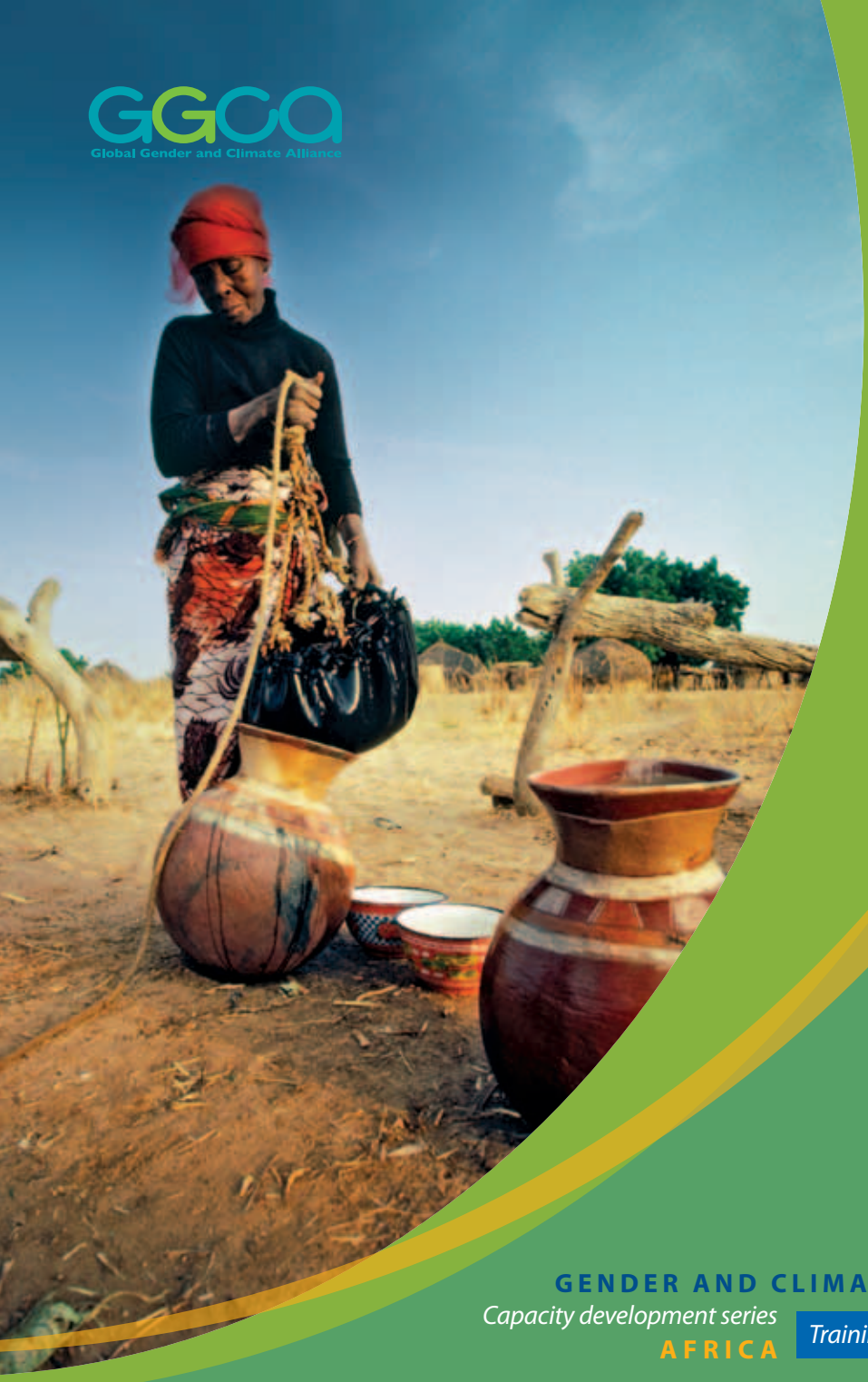

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GENDER AND CLIMATE CHANGE
Capacity development series
AFRICA
Training module 1

Overview of linkages between gender and climate change

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AUTHOR: Senay Habtezion

CONTRIBUTORS: Tim Scott and Lucy Wanjiru

WRITTEN PEER REVIEWERS: Ana Rojas, Anesu Makina, Anthony Kagoro, Evelyne Nairesiae, Gisele Dodji Dovi, Hannah Strohmeier, Kaijage Erneus, Kathleen Rutherford, Norah Matovu, Pia Treichel, Restituta Bogere, Simon Billett, Susanne Olbrisch and Marie-Laure Mpeck Nyemeck.

IN-PERSON PEER REVIEWERS: Ana Maria Currea, Elizabeth Eggerts, Gail Karlsson, Hye Jung Han, Lucy Wanjiru, Naoko Otobe, Ngone Diop, Ryan Laddey, Sabina Mensah, Sarah Twigg, Solange Bandiaky, Stacy Alboher, Tim Scott, Tonni Brodber and Tracy Vaughan Gough.

EDITOR: Lance W. Garmer

DESIGN: Suazion, Inc. (suazion.com)

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I Purpose of the training module

Box 1: Icon key


Activity or exercise


Link to other training modules


PowerPoint or video presentation


Readings


Important information


Timing indication


Internet link

IA *Rationale*

One of the pressing challenges in addressing the gender dimensions of climate change in developing countries is the need for greater national expertise on gender and climate change and on broader issues of sustainable development.

In response to this challenge, the United Nations Development Programme (UNDP) has developed a series of training modules and policy briefs on gender and climate change for a range of practitioners and policy makers in Africa. The themes covered in this capacity development series are of specific relevance to Africa and include overall climate change issues, adaptation, energy, agriculture and food security, and finance.

These materials draw on the capacity development work being undertaken by UNDP in partnership with other members of the Global Gender and Climate Alliance (GGCA) and complement existing GGCA training modules, resource guides, and related knowledge products. Their preparation has been made possible by contributions from the Government of Finland and the Government of Denmark.

The materials are designed for practitioners and policy makers with experience in gender and development, as well as those with a technical background in climate change, the environment and sustainable development. Readers are expected to gain a greater and shared understanding of how gender and climate change intersect. The learning goals are outlined in Part II of this module.

This first module in the series provides a general introduction to the intersection of gender issues and climate change.

1B Module structure and method

This module provides basic information and learning tools needed to understand and advocate for the integration of gender perspectives into regional-, national-, and community-level climate change initiatives. It covers the following topics:

- Effects of climate change in Africa
- Basic facts on gender equality
- Gender-differentiated impacts of climate change
- Need and options for gender-sensitive responses to climate change

The module first outlines its objectives and what users are expected to have learnt when the training concludes (Part II). Part III spells out the key take-away messages, followed by Parts IV and V, which present the specific links between gender and climate change. At the end of the training, users should have a strong understanding of how gender inequalities intersect with climate risks, as well as gender-related vulnerabilities to climate change and the positive role that women play in the fight against climate change. Part VI presents useful tools for designing gender-sensitive responses to climate change.

To present this information, the module uses a variety of case studies from countries in the region, besides handouts, videos and group activities. It employs seven easily identifiable pictures and icons (see Box 1).

Each module is an integral part of this series of knowledge products and therefore includes references to other thematic modules. Users of this first module are encouraged to consult modules 2, 3, 4 and 5 in this series, where necessary.

The training based on this module can be delivered in three sessions:

- Session 1: Parts II and IV (1 hour)
- Session 2: Part V (1.5 hours)
- Session 3: Part VI (1.5 hours)

Appendix B, the learning tools section, offers a breakdown of time for different activities.

Objectives

- Understand the overall gender dimensions of climate change in Africa.
- Identify specific gender-based inequalities that contribute towards the disproportionate exposure and vulnerability of women to the effects of climate change, and the role of women as key agents of change in climate responses.
- Identify responses that support the complementary goals of gender equality, women's empowerment, and climate change adaptation and mitigation.

III Key messages

- Climate change is adversely affecting the lives and livelihoods of women and men, their families and communities across Africa.
- These impacts differ in terms of region, type and severity — they include short-term disasters as well as longer-term changes in the climate system.
- They affect men, women, boys and girls differently because of the inequalities between them caused by gender-based roles in society and the resulting levels of vulnerability.
- Climate change tends to exacerbate existing gender inequalities; women, in particular, may thus face larger negative impacts.
- Adaptation and mitigation policies and programmes can be either beneficial or harmful to both women and men at all levels. Thus, from the policy perspective, climate change creates risks as well as opportunities for sustainable development and related efforts towards the achievement of the Millennium Development Goals (MDGs), including MDG 3, 'Promote Gender Equality and Empower Women'.
- By involving both women and men and drawing on their gender-based experiences in the formal and informal workforces, in communities and in households, climate responses can be made more effective and sustainable.
- Investing in women as part of climate responses can lead to greater returns across the MDGs and broader development objectives.
- For these reasons, decision makers and development partners at all levels need to integrate gender perspectives into the planning, financing and implementation of climate responses at all levels and across related sectors.
- Several analytical and advocacy tools, guidelines and case studies offer ways to strengthen this critical work on gender and climate change, as well as a growing pool of national experts on gender and climate policy.

IV What does gender have to do with climate change?

Learning objective: Understand the overall gender dimensions of climate change in Africa

Sisters of the Planet – Martina (Uganda) (video link) (see Appendix B: Learning tools, Task no. 1)

1. Climate change is threatening the social, economic and ecological systems of our planet. The 4th Assessment of the Inter-Governmental Panel on Climate Change (IPCC) documents evidence of wide-ranging impacts on freshwater resources, food, forest products, coastal systems, low-lying areas, industry, settlements, society and human health (Boko et al. 2007; UNDP 2007). It is also likely that the adverse effects of climate change could derail progress toward sustainable development and achievement of the MDGs (Boko et al.2007; World Bank 2010; UNDP 2007). Low Human Development Index (HDI) countries have already experienced the greatest reduction in rainfall and the greatest increase in its variability, with implications for agricultural production and livelihoods (UNDP 2011b).

2. The impacts of climate change will vary regionally, with more adverse impacts expected in low-latitude and polar regions. Africa will be among the hardest hit continents (Boko et al. 2007; World Bank 2010b). The impacts of climate change in Africa include a rise in the sea level, coastal erosion, stress on fresh water resources, deforestation, and an increase in the intensity and recurrence of disasters and the spread of malaria (Figure 1). Combined with these impacts, multiple stressors that manifest themselves in poverty, governance deficits, conflicts, HIV/AIDS and debt also weaken the capacity of many African countries to adapt to these effects (Boko et al. 2007; Toulmin 2009).

"The predictions from scientists show that Africa will face serious challenges given the expected climate change impacts. Temperatures are expected to increase across the continent, which will lead to increased plant stress and increased risks of drought. Rainfall is expected to decline significantly in southern Africa, and the North African region, including the Sahara desert. East Africa is expected to become wetter, with rain falling in more intense storms, causing greater risks of flooding. The models show mixed results for what is likely to happen to West Africa's rainfall. These shifts in rainfall will bring major impacts on the ground in terms of crop yields, water availability, disease incidence and flood damage."

Source: Toulmin (2009: 31).

3. Poor and marginalized segments of society are especially vulnerable to the adverse effects of climate change since they tend to have limited resources and hence a limited capacity to adapt and their livelihoods tend to be highly dependent on natural resources that are sensitive to climatic vulnerability (FAO 2011; Dankelman 2010; Women Watch 2009). For example, agriculture, a highly climate-sensitive sector, supports the livelihoods of 70 percent of Africa's population of approximately 1 billion, contributes to about 30 percent of the continent's GDP and about 50 percent of the total export value, and employs 65 percent of the continent's labour force (Boko et al. 2007; Toulmin 2009; World Bank 2008).

4. Women constitute the largest percentage of the world's poorest people and are most affected by these changes (Boko et al. 2007; Toulmin 2009; Women Watch 2009). Women are more exposed to climatic risk not just because they represent the majority of the world's poor – and therefore lack the means to cope with adverse impacts of the changing climate – but also because they are more dependent on the livelihoods and natural resources that tend to be more sensitive to these changes.

Table 1: Selected gender inequality indicators

	Maternal mortality ratio*	% of parliament seats (women)	Population with at least secondary education (%) ≤25		Labour force participation rate (%)		Antenatal coverage of at least 1 visit (%)	Births attended by skilled health personnel
			Women	Men	Women	Men		
Rwanda	540	38.7	7.4	8.0	86.7	85.1	96.0	52.0
Sudan	750	24.2	12.8	18.2	30.8	73.9	64.0	49.0
Cote d'Ivoire	470	8.9	13.6	25.2	50.8	82.1	85.0	57.0
Niger	820	13.1	2.5	7.6	38.9	87.5	46.0	33.0
Zimbabwe	790	17.9	48.8	60.2	60.0	74.3	93.0	60.0
Cameroon	600	13.9	21.1	34.9	54.0	80.7	82.0	63.0
Sub-Saharan Africa	619	19.8	22.2	34.9	62.9	81.2	73.6	47.7
World	176	17.7	50.8	61.7	51.5	78.0	82.7	76.4

*Defined as maternal deaths per 100,000 live births.
Source: Adapted from UNDP HDR "Gender Inequality Index" (2011).

5. Climate change may also accentuate existing inequalities (UNDP 2007) such as gender-based inequality (Aguilar, L. et al. 2009). Also see paragraph 8A). Due to their gender-based roles in society, men and women have different coping and adaptive capacities, which lend themselves to differing vulnerabilities and responses (UNDP 2010b). Existing gender-based inequalities such as access to land and other assets limit the ability of women to respond to the effects of climate change (FAO 2011; World Bank 2011a). A recent study by the World Bank, for example, indicates that 103 of 141 countries (25 of 35 economies in sub-Saharan Africa) have legal distinctions between men and women that may hinder women's economic opportunities (World Bank 2011b). Sociocultural barriers that manifest themselves in gender roles and social status may also inhibit women from effectively responding to climatic risk (Röhr 2006; World Bank 2010; Nellemann, Verma and Hislop 2011) (see paragraphs 8 to 10).

6. In addition to the fact that gender equality is a fundamental human right, there is a strong economic imperative for promoting gender equality in development policy. For example, if women farmers were given the same access to resources (such as finance and land), women's agricultural yields could increase by 20 to 30 percent; national agricultural production could rise by 2.5 to 4 percent; and the number of malnourished people could be reduced by 12 to 17 percent (FAO 2011; Bertini 2011). Further, studies show that gender equality and women's empowerment are crucial to the success of all-round development, including environmental sustainability and the achievement of MDGs (UNDP 2011; World Bank 2011), as well as to the fight against climate change (Carvajal-Escobar et al. 2008). Failure to heed basic social policy considerations, including the question of gender equality, could therefore undermine the effectiveness of climate change programmes and policies (see paragraphs 11 to 13).

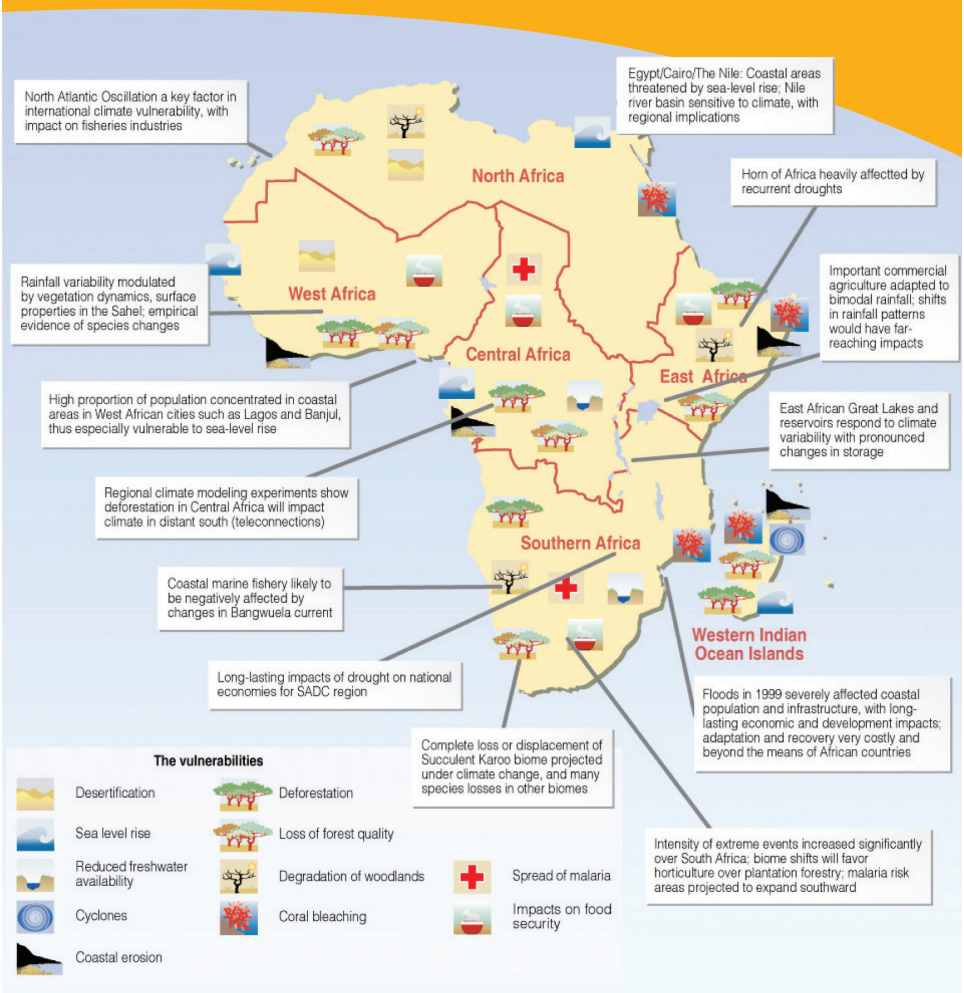
Box 2: Women as agents of positive change in the Niger Delta Region of Nigeria

The Niger Delta is one of the world's largest reserves of natural resources. The region has been suffering from environmental and human rights abuses evident in the oil spills, gas flaring and the resulting destruction of natural resources as well as human rights abuses.

Nigerian women mobilized themselves at the community level into social movements and protested against transnational oil companies like Shell and Chevron as part of a world movement to stop the actions of the companies involved in ecological destruction and corporate irresponsibility. Most of the natural gas in the region was being used up in order to cut maintenance costs and more gas was being burnt here than in any other part of the world, emitting more greenhouse gases into the atmosphere than the whole sub-Saharan region. In 2006, the protests led to the Nigerian courts ruling that gas flaring violated the constitutional rights of citizens to life and dignity and to the courts ordering an end to the practice.

Source: Adapted from Turner and Brownhill (2006).

Figure 1: Climate change vulnerability in Africa



Source: Anna Ballance, UNEP/GRID-Arendal (2002).

Summary questions

- **What factors exacerbate the impacts of climate change on the African continent?**
- **What are commonly observed climate change impacts in Africa?**
- **Why are poor and marginalized people, including women, disproportionately vulnerable to climate change impacts?**
- **Why should we consider gender equality when taking action on climate change?**

v Gender-defined vulnerability to climate change

Learning objective: Identify specific gender-based inequalities that contribute towards the disproportionate exposure and vulnerability of women to the effects of climate change, and the role of women as key agents of change in climate responses

7. As discussed earlier (paragraph 5), climate change is not gender-neutral. It affects women and men differently (table 2). There are complex and dynamic links between gender and climate change not only in terms of **vulnerability** to the adverse impacts of climate change (paragraph 8), but also in terms of how to **adapt to those impacts** (paragraph 9) and/or how to find ways of **reducing the levels of greenhouse gases** (GHGs) (paragraph 10) that are causing climate change. These three aspects are discussed below.

Box 3: Gender inequality: Illustrative statistics

- *70 percent of those who live on less than a dollar a day are women.*
- *Women work two thirds of the world's working hours, yet receive only 10 percent of the world's income.*
- *Women own only 1 percent of the world's property.*
- *Although they predominate in world food production (50 to 80 percent), women own less than 10 percent of land.*
- *Globally, only 8 percent of cabinet members are women and 75 percent of the world's 876 million illiterate adults are women.*
- *Two fifths of girls are never born due to a preference for sons.*
- *Women account for 58 percent of unpaid employment and only 10 to 20 of every 100 landowners are women.*

Sources: World Bank (2011a), FAO (2011), Perch (2011), OECD (2008).

8. **Vulnerability** is key to understanding the gender differential in climate change. Literally, it means susceptibility to the ill effects of climate change. In scientific terms, vulnerability carries with it the concepts of exposure, sensitivity and adaptive capacity (see Box 4 for definitions). The IPCC defines vulnerability as "the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity" (Boko et al. 2007). Due to their specific roles and responsibilities, women are more vulnerable and face greater challenges than men in adapting to climate change. The reasons may be categorized as follows:

   8A. Inequity: Since people need resources to respond to the effects of climate change, poverty contributes directly to vulnerability. For instance, the poor are often unable to access the technology needed (drought resistant crops, access to electricity and electrical appliances, etc.) to adjust their livelihoods to a severe change in climatic conditions (see Table 2 for details).

   8B. Discrimination: The economic marginalization of women means that they have fewer assets and a more inadequate resource base than men to effectively respond to the effects of climate change. As noted in paragraph 5, women still face gender-based cultural and legal constraints to ownership of land and access to natural resources, credit and so on (FAO 2011, World Bank 2011b). The lack of such critical assets renders them disproportionately vulnerable to the ill effects of climate change.

   8C. Sociocultural barriers: Socially constraining norms and values often lead to increased vulnerability to climate change for women and girls. It is believed that women and children are 14 times more likely to die than men during disasters (Brody et al. 2008).

The following are some reasons:

- The roles and responsibilities of women, such as collecting water and fuel, frequently lead them to be more directly dependent on natural resources that tend to be highly sensitive to climate change. These activities also have adverse health effects for women and girls (WHO 2011).

- Restrictive dress codes affect the mobility of women in a way that may prove deadly during catastrophes, particularly floods.

- Skills that could be essential to survival in a disaster, such as tree climbing and swimming, are often taught only to boys.

- Women tend to be reluctant to go to safe shelters during disasters for fear of losing their children and their household assets.

- Lack of access to information tends to make women more vulnerable than men in the face of natural disasters: women may not receive warning information transmitted to men in public spaces (World Bank 2010a; Dankelman 2010; Aguilar, Araujo and Quesada-Aguilar 2007; Aguilar, L. et al. 2009).

For 8A: see modules 2, 4 and 5
For 8B: see modules 2, 3, 4 and 5
For 8C: see modules 2, 4

9. **Adaptation** refers to coping with those impacts of climate change that cannot be avoided (Burton, Diringer and Smith 2006). The IPCC defines adaptation as "initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects. Various types of adaptation exist, e.g., anticipatory and reactive, private and public, and autonomous and planned. Examples are raising river or coastal dikes, the substitution of more temperature-shock resistant plants for sensitive ones, etc." (Boko et al. 2007). The gender dimensions specific to adaptation refer to whether adaptation measures are effective and to whether their planning and financing enforce equality and help empower women, as is discussed below.

Box 4: Definitions of exposure, sensitivity and adaptive capacity

Exposure: *The nature and degree to which a system is exposed to significant climatic variations.*

Sensitivity: *The degree to which a system is affected, either adversely or beneficially, by climate-related stimuli. The effect may be direct (e.g., a change in crop yield in response to a change in the mean, range, or variability of temperature) or indirect (e.g., damages caused by an increase in the frequency of coastal flooding due to a rise in the sea level).*

Adaptive capacity: *The ability of a system to adjust to climate change (including climate variability and extremes), to moderate potential damages, to take advantage of opportunities, or to cope with the consequences.*

Source: IPCC (2007 WGII Glossary).

9A. Adaptation planning: "Adaptation involves changes in lifestyle, behaviour, and risk management and can include actions such as changing the mix of crops, plant varieties, livestock and fish species; modifying irrigation and flood control systems; implementing pest and disease management programmes; expanding health systems; developing infrastructure; climate-proofing domiciles, communities and capital stock against the ravages of extreme weather events; and relocation and migration" (UNDP 2011a). Adaptation initiatives that do not take gender perspectives into account may unintentionally reinforce existing gender inequalities. For example, diverting fresh water to areas where there is a water shortage (dikes, water transfer, or irrigation canals) may inadvertently lengthen and/or intensify the productive and reproductive working day of women by placing water sources in distant zones (Aguilar, L. et al. 2009).

At the planning level, the National Adaptation Programme of Action (NAPAs), designed to be a response to the immediate adaptation needs of Least Developed Countries (LDCs) under the United Nations Framework Convention on Climate Change (UNFCCC), has been subjected to a fair amount of critique for not fully and adequately incorporating gender perspectives.

Less than one third of NAPAs currently mention gender equality as an important principle for achieving national adaptation and development goals; some that do include Bangladesh, Malawi and Uganda (Schalatek 2009). However, there is still time — and opportunity — to make progress in gender-conscious adaptation planning based on lessons learned from NAPA preparations. First, most of the projects identified and prioritized during the NAPA process have yet to be implemented. Second, the Adaptation Framework, adopted at the 16th Conference of Parties in Cancun (Mexico), launched a process that enables LDCs to formulate and implement National Adaptation Plans as a means of identifying medium- and long-term adaptation needs and developing strategies and programmes to address those needs, building on their NAPA experiences (UNFCCC 2011).

9B. Adaptation finance: The various mechanisms of financing adaptation efforts under the UNFCCC process include the Least Developed Countries Fund, Special Climate Change Fund, Adaptation Fund and the newly established Green Climate Fund. In addition, mechanisms such as the Pilot Program for Climate Resilience, under the Climate Investment Funds, as well as other forms of national and bilateral financing, have emerged outside of the UNFCCC framework. While some progress has been made in bringing gender considerations into the operations of these funds, there is still a lot more work to be done in this regard (see UNDP 2011a; UNDP 2010c; UNDP 2010d; UNDP 2010e).

For 9A: see module 2
For 9B: see modules 2 and 4
For 9C: see module 5

Table 2: Gender-differentiated impacts of climate change

Climate change effects	***Potential risks***	***Examples***	***Potential effect on women***
Direct	*Increased ocean temperature*	*Rising incidence of coral bleaching due to thermal stress.*	*Loss of coral reefs can damage the tourism industry, a sector in which women comprise 46 percent of the workforce.*
	Increased drought and water shortage	*Morocco had 10 years of drought between 1984 and 2000; northern Kenya experienced four severe droughts between 1983 and 2001.*	*Women and girls in developing countries are often the primary collectors, users and managers of water. Decreases in water availability will jeopardize their families' livelihoods, increase their workload, and have secondary effects such as lower school enrolment figures or less opportunity to engage in income-generating activities.*
	Increased extreme weather events	*Greater intensity and number of cyclones, hurricanes, floods and heat waves.*	*A sample of 141 countries over the period 1981–2002 found that natural disasters (and their subsequent impact) kill more women than men on average or kill women at an earlier age than men.*
Indirect	*Increased epidemics*	*Climate variability played a critical role in malaria epidemics in the East African highlands and accounted for an estimated 70 percent of variation in recent cholera series in Bangladesh.*	*Women have less access to medical services than men and their workloads increase when they have to spend more time caring for the sick. Poorer households affected by HIV/AIDS have fewer resources to adapt to the effects of climate change. Adopting new strategies for crop production or mobilizing livestock is harder for female-headed households and those affected by HIV/AIDS.*
	Loss of species	*By 2050, climate change could result in a species extinction rate from 18 to 35 percent.*	*Women may often rely on crop diversity to accommodate climate variations, but permanent temperature change will reduce agro-biodiversity and traditional medicine options, potentially affecting food security and health.*
	Decreased crop production	*In Africa, crop production is expected to decline 20 to 50 percent in response to extreme El Niño-like conditions.*	*Rural women, in particular, are responsible for half of the world's food production and produce from 60 to 80 percent of the food in most developing countries. In Africa, the share of women affected by climate-related crop changes could range from 48 percent in Burkina Faso to 73 percent in the Congo.*

Source: (UNDP 2010a).

Summary questions

- **What is gender-based vulnerability to climate change?**
- **How do climate change impacts (such as droughts and floods) affect men and women differently?**
- **What are the negative consequences that result when climate change planning and financing do not take into account gender differences and women's specific needs and capacities?**

10. **Mitigation** refers to the actions taken to reduce the greenhouse gas (GHG) emissions in order to minimize their effects on global climate change (Burton, Diringer and Smith 2006). The IPCC defines mitigation as "an anthropogenic intervention to reduce the anthropogenic forcing of the climate system; it includes strategies to reduce greenhouse gas sources and emissions and enhancing greenhouse gas sinks" (IPCCC 2007). The gender-mitigation intersection could be looked at in the same manner as adaptation, with a particular focus on women as primary users and managers of the forests, women's dependency on non-timber forest products for livelihoods and their roles in forest protection. Forest governance mechanisms, capacity-building and benefit-sharing systems should recognize women's leadership roles, responsibilities, rights, and voices in forest management and governance. Mitigation efforts, including mitigation planning and financing, should consider men's and women's differing access to resources, sources of livelihood as well as other gendered needs and interests.

10A. Mitigation planning: Mitigation policies and strategies involve a large number of human activities, among them, agriculture, deforestation, land-use changes, industrial production, energy generation and end use that generate [greenhouse gas] emissions (UNDP 2011a). Like adaptation efforts, mitigation actions entail both technological and behavioural changes at all levels that include promoting conservation tillage, controlling deforestation, converting to renewable energy and promoting energy efficiency programmes (UNDP 2011a).

Under the existing UNFCCC process, the duty of mitigation has for the most part been the responsibility of developed countries. In the future, however, Nationally Appropriate Mitigation Actions (NAMAs) may become important tools of mitigation. NAMAs refer to mitigation actions that developing countries undertake as part of a commitment to reduce GHGs in accord with

the principle of common but differentiated responsibilities under the UNFCCC and are predicated upon the provision of financial resources and transfer of technology by developed countries. Although NAMAs have yet to be fully operationalized, they could provide opportunities to develop mitigation projects that pay particular attention to the vulnerabilities of marginalized groups like women and poor communities (Schalatek 2009). It is critical that gender issues be included in national mitigation planning processes with specific activities, outputs and indicators to monitor progress.

10B. GHG sinks: Another area of mitigation that could potentially involve a number of African countries is forestry and related programmes. These include the international process for reducing emissions from deforestation and forest degradation, conservation, sustainable management of forests and enhancement of forest carbon stocks, an initiative known as Reducing Emissions from Deforestation and Forest Degradation (REDD+). Deforestation and forest degradation are responsible for 12 percent to 17 percent of all GHG emissions. In addition to their strong potential for mitigation, forests support water catchments, regulate weather and biodiversity and provide food and livelihoods for local communities. Forests contribute to the livelihoods of many of the global poor, more than 70 percent of them women.

REDD+ is a financial mechanism designed to compensate developing countries for measurable, reportable and verifiable reductions in emissions from specific activities in the forest sector. In Africa, over 70 percent of the population depends on forests for their livelihoods (African forests cover 635 million hectares and account for 16 percent of the world's forests) (Toulmin 2009). Properly implemented, therefore, the REDD+ process holds great potential for contributing to poverty reduction and sustainable development. However, REDD+ also comes with the serious risk that it could lead to decreased access to forest resources. Given that women rarely are afforded ownership rights over forest resources and their role as guardians of forest resources is often not recognized, these risks are particularly acute for women. Gender analyses of REDD+ processes, mechanisms and policies can help flag potential adverse consequences and inform preventive measures. Gender-differentiated needs, uses and knowledge of the forest are critical inputs for sustainable policy and programmatic interventions for REDD+ implementation. To ensure their integrity, REDD+ schemes must guarantee sustainable alternative livelihoods to local communities (UN-REDD 2011).

The overall lack of gender-disaggregated data is a key barrier in the design and development of gender-sensitive and responsive policies and programmes in the forestry sector, specifically REDD+. Women must be effectively engaged throughout the entire REDD+ process if its policies, actions, and programmes genuinely mean to achieve long-term equitability, efficiency and efficacy — all of which comprise sustainability.

10C. Mitigation finance: Mitigation activities offer opportunities to advance gender equality and the empowerment of women (OECD 2010). Likewise, mitigation finance could either reinforce gender equality and women's empowerment or exacerbate gender-based inequalities (UNDP 2011a). Consequently, it is important to incorporate gender perspectives in the various climate financing instruments, mechanisms and processes, and thereby avert an unintended adverse impact on social development, poverty eradication and gender equality.

Existing mitigation finance schemes tend to focus on large-scale projects that can attain large-scale emission reductions. While critical for mitigating climate change, this perpetuates the focus on sectors such as industry and transportation while continuing to neglect community and household sectors, where there is also strong mitigation potential. Existing efforts to ensure that social equity concerns are a part of mitigation finance need to be improved. Like some of the existing funds and mechanisms on adaptation finance, most sources of mitigation funding, such as the Clean Technology Fund under the Climate Investment Funds, have plenty of room to increase their focus on gender equality issues to ensure that their activities are not reinforcing existing inequalities (UNDP 2010d; UNDP 2011a).

For 10 see module 5

11. Women still hold a minority of decision-making positions in most public and private institutions, including those dealing with the environment, even though their unique role in productive, reproductive and community-management activities makes their involvement imperative for the success of any climate effort (paragraph 6). A survey on gender mainstreaming among 17 environment ministries in different developing countries conducted in 2006 showed that women made up 41 percent of the ministries is staff but only 27 percent held managerial positions (UN DESA 2010). While this gender barrier is complex, this low level of participation is partly attributable to women's limited access to formal training (UN DESA 2010). For example, women represented only 27 percent of college graduates in environment science in Nigeria in 2005 and 25 percent of the students enrolled for a higher diploma and certificate at the Kenya Water Institute between 2000 and 2004 (UN DESA 2010). Their participation in the climate effort both at the global and national levels is also very limited (Raczec et al. 2010 in Dankelman 2010).

Summary questions

- **Why is it important to consider gender concerns in mitigation planning, strategies and processes?**
- **What are the entry points for women's participation in REDD+ readiness processes?**
- **Why should gender equality be considered in mitigation finance? Name some examples of mitigation funding sources that provide room for an increased focus on gender equality.**

VI Incorporating gender perspectives in climate change responses

Leaning objective: Identify responses that support the complementary goals of gender equality, women's empowerment, and climate change adaptation and mitigation

12. Climate change can thwart progress towards gender equality by exacerbating poverty, reinforcing traditional patterns of discrimination, and directly affecting gender-defined livelihoods. Conversely, gender inequality can hamper the effectiveness of climate change responses (UNDP 2007; 2011b. Also see parts IV and V of this module). Mainstreaming gender in development policies and programmes can minimize these outcomes. This section discusses gender mainstreaming (paragraph 15) and the integration of women's concerns in development efforts, particularly climate policy (paragraph 16).

Box 5: Gender mainstreaming defined

Gender mainstreaming is "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 perpetuated. The ultimate goal is to achieve gender equality."

Source: (UN DESA 2002).

13. As noted earlier, the unique knowledge and skills in managing natural resources that women have are necessary for the planning of effective mitigation and adaptation policies (paragraph 6). At the national level, gender mainstreaming should be done at the policy, programmatic (project) (paragraphs 16 to 17) and planning levels (paragraph 17) (Aguilar, L. et al. 2009; Dankelman 2010).

14. Gender mainstreaming at the project level involves the screening, review, implementation and monitoring, as well as the evaluation of adaptation, disaster risk reduction and mitigation projects.

15. Existing tools and methodologies for mainstreaming gender into development initiatives are being honed and applied to climate change, including disaster risk reduction and management, adaptation, and energy. These 'soft technologies' range from those focusing on vulnerability and impact assessment and stakeholder analysis and management to decision-making on adaptation, and climate risk communication. Some of these tools

Box 6: Gender mainstreaming checklist for climate change programming

- *Assess the different implications of policy and programme interventions for women and men from the outset.*
- *Ensure that these assessments are informed by expert gender analysis and consultations with women and men.*
- *Proactively seek out and engage with appropriate women's rights organizations and female community leaders when selecting partners.*
- *Based on the analysis, build targeted objectives for including gender equality and women's empowerment into the plans and budgets of policies and programmes.*
- *Ensure that women participate equally and actively alongside men and are enabled to take up leadership positions throughout the programme management cycle.*
- *Monitor and evaluate impacts on gender equality and women's empowerment using gender-sensitive indicators.*

Questions to ask in a gender analysis

- *Which men and which women hold the power in this country/ministry/community?*
- *Who owns and controls resources?*
- *Who takes the decisions? Who sets the agenda?*
- *Who gains and who loses from processes of development?*

Gender-related differences to be aware of

- *Differences in the lives of poor women and men in the target area;*
- *Different roles, skills, capacities and aspirations of women and men;*
- *Division of labour between women and men;*
- *Different levels of participation and leadership enjoyed by women and men;*
- *Barriers that unequal gender relations present to women's development in this particular location.*

and methods have been tested and found to be successful in countries such as Indonesia, Kenya, Mali, Nepal and Tajikistan. They include: CRiSTAL, Gender Impact Assessment; the Climate Vulnerability and Capacity Analysis methodology; Participatory Vulnerability Analysis; sex disaggregated data; gender equality audits and gender budgeting. The usefulness and feasibility of these tools and methods will depend on the specific policies, programmes or projects they are being considered for and on the local contexts. Table 3 provides some analytical tools that could be used for gender mainstreaming.

Table 3: Analytical tools for gender mainstreaming

Analytical framework	***Focus of analysis***	***Key analytical questions***	***Tools for data collection***
Moser Framework	↗ *Gender identification* ↗ *Practical needs and strategic interests*	*What are the practical needs and strategic interests?*	*Needs assessment*
Gender Analysis Matrix (GAM) Framework	↗ *Impact of interventions* ↗ *Identification and analysis of differences* ↗ *Gender roles*	*What is the differential impact?*	*Impact assessment*
Social Relations Approach (SRA) Framework	↗ *Analyse existing inequalities in distribution of resources, responsibilities and power*	*Who has what and what are the relationships between the people?*	*Institutional analysis* *Socio-political profile*
Capacities and Vulnerabilities Analysis Framework	↗ *Existing capacities (strengths) and vulnerabilities (weaknesses)*	*What will help and what will hinder?*	*Capacities and vulnerabilities assessment*
Harvard Analytical Framework and People-Oriented Planning	↗ *Roles and activities* ↗ *Allocation of resources* ↗ *Productive and socially reproductive work*	*Who does what, how, where and what influences it?*	*Activity profile* *Access and control profile* *Influencing factors*

Source: (UNDP 2010a: 25).

16. At the **planning level**, conscious efforts should be made to integrate gender perspectives within overall national development and climate change policy-making and programming. A key component of such planning is the integration of women into the decision-making process across all sectors. This calls for the meticulous **gender** review, improvement and implementation of existing regulatory and policy tools on development across the board, including those on the environment, natural resources, adaptation to climate change, disaster risk mitigation and management.

Box 7: Gender audit of energy policy in Botswana

The Botswana Technology Centre (BOTEC), in consultation with the Energy Affairs Division of the Ministry of Minerals, Energy, Water Resources and other stakeholders, executed a gender audit of Botswana's national energy policies. Botswana is the first country where such an audit was held. The audit showed that, although there is a common understanding of the different roles of women and men in Botswana, the knowledge of the relationship among gender, energy and poverty was still limited. This has resulted in gender blindness of energy policies and programmes and in a lack of consultation with household residents, particularly women, in developing the energy policy. The audit also showed a lack of sex-disaggregated data and a general lack of association between energy services and the MDGs. Based on this audit and follow-up trainings, the awareness in the government and of the Botswana Power Corporation staff has increased. The Botswana Power Corporation recently started a ground-breaking gender-mainstreaming programme for the rural electrification programme. The audit also led to a pilot project for collecting sex-disaggregated data and strengthening gender expertise in the country's energy sector.

Source: (Wright and Gueye 2009, as cited in Dankelman 2010).

17. Since women's assets largely determine their adaptive capacity — how much they are affected by the effects of climate change and their response to it — adaptive actions should aim to build up the asset base of women. Robust pro-poor and gender-sensitive planning is needed to strengthen the resilience of all marginalized groups to enable them to develop sustainable and resilient livelihoods (Dankelman 2010; UNFPA/WEDO 2009).

Box 8: Women's Green Business Initiative

"The switch to greener forms of growth offers new opportunities to promote gender equality and women's empowerment. UNDP recently launched the Women's Green Business Initiative to promote women's entrepreneurship opportunities in climate change adaptation and mitigation. The Initiative works closely with women in developing countries to start, incubate or scale-up business enterprises, and improve their access to climate funds in a new green economy. By promoting business activities managed by women, it intends to help them to establish sustainable livelihoods, protect critical eco-systems and strengthen the resilience of communities to climate change. An example of how this initiative works is the local women's group Twiyubake Turengara Ibidukikije ('Empowering Ourselves in Order to Protect the Environment') in Rwanda. In 2008, the UNDP Gender Team offset the GHG generated by their travel to a meeting in Rwanda by providing a voluntary credit grant of $10,420 to the group for a bamboo-growing project. The women used the grant to plant 60 hectares of bamboo trees for use in making furniture, baskets and handicrafts. Besides offsetting the GHG emissions from the meeting, the project is reducing deforestation and erosion in the Nyungwe Forest National Park, and offers the women a stable income."

Source: UNDP (2009) in Dankelman (2010: 258).

18. The mitigation of climate change should have benefits for poverty reduction and women's empowerment. Mitigation planning at all levels, including its financing, needs to be a pro-poor and gender-conscious effort. This includes ongoing REDD+ activities.

19. The principles of gender equality and women's empowerment should be integrated into financing for climate change (UNDP 2011a; UNDP 2010b; UNDP Adaptation Fund 2010; UNDP 2010d). Related to this, gender-sensitive criteria need to be developed for all climate change financing mechanisms supporting adaptation, mitigation, capacity-building and technology cooperation.

Group exercise (see Appendix B: Learning tools)

Summary questions

- **What is gender mainstreaming?**
- **Mention entry points for mainstreaming gender in climate efforts.**
- **Can you give examples of women showing leadership capacity to develop adaptation/mitigation strategies and responses?**

VII Conclusion

There are strong links among gender equality, women's empowerment and climate change. Climate change is not gender-neutral – it affects women and men differently. Poor women are in a sense doubly affected because climate change affects the poor more than other groups and women constitute the majority of the poor; moreover, climate change also worsens existing gender inequalities. Poverty, the lack of meaningful access to resources and information, and the absence of power in decision-making are the major contributing factors to the disparate vulnerability of women. Women's livelihoods are often dependent on climate-sensitive natural resources such as agriculture. Sociocultural and legal restrictions also disproportionately increase the exposure and vulnerability of women and girls to climatic risk. It is therefore crucial that mitigation and adaptation activities offer opportunities to advance gender equality and women's empowerment. A gender-conscious response to the challenges posed by the changing climate would also avert unintended adverse impacts on social development and poverty eradication.

The empowerment of women will significantly enhance the efficiency of adaptation and mitigation efforts at all levels. By significantly increasing the number of women in decision-making, and drawing on their gender-based experiences in the formal and informal workforces, communities, and households, climate responses can be more effective, sustainable, and fair. Investing in women will enormously benefit communities as a whole due to the role that women play in production and reproduction within and outside the household. It will also bring environmental gains and greater returns across the MDGs and broader development objectives. For these reasons, decision makers and development partners at all levels need to integrate gender perspectives into the planning, financing, implementation, and monitoring and evaluation of climate responses.

Appendix A. Case studies

Case study 1

Diesel-powered multifunctional platforms in Mali

Source: UNDP (2010).

By many measures, Mali is one of the poorest and least developed countries in the world. Nearly three quarters of its roughly 12 million people live in semi-arid rural areas, where poverty is most severe. Electrification is virtually non-existent and most of the country's energy supply, particularly in rural areas, comes from biomass. Women and girls are responsible for the time-consuming and labour-intensive work of fuel collection.

Beginning in 1993, UNDP, UNIDO and IFAD initiated a programme to decrease the burden of fuel collection by supplying labour-saving energy services and promoting the empowerment of women by supplying multifunctional platforms to rural villages. The multifunctional platform is an engine with modular components that can supply motive power for time- and labour-intensive work such as agricultural processing (milling, de-husking) and electricity for lighting (approximately 200–250 small bulbs), welding, or pumping water. Between 1999 and 2004, 400 platforms were installed, reaching about 8,000 women in villages across the country.

Although the benefits are shared by many in the villages, women's organizations own, manage and control the platform. Capacity-building and institutional support by the project, strong in the early phases, taper off, leaving the women's groups in charge of platform operation, relying on a network of private suppliers, technicians, and partners. The women's groups cover 40 to 60 percent of initial cost. The remaining costs are covered by international donors and local partners (non-governmental organizations, social clubs and other donors).

A study of 12 villages found several benefits:

- The platforms reduced the time required for labour-intensive tasks from many hours to a matter of minutes. The time and labour women saved was shifted to income-generating activities, leading to an average daily increase of $0.47 in women's income. Rice production and consumption also increased, an indirect benefit arising from time saved.The ratios of girls to boys in schools and the proportion of children reaching grade 5 improved, as young girls were needed less for time-consuming chores.

- Increases in time and the mother's socio-economic status accompanying the introduction of the platforms correlate with improvements in women's health and increases in the frequency of women's visits to local clinics for prenatal care.

Overall, the programme in Mali offers compelling evidence that time saved in the lives of women and children, combined with the added socio-economic benefits to women's groups of controlling and managing the platform as a resource, can yield substantial benefits to health and welfare.

The latest phase of the project began in 2008 and will run until 2012. The project aims to provide at least 200 more engines to fight poverty by helping women to run small-scale enterprises in rural Mali. UNDP and partners are expanding similar programmes to Burkina Faso, Ghana, Guinea, Niger, Senegal and Togo.

Case study 2

Fish farms in Akwa Esuk Eyamba (Nigeria)

Source: NESAT (2011).

The Akwa Esuk Eyamba community in Akpabuyo Local Government Area (LGA) of Cross River State is a coastal community where fishing is the main livelihood for both men and women. However, the viability of this livelihood is in decline as a result of rapid depletion of the fishery due to several changes, some of which are climate-change-related.

A local organization, Coastal Life Initiative (COLIN), works with this community and identified women and children as the people most affected by changes in the fishery. For generations, the men have done the fishing while the women have taken the catch to the market. Now, this is changing because the catch is so much lower compared than it was seven to 10 years ago. One reason for the reduced catch is the increase of sea surges into the community estuaries. Saltwater intrusion into a freshwater ecosystem has adverse effects on the aquatic biodiversity. Other reasons unrelated to climate change include increased fishing pressure with higher local population growth and unsustainable fishing methods, which the local communities in the area are trying to address.

The women and children are most vulnerable to this situation because women depend almost entirely on fish as a means of income to support themselves and their family's basic needs. Some farming is also done, but the viability of agriculture has also been affected by flooding due to sea level rise and storm surges along the coast. In terms of food security, fish is traditionally the main source of protein so, in addition to loss of an important livelihood, the health of women and children is also compromised. The men are not as vulnerable since they tend to migrate to neighbouring communities away from the coast to engage in hired farm labour, palm fruit harvesting, firewood marketing (logging) as well as delivering fresh water with their boats to distant fishing communities to sell. The women have no such alternatives and experience a double burden when the men leave, as they are left to manage the household challenges alone.

After extensive consultation with community members, a decision was taken to start a fish farm as an alternative means of livelihood. The women contributed their local knowledge in choosing the site for the pond by detecting flood-prone areas. A committee of men and women community leaders was established to manage the operations and proceeds from the fish farm. It is expected that the women will engage actively in the purchase and retailing of the fish, which they will buy from the men who fish from the pond. This pilot project, funded through the BNRCC project, is testing aquaculture in the community and will measure how the women and men, as well as boys and girls, benefit.

Case study 3

Afforestation project by The Mama Watoto Women's Group (Kenya)

Source: Aguilar, L. et al (2009).

The Mama Watoto Group has been running an afforestation project since 1994, which has benefited the conservation of biodiversity in the region, prevented soil erosion and improved soil fertility. The main goals of the project were to provide a solution to the scarcity of firewood and to create sustainable livelihoods for the community. However, as the project has evolved, empowering women with education about the environment, and giving them the skills to diversify their livelihoods in an environmentally conscious way have led to significant change.

Diversifying women's sources of income and afforesting the region will help mitigate the future threat of climate change, which poses weather-related hazards such as flooding, landslides and drought. The initiative also contributes to climate change mitigation through reforestation efforts.

The Mama Watoto Women's group in Kenya was formed in 1990 to address the scarcity of fuelwood and the poverty of rural women. It comprises 28 women and their families (a total of 150 people) in the Kakamega Region in western Kenya. Kakamega is about 30 kilometres north of the equator, with very high annual precipitation.

Firewood was the communities' main energy source. As it grew scarce, women were forced to collect wood illegally from the reserve that borders the community, the Kakamega National Forest Reserve, exposing themselves to legal action, fines and imprisonment. Since the establishment of the group, the women grow fast-maturing trees for firewood and timber in 'women-made forests' in sections within their families' or their own farms. The afforestation programme has improved soil fertility, reduced illegal harvesting, and increased the vegetation cover in the Kambiri region, thereby increasing carbon sequestration (FAO, 1994).

The group has ensured that families who were previously being prosecuted for destroying the forest are now sustainably using available resources. The group has expanded the harvesting, processing and packaging of honey, which has improved household incomes. Cultivation of soya beans is also raising household incomes, facilitated by a collective storage unit built by the group.

Additionally, the group has introduced fish farming and sustainable harvesting of herbs and medicinal plants. Overexploitation of forest resources has significantly decreased since community members have diversified their farmed products.

The group works to counteract threats to existing biodiversity through education. The group also cares for orphans and runs a home for people living with HIV/AIDS. All group activities are driven by community needs and the structure of the organization encourages intergenerational participation, which helps maintain the sustainability of the project. Also, the group works very closely with research and government institutions. Partners in this initiative include: the Shanderema Self-Help Group (orphans); Ivakale Focal Area Groupand Musembeli Women's Group (orphans); Lugusi Post Test Group (home-based HIV/AIDS care); Kenya Wildlife Service-Buyangu Camp (protection of forest resources); GROOTS Kenya (peer learning and exchange); Jamii Network Group; Ivakale Bidii Self-Help Group; Ileho Youth Association; I.I.R.R. (soya bean seeds); and Vihiga District Rotarians (water pump).

Appendix B. Learning tools

Task no. 1: Group discussion (plenary)

Learning objective: Understand the different ways in which socially ascribed roles in society determine the ways in which women experience the impacts of climate-induced resource scarcity

Sisters of the Planet - Martina (Uganda)
(video presentation)

10 minutes (video presentation)
20 minutes (group discussion and reflection)

Notes to the facilitator

- Encourage a discussion on the central theme and the take-away message from the video presentation.
- Encourage a discussion about the question, "Does climate change have a gender-differentiated impact?"
- Encourage the participants to discuss gender-based experiences in their own contexts.

Task No. 2: Group discussion (breakout groups and plenary)

Learning objective: Understand the different impacts that climate change will have on women and men; and the root causes and possible solutions to the problem

Group discussions based on handouts 1, 2 and 3

20 minutes (group breakout discussions)
15 minutes presentation of findings (5 minutes each for 3 presentations)
20 minutes (plenary discussions)

Notes to the facilitator

- **Handout 1:** Direct/indirect risks of climate change and their potential effect on women
- **Handout 2:** Example of gender mainstreaming process: REDD
- **Handout 3:** Examples of gender mainstreaming in climate change policies/programmes in African countries

Procedure

1. Divide the participants into three groups; give the three groups one handout each.
2. Appoint a leader in each group.
3. Ask the groups to use the information on the above-cited materials and reflect on the following questions:
   - **Group 1:** Do people have similar or equal conditions in which to address and adapt to climate change? Do they have the same skills and capabilities to confront it?
   - **Group 2:** What are the possible ways in which gender perspectives could be incorporated in mitigation for a win-win outcome?
   - **Group 3:** What are the lessons learnt from the ongoing gender and adaptation initiatives?
4. Ask each group to present its findings to the plenary.
5. Finally, ask the participants what they have learnt from the assignment.

Sources: (UNDP 2010a; table 2; Aguilar 2010 in Dankelman 2010: 178-179; UNDP 2011c).

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Notes

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