chores in the evening.

Moreover, the unsustainable uses of rangelands with the stress of climate change have led to a vegetation cover increasingly undermined by water scarcity, resulting in large-scale groundwater extraction and thus depleted aquifers. These uses were also of detrimental consequences on indigenous plant biodiversity and land productivity, reducing areas to arid and industrialized zones with limited fodder production. Therefore, local community members had to choose between forsaking pastoralist mode of life and purchasing fodder—a choice between unemployment, or lower standards of living. Despite women's key role in pastoral lifestyles, and traditionally bearers of knowledge, a variety of cultural restrictions contribute to women's unequal access to services and decision making, including lack of land ownership, illiteracy, political will and gender bias.

Table 4: Key adaptation factors relating to drylands and desertification

Anticipated climate impacts

- Loss of evapotranspiration, vegetation, and ecosystem services,
- Increased wildfire risk,
- Decreased rainfall and drought,
- Decreased availability of water resources for drinking and food production,
- Decreased livestock reproduction, and
- Famine.

Gender issues

- Gender-differentiated risk in loss of food and water resources,
- Gender-differentiated risk in loss of life, rise of conflict over resources, and in forced migration,
- Increased use of fertilizers that will contaminate scarce groundwater resources,
- Increased labour required for food production, and
- Health and nutrition risks for households and communities.



Table 4: Key adaptation factors relating to drylands and desertification (Cont.)

Gender-responsive adaptation

- Enhance water resources management with equal access to resources,
- Establish equal and diverse options in relocation, planning, design, decision-making, and leadership roles of agricultural systems,
- Engage in sustainable development practices, and
- Ensure equity in food distribution.

Roles and responsibilities, rights and risks: Facts and figures

As discussed in other sectors, in most countries, women are among the least able to adapt to the impacts of change because they are more likely to be poorer than men; are often responsible for natural resource and household-management; lack access to resources and opportunities for improving and diversifying livelihoods; and have low participation in decision-making. Related issues include:

- Women in dryland areas, as in other ecosystems, are an important source of knowledge related to environmental management for medicines, food, and water. Indigenous and local traditional knowledge systems are particularly vital to the maintenance of these environments, in which residents have learned how to survive in harsh and variable conditions. Through their responsibilities in relation to both crop and wild resources, women have developed valuable knowledge about environmental sustainability and—critical in areas of desertification—survival mechanisms during times of drought and famine.
- Women are significantly affected when erosion and diminished soil fertility result in decreased crop and livestock productivity, thereby reducing the sources of income derived from these products.¹¹¹
- In dryland areas, there are differences in responsibilities, user rights, legal status, the division of labour and decision-making between men and women in relation to land. In most countries in the world,¹¹² female ownership of agricultural land is less than 10%, with Qatar and Saudi Arabia having no women owning agricultural land. In many African societies, women's lack of rights to land ownership denies them user rights, as well, including rights to plant trees and build soil control measures.¹¹³ In the Arab region, rural women have access to land, as they are responsible for much of the cropping and pastoral activities including taking animals to pasture on the land. However, men generally control ownership and management of land, and although women may inherit land, their husbands or their brothers manage many of their holdings. Investments in land infrastructure such as repair of irrigation canals or conduits; the maintenance of terraces, etc. is also men's prerogative.
- Household and farm chores are becoming not only more difficult, but also more crucial to survival. Besides the resulting increase in workloads, women are particularly affected by the migration of growing numbers of men away from homesteads. As environmental conditions worsen,



more men migrate for longer periods, sometimes even permanently. Meanwhile, as men migrate, contributing less and less to family incomes, women are trying to expand their productive role by adapting techniques to increase yields to earn incomes and ensure living standards above mere survival for their households.¹¹⁴

Gender-responsive adaptation examples and lessons for drylands and desertification

Investing in women is considered the most important approach in dryland areas, based on the need for high levels of poverty reduction and women's ability to work well in groups to manage external resources such as credit and natural resources. Different organisations seek to enable rural poor women to take development into their own hands. While there are clear practices and lessons that are similar to those for drought, agriculture, and food security adaptation measures, the extreme situations of those living in drylands and deserts have resulted in consideration of activities that address these particular risks and focus on empowering women, who have often been left with work in communities with deteriorated lands while men have migrated seeking work for cash income outside of the region. Studies show that there is an increased interest in the promotion of gender-sensitive indigenous and traditional local knowledge to observe and respond to environmental uncertainties and changes, at local, national, and regional level.

In Arab countries, rangeland governance is increasingly being strengthened through revival of Hima, a traditional conservation system used by Bedouins to organise grazing and protect land for better natural resource governance, conservation,

and sustainable management. Hima has shown promise in a number of locations, and governments are becoming increasingly interested in adopting Hima more widely to meet combined agricultural, environmental, and social goals. A case from Jordan shows that the Hima approach emphasised on the indispensable role of gender mainstreaming in improving conditions while relying on women's traditional knowledge and livelihoods benefits has proved the effectiveness of this role.¹¹⁵

In West Africa, the Association for Indigenous Women and Peoples of Chad, the Indigenous Peoples of Africa Coordinating Committee, and the United Nations Educational, Scientific and Cultural Organization (UNESCO) piloted an initiative bringing together pastoralist M'bororo weather-forecasting knowledge with scientific seasonal and long-term forecasts. The initiative builds upon a series of dialogues and exchanges between indigenous and scientific knowledge holders, with the support of indigenous knowledge experts.

Drought, chronic malnutrition and low-incomes in Aguié, Niger contribute to the extreme climate vulnerabilities of communities in the area, with women being especially vulnerable because of their increasing economic responsibilities, lower education levels and heavier workloads. To more effectively address specific vulnerabilities of women, the Project for the Promotion of Local Initiative for Development in Aguié, with the Government of Niger and the International Fund for Agricultural Development (IFAD), introduced several innovative approaches to existing adaptation strategies. One approach was to support goat-rearing so that the manure could be used as fertilizer, leading to increased income and improved yields. Another was to encourage the use of short-cycle, high-production seed to compensate for the scarce rainfall



in the area. Income-generating activities for women were also developed through soap and hair cream production, knitting, and embroidery, which could be sold at market. Through these activities, the project helped increase food security, knowledge about gender mainstreaming and mobilization between groups of men and women in this region.¹¹⁶



Coasts, oceans, and fisheries

Human-induced climate change presents many global challenges, with coastal zones being of particular importance for urgent adaptation. Coastal zones contain unique ecosystems with significant economic assets and activities, and they typically have higher population densities than inland areas. Coastal zones also provide natural barriers and resources for managing climate change risk, such as storm surge from disasters, but if these coastal landscapes are degraded it can cause even more severe impacts for surrounding communities and ecosystem resilience. Phenomena will vary considerably over regional and local scales but coastal areas are highly vulnerable to climate change-induced impacts with significant implications for low-lying areas and beyond.

Coasts are particularly vulnerable to increasing sea surface temperatures and have a low adaptive capacity, as do coastal wetland ecosystems, such as salt marshes and mangroves, which are especially threatened by encroaching development that deter sediment runoff from coastal regions. Increased flooding and degradation of freshwater, fisheries and other natural resources could impact hundreds of millions of lives, and socioeconomic costs on coasts will escalate with future climate change. Degradation of coastal ecosystems—especially wetlands and coral

reefs—have serious implications for the wellbeing of societies dependent on the coastal ecosystems for goods and services, as well as protection from slow onset and sudden onset disasters.

The IPCC reported in 2007¹¹⁷ and 2014¹¹⁸ that growing populations and human-induced pressures would exacerbate the impacts of climate change in coastal regions. People and assets at risk in coastal areas are subject to additional stress due to the indirect impacts on land-use and hydrological changes (e.g., dams that reduce sediment supply to the coasts).

It is important to recognise the cost of inaction will be drastically higher than the cost of prioritizing adaptation for vulnerable coasts and fishery resources. Often, post-event impacts on coastal business, people, housing, public and private social institutions, natural resources, and the environment go unaccounted for in disaster cost tallying. However, it is crucial that coastal communities and their respective fishery industry begin adaptation processes soon, as some research warns that these communities will be unviable by 2100.¹¹⁹

Gender and coasts, oceans, and fisheries

More than 120 million people throughout the world are estimated to depend on fish for all or part of their income. According to the FAO, about 58 million people worldwide are directly engaged in fishing and aquaculture, including substantial numbers of women.¹²⁰ In the Pacific region alone, it is estimated that women catch about a quarter of the total seafood harvested. In Cambodia, Laos, Thailand, Viet Nam and the Philippines, there are communities where women have a greater role in aquaculture production and harvesting of littoral organisms than that of men.¹²¹



Women are involved in the fisheries sector, particularly in processing fish, preparing for market, and small-scale harvesting—activities that are close to the shore. Due to their focus on activities that are often on the sideline of harvesting, women’s tasks in relation to fisheries have not been prioritised in economic analyses or resource investment. Limited access to and representation in decision making has also led to women’s interests not being included in coastal plans.¹²²

In spite of the importance of women’s participation in fishing activities—be it at the time the fish are caught, processed, or sold—the conditions under which they are involved in this sector worldwide are not of an equitable nature; for example:

- Women do not usually participate in the meetings held by the fishermen’s organisations,
- Most of the fishing projects are oriented toward men, and the participation of women is limited with respect to planning, programming and management,

- There are very few policies or programmes within the fishing sector where gender aspects are considered, as indicated by recent results from the Environment and Gender Index (EGI):
 - Of survey responses from 24 nations, 3 respondents (12.5%) stated that the fishery ministry or agency of their nation has a formal gender policy, and 7 respondents (29%) stated that the fishery ministry or agency of their nation includes gender considerations in policies and programmes.¹²³
 - Of survey responses from 49 nations, 14 respondents (28.5%) stated that the fishery ministry or agency of their nation has a gender focal point.¹²⁴

Climate change is expected to have specific impacts on coasts, oceans, and fisheries; many of these will have gender-differentiated effects on communities. In order to develop and implement effective adaptation strategies for this sector, a close examination of these impacts must be conducted (Table 5).

Table 5: Key adaptation factors relating to coasts, oceans, and fisheries

Anticipated climate impacts
<ul style="list-style-type: none"> • Due to sea level rise, low-lying areas and countries will increasingly experience adverse impacts such as submergence, coastal flooding, seawater inundation and coastal erosion,^{125,126} • Increased salinity in coastal and low-lying lands impact freshwater ground systems and anchialine pools,¹²⁷ • Ocean acidification threatens habitats and degrades shorelines, • Significant changes in community composition and structure of coral reef systems, • Loss of marine and coastal ecosystems, biodiversity and ecosystem resources, functions and services they provide for coastal livelihoods, and • Increased risk of invasive species threatens marine and coastal wildlife.


Table 5: Key adaptation factors relating to coasts, oceans, and fisheries (Cont.)

Gender-differentiated impacts

- Risk in coastal resource use and fisheries (shifts in pelagic fish may increase fishing labour and increase costs of fish and the income from post-harvest production will decline),
- The loss of near-shore resources' sustenance, and declines in household nutrition,
- Impacts on built environments threaten roadways, coastal buildings and developments, and housing,
- Tourism and resorts threatened—both facilities and activities (beach, diving, etc.), with resulting impact on jobs (indigenous people and women often predominately employed in low-paying work in this sector), and
- Gender distinctions in migration and return migration due to climate impacts.

Gender-responsive adaptation

- Identify gender-differentiated risk and develop plans for shoreline protection, including DRR, adaptation, and plans for protected areas,
- Stabilize shorelines, including planting native species, such as mangrove restoration in Asia, Latin America, and the Pacific—to be conducted by women,
- Relocate critical infrastructure and facilities with consideration of gender-specific socio-economic impact,
- Establish protection of marine and coastal systems and infrastructure managed by women,
- Ensure equal access to resources,
- Establish gender equality and diversity in planning, design, decision-making, and leadership roles of marine and coastal systems, and in designation of marine protected areas,
- Ensure equal access to education and employment in technical, scientific fields, and
- Strive for, or guarantee, equality in food distribution.

Roles and responsibilities, rights, and risks: Facts and figures

- In some regions, women have become important entrepreneurs along the fishing value chain. For example, in the European Union, women control 39% of the fish industry; administering and controlling significant sums of money and generating substantial returns for their household and community.¹²⁸
- Out of the world's 100 top seafood companies, only one company currently has a woman CEO, according to the report, compared with 8% of top positions held by women in the Fortune 100 US companies.¹²⁹

- Fisheries and tourism have a strong relationship and for that reason are generally male dominated, providing the local male fishers with most of the monetary benefits. Although, women do take part in post-harvest activities, such as processing, selling, and marketing of marine resources providing access to monetary income and livelihood security.¹³⁰

Few sustainable development programs in coastal areas have reached out to women as strategic partners due to the misconception that women are not actively involved in the fishing industry. And yet, gender perceptions and opportunities can vary from coastal fishing communities to professional levels



and across different geographies and cultures. For example, in Latin America, approximately 75% of the technicians involved in quality assurance are women. These include veterinarians, biologists, chemists and fishing engineers. In the same region, 20% of the fish inspectors and 55% of professionals involved in research and development are women.¹³¹

Conversely, at least 50 million women in developing countries are employed in the fishing industry, predominantly in low grade, unskilled jobs.¹³² For example in Tanzania, women's role in the industrial processing of marine products is central. In some factories the ratio of women working is three women for one man. Despite this, a study conducted in 2002¹³³ pointed out that only men were permanently employed; women did not have any leadership position jobs, nor were they involved in the planning process. The company also practiced different wage compensation for men and women, with women's wages lower than men's.

Fishing communities in Mozambique have demonstrated that with climate change the women's role in subsistence agriculture has been changed because of increased temperature, irregular rainfall and storms, which have not allowed female participants to get much, or any, agricultural yield. This has increased female participation in fishing activities—especially in dragnet fishing—as well as the increased profitability of selling fish.¹³⁴

Coastal concerns go well beyond the fishery sector; they have a cross-sectoral impact relating to salinisation, human health, ecosystem stability, food security, and forced relocation of communities. Water sources in coastal Bangladesh, such as rivers and groundwater, have become contaminated by varying degrees of salinity due to saltwater intrusion

from rising sea levels. Studies conducted show that consumption of saline water has a differentiated impact in men and women. For example, salt intake during the dry season contributes to:

*The seasonal pattern of hypertension in pregnancy. Hypertension in pregnancy is associated with increased rates of adverse maternal and fetal outcomes, both acute and long term, including impaired liver function, low platelet count, intrauterine growth retardation, preterm birth, and maternal and perinatal deaths. The adverse outcomes are substantially increased in women who develop superimposed (pre)eclampsia.*¹³⁵

In the Southwest Pacific the tiny, low-lying islet of Han—part of the Carteret Atoll—has been witness to some of the first climate change refugees. The Atoll, made up of six islets, suffered saltwater intrusion, contaminating freshwater wells and making it impossible for the islanders to farm taro—a staple crop for the communities. Shorelines have eroded and the majority of the islet is under water. This has caused the permanent relocation of 2,000 people to mainland Bougainville in Papua New Guinea, led by a woman, Ursula Rakova. The refugees have not only faced the challenge of adjusting to relocation, but they are struggling with different sociocultural gender norms: Han was a matrilineal community where women own land and were responsible for the agricultural production, in the new society, this is not the case and women are facing barriers to gain rights to land access and tenure.¹³⁶



Gender-responsive adaptation examples and lessons for coasts, oceans, and fisheries

Gender equitable wetland planning decisions have included broader and more diverse perspectives at local, national and regional levels, and have better reflected women’s needs and preferences (e.g., access to land and other wetland resources, reliable water transport of market goods, more diverse forms of tourism employment). In Guyana, the Mangrove and Restoration Project was the first initiative implemented by the Government as a means of protecting coastal communities from flooding without the use of sea walls or other manmade infrastructure. Women make up 80% of participants and they serve as educators, protectors of the forest, growing mangroves and planting seedlings.¹³⁷

planning process, in order to be able to facilitate that process with national partners on the ground.¹³⁸

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REEF-TO-RIDGE FISHERIES MANAGEMENT IN THE FEDERATED STATES OF MICRONESIA: AN INTEGRATED GENDER-INCLUSIVE APPROACH TO COASTAL RESOURCE MANAGEMENT

Secretariat of the Pacific Community (SPC), part of the Coping with Climate Change in the Pacific Island Region Programme



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MANGROVE RESTORATION PROJECT (GRMP) IN GUYANA: WOMEN INCREASING COASTAL RESILIENCE THROUGH MANGROVE CULTIVATION

Government of Guyana, Guyana Women’s Leadership Institute, Guyana Office for Climate Change, and National Centre for Education, Research, & Development (NCERD) with funding from the European Union



Mangroves for the Future (MFF) is a unique partner-led initiative to promote investment in coastal ecosystem conservation that helps mitigate and adapt to climate change in Asia. MFF strongly focuses on gender-responsive project planning. All members of the MFF implementation team are expected to be knowledgeable and skilled in the gender integrated

On the eastern coast of Africa various coastal villages are adapting strategies and methods to include women. In Tanzanian coastal villages, activities such as seaweed farming that includes multiple areas of work (i.e., production, weeding, harvesting, drying and marketing of the products) dominate livelihoods, thus seaweed farming has been developed as an alternative to destructive fishing practices, or coral and sand mining.¹³⁹ On Zanzibar islands, women are conducting innovative sustainable entrepreneurial activities such as octopus fishing in Jibondo and Juani, where 90% of fishing businesses are in the hands of women. As part of the development of the business, women have been trained, learning the importance of keeping records of biological parameters to facilitate conservation. Additionally, in Mozambique, one of the strongest supportive frameworks for gender equality in the fishing sector is a government program co-financed by Norway and Iceland from 2009-2012, promoting the role of women as increasingly important along the fishing value chain. Some lines of action have included the following indicators: a positive evolution in women’s



representation in fisheries' participatory management bodies and in grassroots community organizations; and policy documents and development plans containing references to objectives and strategies seeking greater equity within the fisheries sector.



Health

The health and wellbeing of people all over the globe will be affected by a wide range of climate change impacts, including climate-related disasters, infectious diseases, availability of clean air, water and sanitation services, sufficient food, and adequate shelter.¹⁴⁰ Of the cross-sectoral health consequences of climate change, most will be adverse. It is estimated that in 2000 alone, climate change was responsible for 2.4% of cases of diarrhoea worldwide and 6% of cases of malaria.¹⁴¹ Almost 90% of the burden of diarrhoeal disease is attributable to lack of access to safe water and sanitation.^{142,143} The reduction in the availability and reliability of fresh water supplies is expected to amplify this hazard. Shifting rainfall patterns, increased rates of evaporation and melting of glaciers, and population and economic growth are expected to increase the number of people living in water-stressed water basins from about 1.5 billion in 1990 to 3-6 billion by 2050.¹⁴⁴ In general terms, climate change will have three types of health repercussions:

1. Direct effects of extreme climate events,
2. Consequences on health caused by environmental disorders due to climate change, and
3. Other indirect consequences on health (i.e., traumas, infections, psychological diseases and negative effects on food security, among others) caused by populations being displaced due to economic problems, environmental degradation, or conflicts arising because of climate change.¹⁴⁵

Climate change will lead to increased under- and malnutrition and gastro-intestinal, cardio-respiratory, and infectious diseases,¹⁴⁶ as well as various other issues already flagged in previous sections of the this chapter, such as preeclampsia for pregnant women due to increased salinisation of water sources. Heat waves, floods, and droughts will lead to increased mortality and changes in the distribution of some disease vectors.¹⁴⁷ Health services will also be burdened by an increase in patients.

Climate change will affect progress made during the global commitment period of the MDGs and will jeopardize the potential gains of the SDGs across a range of issues, not least the health and wellbeing of people around the world. The SDGs identify "achiev[ing] food security and improved nutrition" and ensuring "healthy lives and promot[ing] wellbeing for all at all ages". To make progress toward this end, the impacts of a changing climate on the spectrum of health concerns must be examined and addressed.

Gender analysis of risk to health

Differences occur in women's and men's vulnerabilities to climate change in both direct impacts on health (e.g., heat waves, droughts, storms and floods) and indirect impacts (e.g., water and food and nutrition insecurity).¹⁴⁸ Climate-sensitive health impacts, such as under-nutrition and malaria show important gender differences.¹⁴⁹ Children, particularly girls, and the elderly are the most affected by vulnerability to heat stress and the spread of disease. In times of disaster and environmental change, women and girls are expected to care for ill members of the family, which takes time away from income generation and education. In addition, women and girls may have difficulty accessing health services due to high medical costs and cultural restrictions related to mobility.¹⁵⁰



Table 6: Key adaptation factors relating to health

Anticipated climate impacts

- Sea level rise and climate extremes threaten freshwater resources,
- Loss of food security and nutrition,
- Increased incidence of water-borne diseases,
- Increased risk of vector-borne diseases (malaria, dengue, chikungunya, etc.) and spread of pandemic flu,
- Mental health and depression in areas where livelihood activities are lost,
- Decline in reproductive health in severe, chronic drought areas, and
- Loss of life.

Gender issues

- Gender-differentiated risk in access to resources, health system services, and early warning systems,
- Gender-differentiated risk susceptibility to diseases and mental health impacts,
- Gender-differentiated loss of life,
- Fewer women participating in scientific and technical occupations,
- Fewer women in leadership and decision-making roles in health authorities, and
- Loss of resources used in indigenous traditional healing practices.

Gender-responsive adaptation

- Identify gender-differentiated risk to health impacts,
- Develop with multi-stakeholder participation climate and health early warning systems to prevent severe outbreaks, disease occurrence, and spread of risk,
- Ensure equal access to resources for coping, recovery, and services,
- Ensure equal access to education and employment in technical, scientific fields, and
- Engage in sustainable development practices.

Roles and responsibilities, rights, and risks: Facts and figures

- Rising temperatures may increase the transmission of malaria in some locations, which already causes 300 million acute illnesses and kills almost one million people every year.¹⁵¹ Pregnant women are particularly susceptible to malaria as they are twice as 'appealing' as non-pregnant women to malaria-carrying mosquitoes.¹⁵²
- Women's nutritional needs make them more prone to deficiencies caused by the impacts of climate change and extremes on food and nutrition insecurity, particularly while they are pregnant or breastfeeding. In South Asia and South-East Asia, 45-60% of women of reproductive age are underweight, and 80% of pregnant women have iron deficiencies.¹⁵³



- Extreme weather events often create conditions conducive to outbreaks of infectious diseases; heavy rains produce insect breeding grounds and contaminate clean water sources while drought can cause fungal spores and spark fires.¹⁵⁴ Women, especially expectant mothers, are highly susceptible to water-borne diseases, as well as thermal and other extreme events.
- The loss of culturally appropriate clothing because of disaster impacts inhibits women from leaving temporary shelters to seek medical care, or obtain essential resources for themselves or family members.¹⁵⁵
- The majority of European studies have shown that women are more at risk, in both relative and absolute terms, of dying in heat waves. However, another study in the USA have also shown that unmarried men tend to be at greater risk than unmarried women, and that social isolation, particularly of elderly men, may be a risk factor, as they do not leave their homes regardless of the conditions.¹⁵⁶
- Droughts in developing countries bring health hazards through reduced availability of water for drinking, cooking and hygiene, and through food insecurity. Women and girls disproportionately suffer health consequences of nutritional deficiencies and the burdens associated with travelling further to collect water.¹⁵⁷
- Studies from Viet Nam found that stress factors were apparent at the household level. People interviewed in cities in the Mekong Delta referred to increased anxiety, fears or intra-household tension as a result of the dangers and damage associated with flooding and its impacts on livelihoods. Interviewees in the central provinces referred to food shortages and hunger potentially resulting from crop and income losses following destructive floods and typhoons.¹⁵⁸
- One study of anxiety and mood disorder¹ after Hurricane Katrina found the incidence was consistently associated with the following factors: age under 60 years; being a woman; education level lower than college completion; low family income; pre-hurricane employment status (largely unemployed and disabled); and being unmarried.¹⁵⁹
- The stresses of lost incomes and associated indebtedness can spill over into mental health problems, despair and suicide among men. There is some empirical evidence linking drought and suicide among men in Australia¹⁶⁰ and among poor male farmers in India.¹⁶¹ This negative health outcome among Australian rural farmers has been linked to stoicism and poor health-seeking behaviour, which is an intrinsic element of rural masculinity.^{162,163}
- In the southwest region of Bangladesh, waterlogging (local increases in groundwater levels) has emerged as a pressing concern with health consequences. Women are often the primary caregivers of the family, shouldering the burden of managing and cooking food, collecting drinking water, and taking care of family members and livestock. Because of these responsibilities, women often spend time in waterlogged premises and other settings. Research reveals that waterlogging severely affects the health of women in affected communities. Women are forced to stay close to the community and drink unhygienic water, as tube wells frequently become polluted. Pregnant women have difficulty with mobility in marooned and slippery conditions and thus are often forced to stay indoors. Local health-care workers have reported that there are increasing trends of gynecological problems due to unhygienic water

1 As defined by the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders; DSM-IV



use. Since men are often out of the area in search of work, they are frequently not as severely affected as their female counterparts. Waterlogging,

therefore, has given rise to differential health effects in women and men in coastal Bangladesh.¹⁶⁴

Box 4: Empowering women in health

While fewer women than men have become doctors around the globe, there are greater numbers of female nurses. This presents an opportunity to empower women healthcare professionals in particular to lead on climate change adaptation, ensuring nurses and community workers are armed with knowledge and resources to safeguard the health and wellbeing of their communities. In Mozambique,

for example, as part of the ccGAP process, women's organisations came up with an idea to create Climate Change Health Kits for traditional healers and other healthcare workers that provided indigenous and essential plants for medicinal treatments to combat increasingly significant climate effects, such as citronella to ward off mosquitoes and moringa to purify water.

Gender-responsive adaptation examples and lessons for health

Adaptation actions in the health arena consider development approaches that focus on the whole consideration of public health and social protection, and in part, these overlap with adaptation strategies for disasters, such as enhancing early warning systems, ensuring access to fresh water for drinking

and hygiene, ensuring agriculture and food security for nutrition, reducing poverty and ensuring education to expand opportunities, and addressing psychosocial and mental health issues related to stress from disaster recovery, relocation, and forced migration. The World Health Organization (WHO) considered an array of different climate impacts and proposed gender-responsive adaptation actions, shown in Table 7.


Table 7: Health impacts of climate change and gender-responsive adaptation actions

Health impacts of climate change	Gender-responsive adaptation actions
Increase in infectious diseases	Collected data must be disaggregated by sex, age, socioeconomic status, education, ethnicity and geographical location, where appropriate; an understanding of gender and its implications for health and health-seeking behaviour should be incorporated into training of health professionals and development of health-sector responses.
Lack of availability of fresh water	Promote water-saving practices that take into account the different uses and roles related to water for women, girls and men; address salinisation and arsenic contamination of water, proposing specific actions that consider the different patterns of exposure and impacts on women and men; counter the social stigma attached to the effects of arsenic poisoning on women and men.
Mortality from extreme weather events	Provide safe shelters and homes for both women and men; training on gender-sensitive disaster risk reduction and early warning systems; promote programmes that facilitate men and women to seek help for psychosocial problems; empowerment of women to strengthen their capacity to question and change harmful behavioural norms that put them at risk in the case of extreme events.
Forced migration and disruption of human security	Build strong and supportive networks for both women and men; promote gender-sensitive training to eliminate violence against women, girls, and boys; capacity building within the health system to ensure early detection of domestic or sexual violence; involve women in management of shelters and distribution activities.
Lack of energy sources to sustain health	Identify gender-differentiated uses of energy, especially in poor areas; ensure shelters and homes have appropriate insulation, heating or cooling systems and ventilation to reduce impacts on health; develop appropriate low-cost alternative energies accessible to everyone. ¹⁶⁵
Increased health impacts (higher workload burden, increased anxiety, increased suicides)	Promote programmes that facilitate men and women to seek help for psychosocial problems; empower women to enhance their capacities to look after themselves and their families and specifically to use available social and other networks to cope with increased burdens and tensions.



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SOLAR MARKET GARDENS IN BENIN: TRANSFORMING FOOD AND INCOME SECURITY FOR—AND BY—WOMEN FARMERS

Solar Electric Light Fund (SELF) with l'Association pour le Développement Economique, Social, Culturel, et l'Autopromotion (ADESCA); Global Village Energy Partnerships (GVEP) International, in partnership with the Social and Ecological Management (SEM) Fund, and ENERGIA



Box 5: Gender-sensitive social protection

Social protection programmes are critical to prevent irreversible losses in human capital due to climate-related shocks and protecting families' access to health and food—particularly for children, mothers and the elderly, and need to be considered as an adaptation strategy. Conditional cash transfer programs have proved successful to protect maternal and children's health. For example, conditional cash transfer programs in Colombia, Mexico and Nicaragua, in which families receive financial support on the condition that children attend school and receive vaccinations, as well as for pregnant women to receive pre-natal care, have decreased stunting by rates of 7%, 10% and

5.5% respectively.¹⁶⁶ Mexico's *Oportunidades*—a social protection programme, resulted in increased use of contraceptives by women, increased school enrolment for both girls and boys, and a decrease in diarrhoeal disease.¹⁶⁷ These programmes target the core of the vicious cycle of hunger and malnutrition that undermines maternal health, stunts children's physical and cognitive growth, impairs school performance and impedes progress towards gender equality and the empowerment of women. Given the critical role women play in children's health and nutrition, transfers should be delivered through gender-sensitive mechanisms.



Promoting co-benefits for health and the environment

Adaptation and mitigation strategies have a potential for generating co-benefits by improving health in addition to reducing greenhouse gas (GHG) emissions. Addressing non-communicable diseases by promoting healthy lifestyles such as walking and cycling, eating more fruits and vegetables and less animal-based saturated fats, or using clean cook stoves are effective strategies for both reducing emissions and promoting health.¹⁶⁸ Women make over 80% of consumer decisions in the Organisation for Economic Co-operation and Development (OECD) countries,¹⁶⁹ for example, and may be more likely to make sustainable consumer choices. These differences are likely to be particularly important in

relation to choices of food, because decisions such as moderating meat and dairy consumption bring both large health benefits and substantial reductions in agricultural GHG emissions.¹⁷⁰

Adapting to climate change requires incorporating strategies that strengthen and protect primary maternal and child health services, including promoting nutrition supplements; immunisations; breast feeding and healthy lifestyles, and provision of family planning and other sexual and reproductive health services. Providing access to reproductive services and improving child and maternal health through increased birth-spacing provides the opportunity for pursuing co-benefits for health and adaptation.¹⁷¹

3.3 Negative effects of adaptation initiatives on gender inequality and possible solutions

Adaptation strategies may reinforce inequitable, stereotypical, or otherwise harmful social and economic patterns—in other words, continue along the lines of ‘business as usual’. But adaptation strategies can also offer opportunities to ‘do development better’, enhancing the lives and livelihoods, the health and wellbeing, of women and

men all over the globe. Below are a series of tables (8-11) that analyse typical adaptation measures (e.g., related to infrastructure, ecosystem management, and productive and reproductive socioeconomic activities), their potential negative impacts from a gender perspective, and suggestions to transform the norm.



Table 8: Gender-responsive adaptation measures: Managing infrastructure settlements¹⁷²

Managing infrastructure and settlements		
Measures	Possible negative impacts	Suggestions
Build breakwaters or seafronts, dikes and barriers against rising tides	<ul style="list-style-type: none"> • May create job sources that favour hiring a male work force with no opportunities for women to work on jobs they would like to do and can do. • Ignorance of the impact on women’s productive activities (hand digging for molluscs, among others), with no attention paid to the consequences of the impact. • Women have little participation in the development of infrastructure – i.e., in the design, planning, and management. 	<ul style="list-style-type: none"> • Promote training and hiring of both women and men. • Ensure access to wage-earning productive activities to improve living conditions for families. • Include gender criteria in Environment Impact Assessments (EIAs). • Develop a network of women and local bodies and sectoral departments for efficient infrastructural management, in order to ensure protection of infrastructure from damage during calamities.
Re-zone settlements and productive activities in coastal areas	<ul style="list-style-type: none"> • Fishing polices and programmes focused mainly on the needs and interests of men, ignoring fisherwomen, assuming that women will be the recipients of the benefits distributed to men. • The lack of understanding of the role that women play within the fishing industry, along the value chain. • Tourism activities in coastal zones do not take into account the relationship between tourist and the local population and its impact on gender relations. • Jobs in the tourism sector reproduce the traditional forms around the sexual division of work (i.e., hiring women as chambermaids and cooks) 	<ul style="list-style-type: none"> • Involve women in monitoring the effects of climate change, for example in coral ecosystems and in aquaculture. • Women trained in administration to ensure official resource and fishing permits. • Include women in strategies to adapt to the reduction of marine species, or managing new marine species. • Grant concessions and permits of marine coastal resources to groups of women. • Develop initiatives to recover and reforest mangroves. • Implement integrated coastal management policies that consider gender-sensitive risk management. • Involve women in coastal research through training on monitoring and data gathering methods.



Table 8: Gender-responsive adaptation measures: Managing infrastructure settlements (Cont.)

Managing infrastructure and settlements		
Measures	Possible negative impacts	Suggestions
Divert fresh water to areas where there is a water shortage (dykes, water transfer, or irrigation canals) or increase extraction from subterranean water reserves	<ul style="list-style-type: none"> • Ignores women’s requirements of fresh water needed for their productive and reproductive activities. • May lengthen and intensify women’s productive and reproductive working day by placing water sources in distant zones. • Women are frequently deprived of opportunities to engage in income generating activities due to the amount of time invested in fetching water. • Privatising water means high prices, loss of supply, health problems, corruption, etc., making it harder for poor women and their families to have access to it. 	<ul style="list-style-type: none"> • Use a gender approach when diagnosing and planning communities’ fresh water requirements. • Ensure active participation of women in design, construction, and implementation of the water infrastructure that can cope with the impacts of climate change • Promote water conservation and market-based water allocation with active participation of women. • Introduce, promote and scale-up women-friendly innovative water technologies. • Build the capacity of women in the technical and maintenance aspects of water infrastructure (plumbing, service providers, supervisors, machinery work). • Improve treatment of water systems and access to grey water for secondary uses of water (watering fields, washing, cleaning living areas, etc.). • Document indigenous knowledge practices and coping strategies of women and men in response to water issues.
Design of shelters (i.e., for cyclones, hurricanes and floods)	<ul style="list-style-type: none"> • Women have little participation in the development of infrastructure – i.e., in the design, planning, and management. • Lack of understanding of the gender-differentiated access to use of and control over infrastructure facilities and services by men and women, which are linked to inequalities in social structure and within the household, property rights and culture and tradition. • Infrastructure projects do not consider the different needs of women, because it is incorrectly assumed that women and men will automatically benefit equally from new infrastructure. 	<ul style="list-style-type: none"> • Employment opportunities in the construction and maintenance of infrastructure could create new opportunities for women in the building sector, and can lead to a greater role in ongoing infrastructure management through their participation in local government committees that are responsible for such planning and maintenance. • Capacity building of women regarding technical knowledge of infrastructure and local service providers. • Include gender aspects of infrastructure and the importance of addressing women’s needs in different types of



Table 8: Gender-responsive adaptation measures: Managing infrastructure settlements (Cont.)

Managing infrastructure and settlements		
Measures	Possible negative impacts	Suggestions
		infrastructure in the curriculum of technical and engineering education. <ul style="list-style-type: none"> • Increase women’s role as whistle blowers for monitoring and maintenance of infrastructure (early warning, embankment breach, river erosion, infrastructure breakage).

Table 9: Gender-responsive adaptation measures for ecosystems-based adaptation management

Ecosystems-based adaptation and management		
Measures	Possible negative impacts	Suggestions
Introduce native and salt-tolerant plants and animals to protect/re-vegetate the coast	<ul style="list-style-type: none"> • May have a negative effect on women’s interests and needs in coastal zones, if varieties introduced affect resources specifically used by them. • May conceal women’s knowledge and practices concerning environmental coastal resources by ignoring them in decision-making. 	<ul style="list-style-type: none"> • Analyse gender relations associated with the use of, access to, management and control of coastal environmental resources. • Promote equitable inclusion of women and men when introducing varieties. • Create jobs with equitable participation of women and men.
Introduce varieties of plants and crops tolerant to high temperatures	<ul style="list-style-type: none"> • Usually require water and other resources used by women for reproductive work and household consumption. • May lengthen women’s productive and reproductive working day. 	<ul style="list-style-type: none"> • Analyse the impact of introducing new varieties and promote a more equitable distribution of reproductive work. • Utilise/engage local agricultural/users knowledge, women’s and men’s, to ensure indigenous crop varieties are used where possible. • Facilitate equitable access to and control of resources, as well as the distribution of their benefits (including productive resources, jobs, training and credit).



Table 9: Gender-responsive adaptation measures for ecosystems-based adaptation management (Cont.)

Ecosystems-based adaptation and management		
Measures	Possible negative impacts	Suggestions
		<ul style="list-style-type: none"> Encourage exchanges of knowledge and practices between women and men about managing species.
Restore damaged ecosystems	<ul style="list-style-type: none"> May worsen gender inequality by encouraging the voluntary (unpaid) work done by many women in rehabilitation and conservation activities. May reinforce traditional environmental work roles, for example, making women responsible for cooking, community meetings, children’s and adolescents’ environment education, without promoting non-traditional roles. 	<ul style="list-style-type: none"> Promote joint responsibility and redistribution of reproductive work in families, to give women free time for other activities. Encourage paying women for their work on environment restoration. Train women and men on non-traditional activities related to rehabilitating ecosystems. Encourage leadership and women’s effective participation in organisation and decision-making.
Establish natural protected areas and biological corridors	<ul style="list-style-type: none"> May prohibit productive activities that are sources of income for households, some of them poor and headed by women. 	<ul style="list-style-type: none"> Utilise and pay for women’s and men’s knowledge about plant and animal species in natural protected areas and corridors. Analyse gender relations associated with the use of, access to, management and control of resources.
Introduce herbicide-resistant varieties	<ul style="list-style-type: none"> May use herbicides without considering gender specifics when chemicals and containers are handled. Impacts of using these can be different for women and men (e.g., women and children may be more vulnerable, especially during pregnancy and breastfeeding and through early development). 	<ul style="list-style-type: none"> Analyse the production process, paying attention to the use of herbicides by people with access to chemicals and containers.



Table 9: Gender-responsive adaptation measures for ecosystems-based adaptation management (Cont.)

Ecosystems-based adaptation and management		
Measures	Possible negative impacts	Suggestions
Introduce drought-tolerant varieties	<ul style="list-style-type: none"> • May lengthen the productive or reproductive working day; for example, the growth period of plants may be extended. 	<ul style="list-style-type: none"> • Consider options that tend to have a bearing on reducing the length of women’s working days. • Ensure that alternatives are helpful to local families’ food security and do not damage health or the environment.
Implement reforestation, aforestation, or reduce deforestation, as well as soil degradation strategies	<ul style="list-style-type: none"> • Gender differentiated use, access to and control of forest resources, and of the gender inequities that are observed in many forest-related processes are ignored (e.g., participation, transparency, distribution of benefits, etc.). • May harm women’s interests and needs if these practices affect or limit access to resources they specifically use. • Negatively impact the livelihoods of women and their families by overlooking or devaluing women as major forest stakeholders who manage, use, and benefit from the forest. • Contribute to marginalisation of women’s expertise by lacking to include, respond to and build upon women’s extensive knowledge of agroforestry practices, forest management and conservation techniques. • Reinforce traditional inequalities identified in many communities, including access to and control of land and economic resources, and participation and influence in decision-making.¹⁷³ 	<ul style="list-style-type: none"> • Analyse gender relations associated with the use of, access to, management and control of forest resources. • Identify gender equality and women’s rights issues that should be included in reforestation strategies, including a gap and opportunity analysis. • Recognise the legal, traditional and cultural barriers that prevent women from inheriting and controlling land. • Introduce innovate ways to overcome women’s constrain to land tenure (i.e., registration of land under both the names of husband and wife-joint land ownership).



Table 10: Gender-responsive adaptation measures for productive activities

Productive activities		
Measures	Possible negative impacts	Suggestions
Change crop irrigation; times, type and uses	<ul style="list-style-type: none"> • May remove water sources for domestic use or place them further away. • May lengthen or intensify the productive and reproductive working day. 	<ul style="list-style-type: none"> • Consider women as water users, both domestically and for production such as growing crops and raising animals. • Analyse the use women can make of irrigated land to provide subsistence foods. • Promote technologies appropriate to the needs of women and give them the proper training. • Encourage equity in having access to irrigated land ownership.
Substitute agriculture	<ul style="list-style-type: none"> • May not take into account women’s roles in agricultural activities, excluding them from new processes. • May raise obstacles to using, having access to, managing and controlling resources (land, credit, and training). • Extension agents are more likely to contact men rather than women, and gendered norms make it difficult for women farmers to seek out male extension agents. 	<ul style="list-style-type: none"> • Revise the existing strategies that enable the flow of credit from public/commercial banks and financial institutions to support and increase women’s access to credit. • Institutionalise alternative provisions to accommodate women, women’s groups and cooperatives that are unable to provide the collateral needed for accessing agricultural credit. • Build community resilience on food security through the establishment of local climate-smart seed banks owned and managed by women.



Table 11: Gender-responsive adaptation measures for socioeconomic processes

Socioeconomic processes		
Measures	Possible negative impacts	Suggestions
Migration and community destabilisation in areas affected by climate change	<ul style="list-style-type: none"> • Socioeconomic and gender inequalities in access to job opportunities, education, health, housing and credit. • More households headed by women in societies that still exclude and discriminate against women heads of households. • More women in jobs traditionally considered as ‘masculine,’ where they are exploited, and poorly remunerated in irregular or seasonable jobs. • Increased incidences of harassment, sexual abuse and domestic violence during the migratory cycle. 	<ul style="list-style-type: none"> • Promote the exercise of women’s rights. • Encourage access by women and men to skilled and remunerated jobs. • Ensure women and men have access to labour protection systems. • Draw attention to the contribution migrant women and men make to their families and communities. • Develop support services for communities, families and individuals left behind (who remained in the community of origin) as a result of migration.

3.4 Adaptation planning: National to community-based initiatives

As discussed in the policy-focused chapters of this publication, Parties to the UNFCCC have agreed substantial decisions related to adaptation (see, for example, in Box 6), providing mandates for gender-responsive approaches. In fact, to date, adaptation is the area with the most robust gender-sensitive language. This could be due in part to the following:

- The first decision, from UNFCCC COP7 in 2001, to integrate a gender-sensitive approach mandated that national adaptation programmes of action

- be guided by gender equality—mandating the adaptation framework to follow a gender-sensitive approach since its outset, and
- Early research and approaches to raise awareness highlighted the linkages between gender and climate change and framed women predominantly in terms of their vulnerability to climate impacts.



Box 6: Examples of decisions pertaining to gender-responsive adaptation action¹⁷⁵

- **Decision 28/CP.7:** Guidelines for preparation of the national adaptation programmes of action: States that the preparation of NAPAs must be guided by gender equality.
- **Decision 1/CP.1:** The Cancun Agreements: Affirms that enhanced action on adaptation should follow a country-driven, gender-sensitive, participatory and fully transparent approach.
- **Decision 5/CP.17:** National Adaptation Plans (NAPs): Further reiterates that adaptation should follow a country-driven, gender-sensitive, participatory and fully transparent approach & should be based on and guided by gender-sensitive approaches. Additionally, the guidelines for the formulation of NAPs states that in developing NAPs, consideration would be given to the effective and continued promotion of participatory and gender-sensitive approaches.

Based on these above mandates as well as national legal frameworks, the discussion of adaptation planning should occur at every level of authority and decision-making where there will be impacts from climate change. The adaptation planning should be mutually supportive and beneficial from local levels to the national plans. The planning should engage every sector that will be impacted by climate change through an integrated and comprehensive approach, including water resources, agriculture and food security, coastal and terrestrial ecosystems and biodiversity, built environment, disaster risk management, and other economic and livelihood sectors. The gender aspects of planning are primarily two-fold: first, that women equally participate with men in planning and decision-making processes, and in complement, that actions should be based on gender-disaggregated data and knowledge of gender-differentiated risk.

At the national level, the primary adaptation plans are known as NAPAs, but these are only developed by the Least Developed Countries (LDCs). Disaster risk reduction plans, conducted at the national level, which respond to agreements by 187 UN Member States, are another form of adaptation planning, where recommended actions can reduce risk from disasters, aid in post-disaster recovery, and build resilience to negative impacts from climate change and climate-related disasters.¹⁷⁶ Recognising the importance of understanding climate risks, many cities globally and regions, as well as countries, have begun to develop plans that look at the state of the climate, and plan for reducing risks and potential negative impacts.¹⁷⁷ Some of these are presented in brief in other chapters of this publication, including the multi-sectoral, multi-stakeholder approach many governments have undertaken by developing climate change gender action plans.



National Adaptation Programme of Action (NAPA)

The UNFCCC requires that LDCs submit a NAPA in which the country describes its priorities and strategies in relation to coping with climate change. The UNFCCC itself does not require the NAPAs to include a gender perspective; however, it is advised to include a gender principle and hire gender specialists to work on mainstreaming gender in the NAPAs.¹⁷⁸ These recommendations are not enforced. Therefore, gender issues rarely get written into the project's main adaptation focus. While many countries have noted the increased levels of vulnerability experienced by women dealing with changing climates in their NAPA, few have targeted women as direct agents in climate change adaptation strategies.¹⁷⁹

Gender perspectives are relevant to key points of the NAPA, including governance, information gathering, access to finance and technology, and NAPA implementation.¹⁸⁰ While all NAPAs have been completed as of this writing, the implementation and budget are entry points for gender mainstreaming in future NAPAs. Prior to implementation, a gender analysis of the NAPA can be undertaken, in order to review how climate change affects women and men differently, and to explore scaling up of specific innovations that promote gender equality and women's participation. Also, to ensure gender targets are being consistently met, a 'gender team' can be formed to create processes that monitor gender targets at all stages. Mainstreaming the NAPAs with a gender perspective contributed to successful progression towards the MDGs, and it is important as the SDGs emerge in 2015. The gender perspective further alleviates environmental pressures by utilizing the overlooked demographic of women as innovative and potent agents of change.¹⁸¹

The following steps for gender mainstreaming were adapted from "Mainstreaming Gender into the Climate Change Regime" (COP10, 14 December, 2004) and were supported by the United Nations Environment Programme (UNEP) Women's Assembly, held in Nairobi in October 2004:

- Analyse the effects of climate change from both a male and female perspective,
- Incorporate a female perspective when designing and implementing projects,
- Gender-sensitive criteria and indicators should be developed and applied,
- When collecting and presenting data, include women's statistics as well as men's,
- Capitalise on the talents and contributions of both women and men,
- Set targets for female participation in activities,
- Ensure that women are represented in 50% of all decision-making processes,
- Make women's equality, access to information, economic resources and education a priority,
- Focus on gender differences in capabilities to cope with climate change adaptation and mitigation, and
- Undertake a gender analysis of budget lines and financial instruments.

NAPAs must take into consideration economic aspects such as budgeting, not only for mitigation and adaptation initiatives but also for the development of the NAPA. Writing NAPAs implies the use of resources and these should be tied to gender-responsive processes. NAPAs must also be based on and include local development plans, insuring a bottom-up approach to the whole process, its review and approval, and must also guarantee the inclusion of gendered local knowledge. NAPAs must be tied



into disaster risk management plans. This implies a coordinated effort on the part of governments and the private sector, and all stakeholders. The links between sustainable development, disaster risk management and climate change mitigation and adaptation should be essential to NAPAS. The Oslo Policy Forum Report clearly states that there should not be “parallel agendas”, and development planning,

national budgeting for adaptation, institutional arrangements, public awareness, the poverty issue and peace and conflict issues should all be integrated into the agendas. This process must be construed to guarantee a gender perspective, which many governments have not yet been able to implement. Tying the budgeting process to the inclusion of a gender perspective could help to guarantee success.

Box 7: Samoa: Integrating gender practice

Samoa offers a compelling example of integrating gender in practice at the country-level. Under the guidance of the Ministry of Environment, the Samoan NAPA used participatory multi-sector approaches with some gender consideration in the process, while the Ministry of Finance leads the World Bank Pilot Programme on Climate

Resilience, and the safeguard policies require the implementation of a gender monitoring framework, which involves the Ministry of Women, Community, and Social Development. Planning integration at all levels ensures that the administration and resourcing of the climate adaptation programme will be implemented with consideration of gender.¹⁸²

NAPAs should stress the costs of adaptation, as well as the costs of not implementing adaptive measures, and reflect that in responsive budgets. There has to be specific and clear information as to the financing

process for adaptation initiatives. These initiatives have to be gender sensitive and the costs for this must be clearly stated.^{183,184}



Programmatic climate adaptation planning

To support the implementation of the NAPA, programmatic funding has been a source for ensuring that gender perspectives are used in the adaptation actions. For example, the Global Environment Facility (GEF) and United Nations Development Programme (UNDP) have provided early climate adaptation funding for regions that can demonstrate the added costs of climate change, such as the added costs for raising coastal roadways because of sea level rise or for water storage systems in places where climate change results in decreased rainfall and potential drought. The funding has requirements for incorporating gender in actions, and reporting on these requirements as part of the UNDP Gender Equality Strategy.¹⁸⁵ “Sixty-one percent of projects (218 of 355)...in 2012 reported having undertaken some work on gender equality and gender mainstreaming.”¹⁸⁶ Africa and the Asia Pacific regions had the highest number of projects reporting inclusion of gender (61 projects each), followed by Europe and the Commonwealth of Independent States (CIS) with 40 projects, Latin America and Caribbean with 35 projects, the Arab States with 15 projects, and six in other countries.¹⁸⁷ These projects target multiple sectors, with ecosystems and biodiversity as the predominant area of adaptation.¹⁸⁸

Other organisations have implemented similar requirements with the funding support. The World Bank Climate Investment Funds currently distributes the largest amount of climate adaptation funding through the Pilot Programme for Climate Resilience (PPCR) in 18 countries, nine of which are small island states, and the reporting requires response on indicators for gender participation, incorporation into design and implementation, and sex-disaggregated data on the impact of the PPCR projects.¹⁸⁹

Bilateral funding for adaptation activities from many countries (i.e., US, Finland, New Zealand) through their aid organisations has gender reporting requirements. Many of these are trying to synchronise reporting for MDGs, SDGs, and the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW).

Disaster risk reduction planning

The activities included in DRR planning support adaptation directly for climate-related hazards, and also as a means of building resilience that aids in risk reduction for multiple hazards. Gender can be incorporated in DRR in the implementation of development activities, by ensuring equal access to educational opportunities for women who are at greater risk, in developing early warning systems which take gender and cultural livelihoods into account, by using gender-specific and -disaggregated data that identifies differential risk, and by utilising a gender perspective in decision-making processes when implementing risk management policies.

The United Nations International Strategy for Disaster Reduction (UNISDR) is involved in gender mainstreaming and lessons learned in the field and uses examples of women as powerful agents of sustainable change and as influential leaders.^{190,191} These lessons described in several UNISDR provide case studies can be used by development planners to capitalise on the significance of women’s input and their eminent potential for change. These risk reduction actions will further adaptation planning.



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Community-based adaptation planning

Recognising the importance of local level community-based impacts, methods have been developed for community-based adaptation (CBA) planning that aids communities in identifying their greatest risks from climate change, the capacity to deal with the risk, and adaptation actions for each of the risk areas. Investment in adaptation projects at the early stages have targeted communities, largely as pilot projects, to gauge the usefulness and success of the interventions, and to determine best practices for transferring knowledge and capacity to other areas.^{192,193} Most of the methods use participatory approaches that involve different stakeholders, often working with groups of gender and age separately, and the assessments consider differential risk to the various groups by age, sex, indigenous populations, race, ethnicity, and class or caste system.^{194,195,196,197} The degree to which gender issues and differentiated risk emerges depends on the facilitators, location, and process, and gender-responsive adaptation actions.

Ecosystem-based adaptation planning

It is accepted that healthy, well-functioning ecosystems enhance natural resilience to the adverse impacts of climate change and reduce the vulnerability of people to them. This means that nature based adaptation solutions are low-cost, efficient and sustainable options. As such, Ecosystem-based Adaptation (EbA) offers a valuable yet under-utilized approach for climate change adaptation, complementing traditional actions such as infrastructure development. For example, "floodplain forests and coastal mangroves provide storm protection, coastal defences, and water recharge, and act as safety barriers against natural hazards such as floods, hurricanes, and tsunamis, while wetlands filter pollutants and serve as water recharge areas and nurseries for local fisheries." Biodiversity and ecosystem services are used as part of an overall adaptation strategy to help people and communities adapt to the negative effects of climate change at local, national, regional, and global levels.



EbA recognises the importance of equity, gender, and the role of local and traditional knowledge in developing nature based adaptation actions. In addition to protection from climate change impacts, it provides other co-benefits such as clean water and food for communities, risk reduction options and benefits and other services crucial for livelihoods and human well-being. Appropriately designed ecosystem adaptation initiatives can also contribute to climate change mitigation by reducing emissions from ecosystem degradation, and enhancing carbon sequestration.²⁰¹

EbA, as compared to other adaptation approaches, also pursues social benefits for the local community, especially vulnerable groups such as women, youth, and indigenous people. As such, it increases the ability of vulnerable groups to adapt and cope with climate impacts, through ensuring the contribution of natural resources to economic and social development. It enhances the capacity and agency of women, youth, and indigenous people to become agents of change and leaders within their communities. The following are examples of EbA projects that specifically targeted and benefited women.^{203,204}

- Women in Bangladesh are generally economically dependent on their husbands. They are usually not involved in decision-making processes. The Strengthening Household Ability to Respond to Development Opportunity (SHOUHARDO)

community-led duck rearing initiative aimed to change this situation by educating women not only about agricultural techniques, but also about the risks and impacts of natural disasters. The end result was women's empowerment through increased livelihoods and improved food security especially during periods of heavy rain and flooding.

- Another example is that of the Maya Nut Institute, which works closely with women in Latin America. Since 2001, the Institute has helped over 600 rural and indigenous women to form autonomous businesses to produce and market Maya Nut products. These women also act as multipliers for other regions. This has resulted in increased household incomes as well as efforts to conserve rainforest areas from which the nuts are collected.

As with UNEP,²⁰⁵ there are several aspects that need to be considered when designing EbA options. These are adapted below with specific reference to gender:

- Increasing public awareness and perception regarding climate change requires that special attention be paid to increasing knowledge and perceptions of climate change among marginalized groups, especially women. In particular, information needs to be given directly to women regarding the specific benefits they can reap from specific EbA options being implemented.



- Local and gender based experiences regarding the ability of natural resources to contribute to livelihoods, health and other aspects must be assessed and should be a part of any EbA design. Generally, this aspect has been missing, with the result that women are not aware of the benefits that they can directly achieve from options. Furthermore, the knowledge that women have as managers of natural resources can provide important insights into the design of effective strategies.
- Roles and responsibilities of communities and other actors differ in implementation of EbA. Therefore, the roles of women must be clearly defined from the beginning of the project conceptualisation through to implementation.
- Effective planning for EbA needs to be based on local needs assessment and specific gender analysis. Currently this also seems to be missing from a majority of EbA options and communities are not analysed according to this aspect when designing the project.
- An extremely important aspect is to use gender-responsive tools and strategies in vulnerability and impact assessments in addition to planning and implementing EbA approaches. This will highlight how gender is currently accounted for in practices and ensure gender equality in future projects.
- Specific capacity building activities designed for women must be a part of EbA design to ensure their access to information and education.
- Special attention has to be given to land security issues, including the needs, tenure and access of women.
- A participatory and decentralised approach in the planning phase that specifically includes women will not only establish a sense of ownership but will also ensure the sustainability of the project.

Because economic resilience is an integral aspect of EbA, it is necessary that women's needs and options are assessed for this and activities are designed in such a way to include and empower women economically.



3.5 Moving forward

Humankind is experiencing an unprecedented increase and intensity of disasters associated with climate change. Reducing the vulnerability and enhancing the resilience of poor and marginalized people to current climate variability and future climate change has become a central concern for development. However, as this chapter has clearly stated, it is fundamental to acknowledge that adaptation necessities vary significantly between regions, countries, sectors and ecosystems.

Adaptation policies, initiatives and funding requirements need to recognise the fact that, as stated by the IPCC, “vulnerability is rarely due to a single cause. Rather, it is the product of intersecting social processes that result in inequalities in socio-economic status and income, as well as in exposure.”²⁰⁶ Consequently, conducting gender analyses related to hazards, risks and vulnerabilities is imperative—not optional—in any adaptation efforts.

Dealing with climate impacts requires constructive adaptation planning and intervention that is cognisant of the consequences of these actions on women and men, of all ages in all their diversity, and therefore employs gender analyses, evaluation, monitoring and accountability mechanisms. Every adaptation initiative should be developed inclusively, with regard to gender, class, age, urban/rural characteristics, challenges and (dis)abilities, ethnicity/race, and diverse knowledge systems (e.g., indigenous knowledge).

Successful adaptation measures will advance gender equality at multiple levels—hyphenate gender-responsive resources, policies, and support from the

international community and national governments, as well as the participation of, inputs from, and implementation in local communities. Legally binding policy frameworks and conventions for ensuring gender equality, and interlinked agreements on the environment and climate change that include gender considerations and require specific related actions, provide a mandate for incorporating gender equality in climate change adaptation and for ensuring that women and gender equality concerns are integrated within climate change decision making at all levels. Gender-responsiveness is now recognised as of great importance. Never before in history have all the pieces been in place to ensure gender-responsive adaptation: there is a strong and explicit international mandate (i.e., UNFCCC, SDGs), all the major financing mechanisms associated with climate change have gender directives, and scientific evidence has proven that gender equality not only enhances the effectiveness and efficiency of adaptation initiatives, but it is the smart thing to do.

Climate change will have significant impacts on lives and livelihoods, and it is essential to engage in adaptation planning in multiple sectors to reduce impacts. Within each sector and at all levels, gender must be mainstreamed through resources, training, and planning. There are many types of adaptation actions and best practices that have been demonstrated to improve socioeconomic conditions, reduce poverty, and build resilience. Frameworks, such as the ccGAP methodology, from the top levels to local actions have been provided to ensure that activities are not ad hoc and become systematically and thoughtfully implemented.



Despite the considerable work that has already been done, it is important to find ways to build on the gains made and to translate the experiences, lessons learned and good practices into methodical, effective and sustainable gender mainstreaming results across all areas of adaptation. Some considerations for progress are:

- *Activate full participation and engagement of women:* In all decision-making and activities concerning adaptation, this is essential. Meeting the challenges of climate change and achieving the SDGs solely on the contribution of men will not suffice; women's input doubles the impact of adaptive actions. Women are agents of change, actors and contributors at all levels. Full understanding of roles, contributions and knowledge of women, as well as men, in relation to adaptation is an essential starting point.
- *Ensure international development policies are rooted at national and subnational levels:* Although there is a mandate to mainstream gender-responsive climate change adaptation measures, implementation of these international commitments is still slow at national and subnational levels. More countries need to develop national policies and strategies that complement the mandates, knowledge, and lessons learned from adaptation planning and measures. Adaptation planning and decision-making need to be supported by ministerial levels—particularly with the participation of ministries of environment and they need to be developed at all levels.
- *Implement monitoring and reporting procedures to strengthen gender equality outcomes:* Particular efforts are needed to strengthen attention to gender equality in outcomes related to adaptation, such as national reports, strategies, platforms and action plans. This requires efforts to establish an enabling environment for full implementation of policy commitments, through, for example, policy guidance, capacity building and improved attention to consultation with, participation of, and leadership development of women as well as men.
- *Disseminate information on adaptation policy, data, and responses:* Information is key to accelerating implementation of global policy commitments in relation to adaptation. Information on existing policy commitments, such as those under the UNFCCC, must be widely disseminated and well known if they are to have any impact on the ground. In addition, it is important to ensure data is available from regional, sub-regional, national and local levels, to both support evidence-based policy-making and to facilitate effective follow-up to such policies.
- *Support programmes and actions through links with both multilateral and bilateral financing mechanisms:* Financing through bilateral aid and donor organisations have come with requirements that gender is considered in the projects. The ways in which gender is considered needs further refinement and training for effective implementation, but it must also be an essential component of global adaptation financing mechanisms. Although the UNFCCC and the Parties have designated these funds under the convention articles, there is not yet a prescribed operating procedure for ensuring gender equality and social safeguards for the distribution of these funds. Gender can effectively be addressed in the implementation of climate adaptation funding mechanisms. For example, funds from the European Investment Bank (EIB) require environmental and social safeguards analysis, and these specifically align with the MDGs and identify impacts on indigenous groups, women, children, and vulnerable groups. The World Bank



Safeguard Policies identify human rights as a key consideration, in addition to poverty reduction and environmental protection.

- *Develop awareness, commitment and capacity to embrace a gender-responsive approach into all adaptation dimensions of work:* Women can be marginalized if their contributions and potential are not recognised and all of the attention is focused on men. The inputs of external actors can unintentionally perpetuate, or even exacerbate, the existing differences and inequalities between women and men. Initiatives that provide training, credit and other resources, and focus on development of new skills, must be explicitly targeted toward women as well as men to ensure the development of women's capabilities and foster greater recognition of their potential.
- *Provide opportunities for empowering women and advancing gender equality:* It is important to recognise that development and equality-promoting opportunities can arise in the context of climate change. Unique possibilities for empowering women and advancing their situation and position within their households and communities can arise if women are perceived as full contributors and targeted and involved as full partners in all adaptation initiatives. Gender stereotypes can be

challenged as women take on new roles and learn new skills, both in the household and community, and especially as gender roles are adjusted to new realities. This can lead to changes in attitudes and practices over the long-term, with significant benefits for women and girls, and societies.

Regardless of the results of global negotiations on climate change, most communities around the world will face impacts from climate change and will need to adapt in order to survive. Implementing gender-responsive adaptation planning and measures will help to ensure that unequal and negative impacts will be minimised. Climate resilient and adaptive communities and governments will necessarily be those that adopt strategies that strengthen and support whole populations in reducing climate risks and sociocultural inequalities.



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4

MITIGATION



- 4.1 FLIPPING THE SWITCH:**
Ensuring the energy sector is sustainable and gender-responsive



- 4.2 THE PATH THROUGH THE WOODS:**
Gender-responsive REDD+ policy and action





Preamble

As discussed throughout this publication, there are numerous ways for nations and localities to address climate change impacts and build resilience as well as to take meaningful pre-emptive steps to curb global greenhouse gas (GHG) emissions. In vital complement to adaptive measures, mitigation initiatives fall under two main categories: 1) reducing GHG emissions; and 2) carbon capture, fixing, and sequestration (i.e., ways to try to handle emissions currently in the atmosphere, or currently being emitted). Mitigation strategies—from small-scale clean cookstove applications to Low-Emissions Development Strategies (LEDS), from land-use and land-use change to national REDD+ policies—have profound potential global, national and local benefit, as well as potential risks, and play a crucial and extensive role in combating climate change and improving the lives, livelihoods and wellbeing of all.

Approaches to climate change initially prioritized scientific and technological measures over those directed towards social considerations and behavioural changes—and still, technical and scientific solutions are considered to be at the forefront of reducing and slowing GHG emissions. However,

an integrated approach is very much necessary to leverage all mitigation opportunities, and all efforts must consider the human dimensions of mitigation initiatives, since these interventions have historically ignored social concerns broadly and have been considered 'gender neutral'. By assuming a gender neutral approach, climate mitigation initiatives have not only failed to recognize women in their role as primary managers of traditional resources in developing countries, including traditional energy sources, but have failed to see women's innovations—particularly in forest and resource management—and their vast potential to continue to become low-emissions energy entrepreneurs. Even more importantly, perhaps, 'gender blind' mitigation threatens to exacerbate gendered cycles of poverty and leaves half the population out of both identifying and championing crucial climate solutions.

Gender-equality is a catalyst for sustainable development and management of climate change mitigation. At a global scale, thus far there has only been limited application of gender mainstreaming approaches within mitigation initiatives. But targeted efforts to include women in the design and



implementation of climate mitigation activities can help ensure that the environmental, economic and social benefits of reducing GHG emissions and storing or sequestering carbon are available equally to women as well as men—as key examples in the following chapter sections demonstrate.

While there are many mitigation avenues that can be taken, this two-part chapter ahead focuses on gender considerations in international, national, and local energy policies and initiatives—particularly focused on renewable energy and low emissions development; and gender-responsive REDD+ strategies. The chapter focuses on the significant strides that have been made in these areas, with important lessons that may inform broader mitigation (and adaptation, for that matter), efforts.

Mitigation of climate change presents an incredible opportunity that has not yet been fully tapped by the global community. Sustainable consumption and production, low-emission and equitable development strategies, and changes to agricultural and land-use practices may also present vehicles for pursuing a more resilient future.

4

4.1 FLIPPING THE SWITCH:

Ensuring the energy sector is sustainable and gender-responsive



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ACRONYMS

ADB	Asian Development Bank	LECB	Low-Emission Capacity Building
AIJ	Activities Implemented Jointly	LEDS	Low Emission Development Strategies
BPC	Botswana Power Corporation	MEM	Ministry of Energy and Mines (Nicaragua)
CDM	Clean Development Mechanism	NAMA	Nationally Appropriate Mitigation Action
CIF	Climate Investment Fund	OECD	Organisation for Economic Cooperation and Development
CO₂	Carbon dioxide	OLADE	Latin American Energy Organization
COP	Conference of the Parties	PDR	People's Democratic Republic (Lao)
CSR	Corporate social responsibility	PELNICA	Electrification Project for Nicaragua
ECLAC	Economic Commission for Latin America and the Caribbean	REN21	Renewable Energy Policy Network for the 21 st Century
EdL	Electricité du Laos	RETA	Regional Technical Assistance Programme
EGI	Environment and Gender Index	RETs	Renewable Energy Technologies
EIGE	European Institute for Gender Equality	SDGs	Sustainable Development Goals
EREO	Enhancing Renewable Energy Options	SE4ALL	Sustainable Energy for All Initiative
GCF	Green Climate Fund	SREP	Scaling-Up Renewable Energy Projects
GECCO	Gender Equality for Climate Change Opportunities Initiative	STEM	Science, Technology, Engineering and Mathematics
GEF	Global Environment Facility	UNDP	United Nations Development Programme
GESI	Gender Equality and Social Inclusion	UNFCCC	United Nations Framework Convention on Climate Change
GGCA	Global Gender and Climate Alliance	USAID	United States Agency for International Development
GHG	Greenhouse gas	WB	World Bank
G-REEN	Gender and Renewable Energy Platform	WEC	World Energy Council
IEP	Integrated Energy Planning	WECF	Women in Europe for a Common Future
IPCC	Intergovernmental Panel on Climate Change	WIRES	Women in Renewable Energy Scotland
IRENA	International Renewable Energy Association	WoWE	Women of Wind Energy
IUCN	International Union for Conservation of Nature		
KP	Kyoto Protocol		



Key messages

- Women and men have different priorities and needs with respect to energy use and access, as well as different means for participation in decision-making processes and labour markets in the energy sector. In addition, women and men have different investment possibilities and preferences, all of which are translated into different experiences and benefits from energy services.
- Although the energy sector is still largely gender 'blind,' there are increasing examples of gender considerations being addressed through energy policies and interventions. This is particularly the case of small-scale, community-based projects and policies in which there are strong interlinkages between different policy agendas, i.e., achievement of Sustainable Development Goals (SDGs), recognition of human rights and gender equality as cross-cutting goals, and increasing access to modern energy technologies and services.
- There are gender elements that may be unique to, or amplified, by the scale of energy interventions. Evidence on the gender implications of large-scale energy projects—the extent and reach of impacts and benefits—is nascent and in need of further research. Similarly, the gender implications of energy efficiency interventions merit further consideration and analysis.
- Renewable energy and energy efficiency interventions are key to achieving mitigation goals. Women's engagement in renewable energy technologies may be an important factor for success, increasing their participation in the labour force and supporting a development path that relies on more sustainable energy sources and consumption patterns. Hence, the recognition and active pursuit of gender equality can both ensure mitigation goals are achieved and that women and men can equally benefit from mitigation initiatives.
- No 'gender neutral' interventions exist across the gamut of climate change mitigation actions. The labeling and thinking of these as such can maintain or increase gender gaps. Thus, applying a gender-responsive perspective to policies and interventions is necessary to ensure that the development goals at national and subnational level are achieved.
- Important examples of how gender is considered and integrated within the energy sector are available and included in this chapter to support policy makers and project implementers in the pursuit of more sustainable and gender-responsive mitigation efforts.



4.1.0 Introduction

Energy is at the core of climate change discussions. Energy production and consumption account for two-thirds of global greenhouse gas (GHG) emissions,¹ demonstrating the delicate balance needed to both guide and ensure large emission reductions, while sustaining a growing global economy, improving energy security, and bringing access to modern energy services to the billions of people who lack it today. Supporting these issues of sustainable growth and socioeconomic advancement is the increasing awareness that low-carbon (i.e., low-emission) energy sources, renewable energy options, and energy efficiency are playing a key role in advancing the sector. In 2014, despite rising energy use and a global economic growth of 3%, for the first time in 40 years, energy-related carbon emissions remained stable, signaling that the correlation of growth and emissions could see a decoupling²—and that a low-carbon future is possible.

This stabilisation of energy-related emissions is attributable to continued growth of the renewable energies sector and enhanced energy efficiency. For example, by 2013, renewable energy sources provided 19.1% of the global energy consumption, increasing to an estimated 27.7% of the world's power-generating capacity by the end of 2014—enough to supply an estimated 22.8% of global electricity.³ An integral element of this continued growth of the renewable energy sector is the supporting policy framework, as well as increasing cost-competitiveness of energy from renewable sources—an impressive result despite massive reductions in the price of fossil fuels in early 2015.⁴

This shift in energy policy and practice is welcome considering the challenge of climate change and global population growth, which is expected to drive energy demand upward by between 27% and 65% within 35 years.⁵ In the context of a changing climate and a growing population (as well as the SDGs and sustainable development agenda), the mitigation power of the renewable energy sector must be considered along with the need for renewable, sustainable sources of energy to influence sound adaptation strategies. While still nascent, the awareness around the importance of improving resilience of existing energy systems and infrastructure, and ensuring access to energy services under changing climatic conditions, is improving. This is especially relevant to the poorest, most vulnerable and most marginalised populations.

The energy sector—like other key sectors involved in climate change adaptation and mitigation—is increasingly shedding light on and integrating gender equality concerns. Policies and practices are slowly creating more diverse and equitable outcomes through equal participation, perspective, access, and/or employment. Given that gender-inclusion in the energy sector is relatively new, evidence from other sectors suggests that women must be involved and included at all levels of the energy sector and value chain—reaping equal benefits and engaging in leadership roles at all levels. Inclusive approaches provide opportunities for more effective clean energy initiatives, unlock greater return on investments, and expand the prospect of emission reductions and inclusion of renewable energies in the energy mix at the local, regional and global level.



Box 1: The energy chain

All energy has its origin in the natural environment. Energy analysts classify the natural sources of energy as **primary energy**. Some of the natural sources of energy, like biomass, can be used directly. Often though, primary energy (such as solar, hydro, wind) will have to undergo a number of conversions so that it can be delivered to the consumer. It

can be transformed into **secondary energy** for transport or transmission, to end up as **final energy** or as an **energy carrier** to the consumer. The consumer then uses the energy carrier in an appliance to produce **useful energy**. This process from primary to useful energy is called the **energy chain**.

- 
Fuel

material/s that store potential (chemical) energy in forms that can be released and used for work or as heat. Examples of fuels include: coal, gas and oil.
- 
Energy source

are sources from which energy can be obtained to provide heat, light and power. Examples of energy sources include: solar heat, water and wind power, biomass, geothermal deposits and waste.
- 
Generation

is the process of generating electric power using sources of primary energy (fuels or energy sources).
- 
Transmission

is the transfer of electrical energy from the generation plants to electrical substations.
- 
Distribution

is the transfer of electrical energy from substations to customers. The combined transmission and distribution networks are referred to as the 'power grid' or grid.
- 
Delivery

is the amount of energy consumed at the point of consumption (e.g., in the home).



However, when planning possible mitigation strategies, still few governments, institutions, and energy sector entities consider the gender-differentiated dimensions of energy use and access, particularly the ways in which women can contribute to advancing this effort. In fact, if women are considered in climate change discussions, it is their disproportionate vulnerability that is typically the focus, or their contributions to emissions from cooking using traditional fuels. Women's important role as key energy managers, whether at household level or at larger scale, is often disregarded, as is women's role as key actors in the renewable energy sector, including their participation in the production, development, marketing, and servicing of new low-emission energy fuels and technologies. Overlooking women's contributions to addressing climate change results in lost opportunities to achieve multiple benefits – gender equality and women's empowerment could result in greater improved development outcomes. Particularly in the energy sector, this includes increasing women's 1) access to clean energy technologies; 2) participation

in new labour markets related to renewable energy technologies (RETs); and 3) income-generation opportunities by providing new or more efficient means of production, while contributing to reducing GHG and building resilience in communities to the impacts of climate change.

While efforts at integrating gender considerations into climate change and the renewable energy sector have advanced over the years, most of this progress has taken place in small scale, community-based projects. Although these initiatives demonstrate ways in which engaging women improves the success of energy access and climate mitigation efforts, the results are often not well documented. A significant knowledge gap on gender for mid- to large-scale renewable energy projects exists as well as a lack of energy policies where gender issues are consistently addressed at higher decision-making levels. This results in policies and investments that do not take into account the full picture of energy access needs in a country, as women's needs are often hidden.⁶

4.1.1 RETs transforming the energy sector

Energy is fundamental to our lives, and expanding energy access is a key element for development. The type and quantity of energy used determines the efficiency of an activity or the quality of a service being provided. Access to energy is therefore vital towards ensuring increased quality of life, but it is particularly RETs that offer opportunities for

cleaner and healthier lifestyles, income generation and sustainable development. They also increase mitigation and energy efficiency benefits.

Renewable energy is energy generated from natural resources that are capable of renewing or are naturally replenishing at a faster rate than they are



consumed. The Renewable Energy Policy Network for the 21st Century (REN21) recognises the following in renewable energy technologies: bioenergy, geothermal power and heat, hydropower, ocean energy (including wave, tidal, and thermal energy), solar photovoltaic (solar photovoltaic (PV)), concentrated solar thermal power, solar thermal heating and cooling, and wind power.⁷ Renewable energy can replace conventional, often carbon-intensive energy sources for motor fuels, electricity generation, air and water heating and cooling, and rural, off-grid energy services. According to the Intergovernmental Panel on Climate Change (IPCC), up to 80% of the world's energy supply could be met with renewable energy by 2050.⁸

The potential power of renewables, then, is extraordinary given that energy use is one of the key drivers of anthropogenic GHG emissions.¹ In its Fifth Assessment Report, the IPCC states that effective mitigation requires a sectoral approach where

investment in renewable energy technologies goes hand-in-hand with energy efficiency interventions at all levels, including in buildings, industry, transport and household energy consumption patterns.⁹ Overlooking the differentiated energy needs of women and men, as well as their contributions to the energy sector, results in lost opportunities to identify and achieve multiple co-benefits. Gender equality and women's empowerment could open the door to achieving greater strides towards better overall development outcomes, including reducing GHGs and building resilience to climate change impacts.

This chapter explores opportunities for advancing gender equality throughout the energy sector. It also highlights some of the most relevant examples in the field to inform policy makers and project developers about the different gender considerations that can be addressed through renewable energy and energy efficiency mitigation policy, initiatives, and measures.

4.1.2 Recognising women's and men's different energy priorities, roles, and needs

Worldwide, 1.3 billion people are without access to electricity, and about 2.6 billion people depend on traditional solid fuels for cooking and heating, with

women representing a vast majority of those living in energy poverty. The differentiated roles women and men have determine their priorities, needs and uses of energy; these roles also shape the capacity of women and men to have access to and decision-making power over the different types of energy sources and technologies available to them.

I. The IPCC's 2014 Fifth Assessment Report identifies the main drivers of GHG emissions to include: population size, economic activity, lifestyle, energy use, land-use patterns, and technology.



Box 2: Key terms

Energy poverty: can be defined as the “inability to cook with modern cooking fuels and the lack of a bare minimum of electric lighting to read or for other household and productive activities at sunset”.¹¹

Energy access: There is no single internationally accepted and internationally adopted definition of modern energy access. Yet significant commonality exists across definitions, including:

- Household access to a minimum level of electricity,
- Household access to safer and more sustainable cooking and heating fuels and stoves, (i.e., minimum harmful effects on health and the environment as possible)
- Access to modern energy that enables productive economic activity, e.g., mechanical power for agriculture, textile and other industries, and

- Access to modern energy for public services, e.g., electricity for health facilities, schools and street lighting.

These elements are crucial to economic and social development, as are a number of related issues that are sometimes referred to collectively as ‘quality of supply,’ such as technical availability, adequacy, reliability, convenience, safety and affordability.¹²

Energy services: are the benefits that energy carriers produce for human wellbeing, including:

- Cooking and water purification,
- Lighting,
- Domestic heating,
- Cooling, and
- Supporting income-generating activities.¹³

Women’s historic roles in reproductive activities, including in particular the collection of firewood or fuel for cooking, places them at increased risk with traditional solid fuels affecting their health and the health of their children.¹¹ The use of traditional solid fuels also impacts ecosystems and hampers

sustainable development in general. Women’s poor access to reliable electricity sources hinders their development opportunities, whether by 1) reducing time available to engage in educational activities; 2) increasing the burden of household chores; 3) decreasing access to information through media and communication technologies; 4) relying on inefficient technologies to support their productive activities; and/or 5) reducing their mobility and safety after sunset.

11. Impacts on women and girls range from reduction in their availability to attend school and engage in economic activities, exposure to attacks from wild animals and sexual violence, and health implications (due to carrying of heavy loads or exposure to smoke).



Renewable energy options are seen as having tremendous potential to expand women's energy access and combat energy poverty given their capacity to address women's economic, health and immediate survival needs. In addition, small scale renewable energy installments are cost efficient, quickly installed and repaired, and are more resilient to climate-induced impacts.

Women also have an important role to play as actors and positive change agents through their role as key energy managers and their participation in the renewable energy sector and value chain. There are several examples of rural women becoming engineers of solar energy systems and energy entrepreneurs as well as distributors of renewable energy technologies

(see the subsection below on women's participation in the energy sector that presents several of these examples in detail). However, women's participation in the energy sector overall is relatively low. This is a situation that could be corrected through different interventions, including education reforms and the use of incentives to encourage women to join and remain in the energy sector. Finally, women are key consumers of renewable energy technologies, representing close to half of the buyers of solar lighting systems in developing countries.¹⁴ Hence, it may be women and girls with the most to gain from climate change mitigation interventions, particularly those in the energy sector that also promote clean energy and technology.

Box 3: The importance of identifying energy needs and gender-specific energy needs in advance of project design

Understanding the differentiated energy needs of women and men may also increase the impacts of an energy intervention. In the Enhancing Renewable Energy Options (EREO) project, implemented by Practical Action in Sri Lanka, a mapping of women's daily schedule revealed that one of the greatest needs of the community was improved access to drinking water—a task that was being provided by women and children, who walked several times

a day to collect water from a well. By having an energy service approach to energy provision and access, rather than using a particular technology as a starting point, the EREO project was able to cater to the energy needs and priorities of the community and installed a biodiesel water pump as part of its project interventions to ease the burden of women and children in collecting water.¹⁵



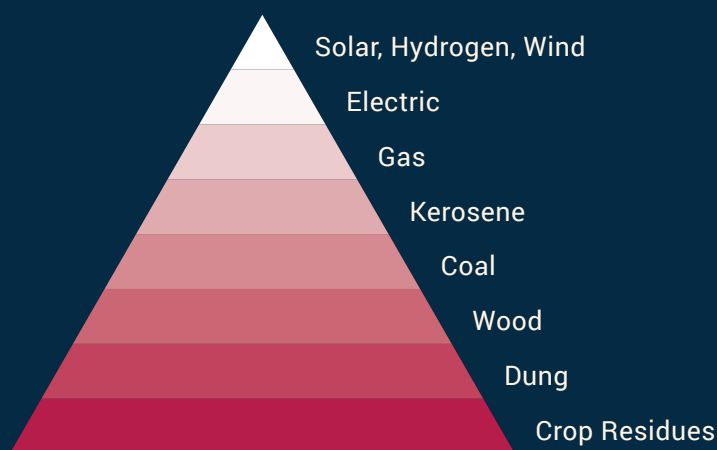
Choosing an energy technology is not a simple matter of income. It entails an understanding of the use of traditional fuels; the perceived lack of value of relying on traditional fuels; the perceived increase in status attached to a particular technology or energy source (e.g., having electricity in the household, or having modern cooking technologies); the differentiated energy needs of women and men; and the decision-making power within a household (e.g., who decides to invest in which technology)—all of which may be perceived differently by the women and men within a household or society.

Affordability of the energy source also plays an important role when choosing energy technologies and sources, and understanding the gender relations

(who has the capacity or responsibility for making decisions, and whether this person will benefit or understand the benefits of an energy technology) are key to ensuring renewable energy and energy efficient technologies are accepted. In addition, there does not appear to be a smooth progression to switch to more 'attractive' energy sources as incomes increase. For example, even wealthy households are known to keep kerosene lamps in case of power cuts, or better-off households may be willing to invest in electricity for lighting and powering small household appliances but may continue to cook using biomass.¹⁶ Hence, understanding the gender relationships in a society and using this data to inform energy interventions may increase the uptake and the impact of initiatives promoting renewables.

Box 4: Attractiveness of different energy or fuels

Some forms of energy or fuels are less attractive while others are much more attractive depending on the task for which they are intended. Energy analysts sometimes display these fuels in the form of a ladder. The least attractive fuels are at the bottom of the ladder, while the most attractive fuels are at the top. The rungs of the ladder represent other, intermediate, fuels.¹⁷





In spite of the above, energy policies and interventions tend to be regarded as gender and socially 'neutral'. By assuming a 'gender neutral' approach, climate mitigation initiatives have failed to recognise women in their role as primary managers of traditional resources in developing countries, including traditional energy sources and potential to becoming low-emissions energy entrepreneurs. The application of gender-responsive approaches, though increasing in numbers, are yet to be mainstreamed, but they can help ensure that economic benefits are available equally to women as well as men.

Instead, policy makers often establish large centralised installations to reach more of the population, attain visibility, and address the interests of the energy lobby. However, centralised systems with large distribution chains are unlikely to be the first choice of women at the household level, due to the lack of autonomy and control offered by being at the end of that chain, compared to a community-scale or household-scale system that is more dependable. When making energy choices, women often focus on function, while men tend to support energy solutions that demonstrate position, power, and visibility rather than functionality. Therefore, in order to have new

energy systems capable of catering to women and men, the conversation should start with the user so that their views and needs can inform which (preferably, renewable) energy systems are chosen and how these are designed and constructed.¹⁸

Cross-cutting and co-beneficial: Linking gender, energy and development priorities

Although gender equality has strongly shaped the development agenda, in the past decade the total supported aid targeting gender equality in the energy sector has been only 10%—a strong contrast to other gender interventions such as those supported in agriculture, where gender-responsive targeted aid surpasses 40%.¹⁹ Attention to gender equality in the energy sector seems to be on the rise, particularly as an effect of the Sustainable Energy for All (SE4ALL) Initiative, which has recognised gender equality as a key component to overcome energy poverty and achieve universal access to modern energy technologies by 2030.

Box 5: Sustainable Energy for All (SE4ALL)^{20,21}

SE4ALL is the UN Secretary-General's initiative to mobilise global action to achieve universal access to modern energy services, double the global rate of improvement in energy efficiency, and double the share of

renewable energy in the global energy mix by 2030. Women's access to modern energy services is considered one of the High Impact Opportunities (HIO), which are action pillars necessary for achieving the 2030 targets.



It is important to recall that climate mitigation policies and strategies intersect with varied societal goals such as improving and sustaining energy access, improving economic empowerment and livelihood options, protecting natural resources, and equitable sustainable development.²² As the Fifth Assessment Report of the IPCC states:

Mitigation measures intersect with other societal goals creating the possibility of co-benefits or adverse side effects. These intersections, if well-managed, can strengthen the basis for undertaking climate action.²³

This is vitally important in considering gender-responsive energy initiatives in pursuing a series of co-benefits and reducing the adverse side effects of climate change. Addressing gender considerations in energy may, therefore, not only increase efficacy of energy interventions, but may also improve mitigation outcomes, as well as enhance broader gains across a full spectrum of co-benefits.

Box 6: Co-benefits: a ‘win-win’ strategy for meeting complementary goals

There is no agreed definition on co-benefits. According to Miyatsuka and Zusman, a co-benefits approach is a ‘win-win’ strategy aimed at capturing both development and climate benefits in a single policy or measure.²⁴

Co-benefits have differentiated impacts on the women and men benefiting from mitigation initiatives. The list below provides examples of how mitigation actions in the energy sector could ensure co-benefits also address women. The list is not meant to be exhaustive.

Table 1: Examples of co-benefits from mitigation initiatives

Category	Co-benefits
Economic	Increase women’s career and income-generating opportunities by increasing their participation in the energy sector as technicians, professionals and decision makers.
	Allow and/or increase women’s income through their participation in non-traditional activities such as design, production, marketing and servicing of renewable energy and energy efficient technologies



Box 6: Co-benefits: a ‘win-win’ strategy for meeting complementary goals (Cont.)

Table 1: Examples of co-benefits from mitigation initiatives (Cont.)

Category	Co-benefits
Economic	<p>Increase women’s income by reducing production costs through more efficient energy technologies.</p> <p>Support women’s participation in new economic activities to take place as a direct result of (improved) access to renewable energy technologies.</p> <p>Increase in income as a result of improved communication technologies and better access to information, markets and customers.</p> <p>Increase education rates of girls and women by increasing access to electricity.</p> <p>Increase women’s participation in decision-making within the energy sector (including local, national and regional).</p> <p>Increase mobility and safety as a result of reliable and sufficient public lighting.</p> <p>Reduce drudgery through use of energy technologies (such as mills for food processing, pumps for water collection, electric appliances to ease household chores).</p>
Social	<p>Increase access to information and communication technologies.</p> <p>Improved health as a result better energy services at health centers (such as refrigerators to preserve vaccines and other medicines and light to support evening deliveries and provision of emergency services).</p> <p>Reduction in respiratory and visual illnesses as a consequence of reduced exposure to pollutants.</p> <p>Improved nutrition through the use of more efficient cooking technologies.</p> <p>Increased maternity and reproductive health as a consequence of the reduction of physical labour (e.g., biomass and water collection).</p>
Health and nutrition	<p>Risk reduction from physical and sexual attacks when engaging in firewood or water collection.</p>



The potential for multiple benefits generated from efficient, equitable and sustainable energy end-use measures outweighs the potential for adverse side effects. However, evidence suggests this may not be the case for energy supply measures. For example, if mitigation policies raise the prices of energy services this could have a negative impact on the access to

modern energy services for underserved populations.²⁵ Considering that women tend to account for a majority of those populations with poor or no access to modern energy technologies, it would be necessary to apply a gender perspective to policy and pricing assessments in order to decrease to a minimum the negative impacts of such initiatives.

4.1.3 Guiding gender-responsive energy policy

Energy policies tend to be regarded as merely technical actions, with little or no social content, despite it being vital for support to all human activities, from employment generation to agricultural production to cooking and service delivery. In other words, energy policies are, at best, considered 'gender neutral' due to a lack of understanding of the potential such policies have to support human development and achieve gender equality or to intensify existing societal gaps."²⁶

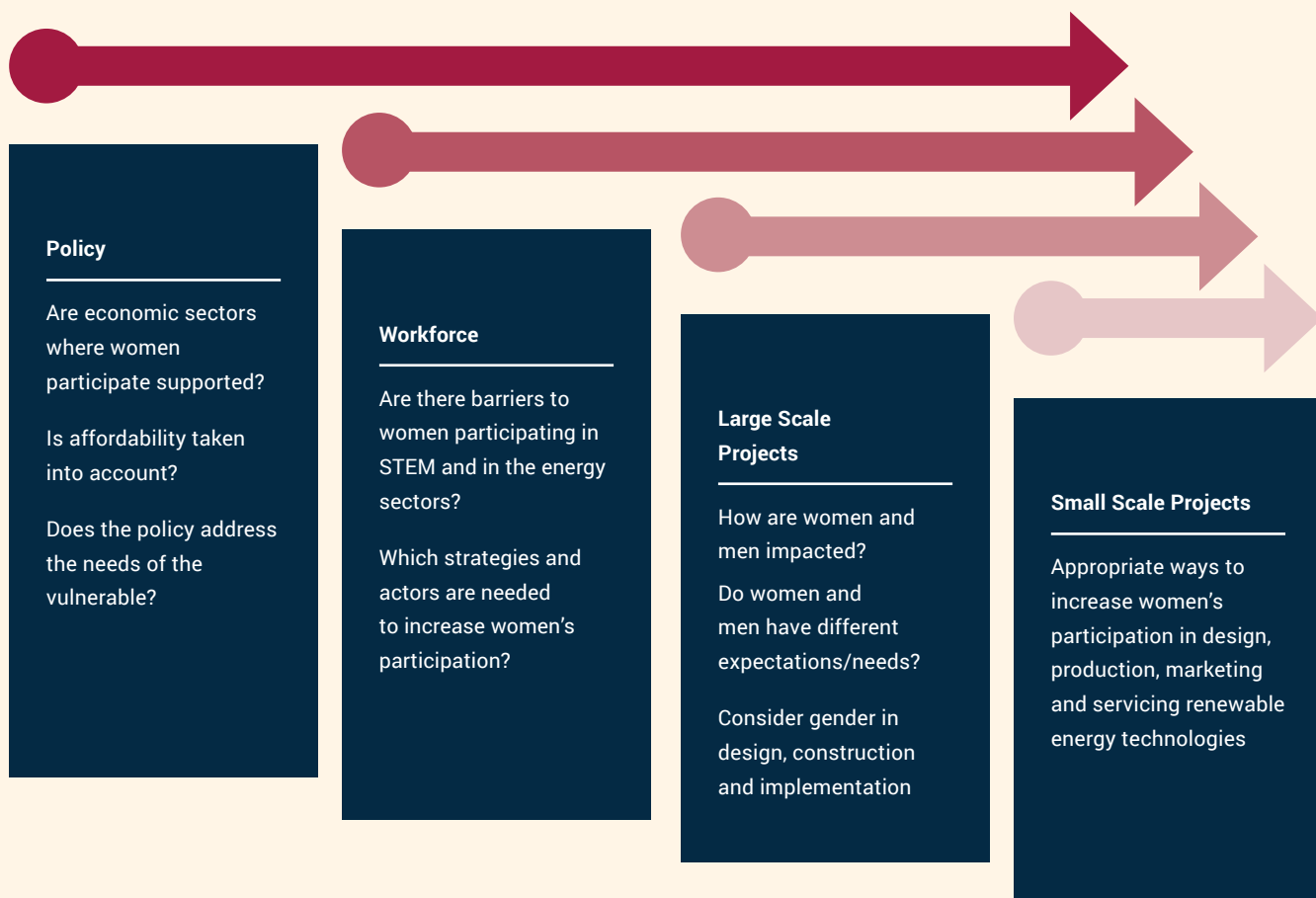
The consequence of having 'gender neutral' energy policies is that these may inadvertently be discriminatory to women and their needs. For example, an important number of developing countries prioritise large-scale energy investments to promote the industrial and commercial sectors rather than investing in achieving universal energy access, which results in less investments being available to secure household energy use, particularly in rural areas.²⁷ The direct impact of these policies is most felt by low-income social groups and has a

disproportionate impact on women, who, due to their traditional roles, are largely in charge of supplying the household water and fuel needs for cooking, heating and lighting. A similar case can be produced when policies prioritise the energy needs of large-scale agriculture industries while failing to also address similar needs for small and subsistence agriculture, activities in which the majority of women are engaged.

Energy policies and interventions also tend to disregard women's economic activities and their role in the informal sector as micro, small or medium entrepreneurs. Women tend to work in traditional businesses such as food processing, brewing beer, making soap or shea butter products. These activities require large amounts of metabolic and caloric energy, for which electricity may not be the most efficient or affordable source of energy.²⁸ Failing to recognise that improved energy access goes beyond electricity generation may therefore inadvertently reduce support to women's economic empowerment.



Key questions can guide policy makers and project developers to initiate their own gender assessment on key topics.



The multi-dimensional character of energy requires policies to address the **political aspects** of use, production, provision and distribution of energy services, their prioritisation and organisation; **economic aspects**, including the allocation of financial resources for implementation; **environmental aspects**, including addressing local environmental impacts and how energy interventions could contribute to global and local environmental improvements; and finally, **social aspects** which require governments to reconcile conflicting and convergent societal interests, redressing inequalities and leading to societal and economic transformations which should also include those related to gender equality.²⁹ The use of an

integrated energy planning (IEP) approach may be an important tool toward the inclusion of social and gender considerations in energy policies. As such, the IEP recognises the multi-dimension character of energy and promotes a demand driven approach towards energy planning.³⁰ In order for an energy policy to fully address gender considerations in its text and mandate, it is necessary for this policy to recognise existing gender gaps in an explicit manner. Gender tools can support these efforts, particularly identifying women's reproductive and productive needs, strategic interests, and suggest strategies to address the same.



International framework for gender in mitigation initiatives

The United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol (KP) provide the main global framework for climate change mitigation, informing a number of other key mechanisms such as the Clean Development Mechanism (CDM) and Green Climate Fund (GCF).^{III} Approaches deriving from these international instruments have prioritised scientific and technological measures over those directed towards social and behavioral considerations, in spite of the fact that some of its mechanisms were intended to address and support sustainable development.^{IV}

Gender mandates provided via recent decisions of the UNFCCC (see the chapter on international policies for more information in this regard), establish the need to consider gender across all aspects of climate change response, including specific mandates on technology and finance, which are of particular relevance to mitigation.

But uptake has been slow in ensuring that national mitigation strategies are informed by women's engagement and are gender-responsive. This is exemplified by the low percentage of gender responsive initiatives under different climate change mitigation mechanisms, as presented below:

Gender in global mitigation mechanisms

Mitigation actions have been at the core of the UNFCCC since its start, and a pilot phase of Activities Implemented Jointly (AIJ) was launched

Gender analysis asks questions, in relation to men and women, about who is doing what, who owns what, who makes decisions about what and how, who gains and losses by a planned intervention, etc. Gender analysis examines what is happening within the household or community and makes linkages with the different levels of the wider society.

Gender analytical tools are used to organise information in a systematic way (known as a framework) that helps to understand the existing gender situation in a given community, or to assess the likely impact of an intervention, such as an energy project or policy, on women and men. Gender analytical tools can be used in a number of ways. For example, to draw attention to gender inequalities in a given community or country, or as an early warning system to identify potential gender problems that may arise if an energy initiative is to be implemented in a particular locality.³¹

III The Green Climate Fund (GCF) is the first global climate finance mechanism to include gender equality considerations in its mandate, committing the Fund to "strive to maximize the impact of its funding for adaptation and mitigation, [...] while promoting environmental, social, economic and development co-benefits and taking a gender-sensitive approach." UNFCCC (2011). Launching the Green Climate Fund. Decision 3/CP.17. FCCC/CP/2011/9/Add.1.

IV UNFCCC Art. 2 establishes that the objective of the convention is to stabilize GHG concentration "...at a level that would prevent dangerous anthropogenic interference with the climate system... [while enabling] economic development to proceed in a sustainable manner." United Nations (1992). United Nations Framework Convention on Climate Change. Entered into force on 21 March, 1994. Available at: http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf



during the first UNFCCC Conference of the Parties (COP).³² Under AIJ, Parties had the possibility of implementing mitigation projects for reducing GHG emissions or enhancing removals through sinks, the artificial or natural reservoirs for containing carbon, in a manner that would be additional to what would have occurred in the territories of other Parties. When the UNFCCC was operationalised through the KP, three mitigation mechanisms were set into place, as a means to achieve emission reductions and stimulate sustainable economic growth and technology transfer. These mechanisms included emissions trading (art. 17), Joint Implementation (JI, art. 6)—both of which were conceived as purely market-based transactions with no social component or gender implications—and the Clean Development Mechanism (CDM, art. 12).³³

Clean Development Mechanism (CDM)

In spite of the CDM's dual mandate for achieving climate mitigation and sustainability benefits, most projects fail to deliver these co-benefits and few have been found to include gender considerations. The UNFCCC Secretariat, in an effort to increase visibility of gender impacts in the CDM, highlighted co-benefits generated by CDM projects (i.e., household energy efficiency, efficient cooking stoves, solar water heaters, biogas cookstoves and micro-hydro power). It then issued methodology guidance, which included labeling certain methodologies as having the potential to benefit women and children, as well as introduction of a voluntary sustainable development co-benefit tool.³⁵

Although the guidelines and the co-benefit tool are a step in the right direction, it is still necessary to move away from seeing women as passive beneficiaries of mitigation interventions but recognise women's participation and contribution to mitigation initiatives

as an important factor for success. CDM Biogas Programmes in Nepal³⁶ and Pakistan,³⁷ for example, have both invested in women's training to promote the use of biogas digesters and proper maintenance of the system, increasing the efficiency of the project by ensuring the sustained use of the technology and therefore actual emission reductions. Moreover, the biogas programme in Nepal has invested in training women to build and manage biogas construction companies, generating additional income opportunities while challenging traditional roles.^{38,39}

The need to encourage the use of methodologies for mainstreaming gender through the project cycle may still be necessary to identify other potential benefits, such as the inclusion of women in the renewable energy value chain, or identifying additional energy efficiency possibilities.

Nationally Appropriate Mitigation Actions (NAMAs)

Launched in 2007 as an element of the Bali Action Plan, NAMAs are loosely defined as "mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity building, in a measurable, reportable and verifiable manner"⁴⁰

NAMAs are voluntary mitigation contributions by developing countries that are embedded in host countries' plans for development. NAMAs combine a set of mitigation efforts directed at promoting low-carbon growth within sectors of the national economy and are expected to be the vehicles for reducing emissions in developing countries by 2020. Parties can design multiple NAMAs that target specific sectors, such as the energy, transportation, agriculture, waste, housing, or forestry sectors.



As there is no international mandate establishing guidelines for NAMA development and implementation, NAMAs can take the form of national programmes, policies or regulations. Though tools available to NAMA developers may mention gender, this is done in the context of stakeholder consultations without offering further guidance for designing and implementing NAMAs in a gender responsive manner.⁴¹ However, this does not necessarily mean that NAMAs are gender-neutral.

As of November 2015, the UNFCCC's NAMA Registry^v reported 112 NAMAs actively seeking support for recognition, preparation or implementation, and the Ecofys NAMA Database^{vi} housed information on 162 NAMAs from 41 different Parties, with 72 NAMA projects specific to the energy sector.⁴² Releasing information on NAMAs, however is voluntary and at the discretion of governments and project sponsors, thus these databases rarely include comprehensive NAMA design documents.

Within this context, IUCN's Global Gender Office (GGO) was granted access to eight energy-sector NAMA documents in late 2015. After the analysis of these document, GGO found that seven of these NAMAs mentioned "women" or "gender" in the proposed objectives or outcomes of their project design documents. Of these energy-sector NAMAs reviewed, the gender component includes specific gender-responsive activities such as increasing electrification in rural households and improving the efficiency of biomass fuels for household energy uses.⁴³

NAMA design is also being supported by efforts from civil society organisations. Such is the case in Georgia where the Rural Community Development Agency (RCDA), an NGO member of Women in Europe for a Common Future (WECF), is implementing a solar water heater and improved stoves NAMA. This NAMA has been designed to improve access to affordable renewable energy and low-energy systems for 100,000 women and men in rural areas in Georgia while reducing 48,000 tonnes of carbon dioxide (CO₂) (an average of 0.8 tonnes CO₂ per year, per solar collector, and three to five tonnes per stove, per year). This NAMA is expected to have positive effects on employment by creating new business opportunities for over 1,000 women and men, who are trained as producers, sellers, or trainers of these new technologies.⁴⁴

Though these examples are encouraging, it is clear that access to a larger number of NAMA design documents would be necessary in order to have a deeper understanding of the degree to which gender considerations have been addressed in the design and implementation of these initiatives.

Low-Emission Development Strategies (LEDS)

Finding its legal basis both in the Copenhagen Accord⁴⁵ and the Cancun Agreement,⁴⁶ the goal of LEDS are to make development climate-responsive, decoupling economic growth from carbon intensity, while aiming to achieve various co-benefits. LEDS are intended to be longer-term policy frameworks, such as national climate change policies or action plans. National energy, poverty alleviation, green growth and sustainable development strategies can be streamlined within the comprehensive LEDS. Unlike NAMAs, LEDS are instruments that can be implemented by both developing and developed Parties.

V The UNFCCC NAMA Registry is an online platform for Parties to facilitate information sharing and seek support in NAMA development.

VI The NAMA Database, supported by the environmental consultancy Ecofys, is another online platform for NAMA knowledge exchange.



There is little information as to the degree to which LEDS have addressed gender considerations in their design and implementation as no comprehensive assessment has yet been undertaken (at the time of publishing). One of the reasons may be that LEDS as a concept encompasses a variety of policy instruments which may vary depending of the national context in which it will be implemented (i.e. in some countries a national policy may be a LEDS while in others LEDS may also include national strategies action plans). Moreover, releasing LEDS information is at the discretion of governments and donor agencies; therefore, accessing the information necessary for conducting a comprehensive gender assessment may prove challenging.

Having said that, a handful of examples are emerging—including the case of United Nations Development Programme’s (UNDP) Low-Emission Capacity Building (LECB) Programme and a rapid gender assessment informing LEDS in Bhutan. Moreover, GGO was able to analyse 27 LEDS in late 2015, of which 12 LEDS either identified women’s vulnerability to climate change or committed to integrating gender into national policies.⁴⁷ Though the sample is small in size, there seems to be a positive trend in the recognition of women and gender considerations in the text of LEDS, as also seems to be the case with the NAMAs.

On a similar note, the Gender Equality for Climate Change Opportunities (GECCO) initiative, a five-year program launched by United States Agency for International Development (USAID) and International Union for Conservation of Nature (IUCN) in 2013, includes programming designed to support

gender-responsiveness in the mitigation sector by filling knowledge gaps for integrating gender into the energy sector through sharing existing practices and encouraging documentation of experiences, as well as new knowledge creation. GECCO’s support to the Low Emission Development Strategies Global Partnership (LEDS-GP) is expected to facilitate information exchange and the development of gender-responsive tools, in order to support government representatives and energy sector actors in the development and implementation of gender responsive LEDS and NAMAs.⁴⁸

READ MORE IN CHAPTER 7!

LOW-EMISSION CAPACITY BUILDING IN BHUTAN: TAKING STEPS TOWARD GENDER MAINSTREAMING NAMAS AND LEDS

National Environment Commission of the Royal Government of Bhutan, UNDP’s LECB Programme, funded by the European Commission and the Governments of Germany and Australia, in cooperation with The Global Gender and Climate Alliance (GGCA), UNDP Asia-Pacific Regional Center (APRC), UNDP Bhutan, World Bank, and the Global Environment Facility (GEF).





Developing gender-responsive national energy policies

As discussed in the international policy overview above, national gender-responsive energy policy should at least address issues such as 1) availability of energy sources—these should be sufficient in numbers, provided in the desired form or energy service and be reliable; (2) affordability—not only in context of energy services (e.g., paying electric bills or fuels), but also other associated costs such as connection to the grid, renewable energy or efficient technologies or appliances (e.g., including costs of the technologies, their spare parts and the batteries for replacement); and 3) security—in order to diminish the exposure of women and men to unsafe situations throughout the energy chain (e.g., when a person is collecting wood, or working with high-tension cables or flammable liquids.)

Uruguay presents a good example of how these elements can be integrated into an energy policy. The Energy Policy 2008-2030 has four strategic pillars. Under the Social Pillar, access to modern energy has been recognised as a human right. The main objective of this pillar is to “[p]romote adequate energy access to all social sectors, in a safe manner and at an

accessible cost, utilising the energy policy as a power instrument to promote social integration...”⁴⁹ Sub-objectives of the Social Pillar include: 1) guarantee adequate energy access (security and price) to all social sectors and geographic location; 2) utilise energy variability as a social integration tool; and 3) guarantee adequate information to all stakeholders. In order to implement the energy policy, the National Energy Directorate implemented a social assessment to understand the disadvantages and vulnerabilities of different target groups. The statistical and social analysis confirmed that women tend to be in disadvantaged or vulnerable situations in larger numbers than their male counterparts. These insights were the basis for the development of the energy programs designed to implement the energy policy.⁵⁰

Ensuring affordability of energy services is one of the key areas where energy policies can strategically reduce gender and social gaps. The box below showcases how a gender responsive electrification project in Lao People’s Democratic Republic (PDR) increased connectivity rate of poor households, particularly female-headed households. This approach could be scaled up to the policy level to have an aggregated impact on the lives of women and men.



Box 7: Addressing affordability constraints among poor households: 'Power to the Poor' in the Lao People's Democratic Republic⁵¹

The project objective was to increase household connection rates in villages covered by the rural electrification program from 70% to 85%-90%. Assisted by the World Bank (WB), the household surveys pointed out that only 60%-80% of households in the pilot villages with access to the network of the state-owned energy company Electricité du Laos (EdL) chose to connect. Further social and gender analysis identified that those households not connected to the network were the poorest households in the villages, including those headed by women. The main barrier to connection was their inability to pay the up-front connection costs of about USD 100–USD 150. While households headed by women represent only 8% of all households in the Lao PDR, they account for 43% of poor households. Those households headed by females are found disproportionately represented among the poor.

The main instrument used was customer credit to finance connection costs, initially targeting 20 villages in Champasak Province in southern Lao PDR. Under the pilot project, about USD 80 interest-free credit was provided to poor households for up-front connection costs, to be paid back to EdL in monthly installments (about USD 2-3 per month) over three years. A revolving fund was set up for the purpose.

Project gender features included:

- Gender-sensitive eligibility criteria for all households headed by females with no electricity being automatically eligible for support;
- Gender-sensitive information campaigns and village-level mobilisation of women.

This project extended electrification to about 42,000 rural households through connection to the EdL grid. It also provided electrification to about 10,000 households through off-grid technologies. Connection rates in the 20 pilot villages have increased from 78% to 95% overall, and from 63% to 90% for households headed by women, since the launching of the pilot project in September 2008. The project also proved to be very cost effective, with marginal costs to provide access to electricity at about USD 80 per household compared to about USD 600 per household with new grid extension projects.



According to Karlsson (2013), efforts to incorporate gender in national energy policies to benefit and empower women are more effective if there are already government policies that promote gender equality. In Nicaragua, for example, the gender equality policy framework, including its 2007 Equal Rights and Opportunities Law, calls for gender to be mainstreamed at government institutions and initiatives. Building on policy framework and field experience mainstreaming gender in rural electrification projects, the Ministry of Energy and Mines (MEM) developed a gender mainstreaming strategy and drafted a gender policy for the energy sector in 2014.⁵² Nicaragua also has a strategy to achieve 80% of its generation through renewable energy sources by 2017. MEM's gender policy has the potential to become a blueprint for other countries with similar targets and has already informed the investment plan presented by Nicaragua to the Scaling-Up Renewable Energy Projects (SREP) under the Climate Investment Fund (CIF).

Meanwhile, in Nepal, the constitutional reforms and national strategies addressing gender equality and social inclusion (GESI) have transformed the renewable energy sector. In order to achieve the equitable socioeconomic growth of women, particularly those in remote areas, Nepal is investing in accelerating the deployment of RETs for generating employment and income through enterprise creation and development. This is being done through the operationalisation of the gender equality and social inclusion goals in the RET implementation framework, including: 1) at product level: ensuring that research and development of RET products and end-use is

GESI-friendly; 2) at service level: targeting women through a credit/grant component to increase access and control over RETs, providing gender-responsive service delivery system, process and procedures, encouraging a participatory monitoring mechanism, and supporting the capacity development of service providers on gender and social inclusion; and, 3) at institutional level: supporting gender responsive institutional and organisational development, strategic operational development (SOD), including the capacity development of the Alternative Energy Promotion Centre (AEPC) staff to influence and deliver GESI-responsive RET initiatives.⁵³

In Kenya, the Constitution, which was adopted in 2010, states that men and women have the right to equal treatment and opportunities, which impacts policies and activities of government agencies, including the Ministry of Energy and national energy companies. Against the background of the Constitution and other international commitments towards achieving gender equality, the Kenyan government and its energy institutions, with the support of ENERGIA, the International Network on Gender and Sustainable Energy, implemented a gender audit as a means to analyse the gender equality implications of the energy policies and development goals. The Kenyan government implemented tools to make gender issues more visible to energy managers, for example, by establishing a database that includes sex-disaggregated data and identifying criteria for assessing the impact of programs on women and men.⁵⁴



Table 2: Key issues in Kenya's energy policy and possible gender dimensions ⁵⁵

Issue	Gender dimensions
Investment decisions	Policy determines which energy sectors receive attention and support. The commercial and economic sectors receive the bulk of investment funding (for conventional energy sources, including grid electricity and petroleum fuels) compared to biomass and renewable energy sources. Poor women are unlikely to benefit from the large-scale commercial energy expansion programs, especially if the expansion programs do not support connections to households. Poor women derive their energy services from nonconventional energy sources including renewable energy. Support at a local level, if focused on renewable energy, may provide women with both employment and new energy services.
Access to affordable clean energy	The rural poor, including women, do not have access to modern energy. Continued dependence on biomass for cooking and lighting disproportionately predispose women and children to health hazards of indoor air pollution, drudgery.
Energy pricing	Income disparities between men and women exist; for example, men have control over the household income and therefore decisions about access to energy supply tend to be male dominated. This means that energy pricing will impact men and women differently as women may have little or not saying on how to react to energy pricing.
Infrastructure construction	Men benefit more than women in terms of direct employment opportunities, as these are in the building and technical sectors which are traditionally male dominated. Also large-scale energy projects raise gender equality issues related to differentiated impact on women and men.
Community participation strategies	Men and women's concerns are not explicitly included in energy programme implementation. A gender approach is not emphasised either during the pre-development Environmental Impact Assessment (EIA). Gender inequalities exist in various aspects of community participation and these may not be addressed during the project cycle.



Table 2: Key issues in Kenya’s energy policy and possible gender dimensions (Cont.)

Issue	Gender dimensions
Human resource planning	Women’s specific contribution in energy decision-making is not explicitly recognised. At policy, technical and professional levels, the energy sector is dominated by males and may not be aware of the need to address gender equality in their work. For example, in the staff of the renewable energy department of the Ministry of Energy, there are 20 male professionals and only one female professional.
Energy-related health hazards	Women and children are more exposed to biomass based indoor air pollution.
Access to electricity	Most rural women have no access to electricity. Even when connected through rural electrification initiatives, they lack financial support to engage in income generating enterprises.
Dwindling biomass energy supply	Biomass shortage increases drudgery for women. There are health implications on women walking long distances to collect firewood.

In Botswana, a similar ENERGIA-sponsored audit was conducted. The result showed that the process for writing the Draft Energy Policy did not include inputs from women, although they are the major users and managers of domestic energy sources. As a result, Parliament requested for the Energy Policy to be redrafted and address women’s inputs and, most importantly, their energy needs.⁵⁶

Another consequence of the energy audit was that the Botswana Power Corporation (BPC) adopted a gender mainstreaming approach for its rural electrification program. The gender assessments that followed identified that women-headed households encountered larger difficulties than their male counterparts for connecting to the grid, due to the high costs attached to household wiring. The BPC integrated the ‘Ready Box’ to its initiative as a way to reduce wiring costs and increase connectivity of low-income households.⁵⁷



4.1.4 Addressing gender and increasing women's roles in the energy sector

Women's participation in the energy sector

Women's participation in the energy sector, including as technicians and decision-makers, remains low, with a trend towards a higher concentration of men in these positions and of women in administrative positions. In 2009, it was estimated that the share of female technical staff in the energy industry was at most 6%, in decision-making positions it is about 4%, and in top-management positions the share is less than 1%.⁵⁸

A study conducted in 2014 by the Latin American Energy Organization (OLADE) concluded that the gender policies in Uruguay, Mexico and Nicaragua had influenced on the division of decision-making positions involved in policy and strategies as follows:⁵⁹

- In Uruguay, one woman holds a political position as National Director and 4 women have strategy implementation positions as Coordinators, while a man holds a policy decision-making position as National Director and another man holds a strategic decision-making position as a Coordinator,
- In Nicaragua, one man is in a policy decision-making position as Minister and one is in a strategy implementation position as General Secretary, while one woman is in a policy decision-making position as Deputy Minister, and
- In Mexico, 289 men are reported to hold policy and strategic decision-making positions compared to 252 women in the similar positions. Although there are a smaller number of women in policy and strategic decision-making positions, these numbers are acceptable due to the total number of personnel.

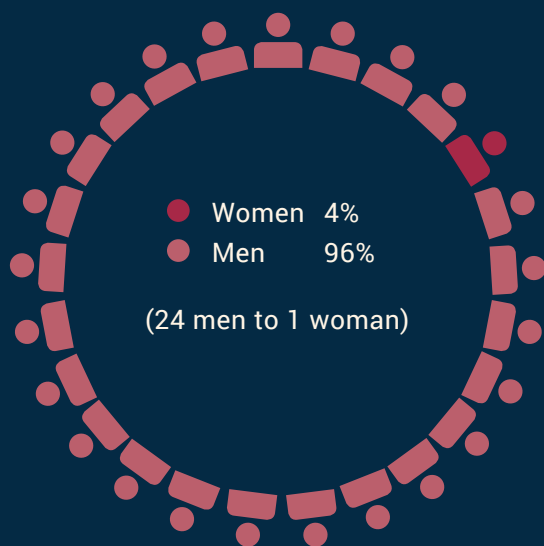
Similar studies have also concluded that women's participation at top-level positions within the energy sector are very limited, even below the median of women's participation at high-level positions (for example, see Box 8).



Box 8: Women’s participation in the World Energy Council (WEC)

The National Member Committees to the WEC each have a chair and secretary who represent national perspectives and interests in the energy dialogue of the WEC. Based on information available for chairs and secretaries from 92 nations The Environment and Gender Index (EGI) has found that women occupy only 4% of the Chair positions on the WEC, and 18% of the WEC Secretary positions.⁶⁰ As energy

poverty is a cross-sectoral issue, energy governance institutions such as the WEC have the potential to advance key women rights, such as the right to an adequate standard of living. When women are excluded from energy governance, decision-making processes are more likely to result in energy projects and policies that ignore women’s unique needs, knowledge, and contributions.⁶¹





The reasons for women's low participation in the sector relate to social stereotyping and the effect this has in early education stages, where girls are less likely to be encouraged to engage in activities that would later on increase their options for joining science, technology, engineering and mathematics (STEM).⁶² Even in countries where there is educational parity at the highest educational levels, a tendency remains for women to enroll in social sciences and health careers, while men enroll at a higher rate in STEM fields. For example, according to a report by the Economic Commission for Latin America and the Caribbean (ECLAC), only 16% of high level management positions in science and technology are occupied by women in Mexico, 25% in Brazil, and 28% in Argentina.⁶³ In Europe, according to a report by the European Institute for Gender Equality (EIGE),⁶⁴ women represent less than 20% of students

enrolled in engineering and engineering trade studies. As a result, this may have an impact on why female participation in the European energy sector reaches only 22% of those employed in electricity, gas, steam, and air-conditioning supply activities.⁶⁵

Once women join the labour force, they face a series of challenges to remain in the sector and later on in rising to leadership positions. These challenges include the difficulty of maneuvering in a male-dominated sector, the lack of female role models and mentors, and labour conditions (such as long working days and requirement of high number of site visits to distant locations) which are not conducive or adaptable to women's role as caregivers at household level. The above have been identified as reasons why 52% of female scientists, engineers, and technologists abandon their chosen professions.⁶⁶

Box 9: Women's participation in the energy sector in developed countries

While globally comprehensive sex-disaggregated data is not available, estimates of women's employment in the oil and gas industries range from 27% in Canada to 20% in the USA, while women make up 15% of the Australia mining industry (including coal). These three countries have significant wage gaps between women and men.⁶⁷ Women's employment rates in wind, solar, wave, and other renewable energies are often estimated higher—by one account prepared for the International Renewable Energy Association (IRENA), the estimation is 33%.⁶⁸ In two

countries that have uniquely monitored these numbers, women's employment was estimated several years ago at 26% in Spain (in 2010) and 24% in Germany (in 2007). The renewable energy sector is perceived to be less discriminatory than the fossil fuels industry because it provides opportunities for women's participation in new and non-traditional fields. And there is some evidence that women are drawn to choose career paths in line with their worldview, or that they believe will make a difference in the world.⁶⁹



Understanding women's participation in the energy sector may be key, particularly at a moment when renewable energy technologies seem to be gaining momentum. As the latest IRENA report shows, more than 7.7 million people worldwide were employed by the renewable energy industry in 2014, which means an 18% increase from the previous figure of 6.5 million in 2013.⁷⁰ Interestingly enough, women's participation in this sector seems to be higher than the overall percentages for the energy sector. For example, IRENA's report suggests that women's employment in the USA solar industry is on the rise, increasing from 26,700 to 37,500 in a year, representing an increase from 18.7% to 21.6% of the total solar workforce in that country.⁷¹ This means that women working in the solar sector in the USA may be reaching a similar

point as those working in the wind sector, where it has been estimated that women represent between 20 and 25% of the workforce.⁷²

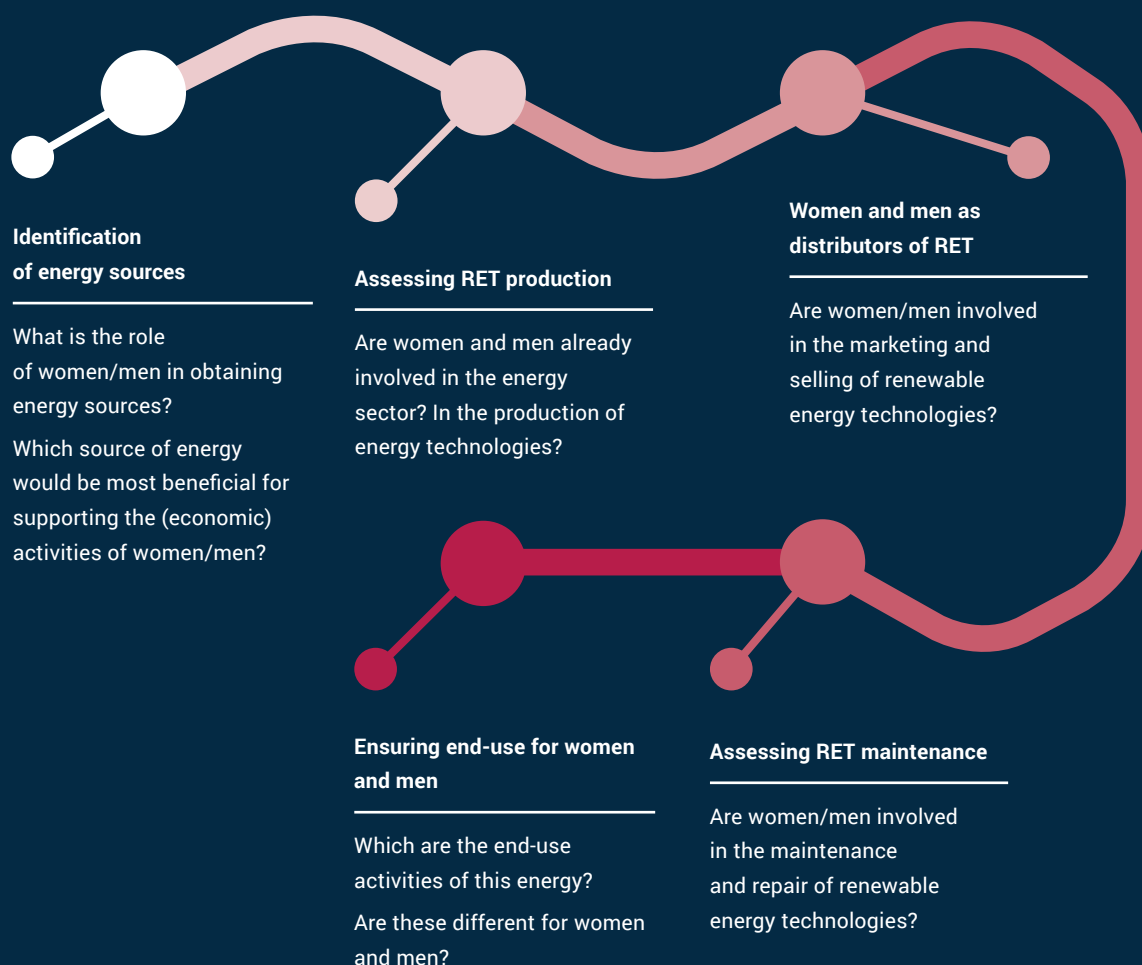
The above may be attributed to a series of interventions to increase women's participation in the energy sector including the organisation of associations to address this challenge and support efforts to increase women's participation in the energy sector. This is the case of Women of Wind Energy (WoWE)⁷³ in the USA and Women in Renewable Energy Scotland (WIREs).⁷⁴ These groups are creating opportunities for women to enhance their knowledge, capacity, and network by organising discussion forums, training and exposure visits, mentoring initiatives and peer-to-peer exchanges.



Box 10: Women in the renewable energy value chain. ⁷⁶

Women have an important role to play in the energy value chain besides being users of energy sources. However, the opportunities for addressing gender equality through the energy value chain are not always known or understood. A simple visualisation on women's

(potential) role in the value chain could support policy makers and project managers to increase women's participation in the energy sector. The graphic below presents relevant questions to be asked at different stages of the renewable energy value chain.





Box 11: Private sector contribution towards gender equality

Efforts to increase women's participation are coming from within the energy companies as a result of the implementation of national gender equality policies in conjunction with their own corporate social responsibility (CSR) policies. These measures may include: 1) implementing recruitment, capacity building and promotion practices that specifically target women; 2) adopting flexible working hours and paternity/maternity leave; 3) providing facilities and services that cater to the gender needs of staff, including day-care facilities, separate lavatories and changing rooms; and 4) establish and enforce rules that ensure safety and combat sexual harassment, among others.⁷⁷

In Brazil, the Pro-Equity Program of the *Secretaria do Políticas para as Mulheres*, supports companies to develop and implement gender action plans since 2005. One of the companies participating in the program is Itaipu Binacional, a hydro-electric generation company, responsible for 19% of energy consumption in Brazil and 77% of energy consumed in Paraguay. Through the implementation of its CSR policy, *Itaipu Binacional* has, among others, increased women's participation in management positions to 19% in 2012, an increase from only 10% in 2002. Additional changes have included an increase in time devoted for maternity leave (up to 6 months), the establishment of day-care facilities for its staff, targeted training

for women, establishing incentives and social clauses for their contractors, and highlighting women's contribution and roles within the company, which meant a strong change in the organisational culture.⁷⁸

On a similar line, the *Empresa Nacional de Transmision Electrica* (ENATREL), in Nicaragua, reports that 50% of high-management level positions are held by women.⁷⁹ However, parity between women and men has not yet been achieved within ENATREL, with men still holding most of the technical and field work positions. ENATREL has developed institutional policies to increase women's participation and is focusing, to the extent possible, to fill new vacancies by attracting women with the appropriate technical background. Through its efforts, ENATREL is challenging traditional patterns and by 2014 had trained and engaged at least 50 women to be line technicians.⁸⁰

READ MORE IN CHAPTER 7!

THE ELECTRIFICATION PROJECT OF NICARAGUA: CREATING CONDITIONS FOR GENDER EQUITY IN PUBLIC PROJECTS FOR RURAL ELECTRIFICATION

Nicaragua's ENATREL with support from the Foreign Affairs, Trade of Canada





Women as investors in RETs

An important element, which tends to be easily disregarded, to advancing the renewables sector is women's role as potential investors in RETs, rather than only considering women as consumers. Studies suggest that women tend to make more sustainable consumption choices than men, with the Organisation for Economic Co-operation and Development (OECD) and others having documented women's increasing spending power worldwide and the strong influence it has on sustainable consumption.⁸¹

In order to support women's capacity as investors in RETs for household or small enterprise use, reliance on schemes such as the use of micro-credits, women's savings groups and revolving funds have proven successful. However, understanding how policy investment tools (such as feed-in-tariffs and public bidding) can increase women's capacity to become investors in RETs remains for the most part unexplored territory. In addition, reducing the risk perception of financial institutions with regards to renewable energy projects at large, and particularly those headed by women, may also be necessary as a means to enable women entrepreneurs to access the financial support required for investing in larger energy schemes.

Women have also taken a stand in challenging traditional investment patterns and increasing generation through use of RETs. One such pioneer is Ms. Wandee Khunchornyakon, founder and chief executive officer of Solar Power Company Group, which is the first company to develop a solar farm for commercial purposes in Thailand. Ms. Khunchornyakon began her investment plans in 2008, when the Thai Government announced its policy for energy production. Ms. Khunchornyakon

FEED-IN-TARIFF

A policy mechanism designed to accelerate investment in renewable energy technologies by offering long-term contracts to renewable energy producers, basing the payment scheme on the cost of generation of each technology.

READ MORE IN CHAPTER 7!

SOLAR POWER COMPANY GROUP IN THAILAND: WOMEN LEADING AND EXPANDING SOLAR ENERGY GROWTH

Solar Power Company Group with funding from the International Finance Corporation and the Clean Technology Fund





was so determined to invest in clean technologies that after encountering the refusal of traditional banks, which considered the investment too risky particularly if led by a woman, decided to risk her own house and land to secure part of the initial investment capital. Ms. Khunchornyakon received support from multilateral banks to proceed with her investment and in 2010 she began with a small solar farm, producing 7.35 MW. By 2014, Ms. Khunchornyakon's company owned 19 solar farms in Thailand with a total generation capacity of 96.98 MW, reducing an equivalent of 200,000 tonnes CO₂ and generating 20,000 new permanent and local jobs. Future plans of the company include expanding the number of solar farms to 36, for a production of 260 MW and securing 100,000 permanent jobs in Thailand.⁸²

Investment in renewable energy in Sweden has also found a strong ally among women, boosted by the initiative of Ms. Wanja Wallemyr who decided she needed to invest in wind technology when she heard a wind farm project was going to be built close to her farm. For Ms. Wallemyr, investing in wind technology was important both for economic and environmental reasons—she wanted to boost the rural economy by empowering women economically, while displacing nuclear power with cleaner energy. With this goal, Ms. Wallemyr decided to create a women-only cooperative, and within two weeks she had found 9 women to join her efforts in forming Qvinnovindar, which consists of two words: qvinno, an older Swedish spelling for Kvinna” meaning woman; and vinda, meaning wind. In 2007, the group bought a share of the 3 turbine project near Wallemyr's farm. Since then they have grown to 80 members and invested more than 10 million Krona (USD 1.5 million) in other projects, including a portion of a 5 turbine installation built on Ms. Wallemyr's farm.^{83,84}

READ MORE IN CHAPTER 7!

ALL-WOMEN WIND ENERGY COOPERATIVE IN SWEDEN: CREATING ECONOMIC OPPORTUNITIES FOR WOMEN TO INVEST IN CLEAN, ALTERNATIVE ENERGY

Qvinnovindar



Women as producers and technicians of RETs

Experience has shown that women's involvement as producers and technicians of RETs can be key to producing and ensuring the maintenance of locally appropriate technologies and that their engagement in such activities functions as an important opportunity to increase women's economic empowerment. Moreover, as producers, women become experts in the products they both produce and use, allowing them to further increase awareness about the benefits of RETs by relying on their experience when talking to their peers, social networks and reaching out to female-led markets.⁸⁵

Evidence shows that in the right cultural context and with conducive interventions, women's participation in the construction of biodigesters (biogas plants), and women's ownership of those construction companies, is possible. The Biogas Support Programme in Nepal has a clearly articulated commitment to address gender equality at program level. One of these commitments was the development of special women-focused masonry training programmes. The programme reached out to potential women masons through women mobilisers,



it also provided these women with special training, including skills development, confidence building and refresher courses. The programme also set in place affirmative actions to encourage women's participation as masons, including: 1) providing incentives for construction companies to recruit and retain women masons among their staff; 2) gender sensitive posting; 3) ensuring a conducive working atmosphere (e.g., by arranging for child care or for training to be closer to their homes); and 4) providing awards for the best mason/supervisor/entrepreneur (with separate categories for women and men).⁸⁶

Similarly, the Asian Development Bank's Regional Technical Assistance Programme (RETA) "Harnessing Climate Change Mitigation Initiatives to Benefit Women" (RETA 7914), implemented in the Mekong Region by SNV, a Dutch non-governmental organisation, is encouraging women to become biodigester masons and owners of biogas construction companies through a pilot project under the Viet Nam Biogas Programme. By designing a pre-training module, women and men were able to increase their masonry skills prior to receiving the standard Biogas Masons Enterprise (BME) training.⁸⁷ Coaching and refresher courses followed the training to ensure both skills-development and confidence building among the women masons takes place. Women have demonstrated they are dedicated masons, devoting higher attention to the quality of the production of biodigesters than their male counterparts.

Experiences investing in women as solar technicians have also grown in number in years. Initiatives such as the Barefoot College⁸⁸ have a special focus on training rural semi-literate women to fabricate, install and maintain solar home lighting systems. Located in India, the college uses a 'learning by doing' and peer-to-peer approach that enables them to demystify solar

technologies and facilitate learning.⁸⁹ The college has been able to train women solar engineers in the Middle East, Latin America, and Africa, where it will open 6 new training centers.⁹⁰

Women's involvement as producers of improved stoves has been vastly documented, with regards to women's participation in local production, assembly and installation. Particularly in societies where women are traditionally involved in the production of ceramics and pottery, their skills can be transferred to produce clay cookstoves, as well as in the installation of the stoves.⁹¹ This is the case of the Upesi Cook Stove Project, implemented by Practical Action Eastern Africa, in Kenya. Within this project, women groups focused at first in producing ceramic stove liners evolving later to the production of outside metal cladding and assembly of stoves, which has increased their income.⁹²

Women as distributors of RETs

Women can be key agents for scaling up distribution of RETs, particularly 'in the last mile bracket,' or customers not reached by a service (e.g., energy, telecommunications, or internet) because it is too costly to pursue conventional large-scale practices. When scoping for the women entrepreneurs, and in order to increase their chances of success as distributors, it is necessary to share a clear picture of what is involved in the distribution process, which can be done by asking questions to identify 1) how customs shape women's options for paid work compared with men; 2) if women and girls have the autonomy to move freely within and beyond the community alone; 3) if family members and/or neighbours encourage or support women's and girls' access to services and rights; 4) what specific



information, knowledge, skills and capacities are necessary to advance women and girls participation in RET; and 5) if networks that women benefit from, or contribute to, such as clans, or cooperatives, exist.⁹³

Several retail and distribution models designed to enable women's participation have emerged in recent years. These models tend to share commonalities, including 1) their reliance on women's groups—whether cooperatives, associations, or self-help groups—as entry points to identify RET sales agents; 2) the use of women's social networks for marketing purposes; 3) the provision of baskets of technologies for women as a means to increase sales opportunities; and 4) an assessment of women's economic situation and access to finance to provide solutions to potential barriers (e.g., micro-loans, consignment schemes, etc.).

One such case is Solar Sisters,⁹⁴ an initiative which started in eastern Uganda and has now expanded operations to Tanzania and Nigeria. Solar Sisters combines the potential of solar and clean cooking technologies with a women-centered direct sales network. Solar Sister sales agents use their networks of family, friends and neighbors to provide a distribution channel to rural and hard-to-reach customers. Women entrepreneurs sell on consignment basis; therefore they do not have to pay for the inventory until they sell it, earning a commission on each sale. The consignment levels are managed so that Solar Sisters does not advance an excessive amount of product when they know the women can only sell a few solar lamps. In addition, when a women entrepreneur reaches a level of USD 300 in stock advances, Solar Sisters links her to a local micro-finance institution to support further business expansion. As a means to build women's confidence as sales agents, Solar Sisters provides marketing support, including support for launch

events to showcase products at high visibility locations. In addition, women are encouraged to meet frequently in a group setting to share their experiences.^{95,96}

READ MORE IN CHAPTER 7!

WONDER WOMEN OF EASTERN INDONESIA: EMPOWERING WOMEN WITH ENERGY TECHNOLOGY

Kopernik, with support from the ENERGIA, Norwegian Agency for Development Cooperation (NORAD), and Swedish International Development Cooperation (SIDA); Empowering Indonesian Women for Poverty Reduction (MAMPU), a joint initiative of the Government of Australia and Government of Indonesia; and USAID Development Innovation Ventures (DIV) program.



Understanding differentiated energy end-users and clients

As discussed earlier on in this chapter, women and men have different energy needs and perceive the benefits of RETs in a different manner. Understanding and featuring these differences and the value added of accessing these technologies requires a deeper understanding of women and men's perceptions, priorities and preferences particularly in their use of, and access to, energy. Women and men may have different views on topics such as: access to education and health services; exposure to smoke and other pollutants; easiness and speediness for preparing meals; access to clean water; savings from changing consumption patterns; study and work activities in evening hours; security due to lighting services, increase in social status



through access to RETs; leisure time; access to information and communication technologies—all of which are affected by energy services and access.

In addition, when trying to encourage access to RETs, affordability is often a barrier, as the costs of these technologies may prove to be too steep for the targeted customers. Moreover, investments in energy services are seldom decisions made by only one party (women or men) and the main user of a particular technology may not always be the main decision-maker at household level. Hence, recognising that household dynamics, particularly with regards to investment opportunities, strongly influence investment choices in RETs is the first step towards designing customer appropriate marketing strategies.

Jagriti is an Indian community-based organisation, working towards women's empowerment and promoting energy efficient technologies. As part of their efforts to help poor women access clean liquefied petroleum gas (LPG) and improved cooking technologies, Jagriti has relied on the provision of gender trainings for female and male household members as a way to increase men's understanding of the opportunities and impacts of cleaner cooking and engaging their support for purchasing the improved cooking technologies.⁹⁷

In addition to differentiated marketing strategies, it is also important to ensure that there are appropriate consumer finance mechanisms in place, to ensure poor women and men will be able to afford access to RETs. Strategies such as linking with local micro-finance institutions; providing support to financing institutions to feel comfortable lending to women; and, educating women and women's groups to engage in saving schemes and feel comfortable reaching out to financial institutions, need to be encouraged in order to support access to modern energy technologies.

As a result of taking into account the role affordability could have for the success of the energy intervention, Asian Development Bank (ADB)'s RETA 7914 included a Revolving Fund component to be managed by the Viet Nam Women's Union in Dong Hoi, Quang Bing Province. The revolving fund releases loans to support the construction of biogas digesters by female masons. Given the relatively high costs involved in the construction of biogas digesters and the positive signals received from recipient households, it is expected that the Revolving Fund will play an important role in the development of Dong Hoi biogas market development.⁹⁸



4.1.5 Gender-responsive large scale RET projects: Generation, transmission and distribution

The energy production and distribution processes, particularly at a large scale, have different gender entry points, most of which still need to be fully recognised, as most research and experiences mainstreaming gender into energy initiatives have taken place in small-scale energy projects. Although some of the lessons learned from smaller projects could inform these efforts, there are gender elements that may be unique to or amplified by the scale of energy interventions. Efforts to research these implications are nascent and in need of further support to achieve consistency.

The large scale energy production process is sometimes described in terms of ‘upstream’ and ‘downstream’ to describe different stages of the process; these are industry terms applicable to the production processes that exist within several industries. Roughly explained, the ‘upstream’ refers to the stage where the search for and extraction of primary energy resources takes place. Meanwhile, ‘downstream’ involves the conversion of primary resources into useful energy. The downstream stage includes the marketing and distribution of the energy.

Given the tendency to rely on centralised energy production systems, it is necessary to understand the reasons why women and men experience the impacts of large scale energy projects differently.

Dissecting the energy production process with a gender perspective helps identify that gender inequalities may have an impact on issues related to land and resource use in the upstream stage of generation and transmission.⁹⁹ For example, women own a small percentage of land titles as a result of customary law or regulations that impose restrictions on inheritance or transfer ownership of land to the husband, or as a consequence of reduced income, which in turn does not allow them to purchase land. Such circumstances may have a negative effect on women when they experience expropriation and relocation as a consequence of energy infrastructures being built (whether for generation or transmission), as under such circumstances compensation may be provided only to the land title owner and not to the family as a unit.

Moreover, providing compensation to the head of a family, traditionally a male, does not necessarily mean that the family members will equally reap the financial benefits, as women may not be in a position to access or make decisions on family income. Schemes that require both partners to be present at the disbursement have been designed to allow women to also have information and access to compensation funds.¹⁰⁰

Furthermore, retraining or compensation plans are generally based on the identification of remunerated



work. This practice may unintentionally discriminate against women, who tend to work on subsistence activities or in the informal sector, making them less likely to be included in the retraining or compensation schemes. Hence, compensation and reparation plans need to incorporate gender considerations if they are to properly address the differentiated needs and

impacts of women and men, including 1) ensuring that economic compensation reaches both women and men at household level; 2) taking into account the differentiated needs of women and men to develop capacity building processes catering to their needs, and 3) identifying new or additional income generation opportunities for women and men.¹⁰¹

Box 12: Lao PDR's hydroelectric project¹⁰²

The resettlement that occurred during the construction of the NamTeum 2 Dam in Laos affected 6,300 people in 17 communities. In order to ensure the effective participation of women in all phases of the project, the power company hired gender specialists led by the Laos Women's Union. This ensured the effective implementation of the Social Development Plan and the Resettlement Action Plan, which

included important gender considerations. Among the key actions, it is worth noting that land titles were issued jointly to the man and woman, as was the compensation for those who were resettled. In addition, alternative livelihoods were created, such as raising chickens and producing handicrafts, for the most vulnerable resettled households.

Access to and reliance on natural resources may also differ between women and men. Water, for example, may be used for industrial agriculture (typically men's occupation) as well as household gardens and household use (traditionally and historically women's occupation). The lack of consultation and understanding on the natural resources available to a community and the impact generated by an

energy infrastructure may create unforeseen negative consequences. Hence resource and interest mapping may be conducted through gender-responsive consultation processes, as a means to ensure that the voices, needs and expectations of women and men in a community are fully integrated into the compensation plans of large scale energy projects.



Box 13: Addressing gender considerations in a wind farm consultation process¹⁰³

The approach used by Suzlon—one of the world's largest wind turbine suppliers, when establishing a wind farm in India demonstrates how a gender-responsive consultation process can inform the development of a compensation plan. During the initial consultation stage with Suzlon, indigenous women of the Adivasi clan requested to retain access to grazing lands where the turbines were being installed. These women also requested for electricity and drinking water to be provided to households within an area 2-3km from the wind energy infrastructures. Women also recommended for these assets to be allocated to women through their self-help collectives, and that all future transactions and consultations be conducted with women, to ensure economic and in-kind benefits would reach their families.

Additional recommendations included 1) the provision of bicycles to girls enrolled in middle or high school, as an enabling strategy for higher education of girls; and 2) for regulatory payments to be made to the communities for their provision of environmental services (i.e., carbon sequestration through avoided deforestation, watershed and biodiversity protection) including assurances that funds are distributed to women and men equitably.

Women also collaborated with the implementation of the company's CSR policy resulting in some of them being appointed as part of the company's CSR team.¹⁰⁴

In addition to the above, extraction and construction processes of energy infrastructures imply the arrival of construction brigades, mainly a temporary workforce composed by men, which could have an impact on the social relations and composition of the nearby communities. Providing gender sensitisation and sexual education training, as well as codes of conduct against sexual trafficking and exploitation, may reduce incidences of un-welcome pregnancies, gender-based violence and sex trafficking diseases, including HIV/AIDS.¹⁰⁵ There have been increasing incidences of the private sector energy industry addressing social inequity issues, often through the formation of a CSR strategy, policy, or programs.

There is also the issue of increasing women's participation in the labor force and raising women up from the lower levels of the workforce to the mid and upper levels—placing them in technical positions for research, development and leadership roles in the energy sector. This subject has received specific attention in the section of this chapter on women's participation in the energy sector (see section 4.1.4).

Downstream impacts may be different for women and men too, depending on who benefits from the energy services provided and who has the decision making power to have access to such benefits. The differentiated downstream impacts are related to



the end-use of the energy produced by the large-scale projects, where the women and men of nearby communities do not necessarily enjoy the benefits of the large scale energy infrastructures equally. The energy projects may also have an impact in the creation of temporary and permanent jobs in nearby

communities. Understanding who benefits from these opportunities and seeking ways to increase women's participation in local economies is also an entry point for enhancing gender-responsive action for large-scale infrastructure projects.

Box 14: Increasing benefit sharing through gender-responsive rural electrification

The Electrification Project for Nicaragua (PELNICA) shows how the benefits of increasing energy access can be amplified by mainstreaming gender into a rural electrification process. PELNICA's design sought to increase women's participation at a community level and supported productive energy uses, supporting 267 women through credits schemes to become entrepreneurs. The project has increased women's participation in decision-making at a municipal level, influencing the design and implementation of development projects at a local level that cater to their needs, including access to (drinking) water, night schools, literacy programmes

for adults, the use of electronic equipment to support learning processes at school, and the opening of a health centre during evening hours.¹⁰⁶

READ MORE IN CHAPTER 7!

THE ELECTRIFICATION PROJECT OF NICARAGUA (PELNICA): CREATING CONDITIONS FOR GENDER EQUITY IN PUBLIC PROJECTS FOR RURAL ELECTRIFICATION

Nicaragua's National Electricity Transmission Company (ENATREL) with support from the Foreign Affairs, Trade of Canada



In conclusion, large energy projects can have a positive gender impact at the downstream level and can 1) ensure that energy is distributed in a safe, accessible and affordable manner to the women and men of the nearby communities; and 2) facilitate local women and men to join the labour market by either

becoming part of the staff of the energy company engaged in the construction and maintenance of the large energy infrastructure, or supporting their participation as service providers (i.e., through the provision of lodging, food processing, transport, etc.) to the project staff.¹⁰⁷



4.1.6 Gender and energy efficiency

Attention to energy efficiency may be key for mitigation initiatives, as reduction in the end-use sectors would lead to indirect emission reductions in the upstream energy supply. Achieving reductions in energy demand is an important element of cost-effective mitigation strategies and will provide flexibility for reducing carbon intensity in the energy supply sector.¹⁰⁸

The interlinkages between gender and energy efficiency have not received as much attention as other elements of the energy sector in the past—and energy efficiency projects also tend to not consider the gendered dimensions with their approach often being “gender neutral”. Energy efficiency, however, is not gender-neutral as women and men are able to contribute and benefit in different manners from these interventions.

Given women’s traditional roles as caregivers, they are mainly the ones in charge of household energy management. Women play a key role in household energy use by making and influencing decisions about 1) use of appliances (i.e., for lighting, cooking, heating, air conditioning, and hot water), including the choice of time of use, and, therefore, peak use; 2) household purchases of goods and services, which may be more or less energy-intensive or wasteful, e.g., packaging; and 3) the education and shape of children’s future energy consumption habits.¹⁰⁹

Emissions can be substantially lowered through changes in consumption and waste patterns, adoption of energy savings measures, dietary change and reduction in food waste.¹¹⁰ Given that studies indicate women are more willing to make changes in how and what they consume, energy efficiency and mitigation initiatives should not underestimate the need to target women when sharing information and raising awareness on these issues and impacts.¹¹¹ More research is necessary to understand which strategies may deliver the best results while engaging women in energy efficiency. This may be particularly important for developed countries, where discussions on gender, energy and mitigation seem to be at an early stage.



Box 15: Gender-inclusive energy efficiency education in Bangladesh: Power system efficiency improvement project

This project in Bangladesh is piloting a gender-inclusive user-education program and module, to promote household energy efficiency, with the view to develop a resource for industry-wide use in the energy sector.

A key project output is the reduction of CO₂ emissions by 300,000 tonnes annually. This will be partly enabled through renewable energy power generation based on solar, and solar–wind–diesel hybrid systems. The project will also install 33,000 solar street lighting systems in several project sites, thus contributing to the increased safety and security of women and their communities.

The project's Gender Action Plan and design and monitoring framework include the following key features:

- Gender-sensitive user education materials and modules, and awareness-raising activities and methodologies for implementing the user education program on the energy efficiency and conservation at the household level, using a pilot target group of 1,000 women at selected project sites,
- Capacity development activities to sensitise the executing agency in gender-inclusive community engagement, and
- Technical training for women in the operation and maintenance of grid-connected solar power plant and solar–wind–diesel hybrid off-grid plant, targeting directly 25% women's participation in all training activities.

Women bear the brunt of relying on inefficient energy sources and technologies, such as the use of biomass, charcoal or agricultural waste for cooking and heating purposes, or use of kerosene for lighting. Therefore, the use of energy efficient technologies at household level, such as improved stoves or electricity for lighting, can both lower emissions while reducing women's time spent on collecting biomass and improving women's health by reducing indoor air pollution or other health hazards.

Moreover, a vast number of women's economic activities, such as agricultural and food processing, rely on caloric energy as the basis for their small and medium scale enterprises. More efficient types of fuel and equipment would therefore result in an increase in productivity and profitability and would enable women to engage in alternative livelihoods or income, while simultaneously reducing emissions and other air pollutants.¹¹⁴



4.1.7 Moving forward

The energy sector has shown increased consideration and response to gender equality through policies and interventions in the past decade generating important lessons and methodologies for gender mainstreaming in the sector—but there is still more to be done to advance the energy sector toward being gender responsive.

Approaches to climate change, and in particular the energy sector, have prioritised scientific and technological measures over those directed towards social and behavioral considerations, historically considering these interventions as ‘gender neutral’. But based on the research and experiences from the energy sector, it is possible to state that there are no ‘gender neutral’ interventions across the gamut of climate change mitigation. Labeling and thinking of these as such, can increase or maintain gender gaps. Thus, applying a gender-responsive perspective to policies and interventions is necessary for ensuring the attainment of development goals at both a national and subnational level. The following are suggestions that would propel and enhance progress toward gender equality in the energy sector specifically and across mitigation initiatives more generally:

- *Recognise gender differentiations of energy priorities, use, and access:* Continue to build knowledge and capacity on the need for women’s inclusion in the energy sector—an aspect crucial for the effective and efficient implementation of energy initiatives, due to their roles as energy managers and their participation in the renewable energy value chain (production, development, marketing, and servicing of new low-emission energy fuels and technologies). In order to increase gender equality, interventions should move from visualising women as passive users of energy technologies to acknowledging and boosting their active participation as key stakeholders, ensuring women and men can equally benefit from energy and mitigation interventions,
- *Increase women’s formal participation as technicians and professionals in the energy sector:* Develop further understanding of how to reduce social biases and capture girl’s interest in science and technology from an early age. This effort requires the involvement of other sector ministries and key energy stakeholders. In addition, retaining and supporting female staff in energy institutions is key if women’s equal participation in the sector is to be achieved.
- *Improve knowledge and understanding of gender-responsive approach in large-scale energy policy and projects:* Most of the evidence for an integrated gender-responsive approach remains predominantly at the level of small scale and community-based energy interventions. However, in regards to large-infrastructure energy projects and the role of renewable energy investment tools for increasing energy access and gender equality, there is a clear need for further knowledge, understanding, and exchange on the gender-differentiated issues, impacts, and response opportunities as these remain vastly under-explored.
- *Support existing gender and energy platforms and networks to facilitate knowledge exchange:* GECCO’s Gender and Renewable Energy (G-REEN) Platform boasts a wealth of knowledge, including a technology-specific resource library; an interactive



map highlighting gender-responsive renewable energy policies, mechanisms, and initiatives globally; and a discussion forum for engaging experts on various themes related to gender and renewable energy. The G-REEN Platform and related information can be found at: www.genderandenvironment.org/energy.

- *Enhance energy efficiency initiatives by raising awareness and implementation of gender dimensions:* Energy efficiency is another field that could greatly benefit from further research on the gender interlinkages, as a means to ensure reductions in energy consumption and waste, thereby contributing to reduced GHG emissions. Energy efficiency interventions can also support earnings and income generation activities of women and men by reducing production costs. The implementation of gender assessments would support the identification of these 'win-win' opportunities.
- *Increase institutional capacity of gender in mitigation and climate financing mechanisms at international level to support national processes:* The recognition of gender equality as a guiding principle for some of the UNFCCC-led institutions, including the GCF financing mechanism, presents the opportunity for governments to advance the gender agenda in the energy sector. Taking advantage of the GCF's call to address gender equality through its project investment portfolio, developing countries could achieve their own development goals in a more equitable manner.
- *Increase gender considerations in national mitigation mechanisms:* LEDS and NAMAs are mitigation mechanisms in which gender considerations need to be addressed systematically in planning, design, implementation and political processes. The design of roadmaps and methodologies to support these processes must be prioritised. Initiatives such as GECCO's G-REEN Platform are in a position to assess existing methodologies for gender-responsive policy and program development by adapting existing mechanisms and engaging experts on further research and provision of technical assistance.
- *Include developed countries in discussion on gender equality and mitigation:* Developed countries often are not present or taking leadership positions in regards to gender equality in the energy sector and mitigation despite women in these countries having an important role to play in mitigation initiatives, both as users and consumer of energy, potential investors in RETs and beneficiaries of new career opportunities and diversification in these countries. Understanding how or which financial schemes can increase women's investment in RETs (whether for household use or larger energy generation plans) as well as women's role in energy efficiency may provide additional mitigation opportunities as well as opportunities for advancing gender equality and overall wellbeing.



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4

4.2 THE PATH THROUGH THE WOODS:

Gender-responsive
REDD+ policy and action



By Elizabeth Eggerts
(UNDP/UN-REDD Programme)





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ACRONYMS

CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women	REDD+	Reducing Emissions from Deforestation and Forest Degradation in developing countries, including the role of conservation, sustainable management of forests and enhancement of forest carbon stocks
CIF	Climate Investment Funds	SIS	Safeguard Information System
CIFOR	Center for International Forestry Research	TOR	Terms of Reference
CO₂	Carbon dioxide	UN-REDD	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
COP	Conference of the Parties	UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
FCPF	Carbon Fund of the Forest Carbon Partnership	UNFCCC	United Nations Framework Convention on Climate Change
FIP	Forest Investment Program	USAID	United States Agency for International Development
FPIC	Free, Prior and Informed Consent	USAID LEAF	USAID's Lowering Emissions in Asia's Forests
FRELs	Forest Reference Emissions Levels		
GCF	Green Climate Fund		
HRBA	Human rights-based approach		
IPCC	Intergovernmental Panel on Climate Change		
MRV	Measuring, Reporting and Verification		
NFMS	National Forest Monitoring System		
NGO	Non-governmental organization		
NTFP(s)	Non Timber Forest Product(s)		
RECOFTC	The Center for People and Forests		
REDD	Reducing emissions from deforestation and forest degradation in developing countries		



4.2.0 Introduction

Forests currently cover about four billion hectares, about 31% of the Earth's surface. Forests have played a major role in human history as well as a crucial role in human survival—they not only provide important ecosystem services, but also supply non timber forest products (NTFPs) as well as forest goods (e.g., food, fuel wood and timber, amongst others), which have both livelihood and economic value. Given these linkages, forest use, including deforestation and destruction of forests, has been associated with periods of economic and social development as well as economic decline.¹ Adding to this dynamic, deforestation and forest degradation are also major anthropogenic sources of atmospheric carbon dioxide (CO₂)—now accounting for around 24% of total global greenhouse gas (GHG) emissions, more than the entire global transportation sector—and thus, are key drivers of climate change.²

Emerging as an international effort to address this forest loss and mitigate the effects of climate change, reducing emissions from deforestation and forest degradation (REDD) in developing countries was first introduced internationally during the 11th Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) in December 2005. In 2007, at COP13 the scope of REDD was expanded to include the “role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries”, wherein REDD became referred thereafter as REDD+.³

The concept of REDD+ creates financial incentives for results-based actions and compensates governments, companies or owners of forests in

developing countries for measurable, reportable and verifiable reductions in GHG emissions from activities in the forest sector. In broad terms, actors in developing countries who take steps to prevent deforestation or forest degradation that would have otherwise taken place can obtain funding for such efforts. By preventing deforestation or degradation, they create carbon credits—a financial instrument that represents a tonne of CO₂ or CO₂ equivalent removed from the atmosphere from an emissions reduction project (e.g., REDD+). Then these credits can be purchased as offsets by different actors, often industrialised countries wanting to offset their own carbon emissions. It is important to note that REDD+ does not always necessarily involve carbon trading of offsets. For example, REDD+ financial incentives can also be a fund rewarded to a developing country from an industrialised country for results-based actions in REDD+.⁴ And under the UNFCCC, developing countries, which have avoided emissions by protecting and conserving forests, can be rewarded financially from international financial sources, including Annex 1 (developed countries) Parties to the UNFCCC.

Over the years, REDD+ has generated interest and gained much attention as a potential and viable way to save forests and mitigate the effects of climate change. However, at the same time, REDD+ has also been criticised, as REDD+ strategies and projects at times have failed to understand and see the 'big picture' around deforestation and forest degradation as well as sustainable forest management. To illustrate, some experiences have demonstrated that if issues with drivers of deforestation and forest degradation, such as corruption, governance and



tenure are not adequately assessed and proactively integrated into REDD+ action, REDD+ could continue to present loop-holes for continued forest degradation;⁵ result in issues of leakage;¹ as well as worsen existing inequalities and already fragile

rights of forest-dependent communities.⁶ Based on these past experiences, it is therefore critical to build upon lessons learned, to help ensure that issues of transparency, fairness, effectiveness, sustainability and equality are addressed in REDD+ action.

4.2.1 Gender in REDD+

Forests provide subsistence and income for more than 1.6 billion people, including approximately 60 million indigenous people. Those who rely on forests for their livelihoods are among the poorest people on the planet, and they are disproportionately female.⁷ In fact, women represent 70% of the world's 2.8 billion people living on less than USD 2 per day.⁸

Further, women and men's specific roles, rights and responsibilities, as well as their particular use and knowledge of forests, shape their experiences differently. As such, women, men and youth in many countries often experience the effects of climate change and forestry-related actions, such as REDD+, differently. Similarly, they also often respond differently to corresponding incentive measures and public policy interventions; have different relationships with institutions (international organisations, national and local governments, and traditional authorities) and

unequal access to, and control over resources.⁹ This is particularly the case for women around REDD+, as they are often the primary users of forests, whose practices can include traditional agroforestry systems, gathering wild plants for food and medicinal purposes, collecting NTFPs, and forest patrolling and monitoring.^{10,11}

Thus, both women and men are key agents of change whose unique but often differentiated knowledge, skills, and experience are vital to successful REDD+ actions. However, given various social, economic, and cultural inequalities and legal impediments, particularly within the forest sector, women (and often other marginalised groups such as the poor, youth, and handicapped, for example), within many societies continue to experience ongoing exclusion that limit their ability to fully participate, contribute to, and benefit from REDD+ action.¹²

I. Carbon leakage is the term often used to describe the situation that may occur if, for reasons of costs related to climate policies, businesses were to transfer production to other countries which have laxer constraints on GHG emissions. This could lead to an increase in their total emissions. The risk of carbon leakage may be higher in certain energy-intensive industries.

It is therefore critical that deliberate and meaningful efforts are taken to ensure REDD+ action and programmes are inclusive, fair and gender responsive both in policy and in practice, and at various levels. Given the various socioeconomic and political barriers they face, if explicit steps are not taken to



incorporate a gender perspective, women and other vulnerable groups often unintentionally get left out of planning and implementation processes and their roles and contributions are not accounted for in REDD+ monitoring and reporting frameworks. Such ‘gender-blind’ activities not only limit the reach and effectiveness of REDD+ activities and reinforce ‘business as usual’ outcomes, but actually can worsen existing gender inequalities.

Gender-differentiated needs, uses, skills, and knowledge can provide critical data that can then inform and aid in the successful planning and

implementation of REDD+. For example, women’s subsistence activities and indigenous knowledge of the forest can aid forest-related activities, such as species monitoring, soil management and forest restoration functions, which then can contribute positively to the sustainable management of forests or enhancement of forest carbon stocks.¹³ Understanding the varying roles men and women play can enable a more accurate analysis of the problem—who is driving deforestation, where and how—and also help identify potential solutions while allowing interventions be applicable and relevant at national and local levels.

READ MORE IN CHAPTER 7!

DEVELOPING AND IMPLEMENTING PROVINCIAL REDD+ ACTION PLANS IN VIET NAM: PROMOTING GENDER-RESPONSIVE REDD+

*UN-REDD Programme and
United States Agency for International Development
(USAID)-funded Lowering Emissions
in Asia’s Forests (USAID LEAF)*





Box 1: International framework for gender in REDD+

While seemingly straightforward in principle, REDD+ has evolved into a complex and technical climate finance mechanism, largely due to efforts to ensure that it is fair, transparent, inclusive and effective. Since COP13, REDD+ decisions under the UNFCCC have been adopted progressively, with subsequent decisions constituting the set of provisions (guidance, rules, and modalities) that often guide how REDD+ is designed and implemented today. A few key REDD+ decisions have ultimately impacted the uptake of gender-responsive policy and action, in particular during COP16 in Cancun in 2010, when various decisions on REDD+ were made to better define its scope and scale known as the Cancun Agreements; and further, at COP19 in Warsaw in 2013, a series of decisions were taken, which finalised most of the 'rulebook' on REDD+, and is now commonly referred to as the Warsaw Framework for REDD+.

Within the UNFCCC Cancun Agreements, the profile of gender within the climate change debate was successfully raised.¹⁴ Of particular relevance to REDD+, Parties guided countries in Decision 1/CP.16 (Paragraph 72) that, when "developing and implementing their national strategies or action plans, to address, inter alia, drivers of deforestation and forest degradation, land tenure issues, forest governance issues, gender considerations and the safeguards.... ensuring the full and effective participation of

relevant stakeholders, inter alia, indigenous peoples and local communities."¹⁵

Building on this guidance, the 2011 UNFCCC Durban Outcomes (Decision 12/CP.17, Paragraph 2) further guided countries that when providing information on how safeguards are addressed (what is now commonly referred to as safeguard information systems (SIS)), gender considerations should also be respected in this process.¹⁶ Key elements of the Warsaw Framework, a result of the most recent decisions made during COP19 on REDD+, include seven decisions relating to REDD+ results-based finance, support for implementation, National Forest Monitoring Systems (NFMSs), SIS, Forest Reference Emissions Levels (FRELs), and measuring, reporting and verification (MRV) of forest-related emissions, and drivers of deforestation and forest degradation.¹¹ Through the Warsaw Framework, the process for receiving results-based payments and results-based finance for REDD+ action has now been better defined. Also in Warsaw (COP19), within the work programme on results-based finance to progress the full implementation of REDD+ activities, the COP requested entities (Decision 9/CP.19), who are financing such activities,

11. For ease of reference, the UNFCCC has compiled a complete listing of all COP decisions relating to REDD+ on the following site: http://unfccc.int/land_use_and_climate_change/lulucf/items/6917.php.



Box 1: International framework for gender in REDD+ (Cont.)

that when providing results-based finance to apply the methodological guidance consistent with previous COP decisions, including Decision 12/CP.17.¹⁷

Additional various human rights treaties also form the basis and rationale for utilizing a human rights-based approach (HRBA) and integrating gender equality and women's empowerment into REDD+. These various gender references within COP decisions help provide an effective compliancy framework, which illustrates the need and rationale for

incorporating gender equality principles across the REDD+ thematic areas, including national actions plans/strategies and safeguards, among others. In addition to the UNFCCC framework, REDD+ needs to embrace the legal frameworks under the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) (as previously discussed in Chapter 2.1) and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) as precursors for any results-based financing, and in accordance with SIS.

Box 2: Human rights-based approach to REDD+

The human rights-based approach seeks to realise human rights in pairing with poverty alleviation, with a specific focus in distinct outputs on both rights-holders and duty-bearers. Overall, activities are designed to respect, protect and fulfill human rights through practical implementation of natural resource governance. More specifically, this action seeks to take active

steps to put in place institutions and procedures including the allocation of resources to enable people to enjoy the right. Through capacity building and 'learning by doing', the action aims to empower women and men to exercise their rights and reduce the risk of setbacks to the development agenda.



4.2.2 Approaches to REDD+

The scope of REDD+ action has evolved over the years, and has ranged from project-based to sub-national and national level approaches. Much of the early work on REDD+ involved more project-based activities, which were discrete, often local interventions, wherein one or two land types were involved. REDD+ projects provide opportunities to promote experimentation at a smaller scale to help identify successful ventures, which can then be scaled up. In many instances, they also include various private sector actors who provide finance and technical services for distinct project activities.¹⁸

However, in recent years, there has been growing recognition on the need to create more scaled up REDD+ action at the sub-national and national levels. Such efforts have also been developed to help overcome some of the challenges and limitations of project-based approaches, including their ability to influence policy, mitigate the effects of climate change in the long term and at the transformational level, as well as their applicability and replicability across various land use types. While often much more complex and lengthy, sub-national and/or national approaches can provide opportunities to engage with governments to align policy strategies at a larger scale, develop consistent approaches for measuring emissions, and involve multiple land use types.¹⁹

The scale and scope to which REDD+ is designed and implemented will then have implications for how and where gender equality and women's empowerment considerations can and should be integrated. For

example, a sub-national and national level approach to REDD+ might include a larger scope to review relevant policies to identify any gaps to undertake REDD+ in the country. Such a review could then look at any policies promoting and/or preventing women and men from actively participating in decision-making, exercising their rights and accessing information. However, a project-based approach would not necessarily focus on such policy issues, but rather could involve the consultation of forest-based communities to identify sustainable forest management practices. In this process, gender-responsive consultation processes (e.g., convenient timing, location, and setting of a consultation to encourage both women's and men's involvement, child care arrangements provided; capacity building for women, men, and youth strengthened where necessary would be crucial to undertake (see more below in section 4.2.5.) in order to involve and incorporate the perspectives of both women, men, and youth, for example (4.2.5).

To note, these approaches do not need to be exclusive, but rather can be complementary and simultaneously used to help inform one another. This integrated approach has become known as 'nested', a more flexible system, which bridges together national policy processes with REDD+ and project-based REDD+ activities being undertaken at the local or provincial level. For example, the good practices and lessons learned from REDD+ project-based approaches within a country can be used to feed into higher-level sub-national and national work on REDD+.



4.2.3 Challenges in achieving gender-responsive REDD+

Ensuring that REDD+ processes are inclusive, equitable and gender responsive are key elements in designing and implementing effective, efficient, and sustainable REDD+ action. However, as noted above, various social, economic, cultural, and political inequalities are still present in many societies which typically limit certain groups of people, including those who are poor, young, the elderly, indigenous, handicapped or female, from being able to equitably access resources and fully participate in, contribute to, and benefit from REDD+. Although gender equality is commonly now considered a catalyst for reaching sustainable development, REDD+ activities, and the entities designing and implementing such work, still often do not comprehensively account for gender-based discriminations or gaps; the gender-differentiated impacts of REDD+; or, fully integrate corresponding gender-responsive measures. There remains a continued need to integrate gender in a more systematic way. Listed below are some of the key common trends of ongoing challenges that still need to be overcome in REDD+.^{20,21}

- Limited recognition, valuation and integration of women's role as primary users of forests and knowledge of forests and forest conservation into REDD+ planning, implementation and incentive/benefit-sharing mechanisms,
- Insecure access and rights, including land tenure, to forests for women and other marginalised groups, such as indigenous people, ethnic minorities, poor people and youth,

- Underrepresentation of women's meaningful engagement in REDD+ decision-making and consultation processes,
- Limited understanding, support, and tools to undertake and measure gender-responsive REDD+ action and impact,
- The lack of understanding among women and other marginalized groups' on REDD+ and its often technical and complex themes, and
- Absence of gender-responsive budgeting and monitoring and reporting frameworks.

Failing to incorporate and address such challenges implies that REDD+ may exacerbate existing and/or create new risks for women and other vulnerable groups. These risks can include reinforcing or worsening gender inequalities; displacing women from forests; increasing workloads of forest-dependent communities (including for women, men, and youth); and not rewarding women's and men's differentiated roles in forest management, or allowing women to receive/access a fair share of benefits.²²

Women are key agents of change, and their involvement in REDD+ action is crucial to its success. Equitably and meaningfully involving all stakeholders, including women and men within all REDD+ phases, including in REDD+ readiness, will ensure that REDD+ action is equitable, transparent as well as more efficient, effective and sustainable.



4.2.4 Integrating gender considerations in REDD+

Positive strides are nevertheless being made by various entities in incorporating gender aspects into key thematic areas of REDD+. These experiences are forming good practices and lessons learned on how gender-responsive REDD+ can be designed and implemented in practice. As REDD+ is a climate change finance and mitigation mechanism that is still evolving, so is the approach on how gender can be integrated within it. Thus, continued efforts to disseminate information and exchange knowledge on this work remain crucial.

To help in this regard, listed below are common thematic REDD+ areas and corresponding entry points for gender-responsive action, including good practices from the field. These entry points represent various REDD+ themes often covered in national REDD+ strategies/action plans as well as key elements of the UNFCCC's Warsaw Framework for REDD+. To note, the detailed design and implementation of these actions may vary based on local context and national circumstances. These elements are also not exclusive of one another, but instead should evolve in parallel and synergies between them should be pursued. For example, REDD+ policies undertaken without sufficient analysis and consideration of safeguards could run a high likelihood of resulting in more risks, less benefits and/or greater gender and socioeconomic inequalities.

REDD+ policies and measures

Addressing the direct and indirect drivers of deforestation and forest degradation is a key aspect for promoting REDD+ action within a country. Often this effort first requires a qualitative and quantitative analysis of the drivers of deforestation and forest degradation, to then identify the most effective actions to tackle them. Based on this review, policy gaps in REDD+ implementation can be identified, wherein policy reforms and/or new law formation will also often be necessary both within and outside of the forest sector at the national level. A country's decision on the scope and scale of its REDD+ action will also define which policies are necessary in its implementation.

To illustrate, national development goals and food security targets, and associated policies, could support the role of extractive industries and the clearing of forests for large-scale agriculture within a country. If a country then wants to undertake REDD+, and correspondingly decides to limit the amount of land allotted to extractive industries and ban the clearing of forests within certain provinces in this process, it would then most likely need to revise policy frameworks to restrict the role of extractive industries and develop corresponding regulations.



Gender-responsive policies and measures

REDD+ scope and scale—that is, which of the five key REDD+ activities under the UNFCCC that a country or project chooses to implement and the geographic area to which it and/or they are applied—as well as the corresponding policies to address them, can have important implications on and for stakeholders and communities on the ground. For example, this can define what drivers are being addressed, what activities are undertaken, and who is engaged. This action may then also challenge existing economic interests and power structures, thus all relevant stakeholders, including state, civil society, local communities (i.e., women, men, and youth) and business actors need to be meaningfully engaged. Additionally, inclusive alliances between them need to be formed in order to define scope and scale and achieve national REDD+ action in a transparent, effective, equitable and sustainable manner.²³ Without adequate equitable and participatory

decision-making processes, it may be challenging to identify and prioritise, and then effectively implement REDD+ policies.

REDD+ action and corresponding policies have the potential to bring multiple benefits to stakeholders, as well as resolve possible issues, gaps and gender inequalities with forestry policies, land tenure, administration and management, forest resource-use and rights, and funding structures. Promoting gender equitable stakeholder engagement, including engaging with indigenous people, women, and youth; identifying possible issues preventing their involvement; and addressing any capacity gaps that prevent their full and active participation, can help promote equitable and participatory REDD+ policies. Listed in Table 1 below are additional key entry points that can encourage and promote participatory and gender equitable REDD+ policy formulation and decision-making.^{24,25}

Table 1: Tools for promoting gender responsive REDD+ policies

Analyse	<ul style="list-style-type: none"> • Identify gender dimensions of drivers of deforestation & forest degradation. • Analyse whether existing policies: 1) exclude or restrict rights of certain groups (i.e., women, youth, indigenous groups); 2) account for gendered roles in REDD+; 3) are consistent with any existing country policies on gender equality.
Engage	<ul style="list-style-type: none"> • Involve women in decision-making processes and create opportunities for them to influence policy-making (e.g. through quotas). • Account for women’s, youth’s and men’s contributions and constraints in designing and undertaking awareness and capacity building workshops/events relating to REDD+ policy formation and implementation. • Acknowledge and include both women and men’s rights over forest resources in land tenure or land rights policies.



Table 1: Tools for promoting gender responsive REDD+ policies (Cont.)

Coordinate	<ul style="list-style-type: none"> • Promote involvement of women and indigenous groups who can bring in their expertise to support inclusive and participatory decision-making and selection processes. • Coordinate government ministries responsible for women’s empowerment, youth and gender issues in decision and policy- making processes.
Support	<ul style="list-style-type: none"> • Develop gender-sensitive indicators that are quantitatively and qualitatively verifiable to measure baseline & progress on REDD+ policies. • Allocate adequate financial resources to plan, implement and monitor progress in achieving gender-responsive policies and measures.

Governance

While the term ‘governance’ has often been defined in various ways, it will be used here to mean: “the system of values, practices, policies and institutions by which a society manages its affairs”.²⁶

Good governance is characterised by high degrees of:

- *Transparency*, including in how policies are being implemented, the form of available, reliable and accessible information on decisions and policies taken, the status of processes and how funding is being spent,
- *Equity and fairness*, wherein the policies and services are designed, implemented and monitored meet the needs and interests of all citizens, including women, men, youth, Indigenous people, elderly, poor, etc.,
- *Participation* in the interaction between state actors and citizens, including equitably both women and men, who are able to exercise their legal rights, address their interests and have them mediated with dialogues with state actors,
- *Accountability* promoted by clear defined roles and responsibilities of government and by adequate and

equitable citizen engagement to voice and address concerns, and

- *Capacity* of government actors to manage state resources and implement sound policies, as well as capacity of civil society and citizens, including women and men, to exercise their human rights and hold government accountable.²⁷

Addressing key governance issues is also a crucial step to helping then also address the underlying causes of deforestation and forest degradation, including corruption, illegal forest conversion, forest ownerships and access rights.²⁸

READ MORE IN CHAPTER 7!

THE NYIMBA FOREST PROJECT (NFP) IN ZAMBIA: BUILDING CAPACITY AND PARTICIPATION OF WOMEN TO STRENGTHEN ZAMBIA’S REDD+ READINESS PROGRAMME

Center for International Forestry Research (CIFOR) in partnership with Forest Department, Zambian Wildlife Authority, District Women Development Association (DWDA), Community Youth Concern (CYC), Traditional Authorities and the District Council, and USAID’s Zambia Economic Growth Program





Gender-responsive governance processes

Countries can encounter myriad governance challenges when undertaking REDD+. Particularly in terms of gender, these challenges can include the ability to achieve gender-responsive, informed and participatory stakeholder engagement processes. It can involve risks in terms of undertaking fair and gender-equitable forest resource management, wherein clarity around land tenure and forest land and use rights for both women and men needs to be assessed and clarified. Other challenges can include ensuring gender sensitive, transparent and accountable REDD+ finance and design and implementation processes, in which men, women and other vulnerable groups (e.g., youth, elderly, disabled), understand and have access to public information on REDD+ activities, allocation and use of funds, and are involved in selection of beneficiaries as well as type of benefit.²⁹

To note, aspects of good governance and policies are often interconnected, where policies can improve and/or hinder levels of good governance within a country. For example, improvement of tenure security, including of indigenous peoples' lands and women's and men's land use and access rights, could further help promote aspects of equity and fairness in good governance, particularly in terms of REDD+. Alternatively, new laws, which on paper restrict illegal logging or mining on certain forested lands, could still have large negative impacts on the livelihoods on forest-dependent and indigenous communities who are dependent on such resources for survival if there is a lack of a capacity within government and funding to effectively enforce those laws.

Listed in below (Table 2) are key entry points, tools and processes that can encourage and promote gender-responsive governance and governance structures for REDD+.

Table 2: Tools for promoting gender-responsive REDD+ governance processes

Analyse	<ul style="list-style-type: none"> Analyse if/whether REDD+ governance arrangements engage women and men differently when addressing drivers of deforestation and forest degradation. Assess if implementation of governance-related policies have a differentiated impact on stakeholder groups (i.e., women, men, youth, etc.).
Engage	<ul style="list-style-type: none"> Engage women and youth, and account for their contributions and constraints in undertaking workshops/consultations on REDD+ governance processes. Information on REDD+ should be transparent and made accessible and available (e.g., in local languages and through radio, theatre, etc.).
Coordinate	<ul style="list-style-type: none"> Promote involvement of women's and Indigenous groups/networks who can bring in their expertise to support inclusive and participatory governance processes (national and local). Coordinate with government ministries responsible for women's empowerment, youth and gender issues (provide them with capacity-building on REDD+ if necessary).



Table 2: Tools for promoting gender-responsive REDD+ governance processes (Cont.)

Support	<ul style="list-style-type: none"> • Train staff on how to mainstream gender into governance processes. • Develop gender-sensitive indicators that are quantitatively and qualitatively verifiable to measure governance data. • Allocate adequate financial resources to plan, implement and monitor gender-responsive governance work. • Develop gender-sensitive criteria for nomination/election of women to REDD+ decision-making and governance bodies.
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Stakeholder engagement

Given the realities of the economic, social and biological roles that forests play and the wide range of REDD+ action and approaches, there is corresponding a varying and large spectrum of stakeholders and actors involved in the REDD+ process. Stakeholders in this context are defined as those who have a stake/interest/right in the forest and who can be affected by REDD+ action. These stakeholders can include governments/ministries at local, provincial and national levels from developing countries implementing REDD+ action as well as the wide spectrum of donors supporting REDD+ action financially and/or technically.

Additionally, as REDD+ presents the opportunity to deliver benefits to forest-dependent communities, including alternative livelihoods and equitable sharing of benefits from REDD+, if not done in a gender-equitable and transparent manner, it presents large risks to rights, livelihoods, and biodiversity, for example. Therefore, forest-dependent communities, and particularly indigenous people, are crucial stakeholders in every stage of REDD+ activities. In this process, indigenous people should also be recognised as rights-holders (e.g., to land, territories and resources), wherein their traditional knowledge

and livelihoods are also acknowledged and protected. Additionally, given their often strong interaction with forests and role in natural resource management, including REDD+, women, across all different stakeholder groups, are critical actors in REDD+ as well. Particular attention and efforts should be made to ensure their inclusion, as well as those often more marginalised in societies and communities, including youth, ethnic groups, poor populations, and disabled people. Often there can also be various local, provincial, and national non-governmental organisations (NGOs), and indigenous, civil society, and community-based groups that represent certain stakeholders' views and interests in a meaningful way, understand local context, as well as can help disseminate information and help involve or inform them in REDD+ issues. These groups—ranging from youth and women's groups and gender-focused NGOs to farmers, fisheries and women's associations—can be crucial stakeholders in REDD+ as well.

In assessing stakeholders, the role of the private sector should also be taken into account. In generalised terms, such private sector stakeholders in REDD+ action can include those involved in the production and sale of verified emission reductions as well as those involved in more forest-risk issues (e.g., loggers, ranchers, energy producers, industry, farmers,



and agri-business).³⁰ However, as REDD+ can have large implications for direct and indirect land users within private sector, without their involvement and buy-in, successes in REDD+ can be limited in what they can achieve.³¹

Full, effective and gender-responsive stakeholder engagement and consultation is a cross-cutting theme in REDD+, and should be undertaken across REDD+ issues, including but not limited to discussions and decisions on policy frameworks, drivers of deforestation and forest degradation, land use and rights (including land tenure), forest governance arrangements, design and implementation of benefits-sharing and safeguard systems, REDD+ strategies/action plans, and forest mapping and monitoring, just to name a few. These processes should also include a wide range of relevant national and local stakeholders.

To ensure that REDD+ addresses the needs, priorities, roles and knowledge of all stakeholders, consultations—including awareness raising and capacity building activities on REDD+—should commence prior to the design phase of REDD+, and continue consistently throughout all stages of the REDD+ process. Additionally, given the complexities of REDD+, it is critical that stakeholders, particularly those more marginalised in society (e.g., forest dependent communities, indigenous people, women, youth, etc.) are engaged in a participatory, transparent, and gender-inclusive manner and have adequate knowledge and capacity on the various elements of REDD+, to enable them to raise their voice, concerns, and ideas, and engage meaningfully and effectively. A key component of this effective stakeholder engagement and consultation is application of what is often referred to as free, prior and informed consent (FPIC). This means

that indigenous people and communities are free from coercion, intimidation, or manipulation, and prior to any authorisation of activities, with time for consideration, are informed with all relevant information to give or withhold consent through a decision making process of choice.³² Such effective and gender-equitable stakeholder participation can improve the validity of REDD+ readiness and implementation; increase chance of acceptance and ownership of a REDD+ Strategy; improve forest governance and accountability; avoid or manage conflicts; and build more constructive communication and relationships between stakeholders.³³

READ MORE IN CHAPTER 7!

GENDER MAINSTREAMING IN REDD+ CAPACITY DEVELOPMENT: EMPOWERING GRASSROOTS STAKEHOLDERS IN ASIA

RECOFTC – The Center for People and Forests; in collaboration with nearly 20 partners including Government departments, NGOs, grassroots and women's organisations



Gender-responsive stakeholder engagement

There is a large body of evidence that shows that having men and women effectively participate in decision-making processes improves the long-term and sustainable management of forests. As such, the quality and amount to which the concepts of consultation, participation and consent are applied and are gender-responsive can directly determine the likelihood of successful REDD+ design and implementation with enhanced benefits to affected peoples and communities.³⁴



However, it can still be the case that stakeholders, including indigenous people and other forest dependent communities, are not adequately and meaningfully consulted with and often lack timely access to information and fair and accessible mechanisms to file and express complaints and/or grievances on REDD+ action. The various socioeconomic, political and culture barriers that are often present in societies then further limit the possibility of women, youth and these other marginalised groups’ ability to participate equally and equitably in consultations or in decision-making processes (e.g., lower literacy rates, ability to speak openly in meetings, etc.). Thus, there needs to be explicit and deliberate efforts in stakeholder

engagement processes to ensure it is wide reaching, as well as ensures active presence, participation, and equitable engagement of women, men and youth from various stakeholder groups in all phases of REDD+. This requires both means and opportunity for active and sustained engagement that extends beyond attendance at meetings and consultations to also include capacity building, knowledge exchange and engagement in REDD+ national processes and projects. Below (Table 3) are key entry points, tools and processes that can encourage full, effective and gender-responsive stakeholder engagement in REDD+ action.^{35,36}

Table 3: Tools for promoting gender-responsive stakeholder engagement

Analyse	<ul style="list-style-type: none"> • Conduct gender responsive stakeholder mapping. • Identify women’s, youth’s and men’s barriers to participation, including cultural, social and economic barriers, as well as knowledge and capacity gaps around REDD+.
Engage	<ul style="list-style-type: none"> • Design meetings (e.g., time, location, group arrangement, child care arrangements) to encourage women’s and men’s equitable involvement. • To help promote behavioral change, engage and build capacity of girls and boys on gender equality issues around forests and REDD+. • Address any identified gender differentiated barriers when undertaking capacity building and awareness raising efforts. • Disseminate information on REDD+ in a transparent, accessible and available manner (e.g., given in local languages, in radio, TV, through theatre).
Coordinate	<ul style="list-style-type: none"> • Promote involvement and mobilisation of women’s and Indigenous groups/networks who can bring in their expertise to support inclusive REDD+ processes (national and local). • Coordinate with government ministries responsible for women’s empowerment, youth and gender issues (provide them with capacity-building on REDD+ if necessary).
Support	<ul style="list-style-type: none"> • Develop gender-sensitive indicators to measure participation. • Train staff on how to mainstream gender into engagement processes. • Allocate adequate financial resources to plan, implement and monitor corresponding gender responsive stakeholder engagement activities. • Develop gender-sensitive criteria for women’s participation/ representation in REDD+ consultations and in any stakeholder forums.



Safeguards

Safeguards and associated standards are procedures that can help ensure that REDD+ activities do not harm people or the environment or create or exacerbate risk, and can instead help enhance social and environmental benefits during REDD+ design and implementation. And while safeguards could be put in place by various actors in REDD+ to help reduce risks, promote sustainable REDD+ schemes and the equitable distribution of benefits and costs of REDD+, while increasing investment in REDD+, another key driver for many governments' focus in developing and implementing them is to be in compliance with the safeguards set forth in the UNFCCC Cancun Agreements.

During COP16, the UNFCCC established a set of seven safeguards (decision 1/CP.16, Annex 1) to be promoted and supported when undertaking REDD+ activities:^{III}

1. Actions complement or are consistent with the objectives of national forest programmes and relevant international conventions and agreements;
2. Transparent and effective national forest governance structures, taking into account national legislation and sovereignty;
3. Respect for the knowledge and rights of Indigenous peoples and members of local communities;
4. The full and effective participation of relevant stakeholders, in particular Indigenous peoples and local communities;
5. Actions are consistent with the conservation of natural forests and biological diversity, and enhance other social and environmental benefits;

III. The seven safeguards can be found in Appendix 1 of decision 1/CP.16 and refer to activities referred to in paragraph 70 of decision 1/CP.16.

6. Actions to address the risks of reversals; and
7. Actions to reduce displacement of emissions.

The safeguards from Cancun, and subsequent UNFCCC decisions taken on the safeguards, including in Warsaw, have remained broad and leave flexibility for countries to interpret how they would like to implement them in practice. While this broad scope can help facilitate country ownership, it has also led to uncertainty among some countries and concerns among some civil society and other stakeholder groups that the safeguards will not be undertaken in an effective, transparent or equitable manner.³⁷

A gender-sensitive approach to safeguards

A gender-sensitive approach to safeguards and standards, which takes full account of all forest users (including women, as primary forest users), can help promote the sustainability of REDD+, prevent situations that reinforce negative gender dynamics as well as ensure that users, including women, men and youth, are not negatively affected and that they have access to potential social and environmental benefits. However, when gender considerations are not taken into account within the safeguards of REDD+ actions, various challenges to REDD+ success and sustainability can be encountered. Not only would countries not fulfill commitments to international agreements that mandate the integration of gender considerations in national climate change programmes, including REDD+, but would also run the risk and likelihood of painting an incomplete picture of the situation of all major forests stakeholders (including women, men, youth) as well as exacerbate gender and social inequalities and negatively impact the livelihoods of women and their families.³⁸



Although gender relations and their larger social, economic and cultural context can go much deeper than the issues around REDD+ within a country, REDD+, if implemented with appropriate gender sensitive safeguards in place, could act as a catalyst for change across other sectors. To note, improving the gender sensitivity of REDD+ safeguards cannot be effective or sustainable if the overall conditions for safeguards compliance are weak within a country.

For example, without the full, effective and equitable participation of all REDD+ stakeholders, including women, youth and Indigenous groups, any gender guidelines and safeguards developed for REDD+ run the risk of being ineffective.³⁹ Below (Table 4) are described key entry points, tools and processes to help guide, promote and support gender-sensitive safeguards development and implementation.

Table 4: Tools for promoting a gender-sensitive approach to safeguards

<p>Analyse</p>	<ul style="list-style-type: none"> • Identify women’s and men’s barriers to participation, and address such barriers in capacity building efforts on safeguards. • Use a gender-sensitive approach when defining social and environmental risks and benefits. • Review CEDAW country report to help identify gaps in women’s rights in the country.
<p>Engage</p>	<ul style="list-style-type: none"> • Design meetings (e.g., time, location, group arrangement, child care arrangements) to encourage women’s and men’s equitable involvement. • Account for women, men and youth in all phases of safeguards approach and work plan. • Disseminate information on REDD+ and safeguards approach in a transparent, accessible and available manner (in local languages, in radio, TV and in theatre).
<p>Coordinate</p>	<ul style="list-style-type: none"> • Promote involvement and mobilisation of women’s and indigenous groups/networks and gender experts who can bring in their expertise to support inclusive REDD+ safeguards processes. • Coordinate with government ministries responsible for women’s empowerment, youth and gender issues (provide them with capacity building on REDD+ and safeguards if necessary).
<p>Support</p>	<ul style="list-style-type: none"> • Develop gender indicators for safeguards approach and a work plan. • Allocate adequate financial resources to plan, implement and monitor corresponding gender-responsive activities. • Develop gender sensitive criteria for women’s participation in REDD+ consultations. • Integrate gender aspects into any terms of reference (TORs) supporting safeguards work and analysis.



Benefit-sharing and finance structures

Currently, financing for REDD+ action comes from a wide breadth of sources. Funding can come from international funding mechanisms, such as the Carbon Fund of the Forest Carbon Partnership (FCPF), the Forest Investment Program (FIP) of the Climate Investment Funds (CIF) and the Green Climate Fund (GCF). It can also be made through multilateral arrangements—such as the UN-REDD Programme—or bilateral agreements directly between donor countries looking to offset their emissions by financing REDD+ within developing countries. Additionally, funding and support can come from various international and national organisations, including NGOs and conservation networks as well as from countries themselves, looking to support REDD+ action within their own borders through national funding vehicles—this is ultimately a major source of financing, but is separate from results-based financing.

Voluntary finance for REDD+ action can also be provided through the sale of carbon credits in the carbon market, which has been formed through various national and international efforts to mitigate climate change and reduce GHG emissions in the atmosphere. The carbon market is comprised of both a compliance market, consisting of emitters (industrialised countries) obligated under the agreements of the UNFCCC to reduce their emissions, and a voluntary market, in which an entity, be it a company, individual or government, volunteers to offset its emissions by purchasing carbon credits to reduce the amount of CO₂ in the air. The use of such carbon markets can allow polluters who are unable to minimise their own emissions cheaply to invest in projects—and can do so anywhere in the world.⁴⁰

Overall, REDD+ is a financial mechanism, which rewards actors, be they private actors or governments, for reducing CO₂ emissions resulting from deforestation and/or forest degradation. Therefore, it also requires a system, often referred as a ‘benefit-sharing mechanism,’ to designate and assign who gets rewarded, why, under what conditions, in which amount, and for how long. These benefit-sharing mechanisms often include all institutions, governance structures and instruments that distribute finance and other net benefits from REDD+ programmes. These benefits can be direct gains, which include monetary transfers obtained from the sale of carbon credits or from donor funds. They can also be indirect gains, which are nonmonetary benefits, such as infrastructure or community facilities, grassroots development activities, and improvement in ecosystem services (e.g., water provision).

Not surprisingly, defining the benefit-sharing system, as well as any supporting finance structures, involves a multitude of objectives, stakeholders and interest groups. In discussions of this topic, it can be the case that countries and other actors tend to simplify the discourse on REDD+ benefit sharing and note that those with legal land rights should benefit from REDD+ and any stakeholders who have incurred costs should be compensated.⁴¹ However, granting benefits from REDD+ to only those with legal rights can disadvantage the poorest populations, many of whom may have unclear or insecure formal land rights as well as other more marginalised groups, such as women, who in many countries because of local customary practices are unable to own land or hold land titles. Given these complex dynamics, it is critical that designing and implementing the benefit-sharing structure is equitable, fair, transparent and legitimate.



Full and effective engagement of stakeholders in this process can promote that benefits from REDD+ are being equitably and fairly shared among those actually promoting and undertaking such action.⁴²

Gender sensitive benefit-sharing and finance structures

Promoting sustainability of, and building long-term support for REDD+ processes is often connected to its ability to demonstrate and distribute corresponding benefits equitably and fairly. As women typically rely more on forests than men do, and that rural women engage in multiple economic activities that are key to the survival of households, integrating gender equality considerations during the process of developing and implementing REDD+ benefit sharing and corresponding finance structures is critical. In this process, benefit-sharing mechanisms should be based on gender-differentiated roles and actions taken by all stakeholders, including women, men and youth, to reduce deforestation and forest degradation, including gender dimensions of associated drivers. However, in practice, women are often disadvantaged

or marginalized in traditional or formal processes, particularly in terms of land rights and land tenure. These dynamics can lead to women then having unequal access to information and legal processes; not being involved in decision-making processes on benefit-sharing mechanisms and financing structures; and being excluded from REDD+ benefits due to weak land rights.⁴³

To note, land tenure issues are often very complex to address and resolve, and larger dynamics might be at play, all of which REDD+ may not be able to solve. More equitable sharing of REDD+ benefits, however, can still be undertaken and explored by countries. For example, definitions of REDD+ beneficiaries can be expanded to include Indigenous groups, communities, women, or youth, who have customary ownership over land and the resources on the land and/or do not own land, but may still have land use rights and play either a direct or indirect role in forest management and use. Table 5 lists other approaches that can help encourage and promote gender sensitive REDD+ benefit-sharing and finance structures.^{44,45}



Table 5: Tools for promoting gender sensitive REDD+ benefit-sharing and finance structures

<p>Analyse</p>	<ul style="list-style-type: none"> • Consider collective and individual women’s benefits in formulation. • Assess opportunities for rewarding direct and indirect benefits to women’s and men’s land use rights instead of only through formal land tenure rights . • Perform participatory assessments of direct and indirect costs and benefits for women’s participation in REDD+.
<p>Engage</p>	<ul style="list-style-type: none"> • Design benefit-sharing consultations e.g., with respect to time, location, group arrangement, child care arrangements) to encourage women’s and men’s equitable & meaningful involvement. • In monitoring financial managements, promote participation of government ministries responsible for gender issues. • Disseminate information on REDD+ benefit sharing opportunities in a transparent, accessible and available manner (e.g., in local languages, in radio, TV, through theatre).
<p>Coordinate</p>	<ul style="list-style-type: none"> • Promote involvement and mobilization of women’s and indigenous groups/networks and gender experts who can bring in their expertise to support inclusive REDD+ processes (national and local). • Coordinate with government ministries responsible for women’s empowerment, youth and gender issues (provide them with capacity-building on REDD+ if necessary).
<p>Support</p>	<ul style="list-style-type: none"> • Develop gender-sensitive benefit-sharing and investment plans. • Ensure benefits reach women and men equitably and those who participate in forest conservation and REDD+ activities are rewarded. • Ensure benefit-sharing mechanism utilizes sex-disaggregated data. • Integrate gender aspects into any TORs supporting benefit sharing work and analysis. • Provision of leases or forest titles in the women’s names, when forest areas are distributed amongst community members for protection.



National Forest Monitoring Systems (NFMS)

A NFMS is a system used by a country for data collection, which is a necessary component to estimate GHGs coming from forestry activities, and that monitors and reports on REDD+ activities. For UNFCCC processes, this is now required as part of the decisions that came out of COP15 (Decision 4/CP.15) and which, since then, have been more fine-tuned to provide additional modalities for measuring, reporting and verifying such data.

In broad terms a NFMS consists of two parts: measuring, and monitoring, reporting and verification (MRV). The monitoring function of a NFMS is primarily a domestic tool to allow countries to assess a broad range of forest information, including in the context of REDD+ activities, as implemented by institutions and stakeholders (e.g., forest dependent communities and Indigenous communities). Monitoring is not limited to carbon and tree measurement, but rather also extends to data collection on biodiversity, the effectiveness of legal frameworks for forest protection, and how safeguards are being addressed and respected, as some examples. The MRV function for REDD+, on the other hand, refers to the estimation and international reporting of national-scale forest emissions and removal.⁴⁶

Gender-sensitive NFMS

Given the wide scope of monitoring activities under REDD+, there has been a growing trend to move away from external professionals conducting monitoring activities to involving local communities more in such work. It has been found that where there is a sufficient number of local people capable to conduct the needed tasks, and rewards are in

place for the time communities would spend on the activity, involving local communities in monitoring activities can contribute their increased involvement in REDD+, generate a more direct income stream for them, increase ownership, and improve equitable implementation of REDD+. It has also been noted that local stakeholders, even with limited education, can engage effectively in these forest-monitoring activities, and in many instances can fulfill the highest standards of the Intergovernmental Panel on Climate Change (IPCC).⁴⁷

Critical in this process is ensuring and providing the opportunity for women and youth to also be involved in such activities. Given their roles in communities, they use a wide variety of forest products and rely on them for their livelihoods. As a result, women, for example, tend to often have highly specialised knowledge of forests in terms of species diversity and management and thus can help play a vital role in forest conservation. However, women are rarely recognised as primary stakeholders of forests and their roles in forestry value chains are generally not well supported by policy makers and service providers, which then further places them at a disadvantage and restricts their chances to voice concern and be involved in forest and natural resource management^{48,49} As discussed above, as they are not often on forest titles, women then are also not often engaged or consulted in activities involving their protection (including in monitoring activities). Therefore, to increase ownership and sustainability of REDD+, all groups within communities (e.g., women, men, youth, poor, etc.) need to be given the opportunity to engage in REDD+, including monitoring activities, wherein they are compensated equitably. Table 6 lists approaches that can be applied to help encourage and promote gender sensitive NFMS.^{50,51}



Table 6: Tools for promoting gender sensitive NFMS

Analyse	<ul style="list-style-type: none"> • Identify gender dimensions of forest ownership, knowledge, use, conservation and protection. • Identify opportunities and methods to incorporate communities and indigenous groups, as well as equitable inclusion of sub-groups within them (e.g., women, men, youth) in NFMS.
Engage	<ul style="list-style-type: none"> • Train equitably women, youth and men in REDD+ forest monitoring technical themes including on safeguards, forest mensuration and carbon measurement, map reading, record keeping, etc. • Design NFMS trainings (e.g., with respect to time, location, group arrangement, child care arrangements) to encourage women's and men's equitable involvement. • Account for labour and the roles of women, men and youth in NFMS.
Coordinate	<ul style="list-style-type: none"> • Promote involvement and mobilisation of women's and indigenous groups/networks and gender experts who can bring in their expertise to support women's engagement in NFMS work.
Support	<ul style="list-style-type: none"> • Ensure women compensated equitably with men for forest protection and carbon monitoring activities. • Allocate adequate financial resources to support gender-sensitive processes in NFMS. • Use gender sensitive indicators to track NFMS. • Provision of leases or forest titles in the women's names, when forest areas are distributed amongst community members for protection.



Gender-responsive monitoring, reporting and budgeting

When designing, programming, and implementing REDD+ action and its many elements discussed above, key accountability tools, such as gender-responsive monitoring and reporting frameworks and budgets can help promote that REDD+ action is implemented in a gender responsive manner. They also hold REDD+ project designers, implementers and actors accountable to undertake such work. As it tends to be the case, what has an explicit indicator and budget line is what is often measured, implemented and addressed.

Gender-sensitive monitoring and reporting frameworks involve the use of gender-sensitive indicators, which can be sex-disaggregated data and/or an indicator which is gender specific, (e.g., specifically targeted at women or men), implicitly gendered, and/or chosen separately by men and women.⁵² They can help determine gendered dimensions of resource access and use; detail project REDD+ effects on women and men; help strengthen accountability for implementing national, sub-national and local commitments on gender equality; achieve practical benefits for women and progress toward changes in gender relations; and lead to more effective and sustainable REDD+ action.

Additionally, ensuring that all key elements of REDD+ action is gender responsive often requires that adequate financial resources are allocated for gender-related activities. Methods to achieve this, include: 1) dedicated funding windows for gender-specific activities and women's groups; 2) earmarked funds for gender under each REDD+ funding window; 3) gender criteria in fund allocation; and 4) gender-responsive budgeting.^{53,IV}

To note, critical in this process is ensuring that adequate corresponding capacity building efforts are also in place to help support and guide REDD+ project designers, implementers, actors, etc., in developing, implementing and undertaking such monitoring, reporting, and budgeting activities in a gender-responsive manner.

Practical examples of gender-sensitive indicators^V

Presented below in Table 7 are some examples of gender sensitive indicators that can be used to measure the gender responsiveness of various REDD+ elements. It is important to ensure that gender considerations are also integrated into any goals and targets that are established as well. Any indicators can and should also be further developed and validated with stakeholders (including equitably women, men and youth) in a participatory, consultative process in order to promote their relevance and ownership.

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- IV. For more information on gender-responsive budgeting, visit UN Women's resource page available at www.gender-budgets.org.
 - V. For additional information and guidance on examples of gender sensitive indicators on themes relevant for REDD+, please reference United Nations Development Programme. (2006). *Measuring democratic governance: A framework for selecting pro-poor and gender sensitive indicators*. Retrieved from <http://bit.ly/1EtVrIB> and/or Asian Development Bank and AusAid. (2013). *Tool kit on gender equality results and indicators*. Retrieved from <http://www.adb.org/documents/tool-kit-gender-equality-results-and-indicators>

**Table 7: Practical examples of gender-sensitive indicators**

Indicator Theme	Indicator
Forest use and knowledge	<ul style="list-style-type: none"> • Ratio between the number of hours women and men apply to the management and conservation of forests, compared to the baseline. • Evidence that sex-disaggregated information on women's and men's access to and use of forests applied to REDD+ action planning and implementation. • Number of research activities that involve women in documenting women's and men's local knowledge of resource management and changes in resource availability and use.
Policy	<ul style="list-style-type: none"> • Inclusion and/or improvement of women's resource and tenure rights in laws or regulations.
Participation	<ul style="list-style-type: none"> • Number and percentage of women and men, as well as representatives from women and gender focused organisations, who attend REDD+ training, disaggregated by type of training (e.g., benefit sharing, FPIC, grievance mechanisms, NFMS, etc.). • Number of training/workshops sessions designed to account for women's constraints (e.g., safety issues, childcare, women's only groups, etc.). • Number of women and men who actively participate in each training/workshops sessions.
Land rights and benefit sharing	<ul style="list-style-type: none"> • Percentage of women and men who say they benefit from REDD+ activities. • Number and percentage of land or house titles or leases provided in the names of women, men and jointly (i.e., both spouses). • Percentage of REDD+ benefits (disaggregated by direct and non-direct) that reaches women, men, boys and girls.
Decision-making and management	<ul style="list-style-type: none"> • Percentage of women and men employed in REDD+ agencies as managers, project and field staff. • Percentage change (e.g., bi-yearly or yearly,) in the amount of women in management, technical and professional positions associated with REDD+ action. • Percentage of women who are members of any Monitoring or Reporting Board.
Finance	<ul style="list-style-type: none"> • Percentage of annual budget that has explicit budget allocated to support gender and/or women's engagement/empowerment issues. • Evidence that REDD+ finance facilities include gender-sensitive guidelines for funded REDD+ activities. • Number of women and men involved in the management of REDD+ funds. • Percentage of women staff to be invited to, and that attend relevant REDD+ financial management trainings.



4.2.5 Moving forward

As countries continue forward in developing their REDD+ readiness approaches, and move into the implementation phase of their REDD+ work, there is a continued and pressing need to better integrate gender activities in a more cohesive way throughout the process. To help guide this work, various entry points for gender-responsive action were highlighted within key REDD+ thematic areas discussed above. Commonalities between these entry points are often centered around similar elements and activities, and these are summarised below for ease of reference. Addressing these issues and undertaking such actions can help promote that REDD+ is more effective, sustainable, and equitable.

- *Recognise women's vital roles and knowledge of forests:* Women are primary users and stakeholders of forests, and correspondingly their crucial roles, responsibilities, and conservation knowledge of forests should be fully and meaningfully incorporated into REDD+ planning, implementation, monitoring, and in REDD+ incentive/benefit-sharing mechanisms, as well as relevant institutions.
- *Improve equitable access and land use rights to forests:* Women and other marginalised groups, such as indigenous people, ethnic minorities, youth, and those living in poverty, often have very insecure access to and limited land and use-rights over forests—both in statutory and customary land tenure systems. Where women do have rights to own land and access forests, it can often be the case that they are unaware of such rights, or local customs prevent them from exercising such rights in practice.
- *Increase women's meaningful engagement in REDD+ processes:* Women's participation in key planning, design, implementation, and political REDD+ processes from awareness raising and capacity building workshops to REDD+ taskforces and forestry agencies remains limited and should be increased. There is an especially large gender imbalance between women and men in decision-making roles and capacities. When women are involved, it can often be on a more ad-hoc basis, where they are often not seen as equal partners and, given the various barriers they face, women's ability to participate actively and raise their voice and opinion remains low.
- *Improve understanding and support to undertake gender-responsive REDD+ action:* There is a continued need to increase the depth of understanding of gender equality and women's empowerment concepts, and to address the misperceptions concerning gender issues at all levels. Various REDD+ stakeholders, including donors, project designers and implementers and government entities often lack the capacity to integrate gender considerations fully into their REDD+ work as well as do not see the relevance in doing so. Increased political will and targeted capacity building and awareness raising on gender and REDD+ is necessary.
- *Build understanding of REDD+:* Given their restricted access to and control over resources, compounded by various related socioeconomic and political barriers, women and other marginalised groups' knowledge of REDD+ often remains limited. Issues relating to forests and the forestry sector



are often perceived as issues for 'men only', and accordingly women are often not explicitly targeted in REDD+ awareness raising campaigns or capacity building efforts. They then often do not completely understand the various facets of REDD+ or the benefits that they can derive from it, and thus do not see the relevance in engaging in such issues.

- *Develop gender-sensitive accountability tools and frameworks:* When designing, programming and implementing REDD+ action, key accountability tools, such as gender-responsive reporting and monitoring frameworks and dedicated funding or earmarked funds to support gender responsive REDD+ processes can help promote that REDD+ action is implemented in a gender responsive manner. It can also hold project designers and implementers accountable to undertake such work. Increased efforts need to be taken to integrate gender-sensitive indicators and sex-disaggregated data into monitoring and reporting frameworks; build in explicit budgets to undertake gender-responsive activities; and ear mark funds for gender or create gender criteria for fund allocation in REDD+ funding mechanisms.
- *Leverage REDD+—and learning on gender and REDD+—towards harmonised gender-responsive policies and reforms, across e.g., land use, land tenure, natural resources management, and broader climate change concerns:* Echoing throughout recent REDD+ discussions is the insight that REDD+ is a valuable platform for reform—but not in isolation of sustainable development goals and principles. REDD+ offers the opportunity to 'shine new light on old issues'; much of the gender and REDD+ discussion is centered around the pervasive issues of women's land ownership, tenure and access, control over resources, and access to forest decision-making spheres. In moving forward, national policies need to ensure that the lessons from gender and REDD+ efforts—and opportunities REDD+ may offer—are leveraged far beyond 'gender and REDD+', in order to foster cohesive policy and reform related to key issues of land use, forestry, gender equality, natural resource management and climate change mitigation and adaptation more broadly.



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5

INTO THE CITIES:

Developing and supporting resilient, sustainable, and gender-responsive urban environments



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ACRONYMS

ACCCRN	Asian Cities Climate Change Resilience Network	IPCC	Intergovernmental Panel on Climate Change
BRT	Bus rapid transit	LGMA	Local Government and Municipal Authorities Constituency
CCMES	Climate Change Mitigation and Energy Strategy	LPG	Liquefied petroleum gas
CO₂	Carbon dioxide	PAKLIM	Policy Advice for Environment and Climate Change
COP	Conference of the Parties	SDGs	Sustainable Development Goals
DRR	Disaster risk reduction	UCLG	United Cities and Local Governments
EU-SILC	European Union Statistics on Income and Living Conditions	UNFCCC	United Nations Framework Convention on Climate Change
GGCA	Global Gender and Climate Alliance	WHO	World Health Organization
GHG	Greenhouse gas		
GIA	Gender Impact Assessments		
ICLEI	International Council for Local Environmental Initiatives		



Key messages

- Urban areas are expanding, and as major producers, consumers and greenhouse gas (GHG) emitters, urban communities and policy makers have an important role to play in contributing to climate change mitigation—with a particularly unique role in urban planning for low-emission development.
- Urban climate policies need to address and adopt a socially just outlook considering that cities are not merely a main producer of GHG emissions but also because cities exacerbate uneven development and urban inequality.
- While much progress has been made in addressing the nexus of climate change and gender equality in recent years, the focus has predominately been on rural areas, leaving considerable gaps when it comes to addressing the specific set of challenges in urban contexts.
- Many cities are developing and implementing strategies and systems for tackling climate change and its impacts, but most local governments have yet to pay attention to gender issues and integrate a gender-responsive approach to their climate policies and action plans.
- ‘Cross-mainstreaming’ of climate change and gender is an ongoing task for those involved in urban politics. While this is arguably a long-term endeavour that requires both a change of thinking and a gradual learning process, the aim of transforming maladapted cities into low-carbon, resilient, gender-just and inclusive communities is arguably a worthy one.
- The importance of including gender dimensions within city climate policies is not only to address social inequities, but also to fully unlock the potential of women and men to successfully address climate change.



5.0 Introduction

With a growing share of GHG emissions originating from urban areas¹—estimated to be more than 70% of global energy-related carbon dioxide (CO₂) emissions—sustainable urban development and management are increasingly being recognised as important aspects to respond to the challenges of climate change.

Currently, 54% of the world's population lives in urban areas.² With population growth and rapid urbanisation, this figure is expected to increase to over 64% by 2050—representing an additional 2.5 billion people living in urban areas.³ Much of this growth will take place in informal settlements in low-income Asian and African countries.⁴ Stakes are particularly high for these city populations, especially for the some 360 million urban residents currently living in areas less than ten metres above sea level,⁵ who are extremely vulnerable to the growing effects of climate change (e.g., flooding of low lying areas, and increasing temperatures within cities due to 'heat island' effects). As populations rapidly shift to cities in the coming century and urban growth and sprawl continues, the necessity of mitigation, adaptation and disaster preparedness at a local level will become strikingly apparent.

However, climate change does not impact everyone in cities, as elsewhere, the same way. Vulnerabilities are strongly linked to gender, age, race, and income. The inequity of wealth in cities, more specifically urban poverty, is a glaring consequence of rapid urbanisation—and reducing poverty, as opposed to exacerbating it, is a major factor in climate change discussions, especially as it relates to vulnerability. Poor urban citizens lack resources, knowledge and services to equip themselves for climatic variability

and changes. Densely populated areas with informal or deficient housing, with inhabitants dependent on basic infrastructure and services, will feel the brunt of climate change as they will be more vulnerable, and thus their adaptive capacity even more severely constrained. Given that women and girls make up three-fifths of the world's one billion poorest people,⁶ and are often amongst the poorest of the poor, women will disproportionately suffer due to their limited access to resources and services. Furthermore, the needs and priorities of those already in disadvantaged positions are often not recognised, or addressed.

While progress has been made in addressing the nexus of climate change and gender equality in recent years, the focus has predominately been on rural areas, leaving considerable gaps when it comes to addressing the specific set of challenges faced in urban contexts. It is therefore essential to begin recognising the persistent barriers that exacerbate gender inequalities and in turn, limit sustainable development and the potential of local authorities to effectively tackle climate change. Given that the impacts of climate change are frequently and directly felt in urban areas, cohesive, gender-responsive local and national policies are critical to respond to climate change and to reduce vulnerability, enabling more equitable and resilient lives and livelihoods in urban settings.



5.1 Urban challenges and opportunities

Cities around the world, with their dense populations, concentrated infrastructure, and expansive paved areas are particularly vulnerable to hotter days, extended droughts, sea level rise and storm surge, especially in coastal regions and along rivers. Coping with extreme weather events and disaster situations is thus of utmost importance for cities, and city planners and policy makers are well advised to draw up and implement strategies to build resilience and adapt to climate variability.

Aging infrastructure, much of which is in need of updating and upgrading, is a concern to cities formulating adaptation plans. Bridges, roads, buildings, and subway systems cannot be moved in a cost effective manner, and much of this fragile infrastructure could be exposed to stronger or more frequent climate change effects, such as storms

or flooding. The failure of urban planners to adjust the existing building and city codes to prepare for the future will limit the ability for cities to adapt.⁷ However, some countries, due to the lack of funds and resources, will be unable to adapt and will suffer more from extreme, and slow-onset, climatic events.

Aside from the physical damage caused by extreme weather events, city planners, local governance systems, and service providers will have to navigate accommodating more people and expanding infrastructure with an adaptive mindset in place. Rapid and unplanned urban growth, especially when accompanied by climate change, threatens sustainable and equitable development. Therefore, better city planning, socially inclusive and responsible development, and political cooperation and participation are required at all levels.



Box 1: Adaptation vs mitigation

Per capita emissions in cities can vary considerably even within a single country or region. The main influencing factors are the spatial structure of the city in terms of land use mix and density; the quality and location of infrastructure, such as public transport, the carbon intensity of local economic activities (i.e., if there is heavy industry in the area which uses large amounts of energy); the income of citizens; governance of the area; and the local climatic conditions. Because of this, different countries will approach sustainable development in different ways. For instance, developing countries, with populations that are the most affected by climate change but contribute the least to it, often focus on adaptation, or reactive, strategies. Developed countries, that emit significant amounts of GHG, have historically focused on both mitigation and adaptation climate change strategies—but there is a need for all countries and cities to increasingly pursue an integrated approach to mitigation and adaptation strategies in the future.

Adaptation

Adaptation strategically reduces exposure and sensitivity to climate change impacts and enhances coping capacity from its effects. It is evident that sensitivity and coping capacity are largely dependent on exposure and various social issues, including gender inequality. The less access to resources, infrastructure and services citizens have, the more difficult it is for them to ensure their sustained livelihoods in times of floods, droughts or disaster. For many adaptation activities, the border between enhancing resilience and development is fluid, as they involve measures to create formal jobs, improve mobility and facilitate care work.

Mitigation

Cities require a clear urban mitigation agenda, especially those that are located in industrialised countries. City planners are responsible for land use planning or other regulative powers, thereby deciding on structures and infrastructures that are very relevant for society's GHG emissions. Moreover, cities are often responsible for providing services such as public transport and energy supply, and can, for instance, increase the share of renewables in energy supply and enhance public transport facilities to allow for low carbon mobility.



While rapidly increasing urbanisation will require more infrastructure to be built to accommodate growing populations, there is an opportunity for cities to develop in sustainable, livable, and dynamic ways. As major cultural, economic, and innovation hubs, cities have a unique opportunity to both combat and cope with global climate change through urban mitigation and adaptation actions. Efficient urban planning and development are necessary as settlement densities change to become more compact. Planning should also involve design that avoids flood-prone areas, and options for low-emissions transport and decentralised renewable energy installations. Also, sustainable and efficient infrastructure will aid in delivering basic services to communities and ensure reliable water and septic systems.

Cities are not merely urban agglomerations; they are comprised of diverse populations with diverse needs. In most countries, urban local authorities have the right to democratic self-governance and are in charge of a large number of tasks to support and manage those needs. Many of these urban policy and planning tasks—especially in regards to housing, energy, transport, infrastructure, and waste and water management—contribute to, and will be affected by, climate change. Local government action is vital for responding to the challenges and also tapping into the opportunities connected with the necessary transition to sustainable development; especially since local governments are the level of authority closest to

citizens placing them in a strong position to integrate social issues, including poverty alleviation and gender equality, within their climate agenda.

However, local governments' roles are shaped and sometimes limited by the specific multi-level setting in their national context. In most countries, local governments do have a range of options to reduce GHG emissions, enhance resilience and reduce disaster risks. Yet, of the approximately 68% of cities around the world that are pursuing adaptation planning, only 18% are working on implementation.¹⁰ This can be caused by limitations in their political influence because of bureaucratic hierarchy and unclear arrangements for the division of labour between political levels, which can hinder progress of planning and implementation. Also, the lack of guidance, financial means, and qualified staff has proven to be a major barrier for local governments.

Despite these obstacles, many cities, especially in high-income countries, have been focusing on mitigation strategies for one or two decades. These cities, along with cities in developing countries, are now integrating adaptation strategies into city planning and management. The next crucial step is to integrate gender-sensitive responses into comprehensive climate change policy, which is currently missing from many cities' climate action policies.¹¹



Box 2: How cities are responding to climate change

In the early 1990s, a small number of pioneering cities, including Heidelberg and Frankfurt in Germany and Toronto in Canada, adopted voluntary commitments to address climate change and started to draw up and implement climate action programs aimed at cutting GHG emissions. Local governments formed networks such as International Council for Local Environmental Initiatives (ICLEI)-Local

Governments for Sustainability (founded as International Council for Local Environmental Initiatives in 1990), C-40, and the Climate Alliance of European Cities at regional levels in order to share information and experience, collaborate and provide mutual support. Subsequently, an increasing number of cities started to get active in climate policy.

New York City, USA

The New York City Government has long been dedicated to reducing the city's contribution to and preparing for the inevitable impacts of global climate change. In 2011, the Mayor's office published 'PlaNYC', which not only outlined a series of actions to meet the goal of reducing emissions by 30% by 2030, compared to 2005 levels, but also emphasised the importance of climate change adaptation and mitigation strategies while being a part of the larger solution.¹² After an economically devastating hurricane, Superstorm Sandy, hit the United States' Atlantic coastline in 2012, New York City's former Mayor, Michael Bloomberg, launched, A Stronger, More

Resilient New York. This extensive adaptation strategy outlined some 250 initiatives to reduce city vulnerability to climate change effects, such as sea level rise and storm surge.¹³ A majority of this USD 19.5 billion plan was dedicated to repairs and improvement of damaged city and private infrastructure.¹⁴ This included improving transportation systems, such as subways, bus lines, roads, and bridges, which were extensively damaged from floods during and after Superstorm Sandy.¹⁵ The rest of the budget, about 20%, was allocated to building floodwalls and improving natural coast protections, like swamplands and sand dunes.¹⁶



Box 2: How cities are responding to climate change (Cont.)

London, England

In 2010, prompted by persistent floods, droughts, and heat waves, London's Mayor Boris Johnson asked citizens to share ideas and expertise for adaptation strategies, famously stating: "Either we can grow gills, or we'll need to think of other ways of adapting."¹⁷ Using a combination of citizen suggestions and a national climate change report from the Met Office Hadley Centre, the final report, *Managing Risks and Increasing Resilience*, identified the most vulnerable residents and infrastructures in London. The report purposed 34 adaptation initiatives

focusing on flood risk management, expansion of urban parks and vegetation, and improvement of water and energy efficiency in older homes.¹⁸ Additionally, in 2011, Mayor Johnson published, *Delivering London's Energy Future: The Mayor's Climate Change Mitigation and Energy Strategy*. Referred to as the CCMES, this plan focuses on strategies to reduce GHG emissions from the transport and energy sectors, support innovation and investment in energy, and promote efficient energy use in greater London.¹⁹

Quito, Ecuador

Approved by the Quito Metropolitan Council in 2009, the 'Quito Climate Change Strategy' came as result of the Clima Latino regional climate change conference in 2007.²⁰ Quito, which hosted the conference that year, was already feeling the impacts of climate change on a local level. Landslides, floods, droughts, and the melting Antisana glacier, led former Mayor Paco Moncayo to push for the climate

strategy plan, which includes both mitigation and adaptation strategies, to be the center of the city's development agenda.²¹ A 2013 case study on Quito reports that USD 350 million has been invested in adaptation strategies focusing on ecosystems and biodiversity, drinking water supplies, public health, infrastructure and power production, and climate risk management.²²



Box 2: How cities are responding to climate change (Cont.)

Semarang City, Indonesia

Semarang, a coastal city in Java with a population of two million, is committed to reduce both climate risks and GHG emissions, assisted by the Asian Cities Climate Change Resilience Network (ACCCRN), and an Indonesian-German Cooperation Program, Policy Advice for Environment and Climate Change (PAKLIM). The starting point for the integrated climate change program in 2010 was a vulnerability analysis based on citywide and community-based vulnerability assessments as well as an assessment of governance in relation to adaptation. Subsequently, a resilience

strategy covering all relevant sectors was prepared. For implementation, a community-based, participatory approach is emphasised, in particular for decentralised infrastructure-oriented interventions such as rainwater harvesting, wastewater treatment, and water filtration systems aimed at enhancing the resilience of vulnerable groups. A number of strategies have been developed to achieve significant emissions reduction targets, including improving energy efficiency and developing an integrated waste management system.²³

Cities alone may not be able to completely halt climate change, nor entirely prevent negative impacts. Because any action to address climate change will have a profound effect on residents, there is

also the need for cities to be forward thinking and multidimensional in their approach, with a willingness to address social dimensions—including gender—in conjunction with climate actions.



Box 3: Local authorities' participation and influence in global negotiations

In recent years, there has been greater recognition of the important contributions of cities (and non-state actors) to address climate change. Yet, in the international forum created to address climate change, the United Nations Framework Convention on Climate Change (UNFCCC), climate change policy is almost exclusively negotiated by national governments, as local governments have merely had an 'observer' role along with civil society and other groups. The Local Government and Municipal

Authorities constituency (LGMA) has therefore been active in lobbying for the mention of the local level in negotiating texts, in order to achieve greater acknowledgement and support. Beyond this, there is a need for a clear and effective division of labour among the various government levels, and the collaboration of actors at all levels that need to work together in a short time frame to guarantee long-term and wide-ranging action.

MEASURING GHG EMISSIONS FROM CITIES

The Global Protocol for Community-Scale Greenhouse Gas Inventories, introduced at the 20th UNFCCC Conference of the Parties (COP20) in 2014, is one of the many proposed global standards for a consistent and comparable way to measure GHG emissions from cities. This protocol uses a clear framework that builds on existing IPCC methodologies, which consists of two approaches for cities to calculate and report their greenhouse gas emissions. The first seeks to capture emissions from consumption and production activities taking place within city boundaries, including some emissions outside the city. The other breaks emissions into three scopes depending on where they physically occur. The first scope covers emissions from sources within the city boundaries, the second encompasses emissions from grid-supplied energy within the city boundaries, and the third scope captures emissions that occur outside the city as a result of activities within the city.²⁶ Like many of the proposed inventories for cities, this standard does have issues with potential for losses and inconsistencies that can lead to uncertainties in estimates.²⁷



Box 4: Urban GHG inventories

The amounts of emissions of large cities are considerable and can exceed those of an entire country; for instance, yearly GHG emissions of New York City are larger than those of Cuba.^{24,25} Thus, mitigation strategies for large cities are especially important.

In order to plan mitigation measures, compiling a GHG inventory is useful to analyse the quantity of GHG emissions generated and where these emissions are coming from. The primary goal of a GHG inventory is to gain a clear picture of the baseline situation, including a breakdown of emissions by sectors, and identify potential areas for mitigation actions. At a later stage, updated versions need to be produced to monitor progress, refine data, and present measurable results of emission reduction measures. In particular for large cities, the compilation of GHG inventories on a regular basis is indispensable due to the ever-changing and interdependent nature of the city's infrastructure, services and population. For smaller cities, compiling GHG inventories on a regular basis is also useful in order to systematically plan and monitor mitigation measures.

While there is a standard GHG inventory methodology for nations provided by the International Panel on Climate Change (IPCC), historically this has not existed for cities. The problem is that in most cases cities are not in full control of the sources of their emissions. For example, the majority of electricity is often 'imported' to a city from large power stations that are located outside of the city's boundaries. Therefore, the territorial approach upon which the IPCC methodology for nations is based has the potential to provide misleading results that do not fully take into account the carbon emissions resulting from activities within the city.

Thus, most urban GHG inventory methods and tools are instead based on the accounting of direct and indirect emissions from energy consumption within the city, thereby including the supply chains to the city. However, available methods may differ in certain details such as the system boundaries, calculation methods and emission factors.



5.2 Gender in urban climate policy

As highlighted in the previous section, a range of options exists for local governments to respond to climate challenges. Subsequently, growing numbers of cities are adopting climate policies, yet planning and implementing comprehensive mitigation and adaptation measures remains a challenging task—both in the Global North and the Global South. As it stands, existing policies have largely failed to recognise and address gender dimensions and remain largely gender-blind. This is despite the risk that poorly designed policies could serve to further exacerbate inequalities, while there is considerable potential for local governments to address social inequality and strengthen their climate actions through gender-responsiveness.

The need for addressing social dimensions in climate policy at various levels is now well recognised. Despite this, knowledge gaps and scarce financial resources tend to cause policy makers to hesitate when considering social, or more specifically gender issues

in climate policy. One of the many causes of this is the lack of gender-disaggregated data, particularly at intra-household level, which can make it difficult to create a clear picture of the interlinkages between gender and climate-related issues in urban areas.

There is, however, a growing body of evidence that social and gender disparities exist, and, in cities, the divide between privileged and underprivileged can be as substantial as the global discrepancy between developed and developing nations. Therefore, as the world's population continues to move to cities the responsibility to address these social inequities will fall more at the local government level. Also, a considerable 'gender gap' continues to exist in leadership, decision-making, education, wages, and access to resources and finance in all parts of the world. This gap can be particularly apparent at the local level, where historically male-dominated sectors such as transportation and energy continue to neglect women's priorities and capabilities.



Box 5: Women's participation in decision-making positions in local governments

Women are under-represented in decision-making at all levels, in both public entities and the private sphere. One of the consequences of this imbalance is a male bias in planning and decision-making, resulting in a failure to consider the different needs of women, which stem from their socially defined roles and responsibilities.

According to a report by United Cities and Local Governments (UCLG), women make up less than 5% of mayors and average 20% of city

councilors worldwide.²⁸ UCLG also reports that female mayors head only 16% of the world's capital cities, and of the world's 34 megacities—defined as having more than ten million residents—only three have female mayors.²⁹

In most countries, the representation of women in decision-making at the local level does not exceed their representation at the national level, except in countries where a quota system is in place, such as India or Rwanda.³⁰

Undoubtedly, climate policies need to address and adopt a socially just outlook considering that cities are not just a main producer of GHG emissions, contributing to the impending climate change, but because cities also are, unchecked, exacerbating uneven development and urban inequality.³¹ Using gender as a category for analysis in climate surveying can reveal the extent of this inequity and injustice, which prevents women from engaging actively in climate issues, of which they are often disproportionately affected. Internationally, organisations like the Global Gender and Climate Alliance (GGCA) and its members have made important contributions to the UNFCCC toward more gender-responsive policies, including several decisions stating the need for women's participation in almost every UNFCCC thematic area.³²

However, policies that do consider the interlinkages between gender and climate change in urban areas, are likely to be both more equitable and effective in their implementation. This is not only true for cities in middle- and low-income countries where gender disparities are striking, but also in high-income countries. This is highlighted in a recent Swedish study that investigated gendering local adaptation.³³ While the Scandinavian countries are arguably renowned for their achievements in terms of gender equality, the authors argue that the gender-differentiated distribution of impacts of and responses to climate change in industrialised countries are nevertheless sufficiently serious to warrant more attention than they have so far received. Another Swedish study has looked at the gendered dimensions of climate change responses



in Swedish municipalities³⁴ and found indications that gender awareness is an important influence on how municipalities respond to climate change. Initial findings suggest that there could be a positive relationship between gender awareness and the quality of the communities' climate change policies and practice, which provides interesting impulses for future research priorities and policy developments.

'Cross-mainstreaming' of climate change and gender is an ongoing task for all actors involved in urban politics. While this is arguably a long-term endeavour that requires both a change of thinking and a gradual learning process, the aim of transforming maladapted

cities into low-carbon, resilient, gender-just and inclusive communities is arguably a worthy one.

The widely touted co-benefits of climate policy, including improved air quality and health, creation of jobs, livability, accessibility, and enhanced resilience can be maximised with urban climate policies that integrate social components such as poverty alleviation and gender equality in their approach. With gender mainstreamed into procedural processes, gender actions will no longer be considered an 'add-on,' but rather as a crucial component for optimal climate policy and sustainable, equitable and resilient urbanisation.

5.3

Developing climate-resilient and gender-responsive cities

Much of the momentum for sustainable urbanisation originates from subnational and local authorities themselves. It is therefore crucial that climate policy takes a broad approach, tackling all relevant sectors, particularly when mitigation and adaptation measures are required. In addition to the mainstreaming of climate considerations, however, the gender dimensions of climate change also need to be integrated into the planning of local mitigation and adaptation actions at all stages of the policy process. Many of the insights gained from rural research and action can be applicable also in urban contexts, yet there are also a number of specific gender-related challenges in urban areas that need to be addressed. This is particularly true in light of rapidly growing urban

populations and the considerable scope for gender-responsive climate action by local governments.

The following section discusses the options for urban climate policy in relevant sectors, the gendered dimensions of each, and how urban policies can integrate both for an enhanced gender-responsive approach and overall stronger outcomes. In an effort to present key issues, the following sections are organised by sector, which still very much overlap and intersect; this is not an exhaustive list of urban issues but has been chosen as relevant to the current conversation and available information, while also aligning with areas discussed in other chapters of this publication.



Urban planning for resilience

Sustainable urban development and planning offers a unique opportunity for cities to work towards low-carbon development while enhancing adaptation and resilience. It can shape urban spaces that allow people to socialise but can, in contrast, exacerbate disparities and exclusion, thus is also highly relevant for considering and responding for social and gender equality. Yet, most cities face conflicts of interest among the social, economic, and environmental dimensions of spatial planning and development.³⁵

In low- and middle-income cities, spatial planning policies are usually overtaken by informal rapid population growth and constrained city budgets. As mentioned, in high-income countries, spatial strategies are often based on policies that limit over-development and sprawl and that are adequate to combat climate change. However, these must be carefully implemented since they might elevate housing prices and cause gentrification movements.^{36,37} Likewise, densification has also been related to unequal distribution of domestic living space,³⁸ and increased exposure to air pollutants that directly impact women, particularly if compact urban areas is not complemented by an expansion of public transport and ventilation spaces within the households.³⁹ Compact city policies may also unequally affect security and access to facilities and public space, deepening spatial inequalities among vulnerable social groups. Some evidence shows that taxing new developments to cover infrastructure projects is less of a burden for low-income groups than the use of other instruments applied in spatial planning.

One of the priorities for gender-responsive urban climate policy and planning is building resilience. Technical measures for adaptation, such as improving physical infrastructure, are necessary, but they should not be prioritised over building resilience among communities and neighbourhoods, in particular for cities in middle and low-income countries. This requires a change of perspective. Rather than focusing solely on 'top down' technical responses to expected climate variations, policies must address social relations and give more attention to approaches which include efforts to enhance the livelihoods of citizens through improved food security, housing, and basic infrastructure for energy, mobility, water and sanitation. Additionally, in order to understand gender-related dimensions, a differentiated analysis is useful, for example Risk and Vulnerability Assessments which look not only at neighbourhoods but are able to capture disparities between households.⁴⁰

Both in adaptation and mitigation, a pro-poor approach is required, but is not sufficient on its own. Other gender disparities need to be addressed, as well, in particular the 'care economy' and the informal economy.

Mitigating climate change requires a multidimensional approach that combines climate policy with existing clean air policies to work towards more livable and efficient cities. This involves changing and improving infrastructure, social structures, and public services, rather than only relying on mitigation technologies.



Box 6: Gender mainstreaming in urban transport planning in Vienna

Vienna's gender mainstreaming strategy is based on five principles: gender-sensitive language; gender-specific data collection and analysis; equal access to and utilisation of services; equal involvement of women and men in decision-making; and equal treatment integrated into steering processes.

The city adopted guidelines for a "safe city" and carried out community-based participatory gender-sensitive planning for public spaces, public and private buildings, throughout several

districts. A number of guidebooks and a gender equality monitoring report are available.⁴¹

As part of the strategy, the Department for Gender Mainstreaming assessed who benefits from funds and services, and addresses the question of whether the distribution of resources undermines or enhances gender equality, as well as gender-sensitive transport planning, and gender mainstreaming in urban development and urban planning.

Energy

Energy—which in 2010 accounted for 35% of total global GHG emissions⁴²—is typically the priority sector around which mitigation programmes are developed. For cities, which are estimated to produce 71-76% of energy-related GHG emissions⁴³, this is of utmost concern. Urban development and planning can help progress cities towards becoming more compact, energy efficient and climate-friendly. This can be done with sites in cities allocated for decentralised, renewable energy installations, in addition to options for co-generation, and the promotion of green power—without charging costs to the consumers, specifically from low-income households. With its reach in many sectors, energy is central to climate responses in urban contexts and is indeed far from being gender-neutral.

Options for action include:

- Improving energy efficiency in buildings (which account for 19% of global GHG emissions, when emissions from electricity and heat production are attributed to this sector),⁴⁴
- Improving electrical devices,
- Improving heating and cooling systems,
- Enhancing energy efficiency in public facilities,
- Improving co-generation of power including heating and cooling,
- Switching to fuels with lower GHG emissions, e.g., from coal to natural gas, and
- Increasing the share of renewable energy, e.g., through decentralised installations, or integration of solar energy in buildings.



To this end, cities making investments in clean energy and energy efficiency, can organise public awareness campaigns to bring about behavioural change, for instance to encourage citizens to save energy, they can offer advice and subsidies for energy efficiency and renewable energy installations, and in some countries, they can even introduce regulations requiring higher energy standards or solar energy.

From a gender perspective, it is important within this sector that gender-sensitive energy policy address both affluence and poverty—i.e., by developing strategies to reduce energy consumption through energy efficiency and sufficiency while at the same time improving access and affordability for underprivileged groups. Electricity provides income-generating opportunities for women, saves them time, improves access to information, and allows them to power productive technology, such as washing machines, food processing and preservation methods, and craft production.

Energy poverty is a widespread problem that strongly affects women, even in high- and middle-income countries. According to the World Health Organization (WHO), in some European countries, up to 30% of the population suffers from fuel poverty, which means that they cannot afford sufficient fuel for heating to maintain an adequate indoor temperature.⁴⁵ As women have lower incomes and assets, they are very likely to constitute the majority of this group, in particular single mothers and elderly women. The European Union Statistics on Income and Living (Eurostat EU-SILC) database, for example, provides recent sex disaggregated data—single male, and single female households—about the ability to keep the home warm for European countries.⁴⁶

In low-income countries this problem is more common and severe. Even in cities, many women lack modern energy services and have to rely on traditional biomass such as fuelwood charcoal for cooking. Moreover, many cities in the developing world do not have access to an extensive and reliable electricity grid at all, and if there are electricity cuts, they often put private households at a disadvantage. Communities in these areas rely on traditional biomass such as firewood or charcoal for many energy needs.

As for programs targeting households, intra-household dynamics need to be taken into consideration, in particular with respect to who is using energy for what purposes, and who is responsible for investments and purchasing equipment. Programme design could therefore analyse consumption habits, behavioural patterns, work patterns, including, in particular, care roles and responsibilities—with a specific aim to address, instead of reinforce, gender stereotypes and ensure women's work burden is not exacerbated. Information, education and training are also key issues, as is how and to whom incentives may be provided.



Box 7: Energy access

Over 12% of urban populations around the world still use solid fuels for cooking and heating needs.⁴⁷ While biomass use is more concentrated in rural areas—with over 60% usage⁴⁸—and improving access to clean energy does not necessarily reduce GHG emissions, reducing the use of inefficient and polluting biomass is still essential for improving livelihoods of poor urban communities, especially women. Technologies

like solar water heaters, biogas digesters, improved cookstoves, kerosene, and liquefied petroleum gas (LPG) can be implemented at the household and community level to replace traditional biomass fuels. However, affordability of technology and access to electricity are limiting factors to energy access in both poor rural and urban communities (read more in Chapter 4.1).

Transport

Transport, although one of the sectors where energy is used, is usually treated separately because of its specific characteristics and mitigation options. The transportation sector accounts for 14% of global GHG⁴⁹ emissions and is projected to grow substantially, particularly in developing countries. Improved transport policy, with a decreased dependency on private vehicle transport, can have a significant impact on the mitigation of GHGs, especially in dense urban areas where public transport can be efficiently used. To achieve GHG emissions cuts, cities can improve the infrastructure for non-motorised transport, expand and enhance public transport, and at the same time discourage individual motorised transport. Short-term technical measures include cleaner vehicles, improvements of the vehicle fuel economy, and of the efficiency of freight systems. More fundamental policies to influence mobility demand, in the mid- and long-term, include urban development, in particular

avoiding urban sprawl and fostering transit-oriented development by concentrating new developments along existing public transport lines.

The gender dimensions for mitigation within the transport sector have clearly been identified given extensive evidence on gender-differentiated travel patterns, purposes, and the type of transport used (i.e., percentage of users per mobility type, such as walking, biking, public transport, and motorized individual transport). Women also tend to have more complex trip patterns, prompting the need for adequate public transport services accommodating not only commuter trips from home to the workplace and back, but also trips that involve shopping, bringing children to school, and looking after elderly family members. Women travel for more diverse reasons and are using sustainable transport modes more often than men,⁵⁰ either because they chose to do so or cannot afford private transportation. Statistics from the transport sector, for example, in high, middle, and low-income countries show that



men are more likely to use cars for travel to work and for leisure, while women tend to work closer to, or at home, and make more trips for family care, largely relying on public transport.^{51,52,53}

However, for those that do choose public transport options, there is an increased instance of sexual assault.⁵⁴ The lack of safe transportation options is constraining to women's mobility and can even lead

girls and women to drop out of school, or dismiss economic ventures and employment.⁵⁵ However, measures to improve women's access to private transportation are not necessarily conducive to climate mitigation policy. Thus, focus should instead be placed on creating accessible, affordable, and safe public transport policy and systems taking into consideration influence on social inclusion or exclusion.⁵⁶

Box 8: Safety on urban public transport systems

Auditing safety in urban areas is becoming increasingly popular in an attempt to provide alternatives to dimly-lit roads, dark, empty bus stations, and deserted parking lots, which pose significant threats to vulnerable people, particularly to women. There are several safety measures being taken around the world to reduce risk and offer environmental and social co-benefits with implementation. For example, Jagori, an Indian not-for-profit organisation, started conducting safety audits in 2007 and has so far audited seven cities in India with plans to expand to Bogotá and Jakarta in order to improve the safety and reduce risks in public transportation.⁵⁷ In Bogotá measures to include gender considerations in the development of its bus rapid transit (BRT) system, TransMilenio, were implemented which provided reserved seats and separate doors for vulnerable

people. In addition, an anti-sexual harassment campaign and new security program to reduce the assaults on women in public transport was initiated.⁵⁸ In Montreal, Canada the 'Between Two Stops' initiative enables women to get off the bus between two stops at night so they can be closer to their destination, which increases safety, mobility, autonomy, and empowerment of women, while encouraging the use of public transit.⁵⁹ Additionally, Kathmandu, Mexico City, and cities in Japan, Brazil, Egypt, Russia, and Iran have taken steps to introduce women and children-only buses and subway cars to decrease instances of sexual harassment.⁶⁰ However, with ever-growing populations, these initiatives are not enough and many cities still report high rates of harassment on public transit, prompting the need for more awareness towards women's safety in development planning.⁶¹



These are issues cities should address when working towards accessible, affordable and safe transport for all, in order to tap the potential to contribute to both GHG emissions reductions and gender equality. Potential measures regarding public transport include enhancing the infrastructure (e.g., introducing or expanding bus rapid transit systems) as well as introducing tariff systems that respond to the needs of women and address safety issues by offering well-designed and well-lit bus stops, and once the systems are in place, ensuring equitable access to newly created jobs.

Migration, settlements and housing

Land and housing are economic resources that also have power dimensions, bringing social benefits, such as the improved status of those who own, control, or have access to them. While it is clear that climate change has the potential to exacerbate existing inequalities in a variety of ways, in cities this might involve the expansion of informal urban settlements stemming from rural-urban migration due to climate change impacts and other problems in rural regions. Furthermore, studies have highlighted that in some regions rural-urban migration is already linked to climate impacts in rural areas, with increasing food and water scarcity expected to further accelerate the rural-urban drift in developing countries.⁶²

Box 9: Housing

The poorest urban inhabitants are often women, crowded together in areas and housing that is most exposed to climate hazards. They are also often without resources or information to build their resilience, or adapt to the impacts—a result of socially constructed gender roles and ongoing discrimination:

- In the largest slum in South East Asia in Tondo district of Manila, an area prone to typhoons and flooding, 80% of adult slum dwellers are women.⁷³
- 60% of the population of Nairobi live in slums, with women in these slums being five times more likely to be unemployed than men.⁷⁴
- 40% of the poorest households in urban areas are headed by women.⁷⁵



The migration of women into these areas has resulted in a relatively high rate of women-headed households among the urban poor, further exacerbating poverty conditions for women and their families based on the social structures and barriers present. In Kenya, for example, where women head 70% of all squatter households, over 25% of women slum dwellers migrated from their rural homes because of land dispossession. Rural women who migrate into urban areas face unique challenges associated with coming from poor families with a lack of education or skills, and who find themselves in poorly paid jobs, or working in the informal sector. These women often face security risks, especially those from ethnic minority groups, who are not

equipped with the linguistic skills of the dominant language of the area. Similar observations have been made in the Philippines where women from fishing communities, who were grappling with the harsh impacts of climate change, migrated locally into cities to work as domestic helps for affluent families, creating an additional set of locally-specific challenges. However, responding to housing issues in low- and middle-income countries, means upgrading informal settlements in collaboration with slum-dwelling groups—rather than merely relocating slums to remote areas where the exclusion of marginalised groups, particularly women, might be exacerbated by a lack of opportunities for livelihoods and access to jobs.

Box 10: Urban heat islands and green spaces

Urbanisation poses a substantial threat to city populations. Increasing average temperatures lead to a more intense ‘heat island’ effect, meaning metropolitan areas are significantly warmer than the surrounding rural or less-developed areas due to human activities and infrastructure. This heat can increase the amount of fatalities and health issues in cities during extreme heat events and contributes to water and air pollution.^{63,64} One way to combat these effects is the implementation of urban ‘green spaces.’ Green spaces also provide outdoor areas for recreation and leisure time and

the increased vegetation improves the air quality and increases heat absorption of urban heat islands. There is mounting evidence that green spaces and biodiversity offer health benefits to city dwellers, but they also offer protection against hazards and build resilience of the surrounding environment.^{65,66,67,68} It is important to identify design features that are sustainable, provide health benefits and promote the ‘greening’ of cities—which can include cleaning, removal of debris and toxins, planting grass and trees, and installation of infrastructure from natural materials.



READ MORE IN CHAPTER 7!

WOMEN GREENING INDUSTRIES IN COLOMBIA: CREATING WOMEN'S KNOWLEDGE NETWORKS TO LEAD CLEANER PRODUCTION PROCESSES

Genstainable with Cinara Research Institute of the University of Valle, Constructora El Castillo, and Industrias El Leon



Displacement resulting from the interlinkages of climate change impacts and conflicts often lead to women suffering a substantial loss of material assets, networks, and family members, forcing them to migrate to urban areas.⁷⁶ Unfortunately, the new urban inhabitants are met with settlements in cities that are particularly exposed to climate-related risks such as flooding, landslides and heat waves and very often lack basic services such as clean water and sanitation. This generally reduces their ability to respond and adapt in difficult circumstances to the effects of climate change. To ensure women's rights to land and property are not limited by social norms and traditional practices, governments need to put in place effective land reform campaigns, which will provide pro-poor and gender-responsive policies and programmes.⁷⁷

The gender dimensions of climate-related migration are also evident during or directly after a climate disaster when movement in and out of cities can dramatically change demographics in urban and rural areas. In the case of New Orleans, after Hurricane Katrina, it was primarily men who returned to the city to undertake rebuilding, resulting in the prolonged absence of women and children in cities. This migration can place additional burden on the families of migrating men leaving them vulnerable to harassment, sexual violence, and potentially economic hardship.⁷⁸

Water management

Cities are impacted by precipitation and storm-induced risks that result in a surplus of rain in a short timeframe, leading to inland flooding and landslides. They can also be impacted by lack of precipitation, which can result in drought, water shortages, crop failures and food price increases. Therefore, water, and its management, is relevant in the context of both adaptation and mitigation. Issues such as sea level rise, drainage, and wastewater are crucial when considering adaptive measures. Yet, mitigation responses, for example through energy efficiency improvements in the water supply system and side management—including water saving measures that subsequently lead to energy savings—also need to be considered.

Twenty-seven percent of urban populations in the developing world do not have piped access to water.⁷⁹ While water infrastructure is improving, more people are moving from rural to urban areas, undermining any progress made.⁸⁰ Changes in supply and demand of potable water will mean more stress placed on water supplies to the urban poor. In addition, saltwater intrusion from sea level rise threatens freshwater supply in cities along the coast, leaving populations without a reliable source of drinking water. Many urban residents are forced to buy water in small quantities for high prices from private suppliers or spend significant time collecting water from wells. Women and girls typically take responsibility for fetching water when supply is poor, and this can take hours out of their day, reducing time for education, employment, childcare and rest.⁸¹ Because women tend to spend more time than men in the home and neighbourhood, they are also more directly exposed to environmental hazards of poor sanitation—with risk of disease caused by poor drainage, contact with human faeces, and decomposing rubbish.



One study looking at urban areas in India noted “relatively less is known about how women’s participation unfolds in the urban context [compared to rural areas] where the poor are faced with a different set of challenges.”⁸² However, attention to gender issues in the design and implementation of urban water and sanitation programs can bring wide health, social and economic benefits to women and their communities. For example, women’s groups in the Tiruchirapalli district in India improved access to water and sanitation services by installing water facilities and individual toilets in slums and informal housing communities to address the poor sanitation conditions.⁸³

Disasters

Disaster risk reduction (DRR) is one of the priorities for adaptation for many cities, as populations, especially in developing countries in low-elevation coastal zones are particularly vulnerable to sea level rise and extreme weather associated with climate change. Risk assessment in times of climate change is one of the first steps cities use to undertake in order to prepare a new, or revise an existing, DRR strategy. These strategies usually include improving early warning systems, building capacity and training, strengthening disaster preparedness for effective responses, and reducing underlying risk factors. The latter should involve a broad set of measures to build resilience, in particular for the poor, including measures in the various sectors mentioned above.

Rape, domestic violence, and gender-based violence are common post-crisis and disaster situations, placing women and girls in especially vulnerable positions. Income insecurity is also a concern as women more often work in informal sectors that are disrupted post-disaster.⁸⁴ Subsequently, more women than men die as a result of natural disasters.⁸⁵ This is especially prevalent in countries where women have low social status and little access to resources. In many areas, women have little access to early warning systems for weather events and post-disaster services due to social norms.⁸⁶

Through empowerment and involvement of women in DRR and management, the devastating impacts of climatic disasters can be curbed. This is a field of action where much guidance on the integration of gender is available; a range of resources are provided by the Gender and Disaster Network, Federation of Red Cross and Red Crescent Societies, and Oxfam, for example. Furthermore, the Hyogo Framework for Action and the current Sendai Framework for Disaster Risk Reduction provide gender-sensitive guidance and tools (Chapter 3 on DRR).



Consumption

The top 25 cities in the world create more than half of the world's financial wealth but globally, cities today also account for 75% of global energy consumption and 80% of GHG emissions.⁸⁷ Simultaneously, cities, in particular in the developing world, are the hubs of consumption, and often of over-consumption. In general, carbon footprints of individuals and households are directly correlated with income and spending—those who are well-off live in larger dwellings, own more energy-consuming devices, drive larger motorised vehicles and consume more goods and services, thus having a relatively large carbon footprint. This has a clear correlation with cities in the increasing incidence of poverty and exclusion, particularly on women and girls. Consumption-based carbon footprints have also a gender dimension, firstly,

because of the gender income gap, and secondly, because of differing preferences and attitudes—largely a product of socialised gender roles.

Due to rapid rate of development in the last decades, per capita variations do not necessarily replicate the distinction between industrialised and developing countries. Indeed, within high-income countries, a larger proportion of citizens live in affluence compared to those in middle and low-income countries, where poverty is more widespread, sometimes affecting the majority of the population. While extensive changes are arguably required at the level of industry and production, and not just at consumer-level, recognising that dynamics related to consumption are frequently shaped by notions of masculinity, femininity and other markers of 'status', can nevertheless be relevant for tackling the drivers of climate change.⁸⁸

Box 11: 1 Million Women

An Australian climate change mitigation initiative, 1 Million Women, founded in Sydney, is tapping into women's decision-making power to reduce consumption and waste, contributing to energy savings, and thus reducing carbon emissions. This campaign aims to inform members that it is possible to take small steps in our daily lives to make differences that combat climate change. By mid-2015 the organisation has engaged with over 202,000 members who pledged to reduce their emissions by being climate-conscious in their daily consumption and management of waste. The aim of the initiative is to reach the target of one million women members, which has

the potential to reduce over one million tonnes of CO₂-equivalent—commensurate with taking 240,000 cars off the road for a year.⁸⁹

READ MORE IN CHAPTER 7!

TAKING ACTION ON CLIMATE CHANGE IN AUSTRALIA: 1 MILLION WOMEN ARE SAVING ENERGY, REDUCING WASTE, CUTTING POLLUTION AND LEADING CHANGE

1 Million Women





Waste management

In 2010, waste and wastewater accounted for about three percent of global GHG emissions.⁹⁰ In many countries, local governments are in charge of managing waste, in particular solid waste from households. The amount of waste produced is increasing in many countries, and the share of solid waste recycled at the municipal level is still low at around 20% globally.⁹¹ While there are elaborate waste management systems in place in most cities in high-income countries, these are lacking in middle and low-income countries, and often use funding from the private sector as public funds are decreasing for waste management for organised and formal collection, transportation, treatment, processing, separate collection, recycling, composting and disposal of waste. Instead, there is often a large informal sector involving a high share of women who make their living from waste collection and/or recycling.

The informal ‘waste-pickers’—who make a living collecting, sorting, recycling and selling valuable materials others have thrown away—perform 50-100% of ongoing waste collection in most cities in developing countries, at no cost to the municipal budget.⁹² But despite waste-pickers contribution in

their cities in many ways, they often live and work in difficult, dirty, and unhealthy circumstances, and suffer from extreme poverty and very low social status—and women can bear the brunt of this activity and thus marginalization. With waste picking being a viable livelihood option in many urban environments, participants in cities on every continent report that the privatisation of waste collection is the biggest threat to their income and economic empowerment.⁹³ However, there are successful examples of cities that have contractual arrangements with waste-pickers, such as in Kampala, Uganda and in Cartagena, Colombia, where a judicial order helped the city integrate waste-pickers into the public waste management system.⁹⁴

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LIFE OUT OF PLASTIC IN PERU: WOMEN INNOVATING NEW WAYS TO CLEAN UP PERU'S COASTS

*L.O.O.P. with support from Conservamos Por Naturaleza and the
Ministry of Environment in Peru*





Box 12: Women's role in waste management and recycling

Considerable differences in the gendered distribution of labour exist in waste management and recycling. While not an exclusively urban issue, studies have shown health issues stemming from waste collection tend to be concentrated in densely populated areas, with particularly severe impacts for women's health and reproduction.

A recent study on women and their role in processing electronic waste, or e-waste, revealed that women in India's Dalit caste, for example, are at the bottom of the e-waste recycling hierarchy and are thus disproportionately affected by its risks.⁹⁵ As part of a growing informal workforce, they are usually poorly outfitted to do their jobs and are forced to use

low-tech tools to extract the precious metals and reusable components of e-waste, and are burdened with the most undesirable and dangerous tasks, including using acid baths to reclaim precious metals. The study explores the consequences of this gendered division of labour, highlighting that while many women choose waste work because it is stable offering enough income to support a family with flexible hours that permit women to care for their children, the health concerns stemming from e-waste pose a particular risk for women's morbidity/mortality, and fertility, as well as the health of their children. Of the 14 general types of hazardous chemicals commonly found in e-waste, more than half are said to affect women's general reproductive and endocrine functions.

Urban agriculture

As climate change impacts food yields in rural areas, increased food production in cities will become an increasingly pertinent discussion. Urban agriculture has potential to improve food security for urban populations, provide nutritious food to the urban poor, and offer opportunities for families to earn additional income. Women play an especially critical role in household food production through cultivation of small-scale vegetable gardens and the raising of animals. Women's role in feeding

urban populations through subsistence farming has largely been ignored by city officials who favour more industrialized food production that has traditionally been headed by men.⁹⁶ A study from Hyderabad, India on gender dimensions of urban and peri-urban farming suggests that women's roles in urban farming are a crucial element in urban food production and food security, and that resources must be focused on gender-equitable access to land, education, and capacity building to contribute to economic growth and social progress.⁹⁷



Finance

New infrastructure affords opportunities for cities to take climate change mitigative and adaptive strategies into account and plan with a more resilient mindset. While the initial investment for climate change adaptation in cities can be staggering, many estimates for investment fail to consider returns on investment through avoided infrastructure costs as well as energy savings and lower fuel costs. Also, they fail to include the benefits of avoided health care or emergency response costs for populations living in these areas. A more complete calculation of costs and benefits would encourage cities to take more decisive action to simultaneously address climate change and social issues.

Climate finance is available to help cities to “shift all resource flows towards low-carbon, climate resilient options.”⁹⁸ In 2009, the World Bank estimated that future climate adaptation and mitigation funding through the UNFCCC and other sources would be capped at USD 100 billion each year.⁹⁹ While this is a large sum of money, the World Bank also estimated that adaptation and mitigation strategies could cost

up to USD 275 billion per year.¹⁰⁰ However, a study of the approved climate financing in developing countries by multilateral climate funds from 2010-2014, found that only USD 842 million has been explicitly used for urban projects in support of low-emission and climate-resilient development. This equates to only a little over one in every ten dollars spent on climate finance over the past five years, specifically designated for urban projects. The majority of this financing is supporting transportation systems in fast-growing middle-income countries with very little dedicated toward adaptation projects.¹⁰¹

Women, in their roles as consumers and household managers, would particularly benefit from household-scale energy-efficiency projects and public transit projects. Such small-scale labour-intensive projects are often not funded under mechanisms relying on market forces, because transaction costs constrain economic viability. This impacts women’s ability to access markets and financing for projects and therefore women are less likely to benefit from climate financing, particularly larger scale finance from multilateral finance mechanisms.¹⁰² (Read more about gender in climate financing ahead in Chapter 6.)



5.4 Moving forward

Without purporting to be an exhaustive account of the gender-related challenges or considerations specific to urban areas, this chapter touches upon key issues related to various sectors and discusses some important interlinkages between them, illustrating a need for gender-responsive urban climate policies that address human settlements and work towards low-carbon development, mitigation, adaptation, and resilience.

The importance of urban development in climate change policy is already recognized by international commitments at UNFCCC and in the Sustainable Development Goals (SDGs), especially Goal 11, which indicates an effort to, “Make cities and human settlements inclusive, safe, resilient and sustainable.”¹⁰³ To meet this and other relevant SDGs—including addressing poverty, achieving gender equality, and taking action against climate change—city planners and local governments must engage in creating gender-responsive climate change strategies that are mainstreamed across crucial urban planning sectors. This includes developing an internationally accepted standard for quantifying GHG emissions from cities and urban areas, addressing gender specific priorities, needs and issues in sectors, ensuring gender inclusive language is integrated throughout urban policies and procedures and promoting sustainable, adaptive, and resilient growth. A strong financial backing is required for sustainable urban planning as current funding streams are falling short of enabling planning and action that is prompting safe and prosperous urban environments that are resilient to climate change. These strategies are especially important as populations continue to

shift toward urban centres, expanding urban sprawl and leaving poorer populations, particularly women, in potentially dangerous, disadvantaged and vulnerable positions if gender is not considered and included. While actions taken will vary according to context, it is recommended that cities indicate their commitment to gender-responsive action on climate change at the local level.

A range of existing methods and tools can be applied by cities to assess and improve their climate policies—particularly to be inclusive and gender-responsive. Policy makers faced with the task of considering how to integrate these could address the following aspects:

1. The gender balance in planning and decision-making bodies should be improved. The equal and meaningful participation of women and men needs to be ensured in processes and consultations with stakeholders. For this purpose, it is advisable to build a climate change team of local government officials that also involves the departments in charge of social and gender issues.
2. For climate policies to be effective, they must respond to the needs of citizens. This means that community-based participatory processes are required. This is particularly true for adaptation and resilience, and there are well-documented methodologies available, such as community-based adaptation.

It is important to note that the unequal power relations between men and women and the prevailing traditional gender roles often lead to the unequal representation and participation



of women and men at a community and neighbourhood level. Special provisions and arrangements are therefore necessary to ensure the equal participation of women and to enable them to articulate their needs, preferences and opinions. However, gender balance and equal participation alone do not necessarily result in gender awareness. Thus, specific gender expertise is necessary to integrate a gender-sensitive approach in urban climate policy processes.

- 3.** Local governments can make use of Gender Impact Assessments (GIA) when prioritising, designing or adjusting interventions. These assist in revealing relevant inherent gender issues in initial planning stages by assessing the impact of planned programs and projects on women and men, as well as on gender relations. It is then possible to assess whether the planned programs and projects support or impede the attainment of gender equality.
- 4.** A gender-sensitive approach to urban climate policy requires the application of gender budgeting in order to create enabling policy frameworks, build capacity and strengthen monitoring mechanisms to support accountability to women and improve gender equality. Some cities already apply this tool in certain sectors, and gender budgeting in the field of urban climate policy can specifically assist local governments in monitoring the allocation of resources and analysing gender-differentiated impacts. It helps to determine if public spending reaches women to the same extent as men and whether gender equality is promoted.

These tools can be used to address issues of equitable rights, governance, and access to decision-making, and are applicable throughout all sectors in urban environments. They have particular opportunities for progressing political and physical structures to support enhancing gender dimensions in urban policy, planning, and development. However, since the consideration of gender within urban climate policy is relatively new, research on adaptation, mitigation, and resilience in urban areas should expand to ensure gendered preferences are considered in the policy making process, with a focus on gendered differences in accessing information, technology, and financing. Cities have the potential, and seemingly the political will, to be leaders in addressing climate change issues and social inequities in adaptation and mitigation planning. As urban environments rapidly develop, integrating new resilient infrastructure and gender-responsive approaches will support a more comprehensive realization of the commitments toward and need for cities to be low-carbon, sustainable, equitable, inclusive, and gender-just as they progress in combating climate change.



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6

UNLOCKING THE DOOR TO ACTION:

Gender-responsive
climate finance



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ACRONYMS

AF	Adaptation Fund	MSME	Micro, small and medium-sized enterprise
AfDB	African Development Bank	NDA	Nationally Designated Authority
AMR	Annual Monitoring Review	NGO	Non-governmental organisations
AU	Administrative Unit (CIF)	NIE	National Implementing Entity
CBD	Convention on Biological Diversity	OECD	Organization for Economic Co-operation and Development
CDM	Clean Development Mechanisms	PPCR	Pilot Programme on Climate Resilience
CEDAW	Convention on the Elimination of all Forms of Discrimination Against Women	PSF	Private Sector Facility (GCF)
CERs	Certified Emissions Reductions	RBM	Results-based management
CIF	Climate Investment Funds	REDD+	Reducing emissions from deforestation and forest degradation in developing countries, including the role of conservation, sustainable management of forests and enhancement of forest carbon stocks
COP	Conference of Parties	RFP	Request for proposals
CSOs	Civil Society Organisations	SCCF	Special Climate Change Fund
CTF	Clean Technology Fund	SCF	Strategic Climate Fund
EDA	Enhanced direct access	SDGs	Sustainable Development Goals
EE	Executing entity	SGF	Small Grants Facility
EGI	Environment and Gender Index	SGP	Small Grants Programme
ELCIR+	Engaging Local Communities in REDD+/ Enhancement of Carbon Stocks	SNV	Netherlands Development Organization
ESP	Environmental and Social Policy (AF)	SPA	Strategic Priority for Adaptation
FIP	Forest Investment Program	SREP	Scaling Up Renewable Energy Program
FY	Fiscal year	UN	United Nations
GAP	Gender Action Plan	UNCCD	United Nations Convention to Combat Desertification
GCF	Green Climate Fund	UNDP	United Nations Development Programme
GEAP	Gender Equality Action Plan	UNEP	United Nations Environment Programme
GEF	Global Environment Facility	UNFCCC	United Nations Framework Convention on Climate Change
GGCA	Global Gender and Climate Alliance	UNFF	United Nations Forum on Forest
GHG	Greenhouse gas	WB	World Bank
IAWG	Inter-Agency Working Group	WOCAN	Women Organizing for Change in Agriculture & Natural Resource Management
IE	Implementing Entity	WRI	World Resource Institute
IP	Investment Plans		
IUCN	International Union for Conservation of Nature		
KP	Kyoto Protocol		
LDCF	Least Developed Countries Fund		
MDB	Multilateral development bank		
MEA	Multilateral Environmental Agreement		



Key messages

- The recent integration of gender equality considerations into the five key multilateral climate finance mechanisms is a sign of the times: it marks considerable progress and serves as a signal to the rest of the global climate financial architecture to follow suit. This integration of gender considerations emphasizes the importance of inclusive and equitable resources, as well as women's participation and access—all of which is key to effective and efficient implementation at national and subnational levels.
- While integration of gender in the portfolio of the Global Environment Facility (GEF) has improved, it varies between focal areas and programs and projects, with the climate change focal area at the lower spectrum of integration efforts.¹ However, recent improvements to enhance efforts supporting gender equality include an approved Gender Equality Action Plan focused on several key elements for progress as well as development of a Results Framework for Gender Mainstreaming including gender-specific indicators.
- The Clean Development Mechanisms (CDM) is not delivering on its mission to support sustainable development in developing countries, and therefore lacks proficient capacity and policy guidelines on developing and implementing gender-responsive policy and projects. The potential to promote gender equality exists in stakeholder engagement and in improving transmission of information on gender in mitigation, particularly with respect to renewable energy, and the issuance of certified emissions reductions (CERs).
- Gender integration in the Climate Investment Funds (CIF) has progressed since a pivotal CIF Gender Review, which prompted additional resources and capacity for supporting and implementing gender, leading to a CIF Gender Action Plan among other elements which is enhancing gender equality in the funds.
- While the Adaptation Fund (AF) does not (yet) have a formal gender policy, considerations of gender equity and women's empowerment are integrated to varying degrees in its operational guidelines and project implementation and reporting procedures for concrete adaptation actions.



Key messages

- The Green Climate Fund (GCF) is the first multilateral climate fund incorporating a mandate for a gender-sensitive approach to its funding in its founding charter, and it has approved a gender policy and action plan before the approval of its first project proposals in late 2015. While gender considerations have been integrated to some extent in key operational policies such as accreditation and results management, the GCF must strengthen its procedures on monitoring and accountability and stakeholder participation, especially at the national level, to ensure that it fulfills its gender potential.
- Obstacles preventing effective mainstreaming of gender within the planning and subsequent implementation of climate change projects/programmes are common among many of the climate finance mechanisms and the larger community of action on climate change. Such obstacles and gaps are the result of a need for further knowledge, particularly in the area of gender and mitigation; limited technical capacity of gender experts at the national and international level to address gender issues beyond the traditional agenda topics; and a failure to recognise gender both as a driver for transformational change and as a catalyst that increases the effectiveness and efficiency of investment plans (IPs).



6.0 Introduction

As climate change impacts and responses are not gender-neutral, neither can be their sources for supporting adaptation and mitigation: the climate financing mechanisms and funding allocations meant to address the differentiated impacts can only be successful if they are gender-responsive. This is a matter of efficiency for and effectiveness of scarce public climate funding for mitigation and adaptation. Gender-responsive climate finance is also a matter of equity and fairness; it is an acknowledgement of women's rights as unalienable human rights and aligns with the existing obligations of almost all Parties to the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) and other human rights covenants, with the same governments party to the United Nations Framework Convention on Climate Change (UNFCCC).¹ Ignoring women as a crucially important stakeholder group in climate finance will not only violate women's human rights and equity considerations but also likely lead to sub-optimal results in the use of climate finance.²

Despite this, as of 2015, only 0.01%³ of all worldwide funding supports projects that address both climate change and women's rights. The Organization for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) Network on Gender Equality shows that despite good intentions, donors' investments in women's economic empowerment have been stagnant since 2007. In 2011 and 2012, only USD 469 million—just 2% of all bilateral aid—was directed towards initiatives that had women's economic empowerment as a principal objective.

Women's empowerment and access to political decision-making and climate finance leads to better results in adaptation and mitigation efforts, as evidence is beginning to show. But there is also evidence demonstrating a persisting gap in including women in climate finance decision-making and implementation at the national level as well as on the level of climate finance mechanisms (see Box 1 on women's participation in decision-making, below).

I. All 187 parties that are signatories to CEDAW are also without exception parties to the UNFCCC, although not all 196 parties to the UNFCCC have ratified CEDAW (with the United States, Iran, Somalia, Sudan and South Sudan



Increasing access to finance for climate investments is also crucial for women business owners, especially among micro, small and medium-sized enterprises (MSMEs) and should thus be a key consideration for climate finance mechanisms engaging the private sector. The experience of members of organisations such as the Global Banking Alliance (GBA) for women, a consortium of financial institutions committed to serve women's differentiated financial and needs shows that extending banking services to women is profitable and sustainable.⁴ Yet climate finance mechanisms lack monitoring and accountability measures to ensure that their decisions have a ripple effect and positively impact the lives and livelihoods of those that the policies should consider by giving equal consideration and benefits to men and women. This lack of accountability translates also into a lack of access for those with the greatest needs to the billions of dollars available for climate change actions. It is crucial for climate finance mechanisms to support a rights-based architecture by, for example, facilitating women's voices and direct participation in climate finance negotiation fora.

ECONOMIC EMPOWERMENT

Is the capacity of women and men to participate in, contribute to, and benefit from growth processes in ways that recognise the value of their contributions, respect their dignity and make it possible to negotiate a fairer distribution of the benefits of growth.

Source: OECD

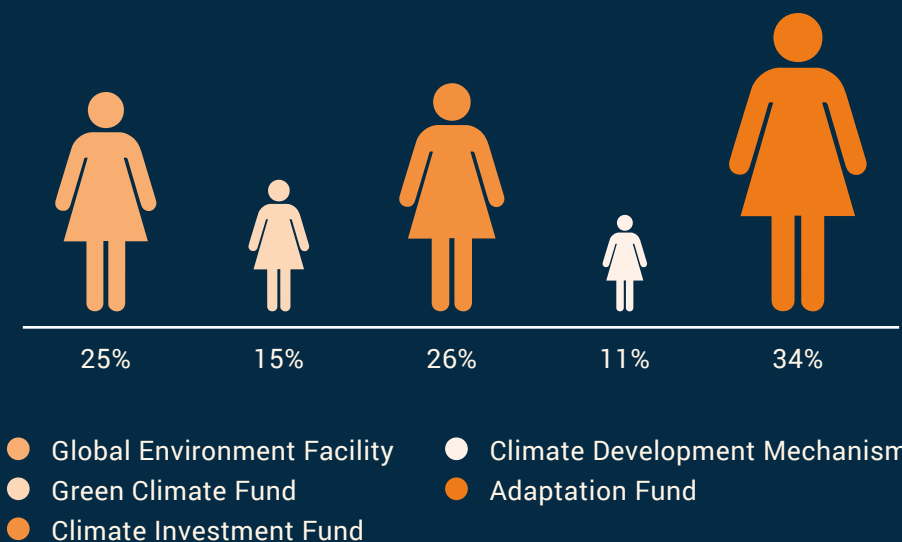


Box 1: Women’s participation in climate finance mechanisms

The participation of women in decision-making is a key aspect for enhancing gender equality. The insight of both women and men in decision-making on financing environmental and climate change projects can promote more effective management and better financial decisions—particularly in the developing countries that will primarily receive funds. However, recent Environment and Gender Index (EGI) analysis has found that women are far from being equally represented in leading positions on finance, with only 14 of 193, or 7%, of Finance Ministers in 2015 being women. More specific to climate change financing, governing bodies of the major

multilateral climate financing mechanisms have, on average, only 22% women—with a wide variance among the different climate funds. For example, the board of the AF includes the highest percentage of women with 34%, while the nascent GCF, with only 15% of its board and alternate board member positions filled by women, is less favourable—and this despite having a mandate in its governing charter for gender balance on its board (see Figure 1). Demonstration of gender equality on these multilateral financing mechanisms is crucial to signal at the national level the need for inclusive and equitable means to participation and access to funding.

Figure 1: Participation of women on climate finance mechanism boards





Most existing dedicated multilateral climate finance mechanisms—that is, four of the five major institutions—did not have a gender mandate or an understanding of the importance of integrating gender considerations when they were established. However, most have made substantial efforts and significant progress integrating gender considerations into their policies, programming, or allocation practices over the past few years. This retroactive integration of gender considerations was due both to outside pressure by gender and climate change advocates and donors, as well as an internal recognition that ‘gender-blind’ projects and programmes are non-inclusive and often underperform relative to gender-responsive projects and programmes.

The development of gender policies can also be attributed as a response to the Rio Conventions, all of which advanced gender mainstreaming into policies, action plans, and a substantial number of mandates from their Conferences of the Parties (COPs) including those of the Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention to Combat Desertification (UNCCD). The latest example is the mandate in the GCF for a gender-sensitive approach to its financing in its charter with subsequent Board decisions supporting a gender mainstreaming approach, thereby making it the first multilateral climate fund to recognise the vital role of promoting gender equality and women’s empowerment in combating climate change prior to the first dispersal of funds.

Nevertheless, substantial room for improvement remains. One main challenge is to ensure that gender considerations are not addressed as a largely sidelined and insulated ‘add-on’ in the form of pilots or special projects, but that they are systematically and mandatorily integrated into all operational planning and procedures. A gender-responsive approach to funding climate action will not only alter how funding decisions are made and implemented by allowing for the participation of women and men as equal stakeholders throughout a project/programme cycle but by its virtue will also fundamentally change the focus of funding operations, often toward more community-based and driven, smaller scale activities providing multiple benefits, including substantial non-climate benefits. Such an approach firmly anchors all climate action in a broader sustainable development context that is aimed at addressing the needs of recipient countries and its most marginalised and vulnerable communities and peoples.

The following sections of this chapter evaluate the main multilateral climate finance mechanisms as they were chronologically established, giving an overview of the funds, the process, and the progress in addressing the principles of gender equality and women’s empowerment within them, as well as a way forward for enhancing gender responsiveness in climate financing.

**Table 1: Snapshot of the five main multilateral climate finance mechanisms**

Fund	Secretariat location	Establishment	Fund objective	Gender in organisational structure
GEF	Washington, D.C. USA World Bank serves as the trustee of the GEF	Established in 1991 and in 1994 became the financial mechanism for the UNFCCC, the CBD, the UNCCD and multilateral environmental agreements on mercury and persistent organic pollutants. The GEF has a climate change focal areas and is currently in its sixth four-year replenishment period (GEF 6). It administers the adaptation-focused Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF) under the UNFCCC.	Assist in the protection of the global environment and to promote environmental sustainable development.	GEF Policy on Gender Mainstreaming Gender Equality Action Plan (GEAP) Gender specialist
CDM	Bonn, Germany Governed by United Nations (UN) body	CDM was launched in 2001 as a project-based market mechanism for leveraging private finance for new and additional project activities that reduce greenhouse gas (GHG) emissions beyond baseline levels.	Stimulates sustainable development and emission reductions, while giving industrialised countries some flexibility in how they meet their emission reduction limitation targets.	
AF	Washington, D.C. USA World Bank (WB) serves as a trustee of the AF; its Secretariat is hosted by the GEF	Established in 2001 to finance adaptation projects and programmes. The Adaptation Fund is financed by a 2% levy on CERs issued by the CDM as well as developed countries' voluntary grant contributions.	Finance concrete adaptation projects and programmes in developing country Parties to the Kyoto Protocol (KP), in an effort to reduce the adverse effects of climate change facing communities, countries and sectors.	Human rights and gender equality as principles under its environmental and social policy

**Table 1: Snapshot of the five main multilateral climate finance mechanisms (Cont.)**

Fund	Secretariat location	Establishment	Fund objective	Gender in organisational structure
CIF	Washington, D.C. USA	Established in 2008 with the Clean Technology Fund (CTF) and a Strategic Climate Fund. (SCF), which includes a Pilot Programme on Climate Resilience (PPCR), the Forest Investment Program (FIP) and the Scaling Up Renewable Energy Program (SREP).	Provide innovative country-led investments in clean technology, renewable energy, sustainable management of forests, and climate-resilient development.	Gender Action Plan
	WB serves as a trustee of the CIF and hosts the CIF Administrative Unit			Gender specialist
GCF	Songdo, Korea	Established by mandate of the UNFCCC COP in 2010 as part of the UNFCCC financial mechanism; fully operationalised in 2015.	In the context of sustainable development, promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to limit or reduce their GHG emissions and to adapt to the impacts of climate change, taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change [...] and taking a gender-sensitive approach.	Gender considerations anchored in the GCF Governing Instrument
				WB serves as interim trustee



Global climate finance mechanism architecture

In the 1990s, public funds—such as those affiliated with the UNFCCC—began to mobilise financial resources from developed nations to help developing nations combat global climate change and deal with its effects. The architecture of global climate finance mechanisms is complex and it is still evolving, with a clear definition of what constitutes ‘climate finance’ yet to be agreed on.⁵

The mechanisms work in different ways to provide funding to countries. Funds flow through multilateral channels within and outside of the UNFCCC finance mechanisms, as well as increasingly through bilateral channels, and in some recipient countries through national climate change funds.⁶

The types of climate finance available through these channels vary from grants and concessional loans, to guarantees and private equity, with each funding mechanism having different objectives, modalities, and governance structures. According to a study by the United Nations Development Programme (UNDP) in 2010, internationally there were already more than 50 multilateral, bilateral, and domestic public funds; 45 carbon markets; and 6,000 private equity funds providing financial opportunities for countries to tackle climate change and to address their development needs.⁷ ¹¹

While the multitude of options for access to climate change finance for recipient countries is increasing, it has made the process of receiving funds more complicated. It has also become increasingly difficult to monitor, report, and verify (MRV) climate finance, and account for its effective and equitable use, which then has significant implications and impacts on promoting gender equality.⁸

Bilateral climate finance

contributions are from a single donor country to a single recipient country (for example via bilateral channels), in contrast, **multilateral contributions** are provided by a group of countries, and channelled through multilateral institutions representing a group of countries—such as the WB or the GEF, to one or more recipient countries.

11. The UNFCCC Standing Committee on Finance issues a Biennial Assessment and Overview of Climate Finance Flows, with the most recent issued in 2014 where updated information on overall climate financing through different channels can be accessed http://unfccc.int/cooperation_and_support/financial_mechanism/standing_committee/items/8034.php



Given the diversity of climate finance mechanism architecture and processes, examples of the successes—and challenges—of the different mechanisms in providing an effective structure for maximising impacts, efficiency, and environmental and gender equality co-benefits, can be complex and challenging.⁹ At this point, however, in developing countries, existing mechanisms have largely failed to address the specific gender-differentiated impacts of climate change, especially on women. Some, but far from all, mechanisms have begun to include gender dimensions either through policies and mandates, or as an additional consideration at varying stages of project and programme cycles, but often are at a minimal or incomplete level.

The climate finance mechanisms analysed in this chapter deliberately focus on just a small subset of actors in the overall global climate finance architecture, namely the most prominent multilateral climate finance mechanisms, which are largely channeling public funding. While they only provide a small proportion of overall financing for climate action available globally, they hold a core importance

for supporting concrete mitigation and adaptation projects and programs in developing countries and have an important global signaling and standard-setting function, according to a recent UNFCCC report on global climate finance flows.¹⁰ It is therefore useful to look at these actors' performance in gender mainstreaming efforts as indicative for best practice developments as well as fundamental shortcomings of many more actors in the much broader global climate financing landscape.

The handful of multilateral climate funding mechanisms reviewed here have various levels of gender consideration and integration in project and programme planning and implementation because of the different types of projects and programmes as well as the institutional anchoring and support for gender inclusion. Raising recognition for increased efficiency and effectiveness in climate change projects that integrate gender, as well as international advocacy, is working as a catalyst for continued action by increasing the prominence and integration of gender concerns in climate finance mechanisms' policies and programmes.



6.1 Climate finance mechanisms

Global Environment Facility (GEF)

The GEF, established in 1991, is a partnership for international cooperation where 183 countries work together with international institutions, nongovernmental agencies, indigenous and local communities, the private sector, and civil society, to address global environmental issues and promote sustainable development and livelihoods.

The GEF serves as a financing mechanism for the following conventions: CBD; UNFCCC; Stockholm Convention on Persistent Organic Pollutants (POPs); UNCCD; and the Minamata Convention on Mercury. The GEF also provides resources under the Montreal Protocol for economies in transition that are dealing with ozone-depleting substances. Moreover, since its inception, the GEF has implemented an International Waters Program and also provided funding to projects that generate multiple environmental benefits and that are consistent with the objectives of the United Nations Forum on Forest (UNFF).

GEF has a history of investing in local action to achieve their objectives for attaining global environmental benefits, but particularly in the past five years the GEF has made great strides to ensure that gender equality and women's empowerment are central to achieving these objectives. The GEF itself has found that when projects fail to address gender differences within the environmental context, they risk wasting development resources on projects and creating negative effects on welfare, equity, equality, and sustainability. It has also found that project results are often superior when gender considerations are taken into account during all processes of planning, design, and implementation. To increase efficiency of GEF projects in achieving their desired goals, projects should account for gender-differentiated perspectives and priorities that men and women exhibit regarding access to and control over environmental quality, natural resources, and energy.¹¹

**Table 2: Gender milestones in GEF**

Year	Milestones
1996	The GEF Council approves a policy on Public Involvement in GEF Financed Projects, which includes specific provisions on gender issues.
2009	The GEF publishes <i>Mainstreaming Gender at the GEF</i> , reflecting GEF's commitment to highlight the link between gender equality and environmental sustainability and analysing the scope, content and depth of gender mainstreaming in GEF's projects.
2011	The GEF Council approves the GEF Policy on Gender Mainstreaming, clarifying GEF's commitment and minimum standards to promote gender equality through its operations.
2011-present	Implementation of annual assessments of existing GEF Agencies on gender mainstreaming, reviewing whether they meet the minimum requirements through their own policies or actions of the GEF Policy on Gender Mainstreaming, as well as compliance of the new GEF Partner Agencies with the GEF policy during the accreditation process.
2014	The GEF Council approves the GEF Gender Equality Action Plan (GEAP), outlining a step-wise approach in achieving the goals and objectives of the GEF gender mainstreaming Policy, ensuring that project results and progress related to gender can be better designed, implemented and reported.
2015	As part of the implementation of GEAP, the GEF establishes the Inter-Agency Working Group (IAWG) on Gender to serve as a platform to accelerate the GEF Secretariat's and the respective partner organisations' efforts to mainstream gender equality and empower women as part of the broader context of social equity, social inclusion, and co-benefits related to environmental sustainability.



The Small Grants Programme (SGP), the GEF's window for non-governmental organisations (NGOs) and civil society organisations (CSOs), is an example of how the GEF has promoted a more gender sensitive approach in some of its work. SGP considers gender a cross-cutting issue since its inception in 1992, and has provided over 18,500 grants to communities in 131 developing countries to address climate change abatement, conservation of biodiversity, prevention of land degradation, protection of international waters, and reduction of the impact of persistent organic pollutants while generating sustainable livelihoods. Of the projects completed in the year ending 30 June 2014, over 60% were gender mainstreamed, addressing gender considerations for both men and women in their design and implementation, and over 33% were led by women.¹²

READ MORE IN CHAPTER 7!

WOMEN SOLAR ENGINEERS IN AFRICA AND ASIA: EMPOWERING RURAL WOMEN TO CREATE OFF- GRID SOLAR ELECTRIFICATION

*A joint initiative of the UNDP GEF SGP and the Barefoot College
for Solar Electrification*



In 2009, the GEF produced a portfolio review and analysis, which was included in the publication, *Mainstreaming Gender at the GEF*. This portfolio review assessed the nature of gender inclusion within a portfolio of GEF projects across key sectors during 2003-2006. It assessed 172 projects and found that 45% included some gender related keywords, and approximately 40% of the 172 projects reviewed included at least some kind of gender mainstreaming

action within a project according to certain criteria and actions. The GEF's conclusion was: "While there were several GEF projects with strong gender elements, gender mainstreaming in GEF projects was generally found to be limited, compared to similar thematic analysis by other organisations".¹³ The *Fourth Overall Performance Study of the GEF* (2010) also found that: "social and gender issues in GEF strategies and projects are not addressed in a systematic manner; the current approach of relying on the application of social and gender policies of individual agencies to all GEF projects is inadequate and leads to differences in approach."¹⁴

One of the results of the 2009 review was the development and approval in 2011 of a Gender Policy for the GEF by the GEF Council, the governing body. The Policy contains requirements both for the GEF Secretariat as well as for the GEF Agencies. Some of the requirements included in the policy are:

- In order to be eligible to receive GEF financing for GEF projects, all GEF Partner Agencies will be required to have established either: a) policies, b) strategies, or c) action plans that promote gender equality,
- The policies, strategies, or action plans of each GEF Partner Agency will need to satisfy the minimum criteria on gender mainstreaming that are included in the policy for the Agency's systems to be assessed as adequate,
- To support the application of the gender policy, the GEF Secretariat will coordinate the development of corporate-wide guidance for use by the GEF Agencies and GEF Secretariat program managers on the inclusion of gender aspects in the design of projects and on the monitoring and evaluation of gender dimensions in the context of its projects. Such guidance will take into account that not all



GEF projects involve gender aspects in equal measure, depending on the focal area and scope of the project, and

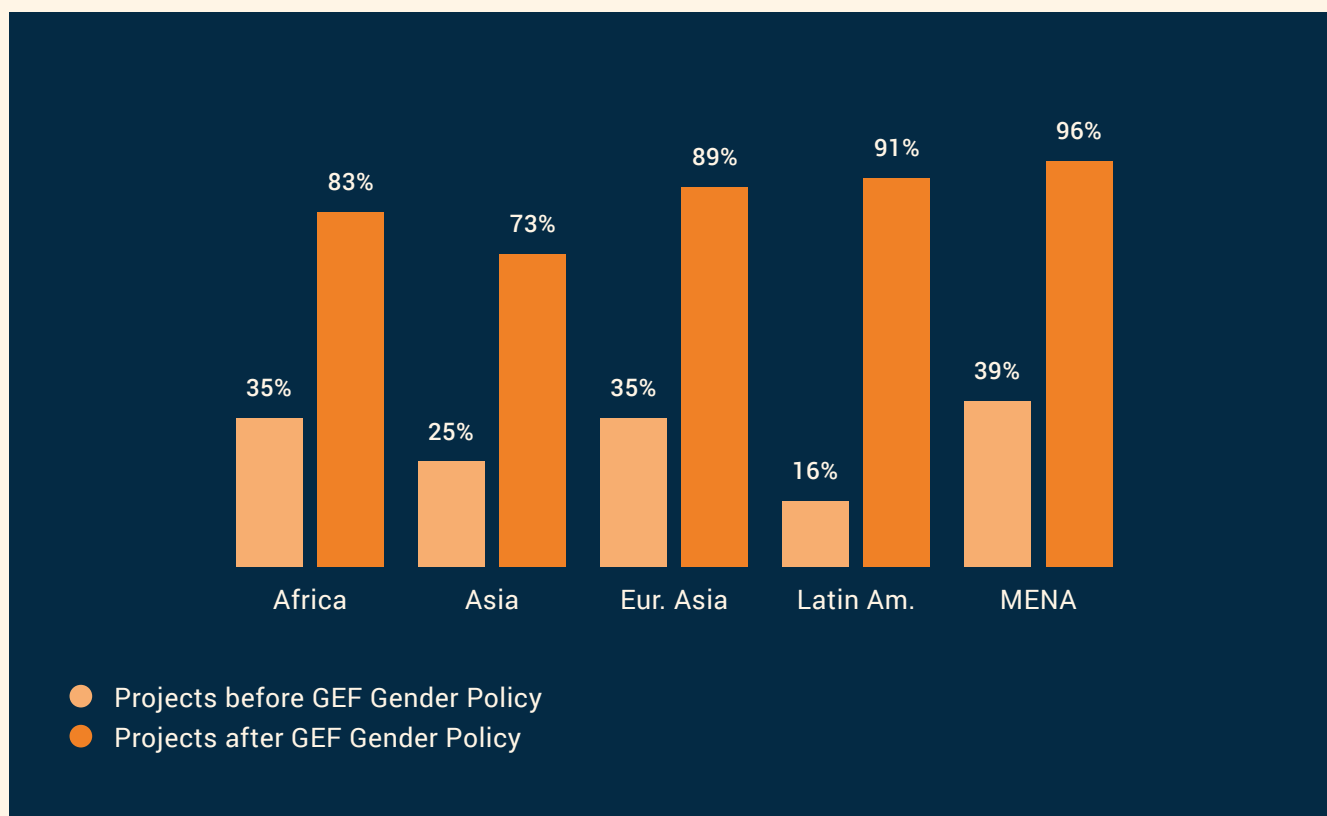
- The GEF Agencies shall incorporate such guidance into their project and programme proposals submitted to the Secretariat for review.¹⁵

In 2013, as part of the databases under the EGI Pilot phase, the International Union for Conservation of Nature (IUCN) examined the extent to which projects were gender-responsive before and after 2011 – when the gender policy mandate was incorporated at the GEF. Figure 2 shows that after 2011 there was a significant increase of inclusive gender language in project documents, which could be attributed to the policy influencing gender mainstreaming, or consideration, in projects. Regionally, Latin America saw the largest increase (75%) of gender-responsive projects before and after the gender mandate, and the Middle East and North Africa region ended up with the highest percentage of gender-responsive projects (96%) post-mandate.¹⁷

GEF PHASE 6 FOCAL AREAS

The 6th GEF programming period (GEF-6) was agreed by the GEF Council in October 2014 with USD 4.4 billion in funding over the next four years. GEF-6 embraces a new structure of focal areas in an attempt to work across conventions and sectors. The new focal areas include: biodiversity; climate change; international waters; land degradation; chemicals and waste; and, a multi-focal area including strategies for sustainable forest and land management; and development of corporate programs.¹⁶

Figure 2: Gender-responsive projects before and after GEF mainstreaming policy





Box 2: Gender Equality Action Plan: Pushing the gender agenda

The GEAP committed the GEF to continue to conduct and strengthen monitoring of the GEF portfolio on gender through the Annual Monitoring Review (AMR) and other existing mechanisms. Through these portfolio analysis, the GEF intends to see how gender issues are covered in different focal area portfolio, and learn lessons from the type of gender responsive tools and approaches that have been applied in attaining project outcomes and outputs. GEF reports show an increasing trend of the share of projects reporting on gender-specific information from 24% in fiscal year 2011 (FY11), 25% in FY12, and 44% in FY13 to 56% reported in the 2014 AMR (see Table 3). Among the 102 projects that were analysed in the 2014 AMR, 57 projects (56%) included some kind of gender-specific information. According to the analysis, 24% of the total projects (24 out of 102 projects) included some aspects of gender equality in the project results framework, including gender responsive

indicators, outputs, and/or outcomes. The most common gender indicator that was used in the portfolio was the percentage or number of women and men beneficiaries for specific project output. The review points to a set of important lessons learned including 1) gender analysis or socioeconomic assessment with gender focus at the outset of project preparation is very important in enabling appropriate gender responsive project design; 2) incorporating gender in the project results framework enables appropriate monitoring and consistency in reporting results over years; 3) the development and implementation of project specific Gender Strategy/Plan is an important tool to ensure comprehensive gender mainstreaming throughout the project; and 4) having gender balance in the project implementation team as well as having women's group as project partner helps to promote and ensure women's participation in project activities.

**Table 3: Gender mainstreaming in FY2014 GEF projects cohort¹⁸**

Focal Area	Number of projects reviewed	Number of projects that addressed gender issues	Number of projects that addressed gender in project results framework	% of projects addressing gender
Biodiversity	30	14	2	47
Climate change mitigation	22	4	2	18
Climate change adaptation	10	8	8	80
International waters	16	12	3	75
Land degradation	9	7	6	78
Chemicals	9	6	2	67
Multi focal area	6	5	1	83
Total	102	57	24	56

As the GEF moves forward with new and innovative investment strategies, it is committed to initiating and enhancing projects to more systematically incorporate the goals of gender equality and women's empowerment. The GEF GEAP, approved by the GEF Council in 2014, commits the Secretariat to enhance gender equality and women's empowerment dimensions in its policies, programs, and projects. Responding to the GEF-6^{III} Policy Recommendation, the GEAP was developed in close consultation with the GEF Agencies, Secretariats of the relevant Multilateral Environmental Agreements (MEAs) and other partner organisations to ensure coherence in the implementation of key

activities in the GEAP at both the corporate and focal area levels, including project cycle and result-based management. Recognising that each GEF Agency and partner organisation have different expertise, policy and approach to gender mainstreaming, the GEF Secretariat is seeking to facilitate as consistent gender mainstreaming approach as is feasible by building on and taking account of their respective experiences, knowledge, and procedures. Table 4 shows the main actions proposed.

III. This refers to the sixth replenishment of the GEF from 2014-2018.

**Table 4: Gender mainstreaming in FY2014 GEF projects cohort¹⁸**

Key elements	Actions (outputs)
Project cycle	<p>Develop a guidelines on mainstreaming gender in GEF Project Cycle.</p> <hr/> <p>Review and update GEF Project Templates and project screening worksheets.</p> <hr/>
Programme/ Policy	<p>Incorporate and strengthen gender elements in key GEF programs and projects, including Integrated Approach Pilots and SGP.</p> <hr/> <p>Support gender-responsive projects, based on country demand and in line with GEF-6 strategy.</p> <hr/> <p>Mainstream gender in key strategic GEF Council Documents, including relevant policies and guidelines, and review and, as necessary, update the GEF policy on Gender Mainstreaming.</p> <hr/>
Knowledge management	<p>Support the development of a gender responsive GEF Knowledge Management Strategy/Action Plan to effectively coordinate, generate and disseminate knowledge on gender equality as related to the GEF strategy and project portfolio.</p> <hr/> <p>Develop an interactive and dedicated webpage on gender, with a link to relevant GEF Agencies and partner's sites to facilitate the exchange of good practices, approaches and tools (including online training tools, webinars, etc.).</p> <hr/> <p>Develop analytical products on thematic issues (e.g., gender and protected areas management, gender and renewable energy, etc.), aligned with the gender learning questions to identified under each focal area and their results framework.</p> <hr/>
Results-based management (RBM)	<p>Report on the annual progress on the implementation of the GEAP, based on agreed RBM strategy.</p> <hr/> <p>Monitor and report on the GEF-6 core gender indicators at the corporate level.</p> <hr/> <p>Review and identify gender responsive focal area indicators, which are to be cross-referenced in the RBM strategy.</p> <hr/> <p>Develop a guidance note and list of gender-responsive indicators that are relevant for GEF projects under different focal areas.</p> <hr/> <p>Evaluate gender equality results of GEF projects.</p> <hr/> <p>Develop detailed implementation work plan and budget for implementing the Gender Equality Action Plan, and update it as needed.</p> <hr/>



Table 4: Gender mainstreaming in FY2014 GEF projects cohort¹⁸ (Cont.)

Key elements	Actions (outputs)
	Enhance staff capacity and expertise at the GEF Secretariat by creating a gender anchor with gender specific expertise to oversee coordination to implement the GEAP, in addition to having gender focal points from relevant teams within the GEF Secretariat.
	Establish and clarify accountability structure and appropriate incentive system on gender equality among GEF Secretariat management and staff.
	Establish and Inter-Agency Working Group on Gender (note: it will be functional throughout FY15-18).
	Conduct capacity-need assessment and provide training opportunities for GEF Secretariat staff on issues related to gender equality.
Capacity development	Provide support and guidance on the implementation of the GEF Policy on Gender Mainstreaming of the GEF Operational Focal Points and other partners.

The Secretariat is committed to maintain and enhance consultations and close collaboration with the GEF Agencies throughout the implementation of the GEAP. The need to establish a form of Inter-Agency Working Group on Gender was recognised as part of the development and implementation of the GEAP and the IAWG was formally established in June 2015.

Another area in which the GEF has taken important steps is in the incorporation and development of gender indicators. This is expected to provide further guidance for the preparation of the monitoring and evaluation reports submitted by GEF Agencies, some examples are included below in Table 5.

**Table 5: Results framework for gender mainstreaming GEF-6 core gender indicators**

Outcomes	Gender indicators	Source of verification	Targets
Project design fully integrates gender concerns.	1. Percentage of projects that have conducted gender analysis during project preparation	Project Document at CEO endorsement	1. Overall portfolio Baseline 18% FY18: 50%
	2. Percentage of projects that have incorporated gender responsive project results framework (e.g., gender responsive output, outcome, indicator, budget etc.)		Among relevant portfolio. Baseline: n/a FY18: 100%
Project implementation ensures gender equitable participation in and benefit from project activities.	3. Share of women and men as direct beneficiaries of project	Project Document at CEO endorsement	2. Baseline: 57% FY18: 100% of relevant portfolio
	4. Share of convention related national reports incorporated gender dimensions (e.g., National Biodiversity Strategy and Action Plan (NBSAP), National Adaptation Programme of Action (NAPA), Transboundary Diagnostic Analysis (TDA, /Strategic Priority for Adaptation (SPA), etc.)		1. Overall portfolio Baseline 18% FY18: 50%
Project monitoring and evaluations give adequate attention to gender mainstreaming.	5. Percentage of monitoring and evaluation reports (e.g., Project Implementation Reports, Mid-term Evaluation Reports, and Terminal Evaluation Reports) that incorporates gender equality/ women's empowerment issues and assesses results/progress	Project Implementation Reports, Mid-Term Evaluation Reports, and Terminal Evaluations Reports	Among relevant portfolio. Baseline: n/a FY18: 100%
			2. Baseline: 57% FY18: 100% of relevant portfolio
			5. Baseline: 41% FY18: 70%



Some key access points for improving the gender-sensitive approach in the GEF:

- Identify how projects currently address gender and the gender relevance for each focal area to reduce variance and increase support on how gender-specific considerations can impact, and improve, global environmental benefits in each focal area.
- Support cohesion among GEF agencies and gender policy, as well as adherence to the GEF GEAP by the agencies for promoting gender equality in the context of project intervention, which also apply to GEF projects.
- Build the gender knowledge on linkages and knowhow for integrating gender throughout the various GEF focal areas, and develop new cohesive guidelines and targets across the focal areas—an interesting starting point could be the development of analytical knowledge products on thematic topics (i.e., on gender and renewable energy).
- Identify and utilise existing expertise, knowledge, procedures and tools to facilitate a consistent gender-responsive approach within different GEF agencies and other partners on gender and the various focal areas.
- Build more robust, bottom-up processes that could develop gender-specific indicators according to the different focal areas, which would enhance the aggregation of present indicators.

Clean Development Mechanism (CDM)

The CDM was launched in 2001 as a private project-based market mechanism that would leverage private finance for new and additional project activities in developing countries that reduce GHG emissions beyond baseline levels. The CDM—as part of the UNFCCC mechanism—was originally designed as a mitigation mechanism to meet two objectives:

to assist Annex I parties in complying with their emission limitation and reduction commitments and to assist non-Annex I parties in achieving sustainable development. The CDM is primarily a mechanism for mitigation, rather than adaptation, projects focusing particularly on large-scale mitigation projects in a few emerging market economies. While the CDM has proven to be the largest driver of private finance for processes under the UNFCCC, it has also been criticised for prioritising its first objective of emissions reductions over sustainable development due to the fact that projects are implemented in only a few countries, which seemingly undermines the larger sustainable development support CDM claimed to provide for developing countries. Given that there is a general lack of data and knowledge pertaining to the intersection of social issues, including gender and large scale energy, mitigation and technology development and transfer, mitigation projects, such as some of those implemented under CDM, continue to often not include gender considerations as a result of few direct incentives for projects developers to seek out projects with high impacts on sustainable development and local livelihoods. And in recent years, studies have shown that there has been a lack of social considerations in CDM project design, which prompted recognition of the lack of gender considerations, as well as the CDM thwarting sustainable development goals.

As a nascent mechanism, the literature suggests that there was great skepticism on the ability of the CDM to reach its sustainability goals. It was believed that the CDM would benefit those countries and individuals that had the best existing advantage for it in their institutional capacity and energy infrastructure.¹⁹ However, least developed countries and marginalised populations would find it most difficult to take advantage of the CDM benefits: structural constraints



such as lack of education and entrepreneurial skills, as well as cultural restrictions, tend to inhibit women's efforts in these mitigation activities, in particular.²⁰

But it was also suggested that the CDM had the potential to create and support energy infrastructure in a socially responsible, sustainable manner for large populations.²¹ This could provide cleaner forms of energy, alternative income options, and could lessen time spent on unpaid care work—leaving more time for productive activities such as education. Furthermore, clean energy has important health benefits particularly for women by alleviating them from the task of firewood collection and by limiting exposure to indoor air pollution (i.e., from traditional cookstoves). Unfortunately though, the carbon market, unlike emissions reductions, does not monetize development benefits, meaning that there is little incentive for project developers to seek out projects that have significant impacts on livelihoods and local sustainable development. These are seen more as an afterthought or added benefit, after searching out opportunities for large-scale emissions reductions; this has reduced the number of projects through the pipeline that may have been supportive to the CDM's second objective—sustainable development.²²

In 2010, Finland's Ministry of Foreign Affairs conducted a gender analysis of the CDM, *Gender and the Clean Development Mechanism: Opportunities to Promote Local Positive Gender Impacts*,²³ providing an indication of potential impacts of selected project types. The study found that the CDM has the potential to promote gender equality in a variety of ways, but opportunities vary greatly across project types and methodologies. Still, it provided an assessment of gender, as well as identified existing entry points for enhancing gender considerations and gender-positive impacts on projects including some of the following:

- The CDM and its projects are not gender-neutral; instead, they have considerable potential to promote gender-positive sustainable development goals,
- The most obvious gender-positive impacts of CDM relate to project activities which offer cleaner, more efficient and affordable energy for cooking, lighting and electrical appliances in rural households that previously relied on traditional fuels such as firewood, dung, coal and kerosene,
- Some CDM projects promote gender equality without explicitly recognising it, for example women's participation in the stakeholder process was rarely mentioned in the CDM documentation, but proof of women's engagement was evident through review and analysis,
- The extent to which CDM's gender-positive potential is realized varies across project activities, local contexts, and stakeholders. CDM project activities can also foster opportunities to promote gender equality in terms of poverty alleviation, education and social empowerment, and
- Recognition of the project's potential impacts—gender-positive and other—at the design stage helps to formulate projects that maximise positive impacts, enjoy local support, and optimise project performance.

As the first commitment period of the KP came to an end in 2012, reports that evaluated the CDM's impact for sustainable development were produced.²⁴ One of the sustainable development dimensions analyzed in the 2012 report *Benefits of the CDM* was the 'social' dimension which includes the indicator, 'Empowerment of women, care of children and the frail,' described as "Provision of and improvements in access to education and training for young people and women; enhancement of the position of women and children in society".²⁵ While this is the first recognition by the CDM to include some gender dimensions within its own project reviews, it also highlights the work that



needs to be done to enhance gender equality in CDM mitigation financing.

To illustrate, the report spanned a broad scale of scope and content across CDM projects, but found that only five of 3,864 projects reviewed included the sustainable social development indicator of 'Empowerment of women, care of children and the frail'. This is a strong indication that mainstreaming gender into the CDM in a context of sustainable development is happening in a piecemeal fashion, and very slowly. Of course, this is only representative of the inclusion, or exclusion, of gender elements and women's empowerment in the planning process for systematic consideration, so the project could ultimately be found to have a positive social impact in its implementation.

While the CDM is an official mechanism of the UNFCCC, which now—since UNFCCC COP18 in Doha (2012)—includes specific requirements for gender considerations, the structural nuances of CDM hinders the influence of UNFCCC decisions. The Marrakesh Accords initiated less control by the CDM Executive Board to influence host country processes and reporting. But perhaps more important is the fact that the CDM, as opposed to other financing mechanisms, operates under the CMP^{IV} rather than the COP. This means that decisions such as the COP18 Doha gender decision, or the COP20 Lima Work Programme on Gender, neither of which were endorsed by the CMP (the Meeting of the Parties under the KP), procedurally are not mandated for implementing, and countries not held accountable to them.

Also in 2012, the UNFCCC Secretariat produced the publication *CDM and Women*²⁶ highlighting how some of the CDM methodologies could be gender-friendly. It focuses on the beneficial impacts CDM has either directly or indirectly on the lives and livelihoods of women and children, and their communities. The publication highlights a few gender-inclusive methodologies that offer either 'household-level improvements' such as fuel-efficient cook stoves, or 'broad-level improvements' through, for example, rural electrification, as well as providing information on case study examples of these methodologies. It also indicated that the UNFCCC Secretariat and CDM Executive Board are committed to enhancing gender mainstreaming, and notes key activities^V to improve the gender-sensitivity of CDM work, including:

- Enhancing the geographical reach of the CDM, which translates into increased participation by vulnerable social groups, including women and children,
- Ensuring operationalisation of a loan scheme (CDM Loan Scheme),
- Assisting project development in least developed countries and small island developing States,
- Developing top-down standards and standardised emissions baselines, which could benefit the livelihoods of vulnerable social groups, and
- Implementing an e-learning course that covers the main aspects of gender and the CDM.

The CDM has the potential to promote gender equality in a variety of ways, but at present is not supporting gender mainstreaming in a comprehensive manner, in any component of planning, policies and action.

IV. The CMP serves as the Conference of the Parties serving as the Meeting of Parties to the Kyoto Protocol

V. As of July 2015 the UNFCCC Secretariat indicates that all of these strategies have been underway with the exception of the e-learning course.



The current structure does offer possible entry points, in stakeholder engagement, and for improving information on gender in mitigation and in particular renewable energy, which can then support enhancing gender-responsive activities in the CDM.

Some key access points for improving the gender-sensitive approach in the CDM

- Strengthen gender competency of CDM Executive Board and implementing agencies.
- Update CDM methodologies and policies to coordinate with the UNFCCC gender mandates of COP decisions.
- Engage women and men stakeholders equally at project onset to identify and evaluate potential impacts and benefits for individuals and communities to ensure sustainable development progress.
- Build the capacity of project appraisers, who are often very technical in their training and expertise, beyond a narrow focus on emissions reductions in order to better understand and be proactive regarding sustainable development issues, especially to which gender equality is intrinsic; also, reciprocal training of social and gender experts on CDM technology, methodology, CERs, etc., as well as broader climate change issues, is key.
- Conduct gender analysis of CDM projects for current evaluation of gender-inclusiveness and level of gender integration.
- Identify and/or develop strategies to facilitate and increase access to the market for civil society and local community-based organisations.
- Encourage institutional and/or sovereign buyers of CERs to require gender-sensitive and gender-responsive planning as part of the conditions of purchase regarding new CDM projects.

Adaptation Fund (AF)

The AF, operational since 2009, was established to finance concrete adaptation projects and programmes in developing countries that are Parties to the KP and are particularly vulnerable to the adverse effects of climate change. With overall funding availability of USD 477.4 million, since 2010 the 16-member AF Board—represented equitably by six developed and ten developing country Board members—has approved USD 318 million for 48 adaptation projects in vulnerable developing countries. Of these, 13 are implemented by National Implementing Entities (NIEs) under the Fund’s direct access modality, which it pioneered, and through which accredited national organizations can receive funding directly from the AF without the need to go through a multilateral organisation, such as a UN agency, or a multilateral development bank as an intermediary.

The main text of AF’s operational policy and guidelines in its most updated 2014 version makes no explicit mention of gender or women. However, annexes dealing with the AF’s Environmental and Social Policy (ESP) and giving guidance to implementing entities (IEs) on how to comply with the ESP, as well as a template for funding requests, do include some gender considerations.^{27,28,29} In the funding template, implementing entities at all levels—multilateral, regional and national—are specifically requested to detail the gender considerations relevant for enhancing project and programme economic, social and environmental benefits, especially geared toward the most vulnerable communities. This is the result of a continuous learning approach in the AF, drawing *inter alia* on mandatory annual performance reviews of projects and programmes under implementation. The reporting template for these performance



reviews specifically requests information on how gender considerations were taken into account and about the lessons learned. While some but not all early AF project and programme proposals included gender considerations, they tended to do so in a very uneven fashion. The AF addressed this by updating its operational procedures and templates in 2011 by requiring the inclusion of gender considerations in project planning and stakeholder consultation processes in the funding requests that IEs submit as an important enhancement to the AF's review criteria for proposal approval. This in fact made gender integration a key criterion for the approval of AF projects.

In November 2013, the AF Board approved a new ESP, which further strengthened the AF's attention to gender. The policy outlines 15 key principles, including importantly respect for human rights and support for gender equity and women's empowerment as key principles for the design and implementation of all its projects and programmes. Project and programmes under the AF have to be designed and implemented in a way in which both men and women are 1) able to participate fully and equitably; 2) able to receive comparable social and economic benefits; and 3) protected from suffering disproportionate adverse effects during the development process.³⁰

In light of the AF ESP, the funding request template was reconfigured. IEs must now provide an overview of all identified environmental and social risks, including with regard to gender equity and women's empowerment, and detail needs for further assessment and risk management. With the adoption of the ESP, the Fund's accreditation procedure has also been updated. All new entities seeking accreditation to the AF (and joining its current class of 19 national, four regional and 11 multilateral

implementing entities) have to show their ability to comply with the environmental and social principles of the AF, including on gender equity and women's empowerment. The AF Secretariat and Board also recently concluded their review and modification of the AF's application process for project/programme financing to include compliance with the full ESP. A guidance document for AF IEs finalised in May 2015³¹ recommends that IEs:

- Conduct an initial project and sector-specific gender impact analysis,
- Elaborate a pre-project analysis on the legal and regulatory context of an intended project or programme with respect to gender equality, and
- Ensure effective stakeholder consultations, proactively planning, for example, separate consultations for women and men if that is appropriate to existing traditional norms/culture and to accommodate women's care responsibilities/schedule.

The AF Strategic Results Framework with its seven outcome indicators and a set of core indicators, including on "number of beneficiaries" recommend disaggregation of data by sex, both on the project/programme level and at the portfolio level to identify the number of women versus men benefitting from or targeted by AF project/programme implementation wherever possible. This data is collected through an individual project results tracker throughout the project's implementation (with baseline number, progress against the baseline and final results). This quantitative analysis complements the annual qualitatively focused narrative progress and performance reviews prepared by IEs for all AF projects/programmes under implementation, which, as noted above, also requires an explanation of gender considerations.



Since 2014, and responding to demands by prospective and existing NIEs primarily, an AF Readiness Support Programme has provided capacity building on the ESP and AF accreditation procedures, as well as encouraged peer-to-peer learning and mentoring arrangements between accredited NIEs and those seeking AF accreditation. Those efforts should be focusing more on how to best integrate gender considerations into AF project and programme proposals and secure their follow-through in implementation, including by strengthening the gender-awareness and gender capacities of NIEs.

At their April 2015 Board meeting, AF Board members considered whether or not to develop a full-fledged AF gender policy. Having such a policy would be necessary if the AF, which commonly faces questions about its mid- to long-term funding sustainability, decided to seek accreditation as an implementer for concrete smaller-scale adaptation projects with the GCF, as suggested by some to secure the AF's future.³² The AF Board decided instead as a first step to compile and analyse all of the AF's gender-related policies and procedures to ascertain if such a separate policy was needed, or if existing practice might be already sufficient to guarantee a gender-sensitive approach to AF funding.³³ The document for Board consideration concluded that while the AF has taken significant steps to acknowledge and work towards addressing the special vulnerability of women and girls in its projects, the efforts have been piecemeal and lack a comprehensive and policy-guided approach. The document recommended the development of a principles-based separate gender

policy for the AF based on a review of the gender policies of the GEF and the GCF and proposed such a draft policy to be further refined by a consultative process.³⁴ At its October 2015 meeting, the AF Board underscored the importance of streamlining and strengthening the integration of gender consideration in AF policies and procedures, welcomed the draft gender policy presented and decided to move forward by launching a call for public comments on the draft policy. A revised proposal for an AF gender policy based on inputs received will be presented for approval at the next AF Board meeting in early 2016.³⁵ It is to be accompanied by an action plan and a cost estimate on how to operationalise such a policy, including any necessary changes to relevant AF policies and procedures.

Having a separate AF gender policy and action plan for its implementation will mean the systematization and comprehensive expansion of some existing promising avenues in the AF implementation practice. This will have an enhanced impact on the AF's ability to meet the needs of those most vulnerable to climate change, as is the mandate of the Fund.

As the AF continues to focus on concrete, local, community-driven adaptation measures, the possibilities for local women's groups to act as executing entities (EEs) for projects and programmes by working directly with AF implementing entities should be especially expanded. Early experience in the AF with such service provision by local women's organisations has been very successful, as the first just-completed AF project in Senegal illustrates (Box 3).



Box 3: Women's participation in gender-responsive AF project in Senegal

The Adaptation to Coastal Erosion in Vulnerable Areas four-year project in Senegal, supported with USD 8.6 million from the AF and the first AF project to close in 2014, aimed to protect people, houses, and economic and cultural infrastructure at three coastal sites against coastal erosion and salinisation of agricultural lands. It was managed by the *Centre de Suivi Ecologique* (CSE) as the NIE and relied on *Dynamique-Femme*, an association of about 60 local women's groups with 2,600 members, as one of three project-executing entities. Association members worked as part of the project to protect and clean up beach areas (including by addressing the lack of sanitation infrastructure for local residents in

the coastal community of Joal, one of three project sites) and rehabilitated infrastructure for traditional local fish processing. Women in Senegal's coastal communities traditionally process and sell fish, while men do the fishing. The involvement of *Dynamique-Femme* as an executing entity in the project drew on their local community ties and knowledge and prior experience with similar activities, including the association's network for information outreach and capacity building activities with local communities.^{vi}

VI. For more detailed project information, please see the project description at <https://www.adaptation-fund.org/project/adaptation-to-coastal-erosion-in-vulnerable-areas/>.

As executing entities, local women's groups can gain access to AF resources that they would otherwise not be able to draw upon for project implementation, since the majority of these organisations would not be able to be accredited as AF NIE themselves under strict AF accreditation guidelines that limit developing countries to only one NIE and require compliance with AF fiduciary standards and the ESP. As executing entities, local women's groups also have the opportunity to implement a more gender-responsive approach because of their familiarity with gender-specific grassroots community needs and concerns, as well as local cultural contexts compared with a national or international implementer.

In addition to a focus on the potential of local women's groups as executing entities of AF projects, the distribution of AF funding in recipient countries in the form of smaller grants (i.e., under USD 100,000), through a domestic small grants facility project should be further explored. The AF is pioneering such an "enhanced direct access" to project funding in which decision-making over individual sub-projects is given to an accredited NIE, in a USD 2.4 million project approved by the Board in October 2014.^{vii}

VII. For more detailed project information, please see the project description at <https://www.adaptation-fund.org/project/taking-adaptation-to-the-ground-a-small-grants-facility-for-enabling-local-level-responses-to-climate-change-2/>.



Box 4: Community Adaptation Small Grants Facility

The Community Adaptation Small Grants Facility (SGF) is to be implemented by South Africa's NIE South African National Biodiversity Institute (SANBI) in two project areas over the next three years, pioneering the use of a 'facilitating agency' for each project area as a provider of knowledge and technical resources, which will work directly with local stakeholders and community members for implementation at the grassroots level. The small grants will be directly accessed by the communities and will support climate-resilient agriculture and livelihood measures and the 'climate-

proofing' of settlements drawing on local needs and the technical advice and support of the facilitating agencies. It is also meant to empower local institutions to identify and implement community adaptation response measures. The vetting and selection of small grants proposals—small grant project selection criteria require support for vulnerable local communities and especially women—as well as the monitoring and evaluation process and the transfer of the small grants in tranches will be handled by a South African EE.

Local women and women's groups, who often lack the capacity to access and manage larger climate financing amounts, and whose concrete communal resilience-building activities often require smaller amounts (at first), will directly profit from such a small grants provision. Currently, climate financing shies away from the higher transaction costs and technical support needed for the provision of small project grants and their accounting, monitoring and evaluation, although these implementation costs are made up while ensuring direct benefits for local recipients. It also supports a long-term vision of real country ownership and direct access to climate financing in which local communities and institutions are directly put in charge of concrete climate actions. This is achieved by building their capacity to take charge of building and protecting their livelihoods long-term.

Importantly, the AF project proposal for such a Community Adaptation SGF incorporates a learning component to facilitate the scaling up and replication of small grants financing approaches (for example by training local networks, but also for case studies). The South African example

ACCESS MODALITIES

Multilateral access means access to the fund through an accredited multilateral implementing entity, such as the World Bank or United Nations Environment Programme (UNEP); **Direct access** means access to the fund through an accredited national implementing entity (NIE); in both cases, all funding decisions are made by the board of the fund; and in contrast, in **enhanced direct access** the fund board decides the size of a lump sum of funding accessible to an NIE, while individual funding decisions for several projects up to the approved lump sum amount are made by the NIE.



provides also an excellent opportunity for peer-to-peer learning among other AF NIEs and is an early best practice example for the replication of similar approaches under the GCF's Enhanced Direct Access (EDA) modality.

Some key access points for improving the gender-sensitive approach in the AF

- Strengthen the gender competencies of the AF Board, its Secretariat and key advisory bodies (such as the Accreditation Panel), including by hiring a gender and social expert.
- Develop a separate gender policy for the AF with an accountability framework for measuring progress in gender integration in AF projects and make gender competencies a requirement for the accreditation of new implementing entities. Retroactively work to strengthen the gender capacity of already AF-accredited implementing entities.
- Integrate capacity building for gender-responsive project development and implementation into the AF Readiness Support Programme and make it a focus of peer-to-peer learning approaches among AF implementing entities and applicants, particularly for direct access.
- Explore and support further opportunities for local women and gender groups to act as the executing entities for AF projects.
- Focus on replicating innovative EDA approaches that target funding for local community and women's groups through domestic small grants facilities.

Climate Investment Funds (CIF)

The CIF are a unique set of financing instruments that provide developing countries support toward achieving climate-smart development. Through two distinct funds implemented by the multilateral development banks (MDBs),^{viii} the CIF support developing countries' efforts to mitigate and manage the challenges of climate change by providing grants, concessional funds, and risk mitigation instruments that leverage significant financing from the private sector, MDBs, and other sources.³⁶

The CIF are designed to support low-carbon and climate-resilient development in developing countries through scaled-up financing with 63 developing countries piloting programs within country Investment Plans (IPs) under two separate funds. These are the Clean Technology Fund (CTF)—financing scaled-up demonstration, deployment and transfer of low-carbon technologies for significant GHG reductions; and the Strategic Climate Fund (SCF)—financing targeted projects and programs to pilot new climate or sectoral approaches with scaling-up potential in developing countries in three separate programs, namely the Pilot Program for Climate Resilience (PPCR), the Scaling Up Renewable Energy Program in Low-Income Countries (SREP), and the Forest Investment Program (FIP).

VIII. African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank, and World Bank Group



CIF Gender Review

In 2012, the Global Gender Office (GGO) of the IUCN conducted a gender review of the CIF at the request of the CIF Administrative Unit (AU).³⁷ The review

combined qualitative and quantitative analysis at multiple levels for a comprehensive overview of gender mainstreaming within the programs using seven criteria with results shown in Table 6 below.

Table 6: Summary of CIF IPs based on the seven criteria^{IX}

Criteria of analysis		Percentage
Gender Referred to in the Text		70.73%
	Vulnerable group	34.15%
	Relevant stakeholders and agents of change	26.83%
Distribution of how women are characterised	Beneficiaries	9.76%
Involvement of national women mechanism		26.83%
Report resources earmarked		26.83%
Engagement of women/organisations documented and reported		34.15%
	Included	9.76%
	Partially	36.59%
Gender indicators reported	Not included	53.66%
National/regional gender policies acknowledged		31.90%

IX. Data from this table is based on the 2012 CIF Gender Review and is information as of August 2012.



The CIF Gender Review found that there have been concerted efforts at various levels towards including gender considerations in the CIF; gender considerations are taken up in all the funds, but the extent to which these considerations are included differ greatly by country, and program. The result is that, when looking at the submissions as a whole, most of the elements of gender mainstreaming are present, although all of them fall short of incorporating them comprehensively.

It is also important to recognize and compare between the different programs the distribution of financing for each. Based on contributor country pledges as of 31 August 2012, the percentage distribution of the available funds constitutes 69.4% to the CTF, 16.1% to the PPCR, 8.8% to the FIP and 5.7% to the SREP. The fund with the highest allocation of resources, the CTF, is the one that the CIF Gender Review found to have the least consideration given to gender implications based on the seven criteria.

Table 7: CIF distribution of resources per fund ³⁸

Fund	Reviewed IPs	Percentage of reviewed IPs	Distribution of funds among IPs
PPCR	16	39%	16.1%
FIP	4	10%	8.8%
SREP	5	12%	5.7%
CTF	16	39%	69.4%
TOTAL	41	100%	100%

Overall for the CTF—which receives a disproportionate amount of CIF finance—gender aspects are generally overlooked in both the strategic planning outlined throughout the country IPs and in the project planning outlined in the individual project and programme documents. However, there are cases in both the IPs and subsequent project and program documents where gender issues are addressed. The gap is most likely related to the fact that there is no mention of gender in the CTF guidelines.

The main conclusions of the CIF Gender Review, approved by the CTF and SCF Trust Fund Committees in April 2013, were that gender is a driver for transformational change in climate programming, and that gender mainstreaming was central to the effective and efficient implementation of the CIF. The review recommended the following steps to ensure gender integration in the CIF, specifically:



- Institutionalisation of gender,
- Acknowledging and employing gender equality as a driver for transformational change,
- Advancing knowledge, innovation, and cooperative efforts toward promoting gender equality,
- Harnessing MDB and country capacity to strengthen CIF plans and programs through technical approaches linking gender to climate change and specific sectors, and
- Strengthening gender-disaggregated monitoring and evaluation.

Since the CIF Gender Review, there is evidence (as discussed below,) that gender is percolating through the CIF especially in project development, albeit in some programs more than others. Despite these advancements in some of the funds, further work is still required in others, especially in the CTF, and there is a need to guard against complacency.

CIF Gender Action Plan (GAP)

With the approval of the CIF Gender Review it was also agreed to recruit a gender specialist to the CIF AU to focus on integrating gender across the CIF, and on spearheading the development of an action plan to carry forward the recommendations of the CIF Gender Review. The CIF GAP, approved in June 2014, intends for the CIF AU to provide support to pilot countries and MDBs for collaboration and implementation of the Action Plan for supporting

improved gender-responsiveness in the CIF at the levels of fund governance, investment plans, and in projects/programmes.

The GAP is a comprehensive look at internal processes and technical support needed over the fiscal years 2015 and 2016 for mainstreaming gender, while also planning for accounting and evaluation of the changing integration and impact of including gender in portfolios, projects and programs. It outlines a number of components to enhance gender inclusiveness within the CIFs. It also recognises, in addition to the overall goal of the CIF, the need for “inclusive and effective stakeholder representation in global governance of climate finance mechanisms”, and particularly notes that “gender mainstreaming [is] imperative in climate action, including at the level of the CIF, for reasons of efficiency, effectiveness, and ultimately for the goals of equity and inclusion.”³⁹

The CIF GAP identifies that policies and procedures of the CIF need to be aligned with these goals and thus addresses five key elements for achieving these. These “functional areas” are outlined in an accompanying work plan including key outputs for the CIF FY15-16 GAP (in Table 8 below). These center around two main objectives, namely: 1) mainstreaming gender in CIF policies and programs; and 2) generating new knowledge and enhancing learning on gender in the CIF.

**Table 8: CIF Gender Action Plan⁴⁰**

Functional area	Outputs
Policy	<p>CIF gender guidelines note</p> <hr/> <p>CIF programme and sector-specific guidance sheets</p> <hr/> <p>Online directory of gender experts</p> <hr/> <p>Gender and climate change online community of practice (listserv), linked to the resource library</p>
Program support	<p>Technical cross-support to CIF project activities of pilot countries, as requested by MDBs</p> <hr/> <p>Women's access to and role in renewable energy</p>
Analytical work	<p>Gender and REDD+: Tenure, rights, benefit sharing</p> <hr/> <p>Gender indicators paper, including mini-portfolio review and an annex on the gender scorecard</p>
Monitoring and reporting	<p>Annual reporting of CIF gender programme indicators and inputs to portfolio monitoring and lessons learned (in the semi-annual operational reports and the annual results report)</p> <hr/> <p>Gender and resilience: Learning from PPCR</p> <hr/> <p>Small scale solutions: Gender, mini-grids and employment</p>
Knowledge and learning	<p>Learning content on gender in CIF (e.g., session at Partnership Forum; global gender/ climate change meetings; session in pilot countries meeting)</p> <hr/> <p>Exploring gender co-benefits and revenue streams in payment for ecosystem services (PES)/REDD+</p>
Monitoring and reporting	<p>Gender and energy efficiency in district heating, credit lines</p>



At its inception in July 2014, the CIF GAP began with activities aimed at applying mandated policies and procedures on gender across the CIF and identifying where they needed to be strengthened; providing technical support and capacity building on gender for CIF investment plans and projects, upon MDB demand; and generating new sector-specific knowledge and tools on gender—building on global best practices for application to CIF programs.

A key element of the CIF GAP is for extensive review of the existing CIF policies regarding gender as well as gender-related decisions and core indicators approved by the Trust Fund Committees which are not being fully implemented, and which could have consequences for exacerbating gender inequalities if not taken into consideration. The CIF Policy Review on gender, conducted in FY2015, collated policies and required CIF procedures for gender mainstreaming in investment plans and projects, by program, and identified where gaps on gender mainstreaming existed within these processes and outcomes. The review covered CIF operations from governance through the programme, Investment Plan, and project levels.⁴¹ The next phase of the CIF Policy Review will comprise discussion of findings, and recommendations possibly to include revision of operational guidelines, and providing guidance and tools specific to each program for MDBs and pilot countries for including gender.⁴¹

A significant result of the IUCN 2012 CIF Gender Review has been the mandate for IPs to include and monitor for gender, with the CIF AU continuing to work on the institutional up-take of gender. As part of the Action Plan, a Gender Review of CIF Portfolio was undertaken across all four CIF programs (through December 2014) at the IP and project levels in order to establish baselines for the GAP Results Framework. The Review consisted of analysing 55 IPs and 156

projects on addressing: 1) gender analysis undertaken; 2) gender disaggregated indicators (at core, co-benefit or additional non-CIF indicator levels); and 3) women-specific activities.^{x.43} From this review, the CIF AU has suggested to the Joint Trust Fund Committee amendments for the CIF Gender Action Plan results indicators—namely adding IP-level indicators alongside Project-level indicators.

In addition to developing these baseline figures on gender mainstreaming across the CIF portfolio, the Gender Action Plan prompted the collection, by CIF programme and results teams, of gender-disaggregated core indicator data under all CIF programs through the regular CIF results reporting done by countries with MDB support. This targeted support for CIF AU results team to create revisions to particular program toolkits, as well as support for program teams on reporting efforts to ensure gender-specific, and aggregated, indicators were collected.

READ MORE IN CHAPTER 7!

PILOT PROGRAMME FOR CLIMATE RESILIENCE IN TAJIKISTAN: GENDER MAINSTREAMING IN THE “BUILDING CLIMATE RESILIENCE IN THE PYANJ RIVER BASIN” PROJECT

The Government of Tajikistan with the Pilot Program for Climate Resilience



- X. More detailed information on the results of the Gender Review of CIF Portfolio, are available in the FY15 Progress Report on Implementation of the CIF Gender Action Plan.



The CIF AU is also coordinating more formal technical assistance and capacity building trainings and support to be implemented through the MDB CIF Gender Working Group of MDB representatives—this is seen as an area to already be supportive of gender mainstreaming, with also safeguard expertise and the ability to do work at-scale for the countries. CIF AU and African Development Bank (AfDB) are particularly planning to collaborate on technical

support to the Government of Ghana on gender and forest livelihoods (Box 5). Additional program support includes guidance for gender in project design and within the sector, as well as plans to develop an online directory of gender and climate change experts, frequently asked questions, and dissemination of tools and resources to enhance CIF project and program development and implementation.

Box 5: AfDB's FIP Ghana Technical Assistance on Gender, Forests and Forest-Based Livelihoods

To address the existing gender disparities and ensure women's equitable access to forest resources amid forest and land tenure reforms, the FIP Ghana program plans to provide technical assistance support to the Government of Ghana's 'Engaging Local Communities in REDD+/Enhancement of Carbon Stocks' (ELCIR+) project from FY16 on gender mainstreaming in REDD+. The ELCIR+ project seeks to contribute to the increase of carbon stocks, and to poverty

reduction in the off-reserve areas of the High Forest Zones, by engaging communities in land management approaches that generate direct financial and environmental benefits. Project components consist of: 1) the restoration of degraded agricultural landscapes; 2) the promotion of climate-smart and environmentally-responsible cocoa and agroforestry systems; and 3) community alternative livelihoods and capacity building.⁴⁴

Knowledge and learning is a key component of the CIF GAP and crucial for supporting implementation of gender throughout the policy and programming of CIF. The following knowledge products are under development, as of autumn 2015, as part of the CIF GAP, including: CIF Gender Guidelines by programme; CIF gender indicator support and monitoring; sector-specific guidance sheets (agri-business; water resources management; forest governance;

and others); and analytical work on select topics, such as gender and renewable energy, and energy efficiency assessments.

The CIF AU approach builds on existing gender policies and safeguard measures of MDBs, and adds closer monitoring of project preparation and implementation; generation of new knowledge on gender and specific sectors; and, enhancing shared



learning on gender in the CIF, particularly through trainings, workshops, and regional knowledge events, and utilising the newly launched CIF Gender website as a resource for global discussions.⁴⁵

Some key access points for improving the gender-sensitive approach in the CIFs

With the 2012 CIF Review and the subsequent GAP, the CIF has made strides for integrating gender throughout its policies, programs and measures, but it still faces challenges for implementing gender-inclusive practices.

- CIF AU faces challenges in implementing gender through the MDBs because the structure of the mechanism is for policies within each MDB to take precedence. However, this is not the case for development of IPs, in which case the MDBs cannot override the gender policy implemented by the CIF. This provides a new opportunity for IPs to mainstream gender efficiently and effectively throughout an IP, but this needs to translate into project development by each country done so by the implementing partner.
- A goal of the monitoring effort would be to improve gender inclusion upstream within the MDBs, particularly through the development of sector-specific tools and guidance on integrating gender into different investment plans for different programs. Knowledge of these practices from the pilot countries seek to coordinate the respective gender activities or initiatives under programs with the aim of building synergies to be shared with all countries, particularly the fourteen new countries that have been recently approved for the SREP program. This highlights the attempts by the CIF AU to look at how gender could be considered at different scales and investments for renewable

energy and would hopefully link sector staff within the MDBs to stakeholders on the ground for a more comprehensive gender approach.

- The recent advancements of gender in climate finance mechanisms seem to have benefitted from a collaborative and transparent approach where mechanisms have shared and built off one another. In this process it has also been important to include CSOs and other relevant stakeholders to support progress by providing guidance and jointly working toward improved policies and practices. Collaboration across the different fund programs, and with other mechanisms, needs to streamline processes for enhancing gender equality particularly in mitigation efforts, such as in—among other key sectors—renewable energy and transportation.

Green Climate Fund (GCF)

The GCF was established by UNFCCC Cancun Decision 1/CP.16 as an operating entity of the convention's financing mechanism (similar in statute to the GEF) in order to “promote the paradigm shift towards low-carbon and climate resilient development pathways” in all developing country UNFCCC parties.⁴⁶ The GCF, which is “accountable to and functions under the guidance of” the COP, is governed by a Board of 24 Board members (12 from each developed and developing countries). It has an independent Secretariat located in Songdo, South Korea. After a successful initial resource mobilisation effort netted USD 10.2 billion in pledges from 33 countries (making it the largest multilateral climate fund globally), the GCF is expected to start funding projects and programs by late 2015.

In contrast to all other existing international climate funds, the GCF's Governing Instrument (its organising



charter) included the mandate to maximise the impact of its funding for mitigation and adaptation while “taking a gender-sensitive approach”— thus anchoring a gender mainstreaming effort prominently among the GCF’s objectives and guiding principles.⁴⁷ This makes the GCF the first climate fund obligated to consider gender from its onset. The GCF Governing Instrument also contains further key references to gender, including striving for gender balance in the GCF Board and among its Secretariat staff, as well as engaging women as key stakeholders in the design, development and implementation of the strategies and activities to be financed by the GCF.

Despite this, a discussion about a gender-sensitive approach was only formally put on the agenda for the 6th GCF Board meeting in February, 2014, with GCF Board decision B.06/07 requesting the development of a GCF gender policy and gender action plan. A draft of the Gender Policy was created with some stakeholder participation, but was not discussed and adopted until the 9th Board Meeting in March 2015. Fortunately, GCF decision B.06/07 also mandated in parallel the integration of gender considerations in GCF policy documents and operational modalities, thereby pushing for an explicit mainstreaming approach and rejecting efforts to confine the gender discussion in the GCF to the parameters of gender policy only. This proved critical to ensure some integration of gender aspects into key operational policies of the GCF, such as the accreditation framework or the investment framework even in the absence of a fully elaborated and approved GCF gender policy when a set of policies considered critical for the initial resource mobilisation effort of the GCF was advanced in 2014. However, it can be argued that a decision on a GCF gender policy earlier in the process of GCF operationalisation could have significantly strengthened the more comprehensive integration of gender considerations into a wider set of critical GCF policy decisions.

Ultimately, in March 2015 GCF Board decision B.09/11 adopted both documents—GCF Gender Policy and Action Plan, but allowed for the national contextualization of the GCF policy “in line with individual country circumstances”.⁴⁸ While this allows for flexibility in implementation, which might serve some countries’ commitments and arrangements to advancing gender equality, some concerns have been flagged that this phrasing could be used in the future as a stipulation for

References to gender are found in the GCF Governing Instrument in: para. 3 (gender-sensitive approach to GCF funding); para. 11 (gender balance of board members); para.21 (gender balance of Secretariat staff); para. 31 (operational modalities – involvement of women as relevant stakeholders); and para. 71 (stakeholder input and participation of women).



not adhering to the gender policy due to countries' particular existing cultural practices. The full implementation of the GCF Gender Policy needs to be closely watched in the future to ensure that this contextualisation is not used as a pretext for the weakening of its spirit and intent.

The GCF Gender Policy⁴⁹ identifies its objectives as follows:

- a.** To ensure that by adopting a gender-sensitive approach, the Fund will achieve greater, more effective, sustainable, and equitable climate change results, outcomes and impacts, in an efficient and comprehensive manner in both its internal and external procedures and activities;
- b.** To build equally women and men's resilience to, and ability to address climate change, and to ensure that women and men will equally contribute to, and benefit from activities supported by the Fund;
- c.** To address and mitigate against assessed potential project/programme risks for women and men associated with adaptation and mitigation activities financed by the Fund; and
- d.** To contribute to reducing the gender gap of climate change-exacerbated social, economic and environmental vulnerabilities.

The GCF gender policy is principles-based, consisting of six main elements. They focus on:

- 1.** The GCF commitment to contributing to gender equality "as enshrined in international agreements and national constitutions, and other human rights agreements" by focusing on understanding socioeconomic factors underlying climate-change exacerbating gender inequality as well as women's and men's ability to contribute to societal change and address climate change as well as the adoption

of methods and tools to promote gender equality and reduce gender disparities in climate funding and measure the outcomes and impacts of Fund activities on women's and men's resilience to climate change;

- 2.** The confirmation of the application of GCF gender efforts to all its mitigation and adaptation activities (comprehensiveness in scope and coverage);
- 3.** An accountability framework for monitoring gender impacts, including through quantitative and qualitative indicators on the level of individual projects as well as on the GCF portfolio-wide outcome and impact level as well as accountability of GCF management and staff for gender results and a process for gender-related complaints and grievances through the GCF independent redress mechanism;
- 4.** A country-ownership understanding that informs national recipient countries of the requirement to align proposed projects and programmes submitted to the GCF with its gender policy and stresses equal opportunities for men and women in stakeholder consultations and decision-making;
- 5.** Gender competencies of GCF staff, key advisory and decision-making bodies and the promise that GCF readiness and preparatory support can also focus on enhancing the capacity of entities involved in the GCF project cycle to implement the GCF gender policy; and
- 6.** A resource allocation that contributes to gender equality and women's empowerment, including, if necessary by targeting funding to support women's adaptation and mitigation initiatives specifically in addition to efforts to mainstreaming gender considerations.

A three-year action plan from 2015-2017⁵⁰ is targeting actions to put these principles into practice, including the following from the GCF Gender Action Plan.



Table 9: GCF Gender Action Plan 2015-2017 with priority areas and key actions and potential indicators

Implementation of gender policy		
Priority area	Implementation action	Potential indicators ^{XI}
(a) Governance and institutional structure	1. Approval of the gender policy.	
	2. Periodic monitoring of the implementation of the gender policy and the gender action plan through review of implementation and evaluation reports.	Annual Report of the Funds; Gender is covered in the annual redress mechanism report
	3. Appointment of a senior social development and gender specialist within the Country Programming Division.	Recruitment of senior staff with gender competencies
	4. Include gender performance in the accreditation requirements related to the Fund's gender policy as well as in the Secretariat's due diligence reviews on project approval and implementation.	Percentage of accredited entities with policy and procedures on gender; Percentage of accredited entities with gender competencies and track records in gender issues
(b) Administrative and operational guidelines	1. Include in the Fund's Operational Manual guidelines for the GCF external partners, in particular; 1.1 Guidance for nationally designated authorities (NDAs) and accredited entities on the mandatory socioeconomic and gender assessment at the start of each project/programme; 1.2 Guidance on Gender-sensitive project design elements, budgets, results, monitoring and on impact indications, preparation, implementation and the monitoring of institutional arrangements; 1.3 Guidance on gender-equitable stakeholder consultations; and 1.4 Guidance on the inclusion of a gender perspective in the application of mandatory GCF environmental and social safeguards.	Guidelines have been issued and communicated to NDAs and accredited entities through the Fund's website; The number of training sessions on the guidelines, provided to NDAs and accredited entities, and the qualitative reporting of that training

XI. The illustrative indicators are drawn from GCF Board document GCF/B.09/10, "Gender Policy and Action Plan", Annex IV, which the GCF Board considered for its decision on the GCF gender policy and action plan at its 9th meeting; retrieved from: http://www.gcfund.org/fileadmin/00_customer/documents/MOB201503-9th/10_-_Gender_Policy_and_Action_Plan_20150304_fin.pdf; GCF decision B.09/11 approving the GCF gender policy and action plan did not include illustrative indicators for the implementation of the GCF gender policy in its action plan.



Table 9: GCF Gender Action Plan 2015-2017 with priority areas and key actions and potential indicators (Cont.)

Priority area	Implementation action	Potential indicators ^{x1}
(b) Administrative and operational guidelines	2. Review and recommend to NDAs and accredited entities toolkits and sourcebooks on gender and climate change mitigation and adaptation, including for specific sectors.	Number of toolkits, sourcebooks and reference posted on the Fund's website
(c) Capacity-building	<p>Increase the gender sensitivity of the fund:</p> <p>1. Through gender training and capacity-building for the fund's external partners (NDAs and implementing entities), including through partnerships with other organisations; and</p> <p>2. Through gender training for the Board and Secretariat staff.</p>	<p>The number of development partners/ stakeholders which received specifically project related gender training;</p> <p>Percentage of resources allocated to gender in the Fund's readiness and preparatory support work-programme</p>
(d) Outputs; outcomes and impact monitoring indicators, and reporting	<p>1. Application of gender guidelines in project preparation/design/implementation/monitoring, specifically, integration of gender-sensitivity in the fund's initial results management framework for both adaptation and mitigation.</p> <p>2. Two specific portfolio indicators to monitor the gender policy implementation fund-wide (focusing only quality of entry).</p> <p>2.1. Percentage of adaptation and mitigation projects with gender-specific implementation elements).</p> <p>2.2. Project rating at entry for gender sensitivity as part of a GCF portfolio classification system.</p>	<p>Percentage of projects / programmes that have carried out initial socioeconomic and gender assessments and that have collected disaggregated baseline data;</p> <p>Percentage of projects/ programmes that have applied gender-equitable stakeholder consultations</p>
(e) Resource allocation and budgeting	1. The GCF approval process may consider giving additional weight to projects with well-designed gender elements.	
(e) Knowledge generation and communications	<p>1. Assess the implementation of the gender policy and the gender action plan seeking periodic feedback from stakeholders and partners.</p> <p>2. Making the Fund's commitment to gender equality and information sharing about its gender requirements and procedures a strategic communications activity and an integral part of the Fund's communications plan.</p> <p>3. Support for knowledge exchange activities on gender and climate change.</p>	Stocktaking report posted on the website



Despite the fact that an approved gender policy was not in place until 2015, gender considerations were integrated in some key policies throughout the Fund at different levels. This is largely a result of the prior Board decision B.06/07 mandating gender mainstreaming into GCF operations in parallel to the development of a dedicated gender policy as well as persistent advocacy efforts, including by the Heinrich Böll Stiftung North America and other CSO partners. These operational policies include most prominently the GCF accreditation framework, its results management framework and performance measurement framework approach, as well as a set of criteria that are to guide the selection and decision-making on individual project and program proposals.⁵¹

As part of the accreditation requirements, all entities that wish to become accredited with the GCF under its “fit-for-purpose” approach (which tailors accreditation requirements to the size, risk and financial complexity of the projects that entities aim to implement for the GCF) have to prove their capacity to fulfill the GCF gender policy in all their GCF-supported activities either by having their own institutional gender policy, or by demonstrating internal competencies and procedures as well as an implementation track-record that shows their own gender-sensitive approach. This is mandatory for all applicants, both private and public sector, and for those applying under direct access or international access.

Beyond accreditation as the first step, it will however be crucial for the GCF Secretariat to further strengthen its internal gender competencies as to allow for a due-diligence oversight on a multitude of GCF implementing entities and their follow-through on gender-responsive implementation of GCF funding.

Within the fund’s investment framework, the gender-sensitive development impact of project proposals will be a criterion in the decision-making by the GCF Board on approving individual projects. Thus, it is indispensable that those reviewing and approving the proposals—a six-member Independent Technical Advisory Panel; the Secretariat which provides due diligence, and the Board, as ultimate decision makers—have social and gender expertise.

The contribution of GCF projects and programmes in advancing gender equality will also be verified in the GCF performance measurements for both adaptation and mitigation approaches, which focus at this point largely on sex-disaggregation of project beneficiaries at the portfolio level. With initial performance measurement frameworks for adaptation and mitigation still only partially in place, the GCF Secretariat has collaborated with gender expert networks—including representatives from IUCN, Heinrich Böll Stiftung, the Global Gender and Climate Alliance (GGCA) Finance Working Group, and other climate financing mechanisms—to improve the gender-responsiveness of the Fund’s performance measurement, specifically by working to integrate gender-sensitive outcome indicators for GCF mitigation and adaptation impact areas, such as energy access, transport, forests, REDD+ and environmental services, disaster risk reduction, and resilience of food, agricultural, or water systems. Recommendations to the Secretariat by gender and sector experts⁵² for the inclusion of gender considerations in the GCF performance measurement highlighted in particular that GCF results management has to take a human rights framework as a starting point focused on men and women as rights-holders with corresponding sectoral requirements stemming



from such an approach (e.g., right to water and food). They also recommended that the gendered dimensions of the care and informal economy need to be considered in performance measurement by having aggregate indicators that look inter alia at a change in the burden of care and the redistribution of care (e.g., via time-use surveys/data).

However, gender-responsive indicators at the individual project level are considered optional as only one of several 'co-benefits' a project might measure. GCF project guidelines should reference a mandatory inclusion of gender indicators or ask project applicants to elaborate why gender considerations cannot be included in project performance measurement. Still further work is needed in the results management system of the GCF to go beyond just 'gender quantity' of its project outcomes ("how many men and women have benefitted from the project?") by also looking at the quality of its work in support of gender equality ("how has the project contributed to changes in the power relationship between men and women and address enshrined access problems?").

In order to ensure that all GCF funding takes a gender-sensitive approach as mandated in the Fund's guiding principles, many more avenues need to be pursued to ensure that men and women benefit equally. As the GCF intends to put a heavy focus on the engagement of the private sector in its project and programs, the role and the needs of women entrepreneurs in developing countries, who in the majority are engaged in the domestic informal and formal sector via micro and small enterprises, needs to be considered in the work of the GCF Private Sector Facility. A programmatic focus on micro, small- and medium-sized enterprises (MSMEs) that addresses and helps overcome some of the financial access

barriers of women by providing 'patient,' small-scale commercial loans at decent interest rates is an important step in that direction. With decision B.10/11, the Board approved a USD 200 million MSME pilot programme recently, which will solicit project ideas under the pilot programme through a request for proposals (RFP). Such a RFP should detail the consideration of the needs of women entrepreneurs in MSMEs in the submitted project proposals as one key requirement for approval.⁵³ Similarly, the GCF Board with decision B.10/4 confirmed the start of a USD 200 million pilot program with "enhanced direct access" (EDA) modalities, in which decision-making on individual sub-projects is placed in developing countries. Following the example of the Adaptation Fund and experience from the GEF SGP, the GCF must include small grants approaches among the project proposals it approves under such a pilot programme in line with the programme's terms of reference which spell out the need for a gender-sensitive approach in developing the activities of the pilots in accordance with the GCF Gender Action Plan.⁵⁴ Medium-term, the GCF Board should consider the scaling up and widespread replication of domestic small grants facilities in all its recipient countries. These would allow local women and community groups to access smaller sums of GCF funding for concrete projects on the ground. A certain percentage of the funding for an individual country could be reserved for this purpose.

With the GCF expected to fund its first projects by the end of 2015, further steps are needed to fully implement a truly gender-sensitive approach in the GCF, including significant improvements to transparency and accountability procedures. These include an upgrade to a state-of-the-art disclosure policy allowing for public webcasting of important GCF meetings and discussions, and



a communication approach in multiple languages deploying gender-responsive outreach and information-provision methods. This goes beyond providing written information mainly in English and with a focus on access via the internet. GCF funding for readiness and preparatory support must strengthen the abilities of NDAs, the focal agencies liaising with the GCF, to include all relevant stakeholders, including existing women's machineries (agencies, departments, task-forces) as well as women, gender and civil society groups, and networks in domestic country coordination efforts to determine countries' funding priorities for the GCF. A GCF monitoring and accountability framework must acknowledge and incorporate the agency of women in countries receiving its funding, including as executors of concrete activities on the ground and as part of participatory monitoring. Lastly, the GCF accountability mechanisms must allow in their operations for an independent regular evaluation of the gender performance of the GCF through its Independent Evaluation Unit and for the easy accessibility by women negatively affected by GCF projects to independent redress and gender-equitable compensations for harm done via the GCF Independent Redress Mechanism. Recently approved terms of reference for the selection of the heads of the GCF accountability mechanisms detail that "strong gender skills" are to be among the qualifications that suitable candidates for these positions must possess.⁵⁵

Some key access areas for improving the gender-sensitive approach in the GCF

- Strengthen the gender competencies of the GCF Board, its Secretariat and key advisory bodies (such as the Private Sector Advisory Group, the

Accreditation Panel or the Independent Technical Advisory Panel).

- Guard against a weakening of the universal and mandatory application of the GCF gender policy in the name of "individual country circumstances".
- As the GCF intends to put a heavy focus on the engagement of the private sector in its project and programs, the role and the needs of women entrepreneurs in developing countries, who in the majority are engaged in the domestic informal and formal sector via micro- and small-enterprises, needs to be considered in the work of the GCF Private Sector Facility (PSF) by ensuring it prioritises work with domestic MSMEs, and tackles existing access barriers to finance for women, such as by providing long-term 'patient' commercial loans at low interest rates or offering loans that use standard cash flow assessment procedures rather than those based purely on collateral.
- Strengthen the abilities of NDAs, the focal agencies liaising with the GCF, to include all relevant stakeholders, including existing national women's machineries (e.g., ministries, secretariats, or agencies) as well as women and gender focused civil society groups and networks in domestic country coordination efforts to determine countries' funding priorities for the GCF.
- Focus on modalities for EDA, in which decision-making on individual sub-projects is placed on developing countries by considering the scaling up and wide-spread replication of domestic small grants facilities in all GCF recipient countries, which would allow local women and other local and community groups (e.g., indigenous people, youth, etc.) to access smaller sums of GCF funding for concrete projects on the ground. A certain percentage of the funding for an individual country could be reserved for this purpose.



- Equitably support the agency of women and men, including those from more marginalised groups (e.g., local communities, indigenous people, youth, elderly, etc.) as crucial stakeholders throughout the project cycle of a GCF project, including through the development of a gender-responsive participatory monitoring and accountability framework.
- Improve existing GCF information disclosure and communication policies in a way that addresses gender-relevant obstacles to access to information about GCF financing and projects.
- Ensure that the GCF accountability mechanisms allow in their operations: 1) an independent regular evaluation of the gender performance of the GCF through the Independent Evaluation Unit; as well as 2) for the easy accessibility of the GCF Independent Redress Mechanism by women, and other marginalised groups (e.g., local communities, indigenous people, youth, elderly, etc.), who are negatively affected by GCF projects, and then gender-equitable compensations for any harm done.

6.2 Moving forward

There has been progress in bringing the issues of gender equality and climate change to the international stage, as well as at national and local levels, but much of the architecture for implementation is missing, or continues to ignore gender inequalities. Mechanisms, including for financing, lack accountability measures to ensure that decisions have a ripple effect and successfully, and positively, impact the lives and livelihoods of those whom the policies are considering. This lack of accountability translates also into a lack of access for those with the greatest need, including women, for the billions of dollars already being mobilised.

Reviewing the extent to which existing multilateral climate finance mechanisms have integrated gender equality considerations provides important lessons learned, as well as good practices for replication and scaling up. There are also sound recommendations on

some overarching gender aspects of climate finance governance and provision that can be used both for ensuring that new climate finance mechanisms incorporate a gender perspective at the outset as well as improving a retroactive gender integration and gender mainstreaming effort in formerly ‘gender-blind’ climate financing mechanisms—bilateral and multilateral ones with a focus on public and private financing—over time. The lessons learned from reviewing gender integration efforts in existing climate finance mechanisms illustrate certain fundamental criteria and approaches for enhancing gender mainstreaming as funds evolve, mature and scale up, including the need for the following:

- Clear policy guidance and sustained management and executive body commitment for gender mainstreaming in climate finance mechanisms—specifically, elaborated operational procedures and



tools to implement separate gender policies and guarantee gender-responsive implementation of other key operational policies;

- Enabling environments for open, inclusive and transparent participation in decision-making bodies on the level of the financial mechanism, in recipient countries and implementing agencies;
- Clear track records on gender competency for the accreditation of implementing agencies;
- Dedicated and high-ranking gender staff with clear and short reporting lines to top management within the mechanism, as well as gender competency among core staff and a commitment to gender training and capacity building among the wider staff;
- Gender balance in key decision-making bodies of climate financing mechanisms (such as councils and boards), as well as efforts toward gender balance and the inclusion of gender expertise in key expert and advisory panels (for example on accreditation, private sector involvement etc.);
- Budget accountability for gender-related activities with dedicated budget lines for specific gender efforts, including women's empowerment activities.
- Clear accountability and monitoring frameworks and mechanisms, in order to monitor and report on the implementation, results and processes of gender policies and related action plans;
- Relevant qualitative and quantitative gender-responsive indicators as well as systematic collection of gender-disaggregated data in results monitoring frameworks for individual projects/programmes as well as on the portfolio level;
- Accessible and gender-sensitive grievance mechanisms; and
- Independent evaluation mechanisms in place for periodic gender-auditing of the progress made toward realising gender equality to fund project/programme implementation.

A better understanding of the need for and a shift toward gender-sensitivity in climate change policy-making and programming in recent years underscores the importance of provision of gender-responsive climate financing to implement these policies and programs. It is important to recognise that the major multilateral climate finance mechanisms have taken crucial steps and made significant progress to overcome the shortcoming of having been established without gender sensitivity as a guiding principle and a commitment to contribute to gender equality through all their operations. The GCF—whose capacity to implement in a gender-responsive way is as of yet untested—is the exception by including a gender mainstreaming approach in its charter, the governing instrument. To date, all of the major multilateral public climate funds have commitments to gender equality or gender policies but despite this, there are still major challenges remaining for the gender-responsive implementation of their funding. Much bigger efforts are needed to achieve an effective and equitable global climate finance architecture—keeping in mind the various other bilateral, domestic, or private financing frameworks—which ensures gender equality as a governing principle for all its institutions and actions. With a new global climate treaty under development, there is a need to ensure that the post-2020 climate framework creates an equal economy for men and women by anchoring gender equality and a commitment to human rights in the new agreement.

A gender-responsive climate finance architecture can play a profound role in supporting a climate change framework, and complementary sustainable development pathway, that promotes an equitable and inclusive, as well as low-carbon and climate-resilient, economy benefitting both women and men equally. Historically, climate finance has had



limited focus on and provided few benefits for the poorest and most disadvantaged (including politically disenfranchised) population groups within developing countries, and for women in particular. Such gender blindness exacerbates vulnerability and climate injustice, and overall reduces the resilience of nations to the impacts of climate change. The W+ Standard,

however, is a new innovative example allowing women an opportunity to receive benefits. Gender-responsive climate change finance as a core means of implementation is a prerequisite for creating an enabling environment for sustainable development for those who have typically been excluded.

Box 6: The W+ Standard

The W+™ Standard is a unique certification label developed from 2012-2014 by Women Organizing for Change in Agriculture & Natural Resource Management (WOCAN) that endorses projects that create increased social and economic benefits for women participating in economic development or environment projects, including those that provide renewable energy technologies, time and labor saving devices, forest and agriculture activities, and employment opportunities.

The W+ is an innovative framework to quantify and monetise the social capital created by women, to recognize and reward their contributions to sustainable environments and communities. The W+ measures women's empowerment in six domains: Time, Income and Assets, Health, Leadership, Education and Knowledge, and Food Security—with each certified project measuring progress in at least one of these areas. The measurement of outcomes results in quantified W+ units that are aligned with the Sustainable Development Goals

(SDGs), climate financing, or Corporate Social Responsibility (CSR) targets. Organisations or projects that have obtained satisfactory results will be issued W+ certificates for a specific number of units that can be sold to corporations, investors, and individual buyers to demonstrate the outcomes achieved through the contributions in the six areas, and then channel funds to women beneficiaries, usually women participants or their groups.

READ MORE IN CHAPTER 7!

APPLYING THE W+ STANDARD TO A DOMESTIC BIOGAS PROGRAMME IN INDONESIA: SAVING CARBON EMISSIONS AND WOMEN'S TIME

Humanist Institute for Co-operation with Developing Countries (HIVOS) in collaboration with the Indonesian Ministry of Energy and Mineral Resources and the Netherlands Development Organization (SNV), with WOCAN





One of the areas that requires immediate attention is the need to strengthen the leadership of women and women's organisations at regional, national, and subnational levels— and especially at community and grassroots levels—to fully participate in and shape climate change policies and initiatives. Ways to move this forward involve, among others:

- The creation of spaces and exchange opportunities so that women's organisations and finance mechanisms can share knowledge, strategies, and skills for how women and women's organisations at the national and sub-national levels can participate in and access financing. One example would be conducting national level finance fairs in which women can acquire knowledge about the different climate change related funding sources and their requirements. These types of fairs are an integral part of the ccGAP developed for the Yucatan Peninsula in Mexico (see Chapter 2.2 on national approaches for more information on this particular case).
- Providing knowledge about which financing mechanisms have funding earmarked to ensure women's participation, especially from the South, in decision-making fora and procedures of existing climate funds (for example council or board meetings).
- Engage women representatives in financing mechanisms to complement broader information sharing and literacy effort for women, particularly on the local community and grassroots level. They need to be able to understand existing instruments, their purpose and mandates and related requirements and how their own government interacts with the financing mechanisms in order to hold their own government accountable for including gender-responsive projects and programmes into their

country's funding priorities and strategic climate and development plans.

Several of the major financing mechanisms associated with climate change (GEF, GCF, CIF and AF) have designated gender specialists or focal points or include at the minimum gender expertise among their staff. The establishment of an inter-fund exchange body on gender equality can become a useful tool to coordinate actions and maximize resources. As part of the GEF's GEAP, the GEF Gender Partnership is an inter-agency collaborative platform consisting of GEF agency representatives to enhance gender in GEF that will provide guidance on how to develop and disseminate knowledge and develop a more detailed work plan. This GEF Gender Partnership group could be augmented to include all the gender specialists from other climate finance mechanisms to enhance mutual learning and implementation outcomes as well as foster new and innovative gender-responsive collaborative initiatives.

It is worthwhile noticing that the full integration of gender equality concerns into climate work remains an evolving challenge for the majority of the implementing partners under the finance mechanisms such as the MDBs but also importantly for many national entities and agencies. The latter is of specific importance, as developing countries are demanding more opportunities for direct access to climate finance without the intermediation of international actors. The organizations face the dual challenge of ensuring that climate concerns are mainstreamed into operations and analysis, and then that gender analytical approaches towards climate variability and climate change responses are similarly mainstreamed. Especially national implementation partners need support for this 'double mainstreaming', which has to become an



integral part of climate finance preparatory and readiness activities and funding.

The majority of international implementing agencies under the climate financing mechanisms, despite almost all of them having their own gender equality mandates and related strategies and policies, generally remain weak in the follow-through within their organisation. This creates additional challenges between the finance mechanisms and implementing agencies in that it is difficult for the secretariats of finance mechanisms, many of which have a small core staff only, to hold the implementing agencies accountable to the funding mechanisms standard for gender equality. This is often a matter of Secretariat staff's reduced ability for continuous due diligence review throughout a project/programme cycle but also a matter of several funding mechanisms' structure with a deliberate reliance on the systems and policies of the implementing partners.

Making fully gender-responsive climate financing a reality means also creating gender accountability mechanisms for climate funds individually and the global climate finance architecture more broadly. For example, tools and information-sharing platforms designed to track climate change finance flows should be amended to include easily accessible information, with women's organisations involved in the tracking, on finance mechanisms' compliance with their own gender mandates and that of their implementation partners. This would ensure transparency about the level of gender-responsiveness with which these resources are being distributed. World Resource Institute (WRI) and Oxfam have already developed a guide for tracking adaptation finance that could be used as reference for the development of such a tool.⁵⁶

The tracking of information on individual project finance and overall finance flows of major climate finance mechanisms, such as the Climate Funds Update initiative by the Heinrich Böll Stiftung and the Overseas Development Institute (ODI),^{xii} could be likewise expanded to provide more information on gender-responsive project design and implementation.

The new SDGs also include a goal to achieve gender equality and empower all women and girls, as well as a goal to take urgent action in combatting climate change and its impacts. The follow-through on these objectives of the SDGs is supposed to be ensured via monitoring efforts with numerous gender and climate change indicators found across the SDGs in categories including promoting sustainable economic growth and sustainable use of natural resources—hereby recognising the importance of mainstreaming gender into these components and sector policies, globally. Ultimately, a more systemic integration of monitoring and evaluation efforts on gender equality impacts and women's empowerment across development and climate financing mechanisms is needed to give a true picture of the gender responsiveness of global sustainable development efforts.

XII. Climate Funds Update (CFU) tracks financial flow information of 26 multilateral, bilateral and domestic climate funds “from pledge to projects,” including with a project database. More information at: www.climatefundsupdate.org.



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LEADING THE WAY:

Case studies of
gender-responsive initiatives





Drawing from the breadth of expertise from across the GGCA membership, as well as from the UNFCCC Momentum for Change initiative, this chapter presents 35 examples from around the world of innovative mitigation and adaptation programmes and projects that have successfully integrated gender equality concerns. From quantifying emissions reductions to transforming the livelihoods and food security of local villages; from implementing women's unique renewable energy projects to ensuring that their voices shape forest policy at all

levels, the outcomes of these efforts illustrate that gender-responsive actions are not only possible but necessary for maximum efficiency and efficacy. While the publication authors have not vetted the results of these cases, the strategies alone provide concrete evidence, opportunity for cross-sectoral and cross-contextual learning, and inspiration for action.

The following examples, loosely categorised by national/subnational and international/regional levels (with due respect to important overlap), include:

National and subnational

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Tags

The following tags loosely categorise projects and programmes and are meant to spotlight particularly interesting aspects of design, implementation, and results.



International



National



Rural



Women's leadership / participation



Women as beneficiaries / economic empowerment



Momentum for Change



GGCA



Policy/reform



Agriculture/food security



Water



Disaster risk reduction



Energy



Forests



Waste/recycling



Cities/urban



National and subnational

Life Out of Plastic (L.O.O.P.) in Peru

Women innovating new ways to clean up Peru's coasts

L.O.O.P. with support from Conservamos Por Naturaleza and the Peru Ministry of Environment



In Lima, Peru, coastal plastic pollution poses a threat to the health of the surrounding marine ecosystems and communities. Two young women saw this as an opportunity to create up-cycled plastic merchandise, while simultaneously raising awareness about human dependency on plastic and cleaning up Peru's beaches. Life Out of Plastic (L.O.O.P.) is a women-led enterprise that commercialises up-cycled products and organises plastic pollution awareness activities, including art shows and *HAZla por tu Playa*, an annual beach clean-up event. L.O.O.P. has delivered results:

it has engaged over 24,000 people participating in its clean-up activities, removed over 92 tonnes of debris from beaches and the ocean, and—using over 1.3 million PET bottles—up-cycled rubbish into commercial products. In 2015, L.O.O.P. succeeded in expanding the *HAZla por tu Playa* cleanup event to Mexico and Hawaii, with plans to include three more Latin American countries in 2016. Women's leadership and participation is not only prioritised in the L.O.O.P. organisation itself but throughout the value chain, including women-led recycling centers and women



website developers. Women's empowerment and participation is central to L.O.O.P.'s successful and innovative mitigation actions that help to foster a more conscious consumer culture.

Project overview

Through marketing tools, campaigns, and women's leadership, L.O.O.P. is playing a key role in cleaning up Peruvian coasts and raising awareness about plastic use. Moreover, it is building an industry for up-cycled products.

Strategies include:

- Championing women's innovation and prioritizing women's involvement.
Founded by women, L.O.O.P. has a women-only hiring bias. While not gender inclusive, the organisation is committed to sending a strong women's empowerment message to clients and followers. Campaign coordinators are also always women, while campaigns are planned with outside organisations and men lead many of them. Finally, L.O.O.P. involves women-led organisations along the value chain, such as website developers and recycling centres.
- Expanding women's skills.
L.O.O.P. provides the opportunity for women to gain new skills by paying for courses and trainings.
- Building environmental and gender awareness.
Using social media, press releases, and campaigns, the organisation is helping to raise awareness about plastic pollution in Peru.
- Mitigating plastic pollution.
L.O.O.P. up-cycles PET bottles to produce plastic products, which it then sells to raise awareness,

and organises *HAZla por tu Playa*, an annual clean up event to help clean up oceans and beaches as well as make people aware of plastic use.

Results to date include:

- Economic empowerment.
Currently, five women receive a salary from L.O.O.P. Women involved outside the company vary, but around 20 women have indirectly benefitted from being campaign coordinators, website developers, and product developers and around 17,000 women have been involved as volunteers.
- Diverse public engagement and awareness strategies reach wide audience:
 - L.O.O.P. has over 20,000 followers over its several social media outlets where it regularly posts updates about campaigns and news releases,
 - Approximately three press notes are released per month through television, websites, and radio stations, helping to reach more people interested in participation, and
 - 'Conscious-art' art shows that have reached over 4,000 school-age children and have aided in teaching about plastic pollution.
- Communities are activated.
Clean-up events have involved over 24,000 people and removed 92 tonnes of debris from Peruvian coasts. In 2015, the events spread to Mexico and Hawaii, and in 2016 there are plans to expand to three additional Latin American countries.
- Environmental benefits.
To date, the organisation has up-cycled about 1.3 million PET bottles in its products that would have normally ended up in landfills or in the ocean.



Gaps/challenges include:

- L.O.O.P. prioritises women's engagement, which could be construed as gender-biased; however, it proactively engages men and youth, as well, in awareness and mobilising efforts.

For more information:

Contact: info@lifeoutofplastic.com

Facebook: facebook.com/lifeoutofplastic

Website: lifeoutofplastic.com

Women greening industries in Colombia

Creating women's knowledge networks to lead cleaner production processes

Genstainable with Cinara Research Institute of the University of Valle, Constructora El Castillo, and Industrias El Leon



In Colombia, industrial pollution devastates the natural environment and negatively impacts people in the community and those working in industrial sectors. Many women in the traditionally male-dominated industrial sector, such as construction, are taking it upon themselves to implement cleaner production (CP) strategies to mitigate pollutants and

foster a healthier community. While successful in several sectors, women's leadership and knowledge is often ignored in local and policy making and across the industrial sector, more generally. To highlight these women as leaders, promote the dissemination of CP strategies, and share knowledge with other women and men in the community, Genstainable



facilitated the creation of women's knowledge networks, or alliances. These alliances are made up of women from various fields, including academia, utility companies, public organisations, and large and small scale industries and provide a platform for women to share successes and implement new strategies in their fields. Having already benefitted over 25 women, these learning alliances have the potential to grow and expand across multiple sectors.

Project overview

Genstainable seeks to promote women's knowledge alliances in order to share and create cleaner production practices in Colombia. By highlighting women and providing a platform to disseminate ideas, Genstainable is helping women to be heard on a local and national level.

Strategies include:

- Prioritising women's knowledge.
Women who have successfully implemented cleaner production strategies are empowered as industry leaders through capacity building and knowledge sharing.
- Forming partnerships between sectors.
The alliances fostered a partnership between women in local non-governmental organisations (NGOs) and women in a construction company to find innovative solutions to mitigate pollution from construction companies.
- Promoting women's leadership.
Cleaner production training activities, such as workshops, certificate programs, and research programmes, were developed to encourage and empower women in the field.
- Creation of promotional materials to highlight women.

Women in knowledge alliances have created videos and magazines to share experiences with other women, as well as men, in Colombia.

Results to date include:

- Women's CP capacity built and networks formed.
Genstainable has worked with 25 women who are now a part of learning alliances dedicated to implementing cleaner production technologies and sharing knowledge.
- Women's networks transforming industry.
Women from different industrial sectors and organisations are working together to make regional cleaner production proposals to mitigate pollution from 450 small-scale industries located in the city of Cali. The first draft of these proposals has been written.
- Improving CP and mitigation initiatives.
In a housing construction project, women led many mitigation initiatives during construction, such as using photovoltaic energy for lighting and pumping water, a waste recycling program, and the distribution of bicycles for transportation on site (replacing motorcycles).
- Improving sustainability of resources.
Women also worked to reduce the amount of drinking water used for construction processes, as drinking quality water is not needed for industrial purposes. Cleaner production activities are also supporting training in pollution prevention techniques and technologies to women in water and sewage companies, hydraulic and sanitary installation firms, and metallurgy and finishing construction companies.
- Widespread promotion of CP.
The first cleaner production superheroes magazine has been written and intends to showcase, in plain language, the successes of women in these



alliances. A video was also created and intends to highlight projects from around Colombia (see link).

For more information:

Watch the “Women and Cleaner Production” video here: <https://youtu.be/atq0u1Knxcc>

Mangrove Restoration Project (GMRP) in Guyana

Women increasing coastal resilience through mangrove cultivation

Government of Guyana, Guyana Women’s Leadership Institute, Guyana Office for Climate Change, and National Centre for Education, Research and Development (NCERD) with funding from the European Union





In Guyana, 90% of the population lives along the coasts, which fall 1.04 metres below sea level. These low-lying communities are particularly vulnerable to the impending impacts of global climate change, including flooding, storm surges, and sea-level rise. Many of the country's existing sea defense structures need updating as storm surges are exceeding their capacity. The Guyana Mangrove Restoration Project (GMRP) addressed the threats to coastal Guyana by championing community cultivation of mangrove trees, which aid in wave attenuation, decreased erosion, and provide a buffer during storms. From the beginning of the project, women—recognised to be at higher risk from the impacts of flooding and coastal erosion—were centred as project beneficiaries by prioritising their leadership in restoration projects, providing resources for economic empowerment, and conducting capacity building trainings on various subjects. Trainings included mangrove seedling cultivation, restoration and management strategies, and beekeeping. These allowed women to explore economic opportunities through honey production, tourism activities, and mangrove cultivation. Women made up 80% of the community participation and successfully organised Village Mangrove Action Committees—women-led volunteer organisations involved in continued mangrove awareness and restoration activities—along with the Mangrove Reserve Producers Cooperative Society, which provides trainings and resources for poor coastal women seeking to benefit from beekeeping. With the help of these women leaders, the project planted over 460,000 mangrove seedlings, restoring over 10km of coastal mangrove forests, and increasing the resilience and security of coastal communities.

Project overview

Women's leadership and participation in mangrove cultivation helped the GMRP improve resilience to storm surges, flooding, and sea level rise for coastal communities in Guyana.

Strategies include:

- Prioritised community involvement.
From the beginning, the GMRP felt that successful mangrove management could not happen without regard to local communities and their needs. During the project, women's leadership and participation was sought out and prioritized as women were recognized as among the most vulnerable to the impacts of flooding and coastal erosion.
- Trainings to build the capacity of women.
Women were given the opportunity to participate in trainings on various subjects related to mangrove management and restoration. Subjects for trainings included:
 - Climate change and the role of mangroves,
 - Mangrove ecology, restoration, and management,
 - Mangrove seedlings propagation,
 - Project management,
 - Tour guiding,
 - Bird identification,
 - Strategies for strengthening organisation, and
 - Beekeeping.
- Combining economic opportunity with environmental restoration.
By providing financial support to women interested in beekeeping and agro-processing, this project is ensuring that the mangroves are well managed and protected while providing additional income for families.



- Building resilience in coastal Guyana.
Underlying the whole project is the need to protect coastal communities from the impacts of climate change. By restoring mangrove forests along coastal Guyana, this project provides natural protection to coastal communities against storm surges, flooding, and coastal erosion.

Results to date include:

- Women are project participants and leaders.
Women made up 80% of the participants in mangrove cultivation, restoration, and management. These women organised and formed many volunteer groups—Village Mangrove Action Committees—to continue upkeep and conservation of the mangrove forests.
- Women are empowered as environmental leaders.
Over 50 women were trained to cultivate mangrove seedlings in community nurseries. These 250,000 seedlings were sold for coastal planting and earned the women involved a total of USD 115,000.
- Creation of sustainable, income generating activities.
Through initial beekeeping training, women formed the Mangrove Reserve Producers Cooperative Society. This society provides trainings and resources to poor coastal women interested in beekeeping. Along with providing income through

honey generation, this activity helps to promote additional mangrove growth and provides incentive for families to protect the mangroves from being harvested.

- Environmental benefits from ecosystem-based adaptation.

Between 2010-2013, the project planted over 460,000 Black mangrove seedlings, restoring 10km or 48 ha of coastal mangrove forests. This was combined with 30km of existing forests to protect them from further depletion. With existing sea defense systems, the additional forested land has reduced risk in coastal communities from the impacts of flooding and saline intrusion.

Gaps/challenges include:

- Traditionally, livestock farmers used mangrove land as grazing grounds and the efforts to protect the land has led to some conflict among community members. However, the project worked to find a solution to benefit all parties by seeking out alternative grazing lands.

For more information:

Project Website:

<http://www.mangrovesgy.org/home/>



The Electrification Project of Nicaragua (PELNICA)

Creating conditions for gender equity in public projects for rural electrification

Nicaragua's National Electricity Transmission Company (ENATREL) with support from the Foreign Affairs, Trade of Canada



Nicaragua is the poorest country in Central America and many of its rural populations do not have access to reliable electricity. Seeking to address this issue, Nicaragua implemented a rural electrification program. The programme framework set strategies to improve rural development and the Nicaraguan government ensured that the project included gender considerations. In 2009, the Electrification Project of Nicaragua (PELNICA) began construction of electricity grids in several Nicaraguan districts and in 6 years has improved the quality of life for over 90,000 people. Reaching 379 communities in rural Nicaragua, the program prioritised residential electrification to meet women's electricity needs. Along with financial assistance from this program, the increased access to energy improved entrepreneurial ventures of both men and women. In addition, PELNICA ensured women's

voices were being heard during decision-making processes by increasing leadership and participation of women in local and community organisations. As a result of these and other proactively gender-responsive initiatives, Nicaragua has been increasingly recognised for leadership on gender and energy concerns.

Project overview

PELNICA improved rural electrification to housing and residential sectors in 379 communities, benefitting over 90,000 people in six years. This project not only meets the energy needs of women in rural communities, but also prioritised participation of women in local organizations.



Strategies include:

- Promoting gender equality.
To meet this goal, PELNICA ensured:
 - Equal opportunity and access to energy infrastructure financing tools, and
 - Equal opportunity to extra income and work on temporary contracts during the grid construction.
- Increasing women’s participation in the decision-making process.
PELNICA fostered an increase in the percentage of seats held by women in community and decision making councils.
- Implementing gender-sensitive trainings.
PELNICA hired a gender specialist and conducted trainings for staff members.
- Providing trainings for women in communities.
Trainings were held on various topics, from leadership to entrepreneurship, to provide women with support networks as they entered the work place.
- Increasing rural energy access.
Through the construction of rural grids, PELNICA seeks to promote sustainable development.

Results to date include:

- Advancing understanding of gender equality co-benefits.
Communities, and in particular men, have noted better understanding of why gender equality is pursued and promoted, an understanding of and

recognition of women’s rights, and an interest in promoting women’s positions in society.

- Women’s participation increased.
Women’s participation at the municipal level increased leading to more input concerning the design and implementation of local projects.
- Women’s capacity built.
Women received training to work in brick making, masonry, and carpentry. Electrician certification was obtained by 60 women and 267 women became entrepreneurs as a result of additional training.
- Increased energy access.
Greatly improving quality of life, 90,100 people in 379 communities gained reliable and clean energy access.

Gaps/challenges include:

- PELNICA faced some challenges in trying to explain the importance of a gender-sensitive project to its technical staff; continued capacity building will be important.
- ENATREL, the implementing organisation, is concerned with continuing and building upon the gender-responsive approach in its future projects.

For more information:

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Visit: <http://www.enatrel.gob.ni/>



Geothermal energy empowers women in El Salvador

Empowering women through the use of geothermal energy and its residuals

LaGeo, S.A. de C.V. with FundaGeo



In the Berlin district of El Salvador, geothermal energy aids in the country's mitigation of greenhouse gas (GHG) emissions. However, potentially useful residuals from geothermal energy, such as condensation and released heat, are currently being wasted. These residuals provide tremendous opportunity for women in the surrounding community to earn additional income and learn new skills. Women from 15 communities are taking advantage of these opportunities, using water condensation to grow and sell roses; heat residuals to dehydrate fruits; and the reservoirs—a result of well drilling for the plants—for fishing. Women have been involved in community meetings concerning the project and attend technical training workshops to expand their skills and understanding of the project. Approximately 40 women have already benefitted

from this holistic project. *LaGeo* and *FundaGeo* plan to expand participants and activities to other plants. This transformative project serves to mitigate GHG emissions and empower women to take on leadership roles in their communities.

Project overview

LaGeo and *FundaGeo* sought to use the residuals from geothermal energy, which are usually wasted, to empower women economically and encourage leadership in the communities surrounding their geothermal plants.

**Strategies include:**

- Targeting women as beneficiaries.
Women in the communities are brought into the process of developing uses for the geothermal residuals meaning that women are managing projects that will lead to the most benefit.
- Providing women opportunities to learn new skills.
By providing technical training to women, *LaGeo* and *FundaGeo* have helped women to expand their abilities to earn income.
- Mitigating GHG emissions.
By using water and heat that would normally be wasted to the surrounding environment, communities are aiding to further mitigate emissions from production processes and energy uses.

Results to date include:

- Women's livelihoods enhanced.
So far, 40 women from 15 communities surrounding the geothermal plants in the Berlin district have benefitted from the project through

growing and selling roses, dehydrating fruit for consumption and sale, and fishing in reservoirs.

- Women's skills built.
Women have received technical assistance and training from *LaGeo*. They also have been involved in community meetings and three women are now a part of *LaGeo's* staff.
- Climate change mitigation results.
The project has helped to decrease emissions by 1.8 tonnes of CO₂ per year by using byproducts that would normally be lost to the surrounding environment.

For more information:

Visit the LaGeo website: <http://www.lageo.com.sv/>
See the FundaGeo page for more information on this project and others:
<http://www.lageo.com.sv/?cat=12&title=Funda-Geo&lang=es>



Productive Uses of Renewable Energy (PURE) in Guatemala

Creating conditions for gender equality in rural energy projects

Solar Foundation with funding from the Global Environment Facility (GEF)



Over half of Guatemala's population lives in poverty with little to no access to clean, sustainable energy. The Productive Uses of Renewable Energy (PURE) programme, funded by the Global Environment Facility (GEF), was created to foster access to renewable energy and stimulate development in rural areas, as well as mitigate greenhouse gas emissions from traditional energy production and transmission. While the original programme did not include gender considerations, the process of implementation revealed gender gaps in women's participation in decision-making and access to renewable energy training and technology, prompting the need to address these issues. Including gender considerations in the programming proved to have unintended successes with women gaining access to economic

ventures and reporting and consequently feeling more empowered in the decision-making processes. In addition to making a concerted effort to include gender in the project design, PURE provided access to renewable energy technologies to ten communities, reaching over 130,000 people.

Project overview

Although gender was not an original consideration in the program, PURE's successful rural renewable energy access project made efforts to include women in decision-making and economic ventures to make an equitable and inclusive programme.



Strategies include:

- Increasing rural renewable energy access.
PURE's process consisted of eight stages to effectively increase access to renewable energies. These steps were:
 - Identification and selection of communities to participate in the project,
 - Sensitisation of actors and preparation of social conditions,
 - Determination of the technical feasibility of the project,
 - Knowledge of the social and institutional environments,
 - Training and education of stakeholders,
 - Technical studies,
 - Management of projects for renewable energy technologies, and
 - Implementation of the renewable energy technologies.
- Including gender considerations grounded in programming learning and evidence.
Although gender was not an original consideration, the inclusion of women in decision-making processes and ensuring they have access to renewable energy trainings and technologies proved to make the project more successful.
- Providing economic opportunities for women.
By facilitating activities to help women identify micro enterprises, PURE increased access to economic ventures and secure additional income for families.

Results to date include:

- Women empowered as decision-makers.
PURE helped empower women as participants in decision-making groups in a culture in which women are traditionally not encouraged to speak

up and participate. Within the project communities, 40% of women participated in community organisations and were involved in the planning and implementation of the project (economic, tourism, environment and conservation planning and also through natural resources councils).

- Women engaged in micro enterprises.
Through support from PURE, women had access to many different micro enterprise and economic opportunities, including women-led mobile charging initiatives, electrician training, and household money saving activities through the use of the less expensive, renewable energy sources.
- Increased renewable energy generation.
Through its implementation strategy, PURE developed and promoted 1.5 megawatts (MW) of off-grid renewable energy for productive use and 13.5 MW of renewable energy for private sector use on the national energy grid.

Gaps/challenges include:

- The project experienced challenges promoting gender equality in rural areas because women's work is generally undervalued, there is limited access to participation outside the domestic space, and women's capacity building for economic ventures is limited.
- An unstable political environment, divided leadership, a weak energy economy, and social fragmentation were also cited as challenges in obtaining loans and attracting investors to the project.

For more information:

Visit: <http://www.fundacionsolar.org.gt/proyectos/ usos-productivos-de-la-energia-renovable-en-guatemala-pure/>



Gender-equitable rights and access to forest and tree resources and benefits

A mixed methods approach in Uganda and Nicaragua

Center for International Forestry Research (CIFOR) and Makerere University, Uganda; NITLAPAN Institute for Research and Development; Central American University, Nicaragua



Many communities around the world suffer from the adverse impacts of tree cover loss and decreased access to forest resources. Women continue to be disadvantaged in this field through insecure access and property rights to forests, trees, and land resources; discrimination and male bias in the provision of services, including credit, and technology; and exclusion from decision-making at household, community, and national levels. CIFOR aimed to address this gender disparity in Uganda and Nicaragua by improving sustainable forest management, equitable distribution of benefits, and household food security. Effective gender inclusion through understanding women's participation in

forest decision-making, analysing the roles of external actors, facilitating participation through adaptive collaborative management (ACM), and evaluating success ensures credible and effective policies and has allowed for targeted interventions. This project helped researchers to understand women's varying roles and participation levels in Nicaragua and Uganda and supported them in making effective policy recommendations. Through ACM strategies, women are now more confident and more willing to share their ideas with their male counterparts and, in some villages, are increasing their leadership and participation in forestry projects.



Project overview

Linking research with action, this project aims to study the roles of women in forestry projects in Nicaragua and Uganda. By increasing leadership and participation of women through ACM, CIFOR is helping to enhance sustainable forest management.

Strategies include:

- Fostering understanding of women's roles in the forestry sector.
Through focus-group interviews of men and women's participation in decision-making strategies, researches analysed the current roles of women in both Nicaragua and Uganda. This helped gain an understanding of cultural expectations to better inform policy recommendations.
- Ensuring gendered monitoring and evaluation.
Sex-disaggregated household-level surveys were used to establish a baseline and capture impacts from the study.
- Strengthening women's rights and access to forests.
ACM strategies were employed to identify and implement actions to improve women's participation in and influence over decision-making.
- Creating networks with outside actors.
Partnerships between local universities and women's organisations were created to strengthen coordination between forestry driven organisations and ensure women's participation.

Results to date include:

- Women's diverse roles and experiences documented.
Through the focus groups and surveys, researchers found that women in Nicaragua tended to be more involved in decision-making, have more

access to resources, and are more likely to restrict consumption to increase sustainability than women in Uganda. However, women in both countries experience decline in decision-making capacities beyond the household-level. Researchers also found, particularly in Uganda, that women are traditionally not allowed to plant certain trees on household land and that membership in forestry organisations is highly correlated with resource harvesting. This insight allowed researchers to understand the varying roles of women in the forestry sector and make tailored recommendations for study sites.

- Women's access to the forestry sector improved.
Through the ACM process, women's confidence in sharing ideas increased and in some cases, particularly in Uganda, their leadership and effectiveness improved, leading to increased acceptance by men.
- Multi-stakeholder partnerships fostered, across levels.
Nicaragua's National Forestry Institute donated 10,000 seedlings for reforestation and signed agreements to collaborate with local universities. In Uganda, the National Forestry Authority organised community trainings in tree nursery establishment and beekeeping, and SCC-VI Agroforestry and Tree Talk provided up to 10,000 seedlings for communities. The participation of these organisations has supplemented community knowledge and strategies with resources and skills.

Gaps/challenges include:

- Without clear strategies that specify gender targets and monitor progress toward them, it is unlikely that gender-responsive laws and policies on paper will transform women's rights and access.
- Adequate budgets and gender capacity (training of



implementers) are necessary to ensure continued and meaningful impact.

- In Nicaragua, weak or conflicting governance at communal and territorial level affects progress on women's participation in governance.
- It is difficult to make substantial changes in communal or public levels of governance without also addressing household level inequities.

For more information:

Uganda contact: Esther Mwangi at e.mwangi@cgiar.org

Nicaragua contact: Anne Larson at a.larson@cgiar.org

Visit: <http://www.cifor.org/gender/gender-equitable-rights-access-forest-tree-resources-benefits-mixed-methods-approach-uganda-nicaragua/>

For more information on ACM visit: <http://www.cifor.org/acm/>

Energy opportunities for women in Senegal

Improving community wellbeing through increased energy access

Global Village Energy Partnership (GVEP) International in partnership with the Social and Ecological Management (SEM) Fund and ENERGIA



Low energy access plagues the rural regions of Tambacounda and Kedougou, Senegal, where only 9% and 4% of the populations, respectively, have reliable access. Energy poverty is especially pressing for

women and girls who are often charged with using smoky, inefficient wood stoves for cooking and rely on poor lighting for household chores. Integration of efficient cookstoves remains low—less than 4%—



while the health impacts of traditional cookstoves kill approximately 6,300 Senegalese people a year. In order to address these issues and provide new economic opportunity, GVEP International, with support from SEM Fund and ENERGIA, support the growth of 250 women-run micro and small enterprises (MSEs). Participants receive financial and business support and tailored mentoring from GVEP for up to three years to help them enter the energy market and increase access to energy in their communities. It is estimated that 4,500 family members will benefit from this extra income and that 400,000 men, women, and children will have improved access to clean energy. Through supporting women entrepreneurs, GVEP's activities are helping to reduce the adverse impacts of wood burning stoves and empower women as energy leaders in their communities.

Project overview

GVEP supports 250 women-led micro and small enterprises in entering the energy access market in the regions of Tambacounda and Kédougou, Senegal. Through tailored mentoring and financial support, GVEP aims to empower women to educate and improve their communities through increased clean energy access.

Strategies include:

- Empowering women entrepreneurs.
Participants receive training in business, financial support, and mentoring for up to three years to support participation in the energy access market.
- Supporting growth of MSEs.
Aside from training and financial support, GVEP

ensures that women-led MSEs will be engaged and connected to key players, such as suppliers, distributors, financial institutions, and other MSEs.

- Building gender awareness and understanding.
Men in the communities have the opportunity to attend gender-sensitivity meetings in order to gain insight on the importance on women's participation in the project and education on negotiating domestic arrangements.

Results to date include:

- Women's economic empowerment.
Currently, 250 women-led MSEs in two regions in Senegal are the target beneficiaries of this project; results include women earning income and improving the wellbeing of an estimated 4,500 family members.
- Improved energy access.
Approximately 400,000 men, women, and children will have improved access to clean energy.
- Health and environmental co-benefits.
Reduced reliance upon traditional sources of fuel for wood stoves—translating as well into reduced health impacts from smoky cookfires.

Gaps/Challenges include:

- Lack of access to resources, training, and education can make it difficult for women to participate in the energy market. This project intends to provide these resources to women to support them in entering the market.
- Women also face troubles at home and in the community with households being inflexible in domestic arrangements and prejudice about gender



roles from male suppliers and distributors. GVEP hopes to dispel these prejudices through gender-sensitive trainings and education sessions.

For more information:

Visit: <http://www.gvepinternational.org/en/business/energy-opportunities-women-senegal> or <http://www.gvepinternational.org>

Gender-responsive integration of climate change adaptation in local planning in Morocco

Empowering women farmers and entrepreneurs

UN Women and the Swiss Agency for Development and Cooperation, implemented with local partners in 8 pilot municipalities; Annama Association for the Development of Rural Women



Morocco's agricultural sector is particularly susceptible to the adverse effects of climate change and as a result is currently experiencing many changes, including in access to groundwater resources, farm size, production systems, technologies, markets, and public policies. Rural women in Morocco—who often lack resources and

training, and face an unequal distribution of family responsibilities and threat of exposure to violence—are particularly impacted by these changes, as they are often invisible in decision-making, and their contributions go unrecognised. However, women are in a critical position to help their communities develop resilience and adapt to climate change. UN Women



and partners are working with regional programmes in Morocco to advance gender equality and enhance women's livelihoods, and to foster an understanding amongst policymakers that women farmers' perspectives must be integrated into the formulation and implementation of sound, sustainable climate-related policies. A key activity has been to engage and empower women in an emerging agricultural sector: the preserving and commercialising of aromatic and medicinal plants (AMPs); women have been trained in business management and other key skills, adding to their improved livelihoods and increasing resilience for their families. Among interesting results to far, using gender-sensitive indicators for the project allowed the 8 pilot municipalities to have the socioeconomic and environmental data necessary to adapt their communal development plans to the reality of climate change challenges.

Project overview

UN Women-Morocco's project aims at strengthening gender mainstreaming in climate change understanding and adaptation, including by fostering women's economic empowerment in pilot communities and by focusing on key aspects in local planning and development processes through:

- Enhancing communal information systems with gender-sensitive indicators, and
- Supporting three pilot communities' community development plans taking into account gender concerns in climate change adaptation.

Strategies include:

- Technical and business skills-building for women in AMP.
Women in pilot communities were supported with trainings to engage and further develop AMP sector.
- Comprehensive gender and climate change capacity building workshops at local level.
local partners and community supported through trainings to enhance their skills, particularly focusing on how to integrate gender-sensitive and climate risk reduction indicators in their communal information systems.
- Local, regional, and national training.
 - Key modules covered topics, such as:
 - Morocco's international and national commitments to the implementation of the UNFCCC and the integration of gender in climate change adaptation strategies,
 - Gender-responsive risk prevention tools, prevention plan for climatic hazards, and early warning systems,
 - Gender-sensitive territorial approach integrating adaptation to climate change, through Geographic Information System (GIS), risk mapping, and development of a Prevention Plan, and
 - Local leadership and women's empowerment, especially in the context of climate change.

**Results to date include:**

- Women's economic empowerment.
In the community, 120 women from eight pilot communities engaged in AMP sector, while women also benefitted from business training to develop their own AMP initiatives.
- Multi-stakeholder engagement.
The project fostered an Economic Interest Group, bringing together 12 cooperatives and 15 NGOs to reinforce the production and commercialisation of AMP.
- Community plans enhanced.
There have been eight community development plans that have fully integrated gender issues and commitments.
- Sex-disaggregated data collected and employed.
Gender-sensitive indicators provided socioeconomic and environmental data that has been used to adapt community development plans to climate change impacts. Also, gender-

sensitive Communal Information Systems have been implemented, enriching risk reduction in community development planning.

Gaps/challenges include:

- Men in the community criticised women for their lack of skills and resources to successfully manage AMP businesses and as a result, gender-inclusive training and capacity building for men on gender concerns would be a necessary next step.
- Bridging the gap in women's technical skills was a challenge—and yet it reinforces the importance of the project itself, to build women's capacity and leadership.

For more information:

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Bamboo Bikes Initiative in Ghana

Empowering women through the production and use of high quality, affordable and sustainable bamboo bicycles

Ghana Bamboo Bicycles with funding from the Global Environment Facility (GEF) Small Grants Programme.



Traffic congestion, environmental degradation, rural-urban migration, low youth employment and poverty are some of the major issues impacting communities in Ghana. Bernice Dapaah, a young female entrepreneur, saw a way to tackle these problems while empowering women in rural communities through the cultivation of bamboo and the production of bamboo bicycles. The Ghana Bamboo Bikes Initiative, funded by the GEF Small Grants Program, addresses transportation needs, climate change, youth unemployment and poverty by creating jobs for young people, especially women. These high-quality bikes are lightweight and stable, but can still handle rough terrain and large farm loads and passengers, making them excellent replacements for traditional metal bicycles, which are more carbon intensive to produce. In addition, bamboo forests that are not used for bicycles have led to more carbon being sequestered, less deforestation of Ghanaian



forests, and decreased soil erosion. Women have specifically benefited from this female-led project through manufacturing trainings, the creation of 30 jobs—20 bicycle assemblers and ten farmers—and the increased access to an affordable and sustainable form of transportation. The expansion potential is significant—and the Initiative is currently exploring options to scale, both in size and impact. Organisers aim to build thousands of bikes—by Ghanaians, in Ghana, for Ghana.

Project overview

Through the cultivation of bamboo and the building of high-quality bamboo bicycles, the women-led Ghana Bamboo Bikes Initiative helps mitigate climate change impacts while empowering women through economic opportunities and access to durable, sustainable transportation.

**Strategies include:**

- Prioritising women's participation.
This Initiative, founded by a young woman entrepreneur, sought to create opportunities for women in rural Ghana to participate in and benefit from the creation of these bamboo bicycles.
- Providing reliable transportation alternatives.
These handmade bicycles are lightweight and durable, but can still withstand the rough terrain of the area as well as handle large farm loads during commutes.
- Mitigating emissions via the production process.
Bamboo bikes require much less energy than traditional steel framed bikes, which produce about 5 kg of CO₂ per bike during production. In addition, growing bamboo aids in sequestering carbon and improving local climate conditions.

Results to date include:

- Women's economic empowerment.
Through this initiative, 30 jobs—20 bike assemblers and ten farmers—have been created to employ female youth. Additionally, the technology has spread to two other communities, employing an additional 25 women. The initiative also sets up trainings for women to start small-scale production bases and employ five or six other people to help expand the project around Ghana.
- Reduced dependence on fossil fuels and increased forest restoration.
The project has stimulated the cultivation of bamboo in the area, and while some is used to construct the bikes, the remaining bamboo forests serve to decrease soil erosion and sequester carbon, which improves local air and water quality. The switch to bamboo has also helped to preserve and rehabilitate Ghana's dwindling forests.

For more information:**Momentum for change submission site:**

http://unfccc.int/secretariat/momentum_for_change/items/7842.php



Solar Market Gardens in Benin

Transforming food and income security for—and by—women farmers

Solar Electric Light Fund (SELF) with l'Association pour le Développement Economique, Social, Culturel, et l'Autopromotion (ADESCA)



In one of the driest regions of Benin, communities suffer severe malnutrition and deepened poverty during the long dry season when agricultural production is erratic at best. Women and girls are especially impacted as they spend more time trying to collect water and less time in school and pursuing economic activities. By targeting women farmers, the Solar Market Garden program in Kalalé uses solar panels to support drip irrigation systems for watering year-round crops—resulting in dramatically improved nutrition, increased income for the women farmers, increased school enrollment for the farmers' children, and empowered women entrepreneurs, educators, and leaders, among other outcomes. To date, women from 11 farming districts have elevated their community status and are paving the way for sustainable mitigation and adaptation techniques in their communities. The program's women-run administrative board plans to expand the project



to the 32 remaining districts in Benin, enhancing wellbeing for families and communities across the country.

Project overview

The SELF with the input from community members and a local non-profit, ADESCA, is implementing Solar Market Gardens to efficiently water year-round crops with drip irrigation systems fuelled by solar energy, increasing food and income security in rural Benin.

Strategies include:

- Ensuring that women farmers are project beneficiaries.
By prioritising women's farming cooperatives as direct project actors and beneficiaries, the Solar Market Gardens project adds community value



to women-led organizations, rewards innovative women, and empowers women to become agricultural leaders.

- Having women lead every aspect of project design and governance.

Women farmers choose plot sites and help to clear the area, build the plant beds, and construct the irrigation lines. Representatives from the garden groups were then trained to take over administration of the project.

- Championing women's knowledge.

Through continuous seminars and skills-building trainings, women are empowered as experts in sustainable agriculture; women in the gardening groups are then able to provide advice to neighbouring farmers and organise additional community projects.

- Uniting mitigation and adaptation.

Solar pumps replace diesel-fueled pumps, reducing costly fuel purchase as well as greenhouse gas emissions and water waste, and intercropping tree planting adds to mitigation power and crop fertility.

- Fostering a project that is comprehensive and sustainable.

Future trainings will include sessions on nutrition, marketing, and photovoltaic technology to encourage the project to become self-supporting.

Results to date include:

- Increased capacity of women.

Eleven women's farming cooperatives, or 400 individual women, participate in the Solar Market Garden program. The project has set women up to create long-term social change by affording women unprecedented agency and independent income.

Also, leadership of the NGO was handed over to a board composed entirely of representatives from the garden groups, giving autonomy and ownership to women in the community.

- Economic benefits for farmers.

In 2014, the gardens yielded 27.7 tonnes of produce and provided an average weekly income of USD 7.50 for each farmer.

- Water saving technology.

The solar powered pump drip irrigation system has reduced water waste by 50% and has relieved women and girls from the time-consuming burden of hand-watering crops.

Gaps/challenges include:

- Logistical delays, e.g., in transporting solar panels to the village sites.
- Political delays: the project has, in some places, attracted so much attention that local authorities became involved, resulting in lengthier approval processes.

For more information:

Visit: <http://self.org/benin/>



Food and Trees for Africa (FTFA) initiative in South Africa

Women leading South African communities to a healthier and more sustainable environment

Food and Trees for Africa (FTFA)



Since 1990, Food and Trees for Africa (FTFA) has been addressing issues of food security, poverty and climate change in South Africa by teaching women skills and fostering their leadership to create a healthier and more sustainable environment. There are six programmes under FTFA—Trees for All, Trees for Homes, EduPlant, Food Gardens for Africa, Bamboo for All and FEED—that focus on tree planting and climate change education to meet goals of emissions reductions, food security, education and women empowerment. Women's leadership is at the heart of FTFA's programmes. For example, the Trees for Homes, Trees for All, EduPlant and Food Gardens for Africa programmes are led by female programme managers, supported by female entrepreneurs and have a positive impact on women from South Africa's poorest communities. To date, these women-led

programmes have helped to establish thousands of permaculture food gardens, bamboo projects, and organic farms, and have planted 4.2 million trees, which have sequestered more than 1.5 million tonnes of carbon. In addition, FTFA's Bamboo for All and Trees for Homes programmes were the first in the world to be internationally recognized through the Verified Carbon Standard. With the help of women in South African communities, FTFA continues to innovate, adding new creative approaches to greening, sustainable natural resource management, behavioural change, and climate change mitigation, adaptation and awareness.



Project overview

FTFA strives to improve food access, alleviate poverty, mitigate climate change, and empower women through fostering women's leadership in tree planting, gardening and farming projects.

Strategies include:

- Fostering women's leadership.
Women's leadership is prioritized in all FTFA programmes, with a focus on teaching women the skills they need to improve their own livelihoods and their communities through agricultural activities.
- Mitigating climate change while improving food security.
The six programmes under FTFA use various activities to improve livelihoods in South Africa. Some of the main activities include tree planting, establishing permaculture gardens and organic farms, and setting up bamboo projects in communities.

Results to date include:

- Women are being championed as community leaders.
Some of FTFA's programmes, including Trees for Homes, Trees for All, EduPlant and Food Gardens for Africa, are led by female programme managers, supported by female entrepreneurs and have a

positive impact on women from South Africa's poorest communities. By focusing on women's leadership, FTFA is delivering social, environmental and economic benefits to disadvantaged women across South Africa.

- Increased carbon sequestration and improved livelihoods.
Through the various programmes, FTFA has helped women in South Africa plant over 4.2 million trees that have sequestered over 1.5 million tonnes of carbon, drastically improving the local climate conditions in communities. In addition, projects have helped to establish thousands of permaculture gardens and organic farms, which not only improve food security but provide opportunity for women and children to learn new skills.
- Potential for growth and expansion.
Activities through this project have increased every year since its inception in 1990. Various government departments, including a group of schools in Mexico, have modelled their community work on FTFA's initiatives, illustrating the replicability of these activities.

For more information:

Momentum for Change submission site:

http://unfccc.int/secretariat/momentum_for_change/items/7840.php

Organisation website: <http://www.trees.co.za/>



The Nyimba Forest Project (NFP) in Zambia

Building capacity and participation of women to strengthen Zambia's REDD+ Readiness Programme

Center for International Forestry Research (CIFOR) in partnership with Forest Department, Zambian Wildlife Authority, District Women Development Association (DWDA), Community Youth Concern (CYC), Traditional Authorities and the District Council, and USAID's Zambia Economic Growth Programme



The Nyimba Forest Project (NFP) was a two-year programme with the purpose of supporting Zambia's REDD+ Readiness Programme. Through in-depth analysis and assessments, this research project aimed to report on the availability and utilisation of forest resources and provide recommendations for Zambia's national REDD+ strategy (NRS). CIFOR made a concerted effort to include gender considerations in the project to capture knowledge from women that would influence future distribution of benefits and to ensure a balanced and inclusive activity. To reach this goal, CIFOR focused not only on conducting workshops and seminars about building the capacity of women, but also sought out participation from women in decision-making processes and research throughout the project. Appropriate stakeholder

participation, a representation framework, and the inclusion of both genders in distribution of benefits allowed for effective equitable decision making on the project. At a project level, these strategies helped achieve a gender ratio of 53 women to 47 men participating in 51 community meetings and study activities, and 26 women in decision-making positions over the course of the NFP implementation. At a national level, the project aided in producing recommendations and guidelines for addressing gender issues in projects and policies. It succeeded in fostering an environment where concerns of gender disparities could be addressed and where women could have equal opportunity to participate in the NFP implementation.



Project overview

By ensuring the participation of women to create inclusive and gender-responsive research, the NFP created recommendations to strengthen Zambia's REDD+ Readiness Programme.

Strategies include:

- Targeting women's participation.
CIFOR requested the participation of women and girls in all the implementation activities, including the selection of Village Based Researchers.
- Gender mainstreaming at all levels.
Several activities ensured that gender issues were being addressed throughout the project. These included:
 - Gender analysis.
Reviewing NFP work plans to see how addressing issues would impact the project,
 - Capacity building on gender.
Sensitisation of staff in the NFP structures and partners, and
 - Monitoring and evaluation:
Tracking women's and men's participation/ leadership and decision-making in the project and the activities of partners and stakeholders.

Results to date include:

- Increased participation of women.
Women were heavily involved at the project level with a women to men ratio of 53:47 participating in 51 community meetings and study activities. There was also equal representation of men and women at focus group discussions and during formation of village forest action plans. The project also involved 26 women in decision-making positions for the action plans.
- Gender guidelines in policies.
Nationally, guidelines on addressing gender issues in implementation of projects were formed and recommendations on how to incorporate gender in the National REDD+ Strategy were formulated.

Gaps/challenges include:

- Social and cultural norms still inhibit women's broader participation in implementation activities. However, this could change as women's roles begin to shift and they are seen as respected and valuable members of projects.

For more information:

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Visit: <http://www.cifor.org/gender/gender-integration-nyimba-forest-project-zambia/>



The Sustainable Village in Kabeza, Rwanda

Pro-poor pilot for sustainable natural resource management and climate change adaptation and mitigation

Rwanda Environment Management Authority (REMA)



Soil erosion from heavy rainfall, over-cultivation, and climate change plagues the village of Kabeza—a typical hillside village, 1507 m above sea level—in Rwanda. As a result, villagers suffer from low productivity and food insecurity, with women being especially impacted particularly due to their traditional roles as caregivers and as those responsible for the collection and management of water and firewood for energy needs. To address these issues, the UNDP-UNEP Poverty-Environment Initiative (PEI) has been supporting efforts by the Government of Rwanda led by Rwanda's Environment Management Authority (REMA) to pilot pro-poor sustainable natural resource use and technologies, aiming to reduce poverty, pursue holistic climate change adaptation and mitigation, and further gender equality

via the Sustainable Village Project, initiated in 2009. Rainwater harvesting, biogas systems, tree planting, and terracing resulted in increased food security in the community, increased income for women through the sale of excess goods, decreased instances of respiratory ailments, less time spent collecting water and firewood, and reduced landslide occurrences. Furthermore, a women-led cooperative was trained to manage the project, which has empowered more women to take on leadership roles.

Especially with national counterparts and UNDP-UNEP PEI ensuring that local lessons learned influence national policymaking and programming on climate change, this pilot project sets an example of how one community can have major impact through inclusive,



sustainable infrastructure and gender-inclusive natural resource management. Moreover, the effective pilot has a catalytic effect for scale and replicability, in addition to influencing national and district policy processes.

Project overview

The project set out to reverse environmental degradation and climate change by empowering communities and in particular women and reducing poverty through the implementation of several sustainable technologies in the Kabeza Village.

Strategies include:

- Guiding and training women and men in spearheading local technologies.
Strategies for rainwater harvesting, biogas systems, tree planting, and terracing were identified, installed, and constructed by the local community, fostering community ownership.
- Transferring management of the project to local authority.
A woman-headed cooperative currently manages the project.
- Building capacity and linking key actors.
Local project managers are supported by UNDP-UNEP PEI, especially to build capacity and establish linkages with district authorities and sector ministries. For example, the Ministry of Agriculture supported the initiative by providing hybrid cows under the “one cow programme”, the Ministry of Local Government supported the construction of homes through the resettlement programs, the Ministry of Infrastructure provided filters for water harvesting systems and the Ministry of Education supported the establishment of the new village school. The Gicumbi District is

also working closely with the cooperative to ensure proper management and raise awareness about environmental sustainability. The cooperative is currently engaging with the Ministry of Information and Communication Technology (ICT) to see how ICT can be better integrated into the project.

- Creating networks.
By fostering partnerships and networks, the results of the project and lessons learned can be used to influence local and national policy processes.

Results to date include:

At local level:

- Food security for the 43 families in the community has increased, and excess production is being sold in the market, further enhancing economic security.
- The women-led cooperative has an annual income of USD 26,000, supporting the livelihoods of around 200 people (62% of whom are women).
- Technologies/NRM strategies have been effective, e.g., terracing has helped to reduce landslides on the steep slopes of the village.
- Owing to the use of biogas plants, the community has a clean, nontoxic fuel source for cooking and lighting, thereby reducing health issues related to the inhalation of smoke from firewood.
- Reduced dependency on firewood has decreased the deforestation rate: an estimated 14 hectares has been saved due to the strategies of this programme.
- Women and children, with reduced burden in water and fuel collection, are now afforded more time to pursue productive activities including schoolwork and economic ventures.
- The female-led cooperative has been successfully managing the initiative since 2010, following UNDP-UNEP PEI capacity building sessions,



demonstrating the sustainability of the project and highlighting how the community, in particular women community members, has been empowered to take the lead on local sustainable development planning and implementation.

At policy level:

- The project influenced Rwanda's second Economic Development and Poverty Reduction Strategy (EDPRS), which includes gender as a cross-cutting issue, to include aspects of environmental sustainability for poverty reduction in the thematic area of rural development.
- The Ministry of Local Government has requested all districts to establish at least one demonstration village based on the best practices from this pilot project.
- With support from the Government of Rwanda and the Swedish International Development Agency (SIDA) the green village model is currently being replicated in Muyebe district.

- In 2015, three districts (Karongi, Muhanga and Musanze) have been granted funds from Rwanda's Environment and Climate Fund (FONERWA) for establishing green villages.

Gaps/challenges include:

- Budgets to transition to 'sustainable villages' are still missing in many districts.
- Project implementers have found it difficult to measure quantitative and monetised impacts of the project; measuring this impact, however, via a cost-benefit analysis is a project focus of 2015.

For more information:

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Energy efficient stoves in Malawi

Addressing gender and environmental issues through efficient technologies

United Nations Development Programme and the United Nations Environment Programme (UNDP-UNEP) Poverty-Environment Initiative (PEI)



Malawi's rich natural resources play an important role in sustaining citizens' livelihoods, contributing to the national economy, and providing a significant amount of energy to the country. An estimated 93% of the national demand for energy is met through forest resources. However, unsustainable use of resources, including the production and burning of charcoal, is leading to rapid deforestation, exacerbated climate change, and threatened communities. Women—who are often charged with collecting firewood and using charcoal for cooking—are feeling the impact of this unsustainable use through increased respiratory ailments from burning charcoal and more time spent collecting scarce firewood. To address this issue, the Ministry of Energy with support of the UNDP-UNEP Poverty-Environment Initiative (PEI) coordinated a pilot project to produce, market, and distribute energy efficient stoves and briquettes in four districts of Malawi—Balaka, Dedza, Ntcheu and Machinga.

During the project, 345 local people (193 women and 152 men) participated in trainings on how to use the stoves and produce the briquettes. Conversely, the Department of Forestry is revisiting the 1996 National Forest Policy with the support of PEI to better reflect the connections between forest resources, livelihoods of the poor, and energy use in the country. Local women have also noted that, in addition to saving women time, opening up other economic opportunities, and reducing respiratory ailments, the energy efficient initiatives have also reduced the risk of sexual assault threatening women when they collect firewood in the forest.

Project overview

By introducing energy efficient stoves and briquettes to local communities, the pilot project sought to alleviate issues faced by women as a result of



unsustainable resource use and energy demands in Malawi.

Strategies include:

- Tackling gender and environment issues in tandem.
Recognising the impact of reduced energy access on women, the pilot project sought to target both gender concerns and environmental sustainability concerns in synergy.
- Economic empowerment of local communities.
Through training on how to produce, market, and distribute efficient stoves and briquettes, this pilot project is opening up the energy market to locals in the targeted Malawi communities.
- Creating community networks.
Communities were connected to the Malawi Industrial Research and Technology Development Centre (MIRTDC), which is the sole producer of machinery necessary to produce briquettes.
- Reforming policy.
The Malawi Department of Forestry is revisiting the forestry policy from 1996 with support from PEI to better reflect the links between natural resources, improving livelihoods, and energy use.

Results to date include:

- Women are project beneficiaries.
This pilot project has had numerous positive impacts on women in the Balaka, Dedza, Ntcheu and Machinga districts, including:
 - Because of the energy efficient technologies, women and children do not have to spend as much time collecting firewood and now have more time to pursue other economic activities,
 - The saved time also lowers women's risk of being sexually assaulted while collecting firewood in the forest, and

– The briquettes have reduced the exposure to smoke for women leading to a decrease in respiratory illnesses.

- Broad community reach.
245 local community members participated in trainings to produce, market, and distribute energy efficient technology. The success of the project has inspired other organisations to become involved in funding the expansion of the project into other districts in Malawi.
- Plan for expansion.
The Government of Malawi has developed a cookstove roadmap to aid implementation of cookstoves in communities all over Malawi.
- Policy reform.
The 1996 National Forestry Policy has also been revisited and objectives have been rewritten to reflect the links between resource use, the livelihoods of the poor, and energy use. The draft has been written and is expected to be approved by the Malawi Cabinet in 2015.

Gaps/challenges include:

- Some women have found it difficult to find markets for briquettes. Future projects could benefit from intensified trainings on marketing and distribution of technologies to aid uptake in communities.

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Project Website: <http://www.unpei.org/our-stories/the-malawi-government-builds-on-pei-pilot-projects-to-support-the-use-of-energy-efficient-stoves-that-also-improve-the-lives-of-women>



Women's wind energy cooperative in Sweden

Creating economic opportunities for women to invest in clean, alternative energy

Qvinnovindar



In 2007, Wanja Wallemyr—a farmer and rural activist living near Falköping, Sweden—had the opportunity to invest in a community wind farm project, however, she wasn't able to afford the USD 154,000 minimum investment. Recognising an opportunity to bolster women's involvement in the energy industry—a sector largely dominated by male leadership—Wallemyr, along with nine other women, started *Qvinnovindar* and gathered enough funds to invest in the community wind farm project. Combining the Swedish words for 'wind' and 'women', *Qvinnovindar* has since grown to over 80 members and invested more than USD 1.5 million in other projects, including a wind project on Wallemyr's farm. Members of the cooperative—who come from a diverse set of careers, including a retail clerk, a florist and a dentist—invest anywhere from

USD 77 to USD 46,000 each. However, no matter how much money is invested, each member gets an equal vote about how the company is run. While the idea of an all-women energy cooperative has not always been well received by others in the community, *Qvinnovindar* has been essential in boosting the rural economy, promoting clean energy, empowering women and opening up the energy market in Sweden to be more inclusive.

Project overview

Qvinnovindar is a Swedish, all-women energy cooperative focused on investing in energy projects with the goal of empowering women economically and promoting clean, sustainable energy.



**Strategies include:**

- Empowering women economically.
The lack of access to finances can be a barrier for women looking to enter the energy market. Through a community effort, this company was able to gather enough funds to become an investor in the wind farm community project and gain members to expand the reach of other projects.
- Inclusive business practices.
Qvinnovindar focuses on the equal representation of all members, regardless of the member's initial investment. The company also includes women from all fields of work to be a part of the cooperative and access the energy market.

Results to date include:

- Expansion of investment opportunities for women.
Since the initial 2007 investment, *Qvinnovindar* has grown from nine to over 80 members and has invested over USD 1.5 million in other wind energy projects around Sweden. Wallemyr has also had the opportunity to speak with women in other countries, including Spain, Mexico and Turkey, in hopes that this same model will spread around the world.

- Promotion of clean energy in Sweden.
Wallemyr hopes that a renewed focus on wind power will help to displace nuclear energy in Sweden, which, through mining practices, has negative effects on the groundwater.

Gaps/challenges include:

- The cooperative is exclusively for women, which can be seen as being gender exclusive. However, Wanja Wallemyr and her daughter Sara are not opposed to helping men and others in the community start their own wind energy cooperatives, believing that this all-women company is essential in empowering women in the energy market.

For more information:

A news article about *Qvinnovindar*: <http://grist.org/climate-energy/swedish-co-op-creates-a-stake-for-women-in-wind-industry/>

***Qvinnovindar* website:** <http://qvinnovindar.se/>



Pilot Programme for Climate Resilience (PPCR) in Tajikistan

Gender mainstreaming in the Building Climate Resilience in the Pyanj River Basin project

The Government of Tajikistan with the PPCR



With an agriculture-dominant economy, mountainous terrain, and large rural population, Tajikistan is one of the most vulnerable countries to climate change in Central Asia. Higher temperatures, floods, droughts, and more frequent storms degrade farmland and impact rural communities, especially women and children, who make up a majority of the country's poorest populations. In 2009, realising that a 'business as usual' approach would not adequately address these risks, the Government of Tajikistan was nominated and participated in the Pilot Programme for Climate Resilience (PPCR). The PPCR is the first operational program developed under the Strategic Climate Fund (SCF)—one of the three funds under the Climate Investment Funds (CIF)—and it provides an opportunity for countries to integrate climate risks into development planning by building on National Adaptation Programmes of Action (NAPAs). The PPCR

in Tajikistan consists of two phases. The first identified 6 technical assistance activities currently being funded and defined an investment plan, and the second focused on implementation of the investment plan.

One of the six activities identified was the Building Climate Resilience in the Pyanj River Basin project. The largest of the five primary basins in Tajikistan, the Pyanj River Basin houses 1.3 million residents and contains a large proportion of agricultural land, making it particularly susceptible to climate change impacts. PPCR Phase 2 investments for this project focus on climate resilience in critical ecosystems, communities, and infrastructures with a priority for addressing the needs and participation of vulnerable groups. Initial vulnerability assessments highlighted the specific issues that climate change poses to women, prompting the project to take on



a gender mainstreaming approach in planning and implementing resiliency activities. To ensure women's participation, the project conducted a Gender Action Plan that included actions to encourage action from local women's groups; include women in irrigation, drinking water, and disaster risk reduction groups; and provide access to micro-finance opportunities to foster adaptive and resilience measures. Communities have already benefited from PPCR and have shown a desire to replicate and scale up successful activities.

Project overview

Through an investment from the PPCR and a Gender Action Plan, the Building Climate Resilience in the Pyanj River Basin project focused on building resilience to climate change impacts while prioritising the participation and needs of women.

Strategies include:

- Conducting initial vulnerability assessments.
By assessing the needs of the community, this project could adopt socially inclusive and gender-responsive approaches during activity planning and implementation.
- Developing a Gender Action Plan.
Gender-inclusive features were included in many of the project components, including supporting participation of local women's groups and their participation in sector specific groups, as well as providing micro-financing to women for adaptation and resilience projects. Gender Action Plan indicators included:
 - 20% of employment opportunities in the project are filled by women,
 - 30% of women are trained on operations and maintenance of project-related infrastructure,

- 50% of participants in trainings are representatives of women's organisations, and
- 30% of loans are given to women, or enterprises with a majority female-ownership.
- Building resilience in the Pyanj River Basin.
The project's overarching objective is to prepare the communities to successfully navigate various climate change effects that will impact this area.

Results to date include:

- Women are project beneficiaries.
By building in gender responsive strategies into activities, this project improved women's access to water resources, heightened their knowledge on climate-resilient agriculture, and increased their access to micro-financing opportunities.
- Community buy-in and leadership.
There is a strong community desire to further successful activities. Many families in the district consider the PPCR important to improving their livelihoods.
- Expansive reach at local level.
This project will benefit over 13,000 households—about 100,000 people—in this area, 17% of which are female-headed.

Gaps/challenges include:

- The PPCR for Tajikistan is in Phase 2, meaning that implementation is still taking place. The full results and challenges are not available at this time.

For more information:

Visit: <http://www.ppcr.tj/index.php>



Bhungroo water management in Gujarat, India

Empowering women to build farming resilience through improved irrigation technology

Naireeta Services Pvt. Ltd. with funding from the Rockefeller Foundation



Drought and flash floods pose significant threats to farmers in the western Indian state of Gujarat. Water logging during peak cropping season and water scarcity in the rest of the year severely impact crop yields, especially those of vulnerable female farmers whose livelihood depends on the monsoon. However, these same women are taking this crisis and converting it into opportunity through improved irrigation management. Bhungroo is a water management system that stores water underground during excess rainfall, then lifts it out for irrigation during dry spells. This technology has not only increased fresh water supply and decreased salt deposits on fields, but it has also helped women gain land ownership, participate in local government, improve food security, and increase



income. From selecting farmers, erecting technology, and maintaining the Bhungroo system, this is a fully women-driven process empowering them to become leaders in their communities. Because it is open source and scalable (although it must be used to benefit poor people only), this project has far-reaching benefits in drought stricken areas.

Project overview

Seasonal floods and droughts in Gujarat, India, make it extremely difficult for poor farmers to have productive crop yields. With Bhungroo technology, farmers—especially women—are benefitting from increased fresh water access and more consistent crop yields.



Strategies include:

- Empowering women in farming communities.
Through implementation of Bhungroo technology, crop yields of farmers, especially poor female farmers, increase leading to more income for families and more opportunities to take on leadership roles.
- Building resilience in farming communities.
The Bhungroo water management system stores water underground during rainy periods, decreasing issues of water logging, and making it available during dry seasons.
- Pro-poor focus.
Technology for this project is open source, making it easily accessible for other communities with one non-negotiable being that it must be used to benefit poor communities.

Results to date include:

- Women's leadership is valued and promoted.
Women beneficiaries have taken over managing current and future projects. From selecting farmers, erecting technology, and maintaining the systems, women are building their knowledge of water management and agriculture, leading to more leadership and participatory opportunities in local governments and communities. Women are also getting out of debt and attaining land ownership, serving to improve societal status.

- Ensuring a more resilient future.
Bhungroo units (132) have been installed all over India, with some projects being implemented in parts of Africa. In India, the technology harvests water for ten days and stores up to 40 million litres of water, providing a stable source of fresh water for farmers. This improved land fertility has helped communities to profit off their crops, rejuvenate local biodiversity, and provide nutritious foods for their families and communities.
- Enhanced food security and sustainable livelihood.
To date, over 18,000 marginal Indian farmers—and their some 96,000 dependent family members—have benefitted from Bhungroo technology. Annual income for families has also improved, increasing from USD 210 to USD 700.
- Environmental benefits.
This process is curtailing desertification, which helps to preserve biodiversity and provides conditions for growing more nutritious food on farms.

For more information:

Naireta Services Pvt. Ltd. Website:

<http://www.nairetaservices.com/>

Momentum for Change submission site:

http://unfccc.int/secretariat/momentum_for_change/items/8694.php



Dissemination of three million improved cookstoves in Cambodia

Women entrepreneurs improving the lives of women end-users

Groupe Energies Renouvelables, Environment et Solidarités (GERES) with the European Union, Ministry of Mines and Energy (MME) of Royal Kingdom of Cambodia, and Nexus-Carbon for Development



Cambodia experiences widespread and unsustainable degradation of forestlands. This is not only leading to a scarcity of a central fuel source for communities, but also contributes to global climate change.

There is an opportunity, however, for women to take charge in mitigating emissions from deforestation while expanding their economic ventures. *Groupe Energies Renouvelables, Environment et Solidarités (GERES)*, with support from local and international partners, introduced the New Lao Stove (NLS) into the Cambodian market with a focus on engaging women as entrepreneurs and end-use beneficiaries. Through technical and business training and investment support, GERES supported capacity building in the improved cookstove sector of Cambodia. In a 10-year period, 115 women leaders employed 235 women who were able to help disseminate three



million cookstoves, directly benefitting over 800,000 end-users, slowing deforestation, and mitigating greenhouse gas emissions. In 2004, GERES established the women-run, Improved Cookstove Producers and Distributors Association of Cambodia (ICoProDAC), to ensure long-term growth and local ownership of the project.

Project overview

GERES seeks to empower women entrepreneurs, improve the lives of cookstove end users, and reduce emissions from deforestation through the distribution of the New Lao Cookstove in rural Cambodia.



Strategies include:

- Empowering women as entrepreneurs.
By providing capacity building activities, technical training, introductory business skills, investment support, and leadership training, the project is ensuring women are ready to enter the improved cookstove market.
- Improving women's livelihoods.
By developing and distributing an improved cookstove, women will spend less time and money on acquiring biomass for cooking. In tandem, women's health will improve with more efficient, less smoky stoves.
- Prioritising women's leadership.
Although GERES facilitated the implementation of the project, ensuring women are long-term decision makers through the future of the project is an important strategy.
- Reducing GHG emissions.
Improved cookstoves provide the opportunity to reduce the amount of biomass needed for cooking activities in the home. This reduction in deforestation will lead to more carbon being stored in forested areas.

Results to date include:

- Women's livelihoods enhanced.
The project improved the income of 115 women entrepreneurs and 235 women employees. This allowed women to expand their business enterprise and fund their children's education. These women also helped to improve Cambodia's economic situation with over USD 11 million of added value in the initial 10-year period.

- Household costs reduced.
In a 10-year period, three million cookstoves were distributed to benefit 800,000 end-users. The cost savings from these stoves is about USD 38 a year, which is significant given that the national median income is USD 39.25 per month.
- Institutional capacity built.
GERES fostered an enabling legal framework for improved cookstoves in Cambodia to ensure national long-term support. Also, in 2004, GERES helped to establish the Improved Cookstove Producers and Distributors Association of Cambodia (ICoProDAC) to support local ownership and sustainability of the project.
- Environmental benefits.
From 2003-2013, the project has helped to save 1.6 billion tonnes of wood from being used as fuel and in turn reduced carbon emissions by 2.4 million tonnes of carbon dioxide equivalent.

Gaps/challenges include:

- While cookstoves have eased some demand on biomass as fuel and there are efforts to increase protected areas, dependency on wood is still high, making deforestation a pressing issue in Cambodia.
- There are concerns about the ability to scale up production for increased distribution of cookstoves while still preserving the quality of the stove.
- There is still a need to establish national industrial standards for the cookstove sector.

For more information:

Visit: <http://www.geres.eu/en>



Climate Change Adaptation and Disaster Risk Reduction in Bangladesh

Women leading community-based action to build resilience in Bangladesh

ActionAid Bangladesh



Flooding, drought, cyclones and water salinization are among the top climate change threats to people in Bangladesh, especially women who are among the poorest and most vulnerable to climate change. Climate Change Adaptation and Disaster Risk Reduction in Bangladesh is a women-centred initiative that sets out to curb and adapt to these negative impacts by bringing together groups of women who are charged with conducting vulnerability assessments of climate risks and identifying action plans. These same women helped communities to install improved cookstoves in 110 households, build ten temporary dams to avoid salinisation of fresh water, and create a raised cluster village for landless families in flood-prone areas while sharing knowledge and experiences



with community members. This community-based approach empowers women to express their needs and increase their resilience to climate change. Using a model that builds partnerships between national research and civil society organisations, this initiative disseminates best practices to other parts of the country, ensuring that these women-led pilot projects are having maximum impact and reach.

Project overview

Through vulnerability assessments of climate risks and community-based action, women led actions to build community resilience to climate change impacts in Bangladesh.

**Strategies include:**

- Building capacity for women's leadership.
Bangladesh is traditionally a patriarchal society, but this initiative set out to further gender equality and women's rights in disaster risk reduction planning by focusing on women's leadership in conducting vulnerability assessments.
- Implementing locally appropriate climate change adaptation projects.
Groups of women in the communities conducted climate risk vulnerability assessments and formulated actions to combat specific risks in each community. This community-based approach helps to address women's needs and increase climate change resilience.

Results to date include:

- Women are seen as agents of change.
Women were involved in planning and implementing strategies to combat climate change effects and their knowledge is championed as the project is scaled up in other communities.
- Increased community resilience.
The initiative yielded several adaptation actions in communities, including:

- Installing improved cookstoves in 110 households,
- Building 10 temporary dams to avoid fresh water salinisation, and
- Constructing a raised cluster village for landless families in flood-prone areas.

Gaps/challenges include:

- Engaging the scientific climate community in project design has been noted as a challenge. Bridging this gap will be important in communicating localised climate change vulnerabilities during future projects.

For more information:**Momentum for Change website:**

http://unfccc.int/secretariat/momentum_for_change/items/7841.php

ActionAid Bangladesh website:

<http://www.actionaid.org/bangladesh>



Strengthening institutional capacity for disaster risk management in Viet Nam

Ensuring gender and women's concerns shape legislation and preparedness, including for addressing climate change related risks

Ministry of Agriculture and Rural Development (MARD), with UNDP, UN Women, OXFAM and Australian Aid



Viet Nam is recognised as one of the most disaster prone countries in the Asia Pacific Region. Over the last 30 years, disasters have been a major contributor to fatalities, injury and economic losses totalling about 1.0–1.5% of the gross domestic product (GDP). The Climate Vulnerability Index ranks Viet Nam as one of the countries at “extreme risk”. Women, among those considered to be most vulnerable, have typically been marginalised from disaster information, preparedness and policymaking. In response, and with disasters becoming more frequent and intense due in part to climate change, the Ministry responsible for planning, together with UNDP, UN Women, Oxfam and a range of national and local stakeholder organizations, most notably the 14 million-member Viet Nam



Women's Union (VWU), have been conducting an expansive initiative focused on building women's capacity to lead in Disaster Risk Reduction (DRR) planning, implementation and management and involving women at all levels of DRR and Disaster Risk Management (DRM). Together with enhanced capacity and participation at all levels, close engagement with parliamentarians resulted in the first gender-sensitive legislation on the issues.

Project overview

The major objective of this initiative is to prepare a cadre of women leaders to take leadership positions in the disaster risk management system



in Vietnam, while at the same time broadening women's participation at all levels of DRM. This is to be achieved by building the capacity of key DRR stakeholders and the Women's Union on gender equality to facilitate gender mainstreaming in DRR legislation and to promote women's leadership in DRM; by ensuring women's representation in the Central Committee for Flood and Storm Control (CCFSC); and by strengthening women's voice and capacity to mainstream gender in DRM at the community level.

Strategies include:

- Fostering community-based participation.
The project targets all the 63 provinces in the country to participate in implementing community-based DRM (CBDRM) in 6,000 communes through training material and guidance made available to 23 to 25 core group members (male and female leaders, DRR experts and CBDRM trainers,) per province.
- Strengthening and formalising the women's union capacity.
The project lobbied for the VWU to be recognised as a legal entity and become active constituents in DRM as well as gain official membership of the CCFSC.
- Identifying, validating and overcoming gender concerns by multi-stakeholder engagement and advocacy.
The extended partnership has allowed for a wide range of gender-related issues and structural barriers to be discussed, validated through research and policy papers, and then reflected in the revised draft DRM legislation and in the legal and technical guidelines.

Results to date include:

- Strengthened climate resilience and attention to gender gaps.
Twenty disaster-prone provinces have seen an improvement in resilience, disaster risk management, and gender equality.
- Increased women's participation.
Women's representation in communal and provincial disaster prevention and relief committees in 63 provinces and most of the 11,400 communes in Viet Nam. Also, the VWU has been formalised and granted membership within CCFSC, significantly increasing women's influence in DRM.
- Gender integration in policies.
Gender has been mainstreamed in the draft DRM legislation and the revised legal and technical guidelines of the CCFSC. A number of knowledge tools, policy briefs and training materials have been produced; the close interaction with policy makers and members of the National Assembly helped in influencing policy, resulting in integrating gender in the revised draft DRM legislation, which had previously largely neglected gender concerns.

Gaps/challenges include:

- Resource mobilisation for the promotion of gender equality remained a challenge with this initiative. An important gap is the limited evidence-based research on the effectiveness of DRM practices when gender is mainstreamed into it. More investment in research would possibly make it easier to negotiate for additional resources, both from government and donors.

For more information:

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Low Emission Capacity Building (LECB) in Bhutan

Taking steps toward gender mainstreaming NAMAs and LEDs

National Environment Commission of the Royal Government of Bhutan, UNDP's Low Emissions Capacity Building (LECB) Programme, funded by the European Commission and the Governments of Germany and Australia, in cooperation with The Global Gender and Climate Alliance (GGCA), UNDP Asia-Pacific Regional Centre (APRC), UNDP Bhutan, World Bank, and the Global Environment Facility (GEF)



In Bhutan, widely considered to be a matriarchal society, gender disparities are perceived to be low, and the law outlines equal status for both men and women. However, UNDP's Low Emission Capacity Building (LECB) Programme—which identifies measures to reduce greenhouse gas emissions while delivering on the nation's top priorities—uncovered via stakeholder consultations that development strategies across the transportation, housing, and waste management sectors are largely 'gender blind'. This prompted the LECB Programme in Bhutan to create capacity building arrangements to include gender as a major component in Bhutan's Nationally Appropriate Mitigation Actions (NAMAs) and Low Emission Development Strategies (LEDs). Through a

three-day gender mainstreaming and capacity building workshop and a Rapid Gender Assessment (RGA), relevant stakeholders identified gender gaps and entry points for gender mainstreaming in climate projects. Demonstrating significant outcomes, this project resulted in the establishment of a Mainstreaming Reference Group (MRG) that played a crucial role in implementing gender awareness in policies and programs, including NAMAs and LEDs, setting targets for women's direct participation, and incorporation of gender in key climate change-related projects. By building technical capacity of women in decision-making, the LECB Programme in Bhutan has helped to identify and alleviate previously 'invisible' gender gaps.



Project overview

By mainstreaming gender in climate change initiatives, the LECB Programme in Bhutan is working to build women's capacity in decision-making and promote low-emission, gender responsive development strategies in Bhutan's NAMAs and LEDs.

Strategies include:

- Conducting a Rapid Gender Assessment (RGA).
By integrating the findings into the National Environmental Strategy, the LECB Programme is helping to build the capacity of stakeholders to mainstream gender at all levels in climate projects.
- Organizing gender capacity building workshops.
UNDP organised a three-day gender workshop to help build capacity to mainstream gender in the transportation, housing, and waste management sectors.
- Directing gender-responsive budget allocations.
Since 2014, the LECB Programme has dedicated 10-15% of its budget for direct gender interventions.

Results to date include:

- Gender action plan.
The workshop and RGA, which identified key sectors to focus on, resulted in the development of a gender action plan for the LECB Programme; for example:
 - In the transport sector, new employment opportunities were identified for women, such as drivers and conductors on public transportation, and
 - In the waste management sector, it was found that more women held management positions but had insufficient training. Thus, the project focused on improving the training these women receive.

- Gender integrated into projects.
Gender considerations and strategies were integrated in five climate change projects, including a commitment from the LECB Programme team to ensure that 30% of participants in its trainings, seminars, workshops, and management forums are women.
- Established gender stakeholder group.
The Government of Bhutan created a Mainstreaming Reference Group (MRG), which represents various sectors, to ensure that gender issues are being implemented in policies and projects, including the NAMAs and LEDs.

Gaps/ Challenges include:

- Despite the popular opinion that there is equality between men and women, the perception persists that women lack both confidence and capacity to be fully engaged as equal partners in development activities; women's empowerment and men's gender sensitisation strategies could be enhanced.
- Despite laws establishing men and women as equal partners, national capacity on gender issues is insufficient. Knowledge building activities for women need to be expanded so they can effectively participate in climate change projects.
- There is a large turnover of trained staff, demanding that gender trainings need to be repeated and renewed regularly; enhancing institutional structural capacity would be a key remediation.

For more information:

Contact: lowemission@undp.org

Website: <http://lowemissiondevelopment.org/lecbp/case-studies/bhutan>



Applying the W+™ Standard to a domestic biogas programme in Indonesia

Saving carbon emissions and women's time

Humanist Institute for Co-operation with Developing Countries (HIVOS) in collaboration with the Indonesian Ministry of Energy and Mineral Resources and the Netherlands Development Organization (SNV), with Women Organizing for Change in Agriculture and Natural Resource Management (WOCAN)



Increasing fuel prices and wood scarcity have led to a widespread interest and adoption of alternative, sustainable energy sources. In 2009, HIVOS seeing an opportunity for small scale biogas projects, implemented the Indonesia Domestic Biogas Programme (IDBP). Aimed at the dissemination of domestic biogas digesters as a sustainable source of energy, the program is currently in its second phase, set to end in 2015, and has helped to install over 13,000 domestic biogas systems in nine Indonesian provinces. The installations have had significant impacts on the communities, especially for women who save a substantial amount of time that would usually be spent collecting fuel.

HIVOS decided to use the W+ Standard for women's empowerment, developed by WOCAN, to quantify the benefits to women within two of the project areas, East Java and West Nusa Tenggara. Following the Standard's procedures and Time Method to measure project outcomes on women, WOCAN calculated and verified a time saving of 61 minutes per day for each woman biogas user. This time can be spent to pursue economic activities, take on leadership roles, care for children, and provide beneficial leisure time. HIVOS is interested to next use other methods of the W+ Standard to quantify other outcomes that are possible using the time saved by biogas installations, to measure changes in their income/assets and leadership.



Developed by WOCAN, the W+ Standard is a certification scheme that endorses and quantifies the results of successful projects focused on furthering social and economic benefits for women participating in economic and environment development projects. Projects select relevant domains to measure from 6 categories: time, income and assets, health, leadership, education and knowledge, and food security, then conduct baseline and results measurements using W+ methods for each domain they select, to quantify results. Independent W+ auditors verify the results and WOCAN issues W+ units that can then be sold to corporations, investors, and individual buyers to meet Sustainable Development Goals (SDGs), climate financing, or Corporate Social Responsibility (CSR) targets. A portion of the revenues are then distributed to women beneficiaries, usually women's groups, involved in the project to use as they best determine, to further their empowerment and support their organisations/groups.

Project overview

Through the application of the W+ standard, HIVOS plans to provide additional benefits to women using biogas installations in Indonesia.

Strategies include:

- Maximising benefits for women.
Applying the W+ Standard to this project will allow for additional monetary support for women using biogas digesters, through the revenue-sharing mechanism.
- Providing opportunities to women.
Biogas digesters save women time from having to collect fuel. This time saved can be used to pursue economic ventures, leadership activities, childcare, and leisure time.

- Introducing an alternative sustainable fuel source.
As traditional fuel sources become scarcer, the interest and need for alternative fuels is growing. Biogas digesters, in addition to saving women time, provide a cleaner fuel source that comes from livestock waste, saving money spent on other fuels. The bio-slurry after product can also be used as nutrient-rich fertilizer to benefit food production and be sold to provide additional income for women.

Results to date include:

- W+ time units.
The time saved by 4500 women as a result of the biogas installations is about 61 minutes per day per user in two provinces in Indonesia. The total amount of time saved for these women using biogas for 2 years or less is about 16,041,962 hours, which translates to over 2,000,000 W+ time units. There is also an opportunity for the project to expand as the sale of accumulated W+ units takes place, returning revenues to HIVOS and to the women, to support additional activities that benefit women.
- Biogas digesters installed.
As of October 2014, 13,035 biogas digesters were constructed in nine Indonesian provinces. These installations are saving women time, opening up new opportunities for women, providing an organic nutrient-rich fertilizer, and helping to decrease deforestation and mitigate GHG emissions.

For more information:

Project website: <http://www.wplus.org/projects/measuring-time-savings-generated-indonesia-domestic-biogas-programme-idbp>

To learn more about the W+ Standard:

<http://www.wplus.org/>

Contact: info@wplus.org



Solar Power Company Group in Thailand

Women leading and expanding solar energy growth

Solar Power Company Group with funding from the International Finance Corporation and the Clean Technology Fund (CTF)



Thailand's growing energy and electricity sectors, which are dominated by fossil fuels, have helped to lift its population out of poverty. However, these markets have also had an adverse impact on the environment, increasing greenhouse gas emissions by almost 70% from 2000 to 2010. One woman, Dr. Wandee Khunchornyakong, saw an opportunity to lead the country down a cleaner energy path while still driving economic growth in some of the most impoverished regions of the country. Through early-stage investments from the International Finance Corporation and the Clean Technology Fund, Dr. Khunchornyakong founded the Solar Power Company Group, which is now a billion-dollar industry and the largest solar power generation company in Thailand.

The company has constructed a total of 36 solar photovoltaic farms in northeast Thailand, attracting upwards of USD 800 million in investments. In 2014, the solar farms accounted for 250 MW of installed capacity, which translates to a savings of 200,000 tonnes of CO₂ per year. Dr. Khunchornyakong is working to expand the project to other Southeast Asian countries and has focused on providing clean energy jobs to women, directly empowering the next generation of businesswomen and entrepreneurs who will continue to catalyse renewable energy projects in the developing world. This immensely successful project has helped lead the way toward a low-carbon, gender-inclusive energy path in Southeast Asia.



Project overview

The Solar Power Company Group focuses on expanding the solar power industry in Thailand to reduce GHG emissions, stimulate economic development, and empower women to become future renewable energy leaders.

Strategies include:

- Expanding women's opportunities.
Led by Dr. Khunchornyakong, a woman entrepreneur, this project focuses on providing clean energy jobs to women in Southeast Asia.
- Utilising climate financing mechanisms to build industry.
Private financing ensured this project's expansive reach and capacity in Thailand.
- Mitigating Thailand's GHG emissions.
By stimulating solar energy projects in Thailand, this project is reducing the country's dependence on imported energy.

Results to date include:

- Empowered women's leadership in the renewable energy sector.
This project is directly empowering the next generation of Southeast Asian businesswomen and entrepreneurs to lead the dissemination of clean, renewable energy projects in the developing world. In 2013, Dr. Khunchornyakong was recognised for her leadership and named Women Entrepreneur of the Year by the Asia Pacific Entrepreneurship Awards.
- Building a solar energy market in Thailand.
By securing private funding from the International Finance Corporation and the Clean Energy Fund, this project tapped into the underutilized solar energy market and evolved into a billion-dollar industry, drawing upwards of USD 800 million in investments.
- Providing clean energy to communities.
To date, this project has installed 36 solar farms in northeast Thailand, which accounted for 250 MW of installed capacity in 2014 and reduction in emissions translating to over 200,000 tonnes of CO₂ per year. This has helped to reduce Thailand's carbon footprint and has contributed to improving local air quality.

For more information:

Momentum for Change submission site:

http://unfccc.int/secretariat/momentum_for_change/items/8693.php



Developing and implementing Provincial REDD+ Action Plans in Viet Nam

Promoting gender-responsive REDD+

UN-REDD Programme and United States Agency for International Development funded Lowering Emissions in Asia's Forests (USAID LEAF)



In 2014 and 2015, building on the gender work under its UN-REDD Phase I Viet Nam Programme and responding to recommendations and targets contained within its 2013 UN-REDD Gender Analysis, Viet Nam took steps to build on and further promote gender considerations and women's empowerment activities into its UN-REDD Phase II Programme. Through a joint collaboration between the UN-REDD Programme and USAID LEAF, this work has involved integrating gender equality issues into the Provincial REDD+ Action Plan (PRAP) for the Lam Dong province in Viet Nam and supporting gender capacity building efforts for stakeholders implementing REDD+ across the six REDD+ pilot provinces. Working closely with

the Vietnamese government, gender champions, and stakeholders in Lam Dong, USAID LEAF and the UN-REDD Programme helped identify opportunities and strengths, as well as develop recommendations for gender integration into the Lam Dong's PRAP framework. In this process, government officials, stakeholders, and key decision makers involved in climate change activities in Viet Nam were trained and capacity building workshops on integrating gender considerations in REDD+ programs were held. These activities helped decision-makers to understand the importance of gender in the context of REDD+ planning as well as influence the integration gender considerations throughout Lam Dong's PRAP.



Project overview

With assistance from the UN-REDD Programme and USAID LEAF, Viet Nam took multiple steps to integrate gender considerations and women's empowerment activities into the design and implementation of its UN-REDD Phase II Programme.

Strategies include:

- Integrating gender considerations into Lam Dong's PRAP.

In October 2014, the UN-REDD Programme and USAID LEAF, working closely with Vietnamese government officials, stakeholders and USAID LEAF's and UN-REDD Programme's supported gender champions in Lam Dong, undertook a gender assessment of Lam Dong's PRAP framework, to indicate strengths, identify opportunities, and develop and validate recommendations on how to strengthen its gender responsiveness.

- Leveraging gender champions' expertise and credibility to sustain the process.

In the process, gender champions from Viet Nam were strengthened in terms of their technical competencies, leadership and negotiation skills through the USAID LEAF Asia-Pacific Leadership Initiative on Gender and Climate Change so that they could act as catalyst to advocate and implement the changes as indicated in the Lam Dong's PRAP gender assessment.

- Supporting knowledge exchange and capacity building on gender equality and REDD+.

The government of Viet Nam, with support from the UN-REDD Programme, held a capacity building workshop on gender mainstreaming for staff from the National Programme Management Unit (PMU) and the 6 pilot Provincial PMUs. Additionally, USAID LEAF supported key REDD+ implementing institutions from three pilot provinces (Lam Dong, Nghe An and Thanh Hoa) to better understand the relevance of gender equality in REDD+ safeguards, wherein it conducted two trainings on 'gender-integrated safeguards analysis in climate change' to better address gender issues during PRAP's implementation.

Results to date include:

- Gender considerations integrated into the PRAP for Lam Dong.

The final, condensed and approved version (21 January 2015) of Lam Dong's PRAP incorporated gender elements across the assessment of drivers of deforestation and forest degradation, identification of interventions, policies and measures, financial management mechanism, implementation arrangements, monitoring and evaluation, including on safeguards, as well as highlights the key roles of Provincial Ethnic Minorities Committee, Provincial Women's Union and Department of Labor, Invalids and Social Affairs in its implementation.



- Gender sensitive engagement and accountability mechanisms promoted in PRAP processes.
Vietnamese government officials, key stakeholders, and experts involved in the development of PRAP discussed preliminary findings, how gender could be successfully promoted in PRAP, and created a tentative work plan for gender integration.
- Knowledge exchanged between provinces.
The workshops conducted by the Government of Viet Nam, the UN-REDD Programme and USAID LEAF provided space for the REDD+ pilot provinces to share knowledge and good practices on how to integrate gender sensitive actions into their PRAP processes and reporting frameworks. In this process, the six provincial PMUs of the UN-REDD Viet Nam Phase II Programme identified gender focal points and entry points for gender mainstreaming into PRAPs and their relevant REDD+ guiding documents, which included creating suggestive corresponding gender sensitive indicators.
- Building understanding of the relevance of gender and climate change.
Trainings and capacity building workshops have provided space for decision-makers and practitioners directly involved in climate change and REDD+ activities to better understand the relevance of gender issues in the context of climate change.

- Key gender champions were strengthened to take forward the work.

The Gender Champions, through their efforts and leadership in PRAP, have secured a credible space for furthering gender equality work. This helps ensure the sustainability of gender integration in PRAP implementation.

Gaps/challenges include:

- Efforts need to be taken to ensure that gender-responsive actions incorporated into the REDD+ strategies are implemented properly across provinces. Finalised gender work plans and monitoring frameworks will help in this implementation.

For more information:

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To see the gender analysis of Lam Dong's PRAP visit:

http://www.unredd.net/index.php?option=com_content&view=article&id=2076:gender-analysis-of-lam-dongs-provincial-redd-action-plan-in-vietnam-now-available&catid=98&Itemid=749

To learn about USAID LEAF gender champions visit:

<http://www.leafasia.org/videos/gender-and-climate-change-champions>



Promoting climate-resilient water management and agricultural practices in rural Cambodia

Empowering rural women as adaptation leaders

*GEF's Least Developed Countries Fund (LDCF),
Government of Canada, and UNDP*



In Cambodia, women mainly work in the household—unpaid, unrecognised, and unaccounted for by the formal economic system. Women are further disadvantaged with few opportunities for education and training and limited access to agricultural inputs and information. Studies have shown, however, that if women were able to equitably access information and technology, their increased agricultural output would dramatically improve food security and decrease Cambodia's hunger

rate. As a result, the climate change adaptation interventions under Cambodia's National Adaptation Programme of Action (NAPA) were strongly focused on gender issues in recognition of the particular vulnerabilities and the opportunities for rural women's empowerment. A NAPA follow-up project launched in 2010 and scaled up in 2013 under the Canada-UNDP Climate Change Adaptation Facility was designed in response to results of a gender assessment identified priorities for gender-responsive adaptation. These



included improved access to climate information for women, along with better access to water resources, climate-resilient farming practices and seed varieties, and extension services. The project has delivered results at multiple levels, empowering women as leaders in Water User Groups (WUGs), improving access to resources, and building institutional gender capacity of sub-national and national authorities responsible for climate change. Since the project's implementation, women have become contributors of household income, key drivers of climate change adaptation, and have also been empowered to make decisions regarding domestic water use—an area affecting them directly and of which they have valuable experience and expertise.

Project overview

Through the provision of training, new technology, and resources, and by harnessing women's knowledge and understanding of natural resources and the environment, this project empowers rural women in Cambodia and strengthens their capacity as leaders of climate change adaptation.

Strategies include:

- Conducting a gender assessment.
A Rapid Gender Assessment was conducted to inform the Gender Action Plan, which identified four specified goals: 1) improving the utilisation of climatic information of vulnerable women; 2) ensuring that women have better access to water resources for household use; 3) enabling women to benefit from climate resilient farming practices

and crop varieties; and 4) increasing the number of women receiving extension services on climate change resilient farming techniques. Women ranked access to fresh water as highest priority, thus shaping the design of interventions.

- Strengthening institutional capacity.
The Ministry of Women's Affairs (MoWA) is providing technical and institutional support through Training of Trainers through its Gender Climate Change Committee (GCCC), to Provincial Department of Women's Affairs (PDoWA), commune women and children, focal points, and the sub-national project staff.
- Gender-responsive project management.
Project staff terms of reference included specific gender-responsive lines of action.
- Monitoring progress with gender indicators.
Gender indicators supported project outcomes and targeting in particularly vulnerable families.

Results to date include:

- Women empowered with climate knowledge.
Building confidence and resilience helps women participate and take on leadership roles in WUGs and membership in Farmers Water Users Committees; women have been trained in the management and maintenance of irrigation schemes and in income-earning opportunities like farming vegetables and raising chicken and pigs;
 - In less than a year, 25 WUGs have been established to manage daily irrigation activities. The project adopted the same model to manage domestic water supply: to manage solar pumping systems; to manage pump wells; and



to manage community ponds. For each of these WUGs, three group leaders were elected: a Group Leader, Deputy Group Leader, and Cashier. In all of the villages supported under the NAPA follow-up project, at least one of these group leaders are female, and in 55% of villages, two or three group leaders are female.

- Institutional capacity on gender strengthened.
The Provincial Departments of Women's Affairs have been strengthened to jointly coordinate and implement women's activities,
- Wide network of beneficiaries established.
In 2013, 496 women out of 689 beneficiaries (72%) and 376 women out of 621 non-project beneficiaries (60%) from 27 villages gained knowledge and experience from farmer exchange visits and technical trainings,
- Women leading design and implementation.
With increased access to training opportunities and water resources, many women are now driving the design and implementation of new practices—becoming contributors to household income, decision makers in regards to domestic water use, and champions of climate change adaptation.

Gaps/challenges include:

- Inter-departmental coordination between the departments—Agriculture, Water Resources, and Women's Affairs—must be strengthened at the institutional level.
- Capacity building on gender and climate change, and mainstreaming must be strengthened for project staff and stakeholders at the national and sub-national levels.
- Substantially increased resources—financial, technical, and material—are required in order to mainstream gender and climate change adaptation into sectorial ministries and sub-national line departments.
- Gender and climate change adaptation with respect to food security must be addressed simultaneously with value chains and market access in order to ensure resilience and sustainability.

For more information:

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Visit: <http://undp-alm.org/projects/ldcf-cambodia>
or <http://www.undp-alm.org/projects/ccaf>



Wonder Women of Eastern Indonesia

Empowering women with energy technology

Kopernik, with support from the International Network on Gender and Sustainable Energy (ENERGIA), with funding from the Ministry for Foreign Affairs of Finland, Norwegian Agency for Development Cooperation (NORAD), and Swedish International Development Cooperation (SIDA); Empowering Indonesian Women for Poverty Reduction (MAMPU), a joint initiative of the Government of Australia and Government of Indonesia; and USAID Development Innovation Ventures (DIV) programme. Local partners in eastern Indonesia include PEKKA, the Indonesian association of women-headed households, and Yayasan Masyarakat Peduli



Across Indonesia, more than 80 million people rely on kerosene for lighting, and 100 million people rely on firewood as their primary cooking fuel. The eastern provinces have the least access to an energy infrastructure. For example, in East Nusa Tenggara, a province of more than 500 islands, 85 percent of the population relies on firewood for cooking. Recognizing that women are impacted by the negative financial, health, and environmental impacts of a lack of access to clean, affordable energy sources, Kopernik's Wonder Women Eastern Indonesia initiative aims to empower women to improve their livelihoods and communities through selling clean energy technologies in these remote eastern Indonesian villages. Kopernik has teamed up

with community women—called “ibu inspirasi”, which translates to “inspirational women and mothers,” or in other words, *Wonder Women*—to improve conditions in their communities. By selling solar lanterns, water filters, and clean cookstoves, Wonder Women become social entrepreneurs and build their capacity to own and sustain businesses and provide life-changing technologies that can save families time and money, improve health and safety, ease pressure on the environment, and create economic opportunities. Having targeted 300 women so far, Wonder Women Eastern Indonesia plans strengthen and expand activities to engage 500 women to sell 56,000 clean energy technologies across ten provinces of eastern Indonesia by 2017.



Project overview

Wonder Women Eastern Indonesia brings clean energy technologies to remote communities in the energy-poor eastern provinces of Indonesia and promotes entrepreneurship among community women by teaching business management practices and training in the technical aspects of clean energy technologies.

Strategies include:

- Enlisting women.
Recruiting is done through and with local partner organisations.
- Offering technical training for women.
Women are trained to become clean energy micro-social-entrepreneurs and learn specific skills including technology use and maintenance, sales, marketing, book-keeping, public speaking, and other business management practices. Sector-specific capacity building also includes clean energy supply chain management. Project management, results-based tools, and monitoring and evaluation are also key skills taught.
- Providing technology and resources.
Wonder Women give solar lanterns, water filtration systems, and clean cookstoves on consignment and provide a starter kit of promotional material.
- Offering long-term support.
Continued mentoring and business development services support participants.
- Measuring mitigation impact.
Kopernik calculated emissions reduced and offset.

Results include:

- Women are engaged.
Since 2011, Kopernik has worked with more than 300 Wonder Women micro-social-entrepreneurs

who have helped sell over 10,000 clean energy technologies, benefitting nearly 84,000 people.

- Carbon emissions are reduced.
Wonder Women technologies have reduced CO₂ emissions by more than 5,000 tonnes.
- Environmental and health co-benefits have been realized.
Reduced reliance on traditional sources of fuel for cook stoves has also resulted in reduction of health impacts from smoky cookfires.

Gaps/challenges include:

- Wonder Women often have many other responsibilities—including managing family, farming, and community commitments—all of which require considerable time commitments. In order to ensure that women have time to participate in the Wonder Women initiative, training programs have been consolidated and will consider a time-management workshop.
- Social-entrepreneurs involved with Wonder Women often require additional support after the initial training period to ensure continual growth and success of their businesses. To overcome this challenge, the business development team now provides more long-term support, including hosting technology fairs where the women can present the clean energy technologies to their community and attract new customers.
- Because this initiative aims to build the capacity of women to become social-entrepreneurs within their communities, training women in basic business practices is an essential challenge to overcome. Most women who join the program lack formal business education, and must, therefore, be trained in business management practices such as stock management, cash flow, and profitability. Project implementers have developed a simple business



management training and visit the women on a monthly basis to reinforce the importance of these management practices.

For more information:

Contact: Sally Bolton, sally.bolton@kopernik.info

Visit: <http://www.kopernik.ngo/page/impact-snapshot>

Women taking action on climate change in Australia

1 Million Women are saving energy, reducing waste, cutting pollution and leading change

1 Million Women



Overconsumption and wasteful, polluting lifestyles harm the planet, the climate and future generations. In Australia—a developed country with a high per-capita carbon pollution rate—changes in everyday life can prove to have a significant impact on curbing emissions. Since women make most of the household spending decisions, a major opportunity exists for women to make a difference in local carbon

footprints—as well as save money. In 2009, Natalie Isaacs saw an opportunity to lead the charge and founded 1 Million Women, a non-profit organisation dedicated to getting one million women to pledge to take small steps in their daily lives that save energy, reduce waste, cut pollution and lead positive change. Now the largest women's environmental organisation in Australia, 1 Million Women had over 80,000 women



committed to reducing their impact on the earth by reducing carbon pollution by 100,000 tonnes in 2013. Today, the campaign boasts over 220,000 members and counting. When the campaign reaches its goal of one million women committed to cutting one million tonnes of carbon pollution, this action will be equivalent to removing 240,000 cars off the road for a year. To help achieve their goals, 1 Million Women has helped found and support many successful campaigns and initiatives to expand the reach and influence of women. 1 Million Women started in Australia but has since extended its reach globally with the same message for women all over the world: consuming and wasting less means everyone can have greater quality of life while preserving and promoting environmental wellbeing.

Project overview

More than a name, 1 Million Women is building a movement to empower women to take on climate change in their households, workplaces and communities by reducing carbon pollution through small lifestyle changes.

Strategies include:

- Empowering women to take action on climate change.
This campaign recognises the power women hold to make significant impact on reducing carbon pollution. Because women make most of household spending decisions, they have the most influence on energy saving initiatives at the household level.

- Promoting a parallel message of environmental and economic benefits.

1 Million Women teaches women that they can save money while leading sustainable lifestyles. In 2011, 1 Million Women founded SAVE, which helps members conserve energy and reduce waste while saving money at the same time via more sustainable choices.

- Expanding to other campaign actions.
The 1 Million Women initiative has supported and started several complementary campaigns to further the impact of women's voices and actions, including the 'I'm Declaring the Reef in Danger' campaign, which brought attention to the declining health of the Great Barrier Reef; the Women Power project, which used energy efficient methods to cut home energy consumption; and youth engagement in the IUCN's 2014 World Parks Congress in Sydney.

Results to date include:

- Women are engaged to reduce carbon pollution.
In 2013, the campaign had over 80,000 members committed to cutting over 100,000 tonnes of carbon pollution. Today, the campaign has over 220,000 members and counting. Once they reach the goal of engaging one million women in reducing one million tonnes of carbon pollution, this will be equivalent to taking 240,000 cars off the road for a year.



- Economic benefits for women.

The SAVE program has attracted over 1,500 participants who have been provided with monthly themes to save money and have a positive impact on the planet, including: Food, Drive, Power, Wear, Shop, Build and Invest. In addition, participants are provided with a practical guide to save \$1,000 a year on household bills through waste-reducing activities.

- Raising the visibility of key issues and increasing participation and action of women and youth.

1 Million Women has led and supported several successful initiatives, including:

- The 'I'm Declaring the Reef in Danger' campaign collected 54,804 signatures, bringing the Great Barrier Reef's declining health into the international spotlight,
- The Women Power project helped ten women use energy saving technologies to cut household energy consumption by 20%. By the end of the campaign, all the women exceeded this target, some by more than 50%, and
- 1 Million Women held an event at the 2014 World Parks Congress to explore 'Youths expression of climate change.' Six students were a part of the 1 Million Women delegation and were celebrated as 'voices of tomorrow'.

For more information:

Momentum for Change submission site:

http://unfccc.int/secretariat/momentum_for_change/items/7844.php

1 Million Women website:

<http://www.1millionwomen.com.au/>



Reef-to-Ridge fisheries management in the Federated States of Micronesia

An integrated gender-inclusive approach to coastal resource management

Secretariat of the Pacific Community (SPC), part of the Coping with Climate Change in the Pacific Island Region Programme.



Over-fishing and unsustainable land management along with climate change threats, like rising ocean temperature and acidification, jeopardises fish populations. The decline in catch has a particularly negative impact for the Federated States of Micronesia, whose population depends on fish for their main source of protein. To address current and future shortages, communities in Yap took a ‘reef-to-ridge’ approach to resource management, meaning they assessed land and sea practices to see how they influence one another. Initially, women—who are traditionally not involved in fisheries—were left out of the conversation. However, after realising that



the agricultural activities assigned to women were having a downstream impact on the fish, it became clear that their participation was imperative to a successful and effective “ridge-to-reef” solution. This holistic approach to addressing issues has paved the way for this project, and future projects, to be inclusive and gender responsive through gender analyses, knowledge-sharing dialogues between men and women, and equal representation on project committees.



Project overview

Through gender responsive planning and knowledge sharing, communities in Yap, Micronesia, are taking steps to an effective 'reef-to-ridge' approach to fisheries management and are helping future projects to be more inclusive of women in the communities.

Strategies include:

- Understanding local gender dynamics.
Through a gender analysis, this project, and future projects, can assess the differences in roles, responsibilities, and decision-making capacities of men and women and effectively find gender gaps in strategies to build the capacity of women.
- Sharing gendered knowledge and experience.
Facilitating dialogues between men and women in the community and including women on project committees helps broaden the ideas for protecting coastal resources and implementing effective resource management strategies.
- Evaluating upstream and downstream impacts.
By looking at this problem in a holistic manner, this project can better understand issues and create more effective solutions to addressing declining fish populations.

Results to date include:

- Greater capacity for women's participation.
Women are more engaged in the decision-making process and as a result there is greater understanding of sustainable land management and the impacts on food security.

- Healthier marine ecosystems.

By assessing impacts of land management on reef health, the community was able to identify increased sedimentation from agricultural activities as one of the major reasons for decreased fish populations and can now create effective solutions to the problem.

Gaps/challenges include:

- Despite women being primary agricultural landowners, men still make decisions on how to manage land and resources, severely limiting the capacity of women. A greater understanding of the value of gendered knowledge can help to build respect and increase the decision-making power of women.

For more information:

The Pacific Gender and Climate Change toolkit:

<http://pacificclimatechange.net/images/Documents/toolkit%20all%20in%20one%20pdf%20final%20copies.pdf>

Further information for the Coping with Climate Change in the Pacific Island Region Programme:

<https://www.giz.de/en/worldwide/14200.html>



International and regional

Gender mainstreaming in REDD+ capacity development

Empowering grassroots stakeholders in Asia

The Center for People and Forests (RECOFTC), in collaboration with nearly 20 partners including government departments, NGOs, and grassroots and women's organisations



While the global debate on climate change and REDD+ has advanced rapidly in recent years, the complexity of the topic and accessibility of relevant information on climate change and REDD+ have limited the active participation of grassroots women in the debate. This has prevented them from putting forth their aspirations and concerns—ultimately making women more vulnerable to climate change

compared to their male counterparts, including in the five target countries of this project: Indonesia, Lao People's Democratic Republic, Myanmar, Nepal and Viet Nam. Across Asia, as elsewhere, the vulnerability of women to climate change is further exacerbated by discriminatory socio-cultural practices, higher incidences of poverty, lack of access to and control over natural resources, new knowledge and



technologies, and inadequate financial credit. This means women have fewer resources to cope with seasonal and periodic weather changes and natural disasters. In combination with reinforced traditional roles, women's ability to diversify their livelihoods, and therefore their capacity to access income-generating jobs, starts diminishing. In addition, due to their relatively low capacity, a lack of knowledge and insufficient access to information on climate change and its impact, women are inadequately represented in key decision-making processes, further excluding them from the global debate on climate change and REDD+. Recognising these gender-related capacity gaps, the Grassroots Capacity Building in REDD+ project aims to develop the capacity of grassroots stakeholders, enabling women to actively contribute to REDD+ planning and policy process, thus putting them in a position to take advantage of potential benefits from REDD+ for local socioeconomic development. With specific reference to gender mainstreaming in REDD+ capacity development, the project followed a systematic approach to identify knowledge gaps and effectively share vital information. In 2014, alone, 1,500 grassroots women benefitted from training on these issues, amongst more than 3,000 total people at grassroots and national level; across three project phases, 40,000 grassroots participants have been engaged.

Project overview

This project ensures that grassroots stakeholders in Asia are enabled to actively contribute to the REDD+ planning and policy process by effectively participating and communicating their perspective to policy makers, and are well positioned to take advantage of potential benefits from REDD+ for local socioeconomic development, including through gender-responsive capacity development.

Strategies include:

- Conducting Capacity Development Needs Assessment (CDNA).
Key in identifying gaps related to target stakeholders, the current status of gender mainstreaming in the forestry sector, and approaches and methods to address capacity gaps.
- Promoting gender in partnership arrangements.
A series of capacity development events were organised to promote gender mainstreaming within partner organisations, as well as uniting with organisations working on promoting gender mainstreaming in the natural resource management sector.
- Employing a cascade model of capacity development.
Based on the results of CDNA, a variety of capacity development programs were designed and delivered using the cascade approach—aiming to build an in-country cadre of resource persons and thus ensuring sustainability of capacity development for REDD+. This approach is also used to document grassroots concerns and issues and share them with policy makers and other key stakeholders at sub-national and national levels.
- Using innovative tools.
For the delivery of training programmes, various participatory and experiential learning methods were used, along with culturally sensitive tools, such as puppet shows, street plays, songs and drama. These kinds of innovative tools used in an informal setting reached wider women constituencies that were less likely to be educated and literate.



- Developing user-friendly knowledge products—integrating knowledge and experience of participants.
Simple and easy to understand communication products were created to support grassroots capacity development, including posters, Question and Answer booklets, radio programmes and short videos; used to promote experiential learning, introducing practical experiences, and examples from participants' own lives, the complexity of REDD+ was broken down by 'real life' illustrations.
- Conducting multi-stakeholder consultations.
A series of multi-stakeholder talks primarily aimed to document aspirations and concerns of grassroots stakeholders in order to communicate them to policy makers, thus advocating for stronger rights for, and, empowerment of women stakeholders in REDD+ policy discourse.

Results include:

- Gender skills enhanced across multiple levels.
Using a cascade approach, training of trainers were organised at national and sub-national level, and engaged the trained participants at subsequent level to deliver the training programs—proving to be a cost effective way to strengthen the sustainability potential of capacity development efforts and developing women's leadership skills.
- Women's participation excels.
Against a target of at least 30% participation of women, the project achieved 41% women's participation in all of its trainings,
- Women's group established.
Viet Nam's Gung Re commune in Lam Dong province established a women-only forest management and protection group after attending gender mainstreaming training. The group works as a watchdog that plays a very important role in the

protection of the community forest, as they not only take part in reducing and monitoring tree cutting (which sometimes is done by their husbands or sons), but they have also initiated new plantations to restore degraded areas.

- Expert workshops targeted national decision makers.
A series of expert workshops at the national level were held and focused on the current status and challenges of gender mainstreaming within forestry and REDD+, identifying capacity gaps among key stakeholders, and gathering feedback on various approaches and methods for addressing gaps.
- Awareness-raising events organized.
Following the cascade approach, a series of awareness-raising events were organised at the grassroots level—some of which included both men and women, while others were exclusively for women.

Gaps/challenges include:

- A fundamental understanding of gender and gender mainstreaming needs strengthening; a lack of practical examples of gender mainstreaming and the dissemination of results and impacts of such initiatives has been an obstacle.
- Absent, or weak implementation of gender mainstreaming policies, particularly in the forestry sector, primarily due to a lack of dedicated resources and poor capacity of the officials responsible for implementing policies.
- Insufficient research inputs: Better data is needed to design gender mainstreaming plans for some countries, such as Myanmar and Lao People's Democratic Republic.


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Women Solar Engineers in Africa and Asia

Empowering rural women to create off-grid solar electrification

A joint initiative of the UNDP GEF Small Grants Programme (SGP), and the Barefoot College for Solar Electrification.



Communities in remote, rural areas rely primarily on kerosene or firewood for basic energy needs, increasing the pressure on the local environment where forest resources are rapidly depleting. Enhancing the capacity of local communities to build and operate solar technologies will contribute to poverty reduction, gender equality, and improvement in access and quality of education and health services. Women can play a catalytic role in realising

such transformation. The UNDP GEF Small Grants Program (SGP) teamed up with Barefoot College in 2008 to support “Women Solar Engineer” pilot projects across Africa and Asia. In this joint initiative, the GEF SPG provides communities with technical support and funding for the solar panel kit, while The Barefoot College, a pioneer in disseminating technology in remote areas, provides a six-month training to the women beneficiaries on their campus in Tilonia, India.



The results have been transformative—both lowering CO₂ emissions and empowering women as technology entrepreneurs and leaders.

Project overview

The objective of this project is to build local capacity to install ‘off-the-grid’ electrification in rural communities using clean, low-cost solar energy. The project generates multiple advantages that include reduction in environmental degradation, promotion of sustainable development and community ownership, improvements in health, education, living standards and quality of life and the empowerment of women.

Strategies include:

- Focusing on women’s economic empowerment.
After returning from training, women solar engineers take up tasks of installing, repairing, and maintaining the solar energy kits for a salary paid by the village solar committee.
- Fostering local implementation.
After a project is approved and funds are released, the community forms a village solar committee to manage the project, including budget negotiations and fee collection, selecting women candidates for solar engineer training, and setting up a Rural Electronic Workshop.
- Promoting country-specific leadership.
National coordinators and steering committees were mobilised in 18 countries across Asia, the Pacific, and Africa to expand partnerships with other development partners and country programmes.
- Championing community-level support.
The project supports monitoring and evaluation and advocacy for the replication of the project concept at the community-level.

Results to date include:

- Women technically trained.
The project has trained 71 women social engineers who have electrified 53 villages providing lighting to more than 22,739 beneficiaries in over 3,778 households, in addition to communal lighting in schools, hospitals, local administration offices, religious buildings and community centres, as well as food processing plants.
- Positive economic outcomes for women.
Substantial savings in expenditures on kerosene and batteries have been experienced, as well as in regards to economic activities continuing after dark—which has made a significant impact on women’s income generation and community-wide economic activity.
- Enhanced social status for women.
Women Solar Engineers have created better living conditions for themselves.
- Increase in information and technology use.
After villages were electrified and each household received an electric plug to charge mobile phones, community members were able to access audio and video information more widely, using it for more efficient information gathering and educational activities.
- Expanded educational opportunities.
Some communities in Bhutan and Ghana installed solar energy kits in school buildings, while many more have started conducting adult literacy classes, and community television and audio-visual education programmes. There has also been a dramatic impact on children’s education, as they can study after dark and communities are experiencing greater flexibility in how they spend their time.
- Health improvements.
The project has resulted in reduced exposure



to toxic fumes and fire hazards from kerosene, firewood and diesel and there is evidence that lighting has improved safety and basic hygiene.

- Decreased environmental impacts.

Assessments have shown the use of solar energy has led to a decrease in kerosene and firewood consumption, further reducing CO₂ emissions and deforestation and land degradation and contributing to declining air pollution.

Gaps/challenges include:

- Funding to scale up and replicate this project on a much wider scale in remote and rural communities where there is limited scope of connecting to the national grid for a long time is limited.

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Upscaling rural technologies for women farmers in East and Southern Africa

Supporting rural women's resilience with technology innovations and exchange

UN Women Regional Office for East and Southern Africa, in partnership with International Fund for Agricultural Development (IFAD), Food and Agriculture Organization of the United Nations (FAO), United Nations World Food Programme (WFP), African Union





In the Eastern and Southern Africa (ESA) region, countless women-led, small-scale innovations are being implemented every day that contribute to better agriculture productivity, enhanced livelihoods, and improved household nutrition. However, these pioneering activities tend to develop in isolation—and yet they represent key opportunities that should be shared, incubated, and taken to scale, not least because studies have demonstrated that removing gender-related barriers and empowering women in agriculture to fully engage in regional economies can accelerate growth, reduce poverty, and improve food security. For this reason, the Regional Sharefair for Rural Women’s Technology, as a part of the African Women in Technology (AWIT) initiative, was held in October 2014 in order to promote technologies and innovations that support rural female smallholder farmers and bring together innovators, policymakers, academics, food producers, investors, financial service providers and other technology innovators.

The ultimate goal of AWIT is for women to have access to technologies that boost agricultural yield, income and food security, eliminate food waste, while decreasing labour inputs and time — thereby empowering women economically. Through innovative and accelerated partnerships and real time monitoring of progress, the AWIT also supports women’s involvement in agriculture, improving their resilience, and also improving their time management. The initiative is driven by the observation that there is a large availability of climate smart solutions, and overwhelming established needs for such solutions, particularly among rural women, but the demand and supply needs to be matched.

Project overview

By promoting technologies and innovation that supports rural female smallholder farmers, the project aims to develop strategies to scale-up transformative technologies, hence unlocking agricultural productivity, promoting mitigation and adaptation to climate change, enhancing household food and nutrition, accelerating women’s economic empowerment, and strengthening rural community resilience.

Strategies include:

- Identifying and exchanging innovations geared toward/by women.
The project aimed to promote specific technology to support women farmers,
- Hosting an up-scaling workshop.
A workshop gathered experts and stakeholders from the UN, private sector, financial institutions, government, research institutions, and more to develop a strategy for technology up-scaling to transform the lives of rural women,
- Organizing stakeholder and partnership consultations.
Meetings with different participants and partners are ongoing in order to define a strategy for program implementation.

Results include:

- The Regional Sharefair for Rural Women’s Technology.
More than 100 innovators from 14 countries in the ESA region showcased their technologies displaying affordable ways to accelerate productivity, mitigate climate change, enhance value addition and income, improve nutrition, save women’s time, and reduce post-harvest losses.



- Wider awareness raised.
The Sharefair leveraged substantive resource and policy attention to women in agriculture and provided a stepping-stone for future programming and policy action.
- A global alliance established for next steps.
The Bellagio Technology Promotion Group, which operates through the evolving African Women in Technology (AWIT) initiative, is in the process of developing a strategy on how to up-scale technologies.

Gaps/challenges include:

- A plan for up-scaling technology, financing and rolling out the initiative is still needed.

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Adaptation Learning Programme (ALP) for Africa

Empowering women through village savings and loans associations to build household resilience and further promote gender equality

CARE International





Since 2010, CARE's Adaptation Learning Programme (ALP) for Africa has been working in 40 communities in Ghana, Kenya, Mozambique, and Niger to increase the capacity of vulnerable households to adapt to climate change through community-based adaptation (CBA). A crucial element of this approach lies in addressing gender inequalities in society, as they compromise rights and affect a community or household's ability to adapt and sustain livelihoods in response to the effects of climate change. Women's often-limited sphere of influence over adaptation decisions made, and their widespread lack of control over valued livelihood resources, tends not to be addressed by adaptation programmes—which can inadvertently deepen gender inequalities and often increase women's workloads further. Gender dynamics—in, for example, labour division, decision-making power, and access to public spaces and services—are often overlooked, and so the contexts in which adaptation programming takes place are often poorly understood. By building an understanding of gender into all levels of CBA, ALP is ensuring that different contributions to adaptation are valued and the most vulnerable socioeconomic groups are empowered to take adaptive action and raise their voices on a local, national, and international scale.

ALP prioritised CBA interventions that aimed to address gender inequality and improve the adaptive capacity of both men and women. One of these activities was the implementation of village savings and loans associations (VSLAs). While many of the interventions had broad reaching impacts across the communities ALP worked with in this project, VSLAs had an impact on gender relations, equity, and adaptive capacity in all ALP communities. VSLAs, through savings and small loans programs, allow people to save up the capital to diversify into less 'climate sensitive' livelihoods. Mainly—but not

exclusively—targeting women, VSLAs have served as platforms for women's economic and social empowerment—with significant impacts on women's self-respect, self-reliance, and self-confidence, as well as men's respect and support for women and their economic empowerment. VSLAs have helped strengthen financial management skills and provide new opportunities for people, which in turn have strengthened both household resilience and gender equality.

Project overview

By implementing gender understanding at all levels of community-based adaptation (CBA) activities, the ALP for Africa is helping to build household resilience in the face of climate change and further gender equity.

Strategies include:

- Integrating an understanding of local gender dynamics and inequalities into programming. To further women's roles and participation in CBA activities and foster a recognition of the value of gender equality for household and community resilience, ALP sought to integrate gender into all its activities through the following strategies:
 - Conducting standalone gender analysis exercises at various stages during activities,
 - Integrating gender into participatory analysis of climate vulnerability for effective local adaptation planning. For example, doing a Climate Vulnerability and Capacity Analysis (CVCA), which ensures men's and women's participation and asks questions about gender issues in climate adaptation, and
 - Integrating gender analysis information into adaptive management of CBA actions.



- Integrating gender into CBA approaches.
To improve the adaptive capacity of women and men, while addressing localized gender dynamics, ALP prioritised the following CBA approaches:
 - Community Adaptation Action Plans (CAAPs),
 - Participatory Scenario Planning (PSP) for communicating seasonal climate forecasts,
 - VSLAs,
 - Appropriate agricultural training, such as farmer field schools,
 - Community monitoring systems, and
 - Innovative communication approaches, including mobile phones and radios.

Results to date include:

While many of the approaches had broad-reaching impacts across the communities ALP worked with in this project, VSLAs in particular had an impact on gender relations, equity and adaptive capacity in all ALP communities.

- Women gained access to financial resources.
VSLAs provide women the opportunity to access savings resources and small loans to finance economic ventures including land management, as well as support social and household costs. Having access to credit has allowed women to prove that they can care for and make productive use of land.
- Women were empowered in climate resilience initiatives.
Women are now able to access resources and make money out of land management and other climate resilient income generating activities. This is transforming women's roles in the household and demanding greater respect from men, leading to more collaborative decision-making, which contributes to more resilient and secure households.

- Women have benefitted from social empowerment.
VSLA's build group solidarity and promote self-confidence and self-reliance that fosters changes in women's behaviour such as increased voice in decision-making processes, access to public spaces, and use of mobile phones.
- Men view women's roles and contributions differently.
Men are starting to value women's empowerment differently, resulting in some men contributing in different ways themselves, changing their own roles and visions of how men should behave.

Gaps/challenges include:

- A better understanding of how to build women's and men's aspirations and to encourage innovation, is still needed in many communities. Continued work to improve access to power and an asset base can help to address this issue.
- There is still a lack of moving past gender sensitivity toward gender transformation. This is challenging to achieve within a few years and requires a more long-term vision and approach.
- The most marginalised communities are still hard to reach with these programmes. Networking and outreach is needed to expand and include more people.
- Limited freedom of movement of women impacts on their ability to adapt and in some countries this is becoming better but in others, worse.
- Whilst there have been some gains, persistent inequitable access to communication technology and the information that it can give access to, coupled with women's higher level of illiteracy and higher workloads limits their ability to make use of these new sources of information.



- Poor access to health services and reproductive and sexual health information impact on women's ability to adapt.
- Although participation of women in community forums may be encouraged, those who are more vocal and interact in mixed-gender settings are often criticised for their insubordination, and may face social exclusion or violence. These cases show that interventions involving women and men around particular themes like adaptation have implications across other aspects of women's lives and must be approached in full knowledge of these relationships.

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International Permaculture Network in Africa, the Mediterranean, and the Middle East (IPNAMME)

Empowering women to increase food security and build international connections through leading permaculture activities

International-Curricula Educators Association (ICEA) with Moringa Research Farm, IDEAS for Uganda, Pan African Vision for the Environment, Reading Hamlets, Githunguri Youth Sports Association, and ICEA Academic Resources UK Ltd.





As a holistic approach to the environment, permaculture is a dynamic regenerative ecological-societal design, simulating equilibrium processes in nature and interacting constructively with them, thus is gaining popularity in communities around the world. The International-Curricula Educators Association (ICEA)—along with many other partner organisations—in order to meet commitments for the *Future We Want* in Rio+20, aimed to join current and prospective permaculture educational farms and training centres in Africa, the Mediterranean and the Middle East, so as to connect them to the rest of the world. The project set out to increase food security in communities while building international connections and promoting high-value crops. The project is also taking opportunity to empower women as leaders in activities and communicate the importance of human rights, peace, tolerance, and gender equality to communities practising permaculture. Despite political upheaval in the Middle East region where ICEA was based, the project is thriving by engaging community members in being educators, trainers, and farmers. The project was also helpful in developing models for resilience and sustainable growth that can be duplicated in other areas. Through networking, education, and training, permaculture will continue to grow and thrive in these areas and spread to other communities.

Project overview

The International Permaculture Network in Africa, the Mediterranean, and the Middle East (IPNAMME), by nurturing the human natural disposition to care for the soil, nature, and biodiversity, seeks to connect international actors participating in permaculture activities while communicating the importance of human rights, peace, tolerance, and gender equality.

Strategies include:

- Promoting the unique perspective of the permaculture movement.

The project is designed so as to comprise two aspects: circularity and complexity:

- Circularity of finance:

There are 2 kinds of low-cost educational programmes that run to support each project. One for the generation of income and global outreach, the other for raising awareness and community development. This way, the projects become self-sustainable,

- Circularity of self-reform (resilience):

- The projects are run by the local community representatives and in partnership with governmental entities, and

- Complexity:

- As the projects are designed to depend on integrated management of resources (e.g., implementing circular economy concepts to manage waste; promoting high value crops) and integrated leadership (i.e., integrated management to encourage creativity and minimise cost).

Results to date include:

- Community transformation.

The models created by the initiative and other relevant activities by the International-Curricula Educators Association has not only transformed businesses and farms but created replicable small-scale models of resilience, and sustainable growth.

- Capacity strengthening for women and girls.

IPNAMME focuses on educating girls, training women in organic farming; empowering women through sports, networking and social media; and providing motivational support for girls/women



to take control over their lives and wellbeing. The project, as it grows, continues to aim to raise funds so as to help women own land.

- Results triggering more engagement.

The initiative now has picked up and is thriving, particularly in areas that had suffered from political conflict. More enthusiastic young people and community members from countries such as Kenya, Nigeria and Uganda are interested and are now joining in, either as educators/trainers or as farmers (both genders).

Gaps/challenges include:

- The biggest challenge to the success and growth of any organisation is not the lack of resources but the synergetic management of resources including human resources. Therefore, individuals with a sense of altruism and a feeling of responsibility towards the care of the environment and to others are the most valuable of all resources.

- Laws regulating different sectors differ greatly. Orchestrating leadership between the private sector and the civil community remains a big challenge.
- Political upheaval and civil war are the biggest challenge for resilience, growth and community development.
- There is a need for a special fund to encourage the use of solar energy so that it becomes more feasible in comparison to the other energy options.
- A persisting challenge exists for women's empowerment whenever societal change conflicts with tradition. This requires patience, hard work, and better resources. One way to achieve change is to communicate gender equality through encouraging leadership.

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Influencing gender-inclusive climate change and agriculture policies for Latin American countries

Building capacity of agricultural decision makers

International Center for Tropical Agriculture (CIAT) and the CGIAR research program on Climate Change, Agriculture and Food Security (CCAFS)



Latin America is at a critical point in time in which many governments and sectors are developing climate change mitigation and adaptation strategies. When these strategies are gender-sensitive they ensure that both women and men are better prepared to cope with climate change. The project supports policymakers to ensure that gender is being considered in national policies—specifically national climate adaptation and mitigation plans—and that negotiators are well prepared to represent their countries at UNFCCC negotiation meetings. The project aims to build the capacity of decision makers to recognize and integrate gender equality concerns when formulating policies, including by

providing technical tools for gender mainstreaming. Recognising gender units within or linked to Ministries of Agriculture as potential allies and exploring opportunities to coordinate with them has been a key to success, together with capitalising on opportunities for collaboration with other organisations that are involved in gender-sensitive climate change planning, in order to leverage gender policy expertise and networks. Importantly, as well, this fosters knowledge exchange in Latin America, working with several countries on related topics (whereas most of the stakeholders involved typically interact only within their own country).



Project overview

By increasing awareness of the importance of gender to climate change policies, this project aims to enable policy makers and major regional actors involved in agriculture and rural development to incorporate gender into national policies.

Strategies include:

- Building the capacity of women.
A workshop on gender integration was held prior to the COP20 in Lima, Peru, with representatives of rural development organisations and Ministries of Agriculture from target countries—Colombia, Peru, Costa Rica, Nicaragua, Honduras, Guatemala, and El Salvador—to help build understanding of gender and the capacity for women to participate in decision-making.
- Fostering South-South knowledge exchange.
The project has promoted learning about gender, agriculture, and climate change through dissemination of bulletins with success stories and lessons learned across the whole of the region, expanding influence of technical tools on gender mainstreaming.
- Coordinating with key actors across civil society.
Partnerships with civil society organizations promote effective policy development and implementation attuned to men's and women's interests and priorities, at grassroots level.

Results to date include:

- Capacity enhanced for policy makers.
Project workshop participants demonstrated enhanced understanding of gender and climate concerns related to issues of rural development.
- Stakeholders are engaged.
Policy makers from the agricultural sectors have

engaged in the project via a workshop, a regular bulletin, and focused research products that provide guidelines and input on how to integrate gender in climate change policies.

- Gender mainstreaming outcomes have been achieved in sectoral policy.

The project has provided direct technical support to three government ministries and departments in the agricultural and environmental sectors on how to integrate gender in the development of specific climate change policies and strategies.

Gaps/challenges include:

- It will be necessary to develop tools and engagement strategies specific to certain policy makers. For example, those working in climate change and those working in gender, as a lack of collaboration between these units has been observed.
- The cost-effectiveness of workshops needs to be considered and other means of capacity building for decision makers should be explored.

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