



GENDER AND CLIMATE CHANGE
Capacity development series
AFRICA Training module **2**

Gender and adaptation

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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

The United Nations Development Programme (UNDP) has developed training modules and policy briefs on gender and climate change themes of specific relevance to the Africa region, including overall climate change issues, adaptation, energy, agriculture and food security, and finance. The knowledge products in this series are designed to build capacity in the Africa region on gender and climate change and on broader issues of sustainable development. These materials draw on capacity development work being undertaken 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 (for more detail, see the introduction to module 1).

This second module in the series addresses gender issues involved in the processes of adaptation to climate change.

IB Module structure and method

This module provides basic information and learning tools needed to understand, advocate and influence climate change policies at the regional, national, and community levels so that they integrate gender perspectives. It focuses on climate change adaptation, planning and financing and covers the following themes:

➤ Gender-differentiated impact of climate change in Africa

- Gender-differentiated impact of adaptation planning and financing
- Need and options for the integration of gender perspectives in adaptation

The module starts by outlining its objectives and what users are expected to understand upon conclusion of the training (Part II). The key messages of the module are presented in Part III followed by Parts IV and V, which provide background, core information and analyses of the causal relationship between gender and human adaptation to climate change. Part VI offers policy options for designing gender-sensitive responses to climate change.

Case studies and other learning tools, including handouts, video and group activities, are included to help facilitate use of the module. In addition, the module employs seven pictures and icons to help make it user-friendly (Box 1). Each module is an integral part of the overall knowledge products in this series; this module therefore includes references to other thematic modules. Users are encouraged to consult modules 1, 3, 4 and 5 in this series, where necessary.

Training based on this module can be delivered in three sessions:

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

Total estimated session time: 4 hours

The Learning tools section offers a breakdown of time for different activities.

II Objectives

- Understand the gender dimensions of climate change adaptation.
- Identify the gender-differentiated impacts of adaptation initiatives including adaptation planning and financing.
- Identify and propose gender-conscious policy and programming responses for adaptation to climate change.



III Key messages



- Women and men are affected in different ways by climate variability and change.
- There is a causal interrelationship between climate change and gender: (1) gender inequalities lead women to face larger negative impacts of climate change, and (2) climate change tends to exacerbate existing gender inequalities.
- Women are important agents of change. Their unique knowledge is key to ensuring the effectiveness and sustainability of adaptation responses to climate change; hence their full and effective participation and contributions are essential.
- Investing in women as part of climate responses can lead to greater returns across the MDGs and broader development objectives.
- Men and women have different needs and priorities, so adaptation planning and financing need to be attuned to them.
- The Cancun Adaptation Framework affirms that “enhanced action on adaptation should follow a country-driven, gender-sensitive, participatory and fully transparent approach...” The ongoing Formulation of National Adaptation Plans under the Cancun Adaptation Framework should fully integrate gender considerations.
- Gender equality and women’s empowerment need to be integrated into adaptation initiatives at the global, national, and community levels.
- This requires continued advocacy and capacity-building on the gender dimensions of climate change at each level; developing new and building upon existing guidelines and tools on ‘how’ to mainstream gender in adaptation; and creating adaptation learning networks to facilitate sharing of knowledge within and across regions.
- There are several analytical and advocacy tools, guidelines, and case studies available, and a growing pool of national experts on gender and adaptation policy.

IV The relationship between gender and climate change adaptation

Learning objective: Understand the importance of incorporating gender considerations into adaptation responses to climate change

1. Predictions indicate that climate change will affect different regions differently, with Africa being particularly severely affected (IPCC 2007; World Bank WDR 2010). The predicted effects of climate change in Africa range from malaria infestation in previously malaria-free highlands in Ethiopia to a possible increase in the sea level cyclones and attendant population displacement in Tanzania and Mauritius, to the drying up of Victoria Falls

Box 2: Illustrative regional impacts of climate change in Africa

- *Agricultural production, including access to food, will be severely compromised as the area suitable for agriculture, the length of growing seasons and the yield potential, particularly in semi-arid and arid areas, are expected to decrease.*
- *By 2020, crop yields from rain-fed agriculture may be reduced substantially.*
- *By 2020, between 75 million and 250 million people are projected to be exposed to increased water stress due to climate change. By 2050, between 350 million and 600 million people are projected to be at risk of water stress. There will be a significant increase in the number of people experiencing water stress in northern and southern Africa.*
- *By 2050, production of many crops in Egypt will be reduced: up to 11 percent for rice and 28 percent for soybean.*
- *The rise in sea level will have significant impacts on coastal areas. By 2050, in Guinea, between 130 square kilometres and 23 square kilometres of rice fields (17 percent and 30 percent of existing rice field area) could be lost as a result of permanent flooding due to the rise in the sea level.*
- *By 2050, a large part of the western Sahel and much of southern-central Africa are likely to become malaria-free. Meanwhile, previously malaria-free highland areas in Burundi, Ethiopia, Kenya and Rwanda could experience modest incursions of malaria.*

Source: (OECD 2009: 44).

Adaptation is adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities

(IPCC 2007).



in Zambia. These impacts are compounded by ‘multiple stresses’ including poverty, governance deficits, conflicts, HIV/AIDS and debt, which means that many African countries lack the capacity to adapt to these effects (IPCC 2007; Toulmin 2009; OECD 2009). (See Box 2 for more illustrative impacts.)

2. The Human Development Report notes that, absent **meaningful adaptation**, the adverse effects of climate change on people’s lives and livelihoods could also derail progress toward sustainable development and achievement of the Millennium Development Goals (MDGs). The report also argues that environmental sustainability can be most fairly and effectively achieved by addressing health, education, income, and gender disparities (UNDP HDR 2011; UNDP HDR 2007; see World Bank WDR 2010). Table 1 outlines some ways in which climate change could impact each of the MDGs. Given the complex nature of the drivers, stressors and impacts of climate change in the continent, adaptation to climate change will need to be not just a reaction but an opportunity to improve human security and welfare.
3. Simply put, adaptation is a process by which individuals, communities and countries seek to cope with the impacts of climate change and variability. It is about taking the right measures to reduce the negative impacts of climate change. There are many ways of adapting to climate change, ranging from technological options to behavioural change at the individual level. The degree to which a system needs to adapt is a function of its vulnerability to climate change, which, in turn, is determined by the level of its exposure, sensitivity to impacts and adaptive capacity. The exposure can be to hazards such as drought or conflict and also to underlying socio-economic, institutional and environmental conditions (Burton et al., 2006; Bizikova et al. UNEP 2009).

Table 1: Some ways climate change affects the MDGs and the gendered impacts

MDGs	Threats due to climate change	Gendered impacts
 <p>1. Eradicate extreme poverty and hunger</p>	<p><i>Agricultural production and food security, access to clean and abundant water resources and gainful employment are vulnerable to climate change.</i></p>	<p><i>Loss or reduction of domestic species of plants and animals used by women to ensure food security of their families. Reduction, mobilization or extinction of marine species used by women for household consumption or for productive activities.</i></p>
 <p>2. Achieve universal primary education</p>	<p><i>When climate change poses additional burdens on agricultural production and other subsistence activities like water collection, it may burden families enough to remove children from school. Climate change also threatens to destroy infrastructure (e.g., schools) and increase the chances of displacement and migration of families, thus disrupting and limiting education opportunities.</i></p>	<p><i>Flooding, drought and desertification can extend the burdens of women and girls to collect water and fuelwood, forcing more girls in more communities to forego education.</i></p> <p><i>Migration of populations, given extreme changes and disasters, could interrupt and limit the opportunities for education.</i></p>
 <p>3. Promote gender equality and empower women</p>	<p><i>Women, the majority of the world's poor, are the most vulnerable to climate change. Their traditional roles as the primary users and managers of natural resources, primary caregivers, and unpaid labourers mean they are involved in and dependent on resources that are put most at risk by climate change. Further, women lack rights and access to resources and information vital to overcoming the challenges posed by climate change.</i></p>	<p><i>Climate change will magnify the existing gender inequalities, thereby significantly hampering efforts to achieve the MDGs.</i></p>
 <p>4. Reduce child mortality</p>  <p>5. Improve maternal health</p>  <p>6. Combat HIV/AIDS, malaria and other diseases</p>	<p><i>Climate change can reduce food security and water security; increase the incidence of water-borne diseases associated with poorer water quality due to floods and drought; create more favourable conditions for the spread of vector-borne and air-borne diseases; and increase the level of heat stress.</i></p>	<p><i>Increase in women's workload due to their role as primary caregivers in the family</i></p> <p><i>Loss of medicinal plants used by women.</i></p> <p><i>The already high mortality rates of mothers/women/spouses during disasters will increase, resulting in an increase in the numbers of orphans and mortality rates.</i></p> <p><i>Increased migration puts families more at risk of getting HIV/AIDS.</i></p>

Table 1 (cont-d): Some ways climate change affects the MDGs and the gendered impacts

MDGs	Threats due to climate change	Gendered impacts
 <p>7. Ensure environmental sustainability</p>	<p><i>Climate change threatens environmental sustainability because it will fundamentally change ecosystem relationships and the quality and quantity of available natural resources and reduce the productivity of the ecosystem. The poor depend on these resources for their day-to-day survival and livelihoods in many parts of the developing world.</i></p>	<p><i>The reduction or disappearance of forest products used by women as fuel, food, or medicines will harm the wellbeing and quality of life for them and their families.</i></p> <p><i>Permanent temperature change will reduce agro-biodiversity and traditional medicine options that women rely on.</i></p>
 <p>8. Develop a global partnership for development</p>	<p><i>Climate change threatens to exacerbate current challenges to the achievement of the MDGs. Funding for development and adaptation must be greatly increased to meet the needs of the poor.</i></p>	<p><i>Incorporate a gender perspective into technology transfer, programmes and projects for generating capacities for mitigation and adaptation.</i></p> <p><i>Promote women's effective and meaningful participation in addressing climate change and its effects and in developing adequate responses.</i></p>

Source: (Aguilar et al. 2009)

- Climate change is a development problem. Adaptation to its effects is, therefore, a matter of need and equity. It is a matter of need because current efforts to stabilize greenhouse gases (GHGs) in the atmosphere are not adequate to avoid climate change. It is also a matter of equity since the impacts of climate change will disproportionately affect those least able to bear them. The IPCC notes, “[P]oor communities can be especially vulnerable, in particular those concentrated in high-risk areas. They tend to have more limited adaptive capacities, and are more dependent on climate-sensitive resources such as local water and food supplies” (IPCC 2007: 9).
- Adaptation is a critical priority for the poorest nations and particularly for women, who comprise two thirds of the poorest people on the planet. Various factors make women overly vulnerable to the effects of climate change (WRI 2011). Women are often the main users and managers of natural resources,

Sensitivity is the degree to which a system is affected adversely or beneficially by climate variability or change. 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 sea-level rise)

Vulnerability is the degree to which a system is susceptible to and 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 change and variation to which a system is exposed, its sensitivity and its adaptive capacity

Adaptive capacity (in relation to climate change impacts) is 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

(IPCC 2007).

the primary caregivers, and the largest number of unpaid workers. At the same time, they are usually poorer, receive less education and are excluded from political and household decision-making processes that affect their lives. In addition, women tend to possess fewer assets and depend more on natural resources for their livelihoods. Adaptation policies thus need to prioritize the needs of women to prevent a further deepening of gender inequality. They also need to draw on women's particular expertise and knowledge of climate change, which could make the impact of these policies more substantive for the entire community (see paragraph 7).



The ballad of Aisha and Akello: Conceptual tools related to gender equality and equity (see Appendix B: Learning tools)



See module no. 1

Summary questions

- **The Human Development Report notes that, absent meaningful adaptation, climate change can thwart progress made towards achievement of the MDGs. Discuss.**
- **What is 'adaptive capacity'? How does it relate to gender?**
- **Provide examples of how cultural ethos contribute to gender-based vulnerability.**

V Gender inequality in adaptation and women as active agents of change

Learning objective: Understand the gendered vulnerabilities, women's adaptive capacities, and the implications of the lack of inclusion of gender concerns in adaptation initiatives including adaptation planning, disaster planning and financing

Gendered vulnerabilities

6. Women are particularly vulnerable to climate stress – indeed, they are more so than men (FAO 2011; Dankelman 2010; Women Watch 2009). For instance, climatic stress on water and forest resources often leads to women having to travel longer distances for longer time periods to fetch water or wood, limiting their opportunities to branch out into other non-traditional and self-improving activities such as education and exposing them to health risks (WHO 2011). Cultural restrictions also increase vulnerability to climate change for women and girls. For example, climatic strain on natural resources could create additional workload for women by increasing difficulty in accessing fuelwood and water. Women are 14 times more likely to die than men during a disaster, as there may be cultural and behavioural restrictions on their mobility, including restrictive dress norms. In many societies, girls are not encouraged or taught how to swim or climb a tree; this significantly reduces their survival chances in the event of climatic hazards such as flooding. Climate change may accentuate or otherwise increase existing social inequities, including gender inequality (UNDP 2007, 2011; IUCN/IIED/UNDP 2009; World Bank 2010). (See Table 2 for a summary of vulnerabilities of key sectors in Africa and the gender connection.)

Women as powerful leaders in climate change adaptation

7. Gender-based vulnerabilities notwithstanding, it is a mistake to assume that women are simply victims in the face of climate change. Their accumulated wisdom in resource management equips them with unique skills that are valuable for the design of community-based adaptive solutions (Alexander et al., 2011; UNDP 2010b; UNDP 2010c; UNDP 2010d; Dankelman 2010; WEDO 2007; see Box 3 for an illustration of the role of women in adaptation). As an example, during a drought in the small islands of the Federal States

of Micronesia, the knowledge of island hydrology that the women gained as a result of their land-based work enabled them to find potable water by digging a new well that reached the freshwater lens (Anderson 2002). The World Resources Report (2011) also observes that measures taken to address the vulnerability of women can strengthen the capacity of societies to act in a

Table 2: Gender dimensions of vulnerability to climate change in Africa

Sector	Possible impacts	Examples	Gender dimension
<i>Water and sanitation</i>	<i>Around 25 percent of Africa's populations currently face water stress. Climate change could create further stress. Increase in temperatures and precipitation intensity and reduced flows could worsen water pollution, with consequences for ecosystems and public health (IPCC 2007, 2008).</i>	<i>Water is so important to the economies of many African nations that, in the 1991-1992 drought, Malawi's GDP decreased by 8 percent to 9 percent and, in 1999-2000, Kenya's GDP fell by 16 percent (Toulmin 2009).</i>	<i>Women and girls are responsible for collecting water for cooking, cleaning, health and hygiene, and growing food. Increasingly limited water supplies, poor service delivery and pollution jeopardize their survival and that of their families (Aguilar et al. 2009; Toulmin 2009; Dankelman 2010).</i>
<i>Biodiversity and ecosystems</i>	<i>There are projections of significant extinctions in both plant and animal species. An estimated 15 to 37 percent of natural species (up to 60 percent of mountain plant species) may become extinct by 2050 as a result of climate change and habitat change (Thullier, 2007).</i>	<i>Over 5,000 plant species could be impacted by climate change, mainly due to habitat loss. The Fynbos Biome ecosystem (an IUCN 'hotspot' in South Africa) is projected to lose 51 to 61 percent of its extent by 2050 due to decreased winter precipitation (IPCC 2008).</i>	<i>Women are traditionally the custodians of local knowledge about the properties and uses of wild plants and are the keepers of seeds for cultivated varieties. Understanding the gender-differentiated biodiversity practices and knowledge of women and men enhances biodiversity conservation (FAO 2008; Aguilar et al. 2009; CBD 2010).</i>

Table 2 (cont-d): Gender dimensions of vulnerability to climate change in Africa

Sector	Possible impacts	Examples	Gender dimension
<i>Agriculture and food security</i>	<i>Agricultural production and food security in Africa are expected to come under considerable stress due to climate change. Livestock and fisheries, important sources of revenue, employment and protein in many parts of Africa, are likely to be impacted by climate change (FAO 2007; IPCC 2007; Toulmin 2009).</i>	<i>In coastal regions that have major lagoons or lake systems, changes in freshwater flows and more intrusion of saltwaters into the lagoons would affect species that are the basis of inland fisheries or aquaculture (IPCC 2007).</i>	<i>Rural women are the principal basic food producers and are key to food security in Africa. Yet they face gender-based barriers in access to land, credit, extension services and technology. Removal of these barriers would increase productivity (World Bank 2009, 2011; FAO 2011).</i>
<i>Desertification</i>	<i>Impacts include acceleration of the loss of vegetation and thus desertification through decreased rainfall and increased incidence of disasters (e.g., droughts). Other anthropogenic factors such as land use and deforestation also contribute to this challenge. Around four hectares of forest (an area roughly twice the size of Rwanda) are felled or burnt in Africa each year (Aguilar et al. 2009; Toulmin 2009).</i>	<i>Home to 16 percent of the world's forests and the world's second largest rainforest — the Congo Basin — Africa is home to a rich variety of forests (FAO 2005). Desertification is a serious challenge that could be exacerbated by climate change (Toulmin 2009).</i>	<i>Women who live in dry lands are natural resource managers and custodians of knowledge about plants, medicine, food and water, which are crucial when dealing with soil fertility and crop failure in degraded and drought-prone areas. Yet these women are especially vulnerable due to, among other reasons, unequal access to resources (e.g., land), to services and to decision-making (Aguilar et al. 2009; UNCCD 2007).</i>

Table 2 (cont-d): Gender dimensions of vulnerability to climate change in Africa

Sector	Possible impacts	Examples	Gender dimension
Health	Climate change will lead to increased malnutrition and gastro-intestinal, cardio-respiratory and infectious diseases. Heat waves, floods and droughts will lead to increased mortality and changes in the distribution of some disease vectors. Health services will also be burdened by an increase in patients (WHO 2011; Aguilar et al. 2009).	By 2100, changes in temperature and precipitation could alter the geographical distribution of malaria in Zimbabwe, with previously unsuitable areas of dense human population becoming susceptible (IPCC 2008).	There is evidence for gender differences in health risks that are likely to be exacerbated by climate change. Adaptation strategies need to take into account women's and men's relative and different capacities, power, social resilience, vulnerabilities and resources, because gender norms, roles and relations can either enable or constrain adaptive capacities (WHO 2011).
Coasts	Coasts are exposed to increasing climatic risks, including coastal erosion and a rise in the sea level. More than one fourth of the population of Africa lives within 100 kilometres of the coast and most of Africa's largest cities are along coasts vulnerable to sea level rise, coastal erosion and extreme events such as tropical storms (IPCC 2007; OECD 2004).	Coastal areas are more vulnerable to damage caused by floods and storms and about 30 percent of the coastal wetlands may disappear (IPCC 2007).	Women's tasks with relation to fisheries have not been prioritized 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 (Aguilar et al. 2009).

Table 2 (cont-d): Gender dimensions of vulnerability to climate change in Africa

Sector	Possible impacts	Examples	Gender dimension
Cities	Today, more than half of the world's population lives in urban centres. In the 1950s, only 14.5 percent of Africans lived in the cities and, in the 1970s, 25.7 percent did. By 2050, 61.8 percent will live in cities. Climate change presents multiple hazards for urban dwellers in Africa, especially the poor majority (UN Habitat 2009, Toulmin 2009).	Rise in sea levels and coastal erosion are threatening the economy of the coastal and lagoon ecosystems in the city of Cotonou (Benin). Its vulnerability is worsened by socio-economic and political constraints such as rapid population growth and inadequate resources for urban development (Dossou et al., 2007).	One consequence of much unplanned and rapid growth is the increasing vulnerability of poor urban women, men and children to a changing climate, including a rise in the sea level, flooding, high winds and other climate-induced hazards (Khoshla et al. in Dankelman 2010).

Sources: (Toulmin 2009, IPCC 2008, IPCC 2007 Aguilar et al. 2009, FAO 2005, FAO 2008, FAO 2007, FAO 2011, CBD 2010, UNCCD 2007, UN Habitat 2009, Dankeman 2010, World Bank 2009, World Bank 2011, WHO 2011, UNDP 2009 OECD et al. 2004, Dossou et al. 2007, Thullier, 2007).

changing climate. In addition, engaging and promoting the unique capacities of women in adaptation can allow decision makers to help build resilience in communities while also promoting gender equality (WRI 2011). Conversely, adaptation actions that do not incorporate gender perspectives may exacerbate inequalities (paragraph 8A). Hence, a focus on women and other vulnerable members of society should be a significant priority of any adaptation effort including planning (paragraph 8) and financing (paragraph 9) of adaptation.

Box 3: Roles women play in adaptive efforts

There are multiple reports on the diversity of roles that women have been playing in adaptation efforts. Here are some examples:

- Women effectively mobilize the community in the different phases of the risk management cycle (Guha-Sapir 1997; Enarson 2001; Yonder et al. 2005)
- Women are often in a better position to note environmental hazards manifesting in multiple forms, for instance, patterns of sicknesses in the children in the neighbourhood or changes in the water (such as strange smells) (Harding 1998)
- Women tend to have better knowledge of which social groups would be most impacted by a disaster (who in the community is at risk? what is needed?) (Enarson and Fordham, 2001)
- On account of their family and communal responsibilities, women usually have broad knowledge and skills related to environment and natural resources and changes occurring in them (Ariyabandu 2004)

Source: (Adapted from Carvajal-Escobar et al. 2008).

8. However, women are underrepresented in decision-making at all levels and their concerns are far from integrated into planning for adaptation. In the African context, there is ample room for improvement in gender-conscious planning of adaptation projects. For purposes of this module, let us look at National Adaptation Programmes of Action (NAPAs) and disaster adaptation, both discussed below.

8A. Gender issues in adaptation planning: Adaptation initiatives that are not gender-conscious may themselves inadvertently replicate gender inequality. An example of a specific adaptation project that may have gendered consequences would be a bridge that needs to be built in a particular location across flood-prone areas. This project may inadvertently create job sources (construction) that tend to favour a male work force, with diminished opportunities for women. It may also lengthen the working day for women or make it more difficult for them by increasing the distances they must cover if bridges are built exclusively for transport (Aguilar et al. 2009).

Table 3: Analysis of inclusion by group or by vulnerability in NAPAs to date

<i>Inclusivity factor</i>	<i>Yes - % of available NAPAs</i>	<i>No - % of available NAPAs</i>	<i>Yes - % of African NAPAs reviewed</i>	<i>No - % of African NAPAs reviewed</i>
<i>Mentions gender</i>	78	22	80	20
<i>Prioritizes gender</i>	37.5	62.5	45	55
<i>Mentions poverty</i>	97	3	100	0
<i>Prioritizes poverty</i>	81	19	100	0
<i>Mentions ethnicity</i>	22	78	15	85
<i>Prioritizes ethnicity</i>	97	3	0	100
<i>Lists vulnerable groups</i>	65	34.5	75	25
<i>Identifies participatory actions</i>	56	6	55	45

Source: (Perch 2011).

Such unintended results could also occur at the policy and planning levels. A good illustration of this is the NAPA-gender nexus. NAPAs were designed to address the immediate adaptation needs of the Least Developed Countries (LDCs) under the United Nations Framework Convention on Climate Change (UNFCCC). Forty-five NAPAs (about 30 from Africa) have thus far been finalized and submitted to the Global Environment Facility (GEF) for funding, while three more are in the pipeline (UNFCCC 2011). NAPAs have been critiqued for not fully and adequately incorporating gender perspectives (UNDP 2011). Less than one third of NAPAs currently mention gender equality as an important underlying principle, although some NAPAs (e.g., Malawi, Bangladesh and Uganda) have identified gender equity as a necessary tool for achieving national adaptation and development goals. The Malawi NAPA (2006) is notable in that it addresses gender as a realm of equal importance with other sectors such as agriculture and water management and not just as a cross-cutting issue. It lists several interventions that target women in highly vulnerable situations, including empowering women through access

to microfinance, diversifying their earning potential, and ensuring access to water and energy sources by drilling wells, planting trees and focusing on rural electrification programs (Schalatek 2009). Table 3 breaks down 32 NAPAs – 20 of which are from Africa – on the basis of inclusion by group and vulnerability. The NAPAs, totalling over 45, were started to communicate priority adaptation needs to be addressed in the immediate term and succeeded in doing so. The Cancun Adaptation Framework, adopted at the Conference of Parties (COP 16) in Cancun (Mexico), has launched a process that enables LDCs to formulate and implement National Adaptation Plans (NAPs) as a means of identifying medium- and long-term adaptation needs and develop strategies and programmes to address those needs, building on their NAPA experiences (UNFCCC 2011). The Cancun mandate states that the process has to be gender-conscious (UNFCCC 2011). Most of the projects identified and prioritized during the NAPA process, though, have yet to be implemented. There is, therefore, an opportunity for making progress in adaptation planning based on lessons learned from the NAPA preparation process.

8B. Gender issues in disaster adaptation: Africa has the second highest number of people affected by natural disasters, largely due to the frequency and long-term effects of droughts upon the vitally important agricultural sector (OECD 2004). Numerous studies have underscored the disproportionate victimization of women in natural disasters. One study states that boys and girls are 14 times more likely than men to die during a disaster (Ikeda 1995). Others examine the gender dimension of different disasters such as heat waves, flooding and tsunamis, and in different countries in industrialized and poor nations (Peterson 2007; Pirard et al, 2005; Gault et al. 2005; Williams et al. 2006; Oxfam 2005; Davis et al. 2005; Cannon 2002; FAO 2000; Bradshaw 2004; Duncan 2007; see Aguilar et al. 2009). The often quoted study by the London School of Economics, the University of Essex and the Max-Planck Institute of Economics analysed disaster events in 141 countries and found that, when women's economic and social rights are not protected, more women than men die in disasters. In societies where both genders enjoy equal rights, disasters kill similar numbers of women and men (Neumayer and Plümper 2007).

The bottom line is that involving women in disaster adaptation (reduction and preparedness) responses can save lives and ensures more judicious social policy.

8C. Gender issues in adaptation financing: Numerous mechanisms under the UNFCCC provide finance for adaptation initiatives; these include the Least Developed Countries Fund, the Special Climate Change Fund, the Adaptation Fund, and the 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 Convention framework (see web link below). This pillar of adaptation is still evolving. While some sources of funds have yet to be put into operation, preliminary studies on these funds show that more work needs to be done in gender and adaptation finance (UNDP 2010b; UNDP 2010c; UNDP 2010d; Schalatek 2009).

Drought Adaptation - Kenya (CODES)



For 8 A-B: see module 1

For 8C: see module 5



List of sources of adaptation finance (UNDP/World Bank 'Climate Finance Options' web link: climatefundsupdate.org)

Summary questions

- **Adaptation initiatives may themselves have gendered side effects. Explain how.**
- **What is the significance of NAPAs in the context of the gender-climate change nexus?**
- **How does women's empowerment advance adaptation? Give examples of best practices of women's leadership in climate change adaptation.**

VI Incorporating gender perspectives in adaptation responses

Learning objective: Identify and propose gender-conscious policy and programing response for adaptation to climate change

9. To prevent climate change from reinforcing gender disparities, it is important to mainstream gender in adaptation efforts (Dankelman 2010). Because women's contributions to adaptation are significant (paragraph 7), gender mainstreaming would also be useful for effective adaptation planning (UNDP 2010). There is a range of tools and methods as well as other resources that could be used in gender mainstreaming (see module 1). This part briefly summarizes the concept of, and the steps for, mainstreaming gender in adaptation generally (paragraph 10; Box 4) and disaster risk reduction (Box 5). Also discussed is the application of gender mainstreaming within the ongoing Africa Adaptation Project (paragraph 11; Box 6).
10. Gender mainstreaming is an integrated approach intended to facilitate equitable participation of both women and men, so as to adequately address their strategic and differing needs. The approach entails the use of a gender lens to understand the social processes of adaptation. A **gender approach** is a working tool that should be integrated into the entire policy planning and implementation process, including: (a) gender analysis; (b) disaggregating all data by sex; (c) gender-responsive indicators to measure results, benefits and impact; (d) building capacity and strengthening sustainable development strategies and institutional frameworks; and (e) documenting and dissemination of best practices to continually promote learning and innovation.
11. An illustration of how the gender approach is being implemented at the national level is the African Adaptation Project (AAP). The AAP is a partnership between the Government of Japan and UNDP to build capacity for adaptation in 20 African countries (Burkina Faso, Cameroon, Congo, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Malawi, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tome and Príncipe, Senegal, Tanzania and Tunisia). Among other objectives, the AAP seeks to mainstream gender in all its strategic priorities, address gender equality

Box 4: Steps for gender mainstreaming in adaptation initiatives

- Analyse the effects of climate change from both male and female perspectives*
- Ensure disaggregation of qualitative and quantitative data by sex, in all assessments and stocktaking*
- Incorporate a female perspective when designing and implementing projects*
- Capitalize on the talents and contributions of both women and men;*
- Set targets for female participation in activities*
- Ensure that women are adequately represented in all decision-making processes, at all levels*
- Ensure that gender specialists are involved and consulted throughout the project implementation process*
- Make women's equal access to information, economic resources and education a priority*
- Address gender differences in capabilities to cope with climate change adaptation and mitigation*
- Develop and apply gender-sensitive criteria and indicators for progress monitoring and evaluation of results*
- Undertake a gender analysis of all budget lines and financial instruments to determine the differentiated impact on women and men of the budget*
- If relevant, consider reallocation of resources to achieve gender equality outcomes from the actions planned*
- Develop and apply gender-sensitive criteria and indicators*

and indigenous knowledge, strengthen women's leadership and mainstream pro-poor and gender-sensitive climate change adaptation into national and subnational development processes in the 20 countries of operation. The AAP is also undertaking a gender analysis of NAPAs; developing a guidebook on gender mainstreaming in climate change adaptation; developing guidelines for gender indicators for climate change adaptation; documenting best practices of women's leadership role in climate change adaptation; facilitating national training for UNDP Country Office staff and national AAP coordinators on gender and climate change in mainstreaming gender in

Box 5: Steps for gender mainstreaming in disaster risk reduction

- Include gender perspectives into 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, deforestation) through a gender-sensitive 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 the provision of water, food and energy*
- Increase the participation and representation of women at all levels of the decision-making process*
- Include the traditional knowledge and perspectives of women in the analysis and evaluation of the characteristics of key disaster risks*
- Ensure that women are being visibly used as agents of change at all levels of disaster preparedness, including early warning systems, education, communication, information, and networking opportunities*
- Build the capacity of national and local women's groups and provide them with a platform to be heard and to engage optimally*
- Consider the level of a woman's access to technology and finances in times of disaster*
- Include gender-specific indicators to monitor and track progress on gender equality targets*

climate change adaptation and mitigation for the different stakeholders. Box 6 provides a snapshot of gender mainstreaming experiences from the AAP.

12. Besides mainstreaming gender into adaptive actions and activities, efforts should be made to build the asset base of women (e.g., land, access to technology and credit). This would enhance the adaptive capacity of women.
13. Since finance is the fuel for any adaptation effort, adaptation finance, whatever its source, should be used to promote both climate and development objectives, including gender equality (UNDP 2011, 2010b, 2010c). By the same token, gender-sensitive criteria need to be developed for all new and proposed climate change financing mechanisms supporting adaptation.

Box 6: Integrating gender equality principles in the Africa Adaptation Programme (AAP)

Burkina Faso

- *Local stakeholders (elected officials, government officials, civil society organizations, and women's groups) have been trained on how to mainstream gender and climate change into the drafting and implementation of local development plans.*
- *The local stakeholders have developed an integrated advocacy strategy and commit to mainstreaming gender and climate change in the decentralization reform processes initiated by the government at the communal and regional levels.*

Ethiopia

- *There has been a gender analysis of the "Manual for Measurement and Monitoring of Carbon. Stocks in Forests and Other Land Uses in Ethiopia" to support the government in implementing appropriate institutional arrangements for the forestry sector at the federal and regional levels.*

Kenya

- *The AAP has initiated a process to mainstream gender into Kenya's climate change response strategy.*
- *Interventions that empower women to positively adapt to the adverse impacts of climate change have been designed.*
- *National guidelines for mainstreaming gender in adaptation programmes have been developed as a pilot project that will be adopted for use with the other AAP countries.*

Mauritius

- *The AAP and the Ministry of Environment and Sustainable Development in collaboration with the Ministry of Gender Equality and Family Welfare have trained 60 men and women (i.e., government officials, social workers, the National Women's Council, the Participatory Advisory Committees, family welfare and protection officers, senior development committee officers, young women's associations, regional committees, and staff at women's centres) on the gendered national and local vulnerability and impacts, the different linkages between gender and climate change, and how to mainstream gender in climate change adaptation programmes.*

Mozambique

- *The UNDP country office and AAP have developed tools and strategies to mainstream gender into two projects:*
 - *Developing national capacities for green human development*
 - *Disaster risk reduction and climate change adaptation*

Box 6: (cont-d) Integrating gender equality principles in AAP

Niger

- In collaboration with the International Institute for Sustainable Development (IISD), the UNDP Bureau for Crisis Prevention (BCPR) and AAP Niger, gender dimensions have been integrated into the Climate Risk Management Technical Assistance Project (CRM/TASP) through an integrated study on climate risks in the Pond of Tabalak (one of the 12 RAMSAR sites in Niger and situated in the border of the Sahel and the Sahara).

Nigeria

- The AAP Nigeria, in collaboration with UN Women, has reviewed the Nigeria Adaptation Strategy and Plan of Action (NASPA) to identify all gender gaps and appropriately redressed these within both the NASPA and the low emission climate resilient development strategy.
- A new and transformative gender intervention approach, “Transformative Adaptation- Prioritizing the Adaptation Needs of Women in the African Adaptation Programme (AAP) in Nigeria”, has been developed by UN Women to deal with climate change adaptation.

Senegal

- A gendered vulnerability and adaptation case study of Guinean migrant women in the district of Joal (Senegal) in sea resources management has been documented to inform policy and decision makers about the need to consider climate change adaptation policies and programmes in important, but always missing dimensions, gender and migration.
- AAP Senegal/INTAC has documented best practices of women’s leadership roles in mangrove restoration, disaster risk management (especially flooding) and in agriculture and food security.

Training of African journalists

The AAP has focused on improving the role African media in the 20 AAP countries can play in investigating, interpreting and reporting on the intersection of climate change and development; it has also examined gender and climate change adaptation, specifically the question of how gender fits into climate change and why it is important to understand the gender dimension of climate change in order to better inform both public debate and policy-making on this issue.

Leadership and capacity development

The AAP is intended not only to strengthen leadership competencies, but also to transform the institutions’ and organizations’ ability to address the impacts of climate change and to implement innovative responses, including gendered vulnerability and impacts and women’s adaptive capacities.

(See UNDP 2011a)

14. Finally, all stakeholders and the adaptation community should make the empowerment of women and poor and marginalized groups of society a strategic priority in the fight against climate change.



Module 1 for paragraphs 9-12 Group Exercise
(see Appendix B: Learning tools)

Module 5 for paragraph 13

Summary questions

- Explain the concept of gender mainstreaming. How is it useful in dealing with gender-based vulnerability and adaptation?
- Provide a few examples of how gender is being mainstreamed in the Africa Adaptation Project.
- In addition to gender mainstreaming, what other tools could be employed to address gender issues and concerns in adaptation?

VII Conclusion

Women and men are affected differently by climate variability and change. Climate change tends to exacerbate existing gender inequalities and, conversely, gender inequalities lead women to face larger negative impacts. At the same time, women are important agents of change. Women bring unique capabilities to adaptation responses. Their knowledge as key producers and managers of resources as well as household and community experiences, equips them with unique skills that are valuable for the design of adaptive solutions. Adaptation responses that draw on these capabilities and strengths can lead to greater returns across the MDGs and broader development objectives.

Several examples highlight the diversity of roles that women are playing in adaptation efforts. Seen in this light, gender inequality, if allowed to persist, can compound the effects of climate change. Hence, gender mainstreaming is a key factor in ensuring the success and sustainability of adaptation responses. Men and women have different needs and interests — adaptation planning and financing need to be attuned to these varied demands. It is essential to integrate gender perspectives into planning and implementation of adaptation initiatives at all levels. NAPAs as well as the ongoing implementation process of the Cancun Adaptation Framework are ideal opportunities to engender adaptation.

Appendix A. Case studies

Case Study 1

Gendered vulnerability and disaster adaptation (Mozambique)

Source: Ribeiro et al. 2010

Due to its geographical location — downstream of the main rivers in southern Africa and a long coastline of 2,700 kilometres — and its weak socio-economic situation, Mozambique has been hard hit by climate change. The major anticipated impacts of climate change are an increase in the frequency and severity of floods, droughts and cyclones. A study was conducted in two communities of Gaza Province in southern Mozambique — MapaiNgale in Chicualacuala District and Magondzwene in Chibuto District — to understand the gender aspects of climate change as part of a regional project funded by the Heinrich Böll Foundation. The following is an excerpt of the summary of findings and recommendations of the study:

The results of this study reveal that women and men are differentially impacted by climate changes due to the current power relations and their differentiated roles in these communities. Women have access to but not control over natural resources and other property rights. Additionally, women do most of the reproductive and part of the productive work, while men are only responsible for productive work.

Successive droughts these communities have faced for the last two years has [sic] increased men's migration to South Africa and other places in search for jobs. As a consequence, women's role in productive work has increased considerably in the last two years. For example, women's participation in alcoholic drink brewing in Mapai-Ngale and fisheries-related work in Magondzwene has increased in the last two years. This imposes pressure on women who have to spend extra time for productive work in detriment of the reproductive jobs and time spent with

kids. On the positive side, men's migration has enhanced women's participation in the decision-making structures. This is especially evident in the Mapai-Ngale community where migration is more intense and, as a consequence, the National Women Organization (OMM) has gained better position in the decision-making structures. However, this issue was not deeply explored in this study and thus a thorough investigation on this is recommended.

A number of coping and adaptation strategies are currently being deployed in these communities and these include alternative food sources such as tinhirre, ulharo, canhu — marula and massala — *Strychnos spinosa* in Mapai-Ngale and muambo and tinhirre in Magondzwene, informal (charcoal, farms, livestock and construction) and formal (migration) jobs and adoption of different lifestyles. In terms of formal and informal organizations to discuss environmental problems, the Magondzwene community is better organized than Mapai-Ngale. However, Mapai-Ngale has a better representation of women in the decision-making structures through the OMM and the elderly advisory group which is stronger.

There is general consensus amongst policymakers and academics that there are four ways to strengthen women and men's capacities for a better adaptation to climate change. These include: implementation of existing policies and programmes, allocation of resources, capacity building and reinforcement of women's participation in local institutions. Due to the key role women play in these communities, they should always be considered as the priority group in any activity.

Since agriculture is the main women's activity in these communities, we strongly recommend capacity building of women in agriculture and agro-processing techniques through for example the creation of farmers' clubs, the creation and reinforcement of local institutions and discussion forums and the formation of an environmental multi-institutional task force (including institutions as the Ministry for Environmental Coordination — MICOA, National Institute of calamities management - INGC, Ministry of Agriculture — MINAG, Non-governmental Organizations, etc.).

Case study 2

How women's empowerment and social inclusion have contributed to the Equator Price Award-Winning Community-Based Adaptation to Climate Change Project in Morocco?

Source: UNDP March 2012

The Community-Based Adaptation (CBA) project in Morocco, “Land and Water protection, conservation farming and climate risk management in El Mouddaa”, seeks to strengthen the resiliency of the El Mouddaa community to address the impacts of climate change. The project fosters sustainable land and water management, resilient farming practices, and community early warning techniques, which help the local community to better deal with current and future climate challenges.

El Mouddaa is a traditional, isolated Berber community of 350 people remotely located 2,000 metres up on the southern slopes of the High Atlas Mountains in Toubkal National Park. Over the past 20 years, the community has observed and experienced climate changes that have adversely impacted their livelihoods. The increasing temperatures, more and more frequent droughts, changing snow and rainfall patterns, and unpredictable and violent storms have degraded the ecosystems on which the community relies for its livelihoods. As a result, the community's men are increasingly obliged to emigrate seasonally to find work, leaving women alone with more responsibilities. Men's rural exodus has increased women's workload, but has also opened a window of opportunity for them to claim their rights to participate in the village's decisions.

Building on this situation, the project contributes to reducing the gender gap in the community by involving women not only in project development and project implementation, but also in capacity building, project governance and decision-making. So far, half of the community volunteers directly involved in the project are women, particularly younger women. They have participated in project activities (especially tree planting), but also in leadership meetings and trainings, thus contributing not only natural resource management skills, but also

mobilization and project management skills. This CBA initiative has managed to include all members of the community to participate in adaptation to climate change – an accomplishment in a context where inclusion generally remains one of the key field challenges. The local organization is including and empowering the most vulnerable. It is led by young people under 30, who are supported and legitimated by the elders, who constitute local wisdom and local authority. Youth have a critical role, bridging all community groups and reaching out to women in particular, whom they have involved and actively mobilized in the project. These inclusive practices are key for adaptation to climate change, allowing each participant to contribute their knowledge and skills and to volunteer for the project. The El Mouddaa community members consider themselves actors of change, rather than victims, and the local volunteerism, deeply rooted in the village traditions, is a critical factor of sustainability.

The major lesson learned from this project is that: **The integration of a gender approach and the inclusion of women – and of all marginalized and particularly vulnerable groups – are essential for effective, equitable, and sustainable climate change adaptation.**

Case study 3

Opportunities to develop adaptive practices through recognition of gendered relations with the environment

Source: UNDP 2010

Traditional cultural norms can affect women's ability to adapt to climate change. In Niger, rural women are generally not allowed to move outside their villages. Since they always remain in the same environment, they are neither exposed to, nor learn to adapt to, various situations, which can put them at greater risk when changes occur. Since men often leave their villages to find work, they explore and experience different environments, gaining new skills and accumulating knowledge and other resources (money, social networks, etc.) that are valuable for adaptation. However, since women must endure such hard local conditions together, they learn patience and solidarity and develop strong social networks to help each other and share assets. CBA can build on men's experience and women's social solidarity, so that men capitalize on their technical skills and knowledge and women build on their social skills and knowledge.

Appendix B. Learning tools

Task 1: The Ballad of Aisha and Akello (plenary)

Learning objective: Understand the concepts of sex, gender, gender equality, gender equity and affirmative action, gender empowerment, division of labour and reproductive and productive work, gender needs and interests, and gender and access and control of resources



The Ballad of Aisha and Akello: Conceptual Tools Related to Gender Equality and Equity



20 minutes

Notes to the facilitator

- Encourage the participants to share thoughts and experiences on how the concepts mentioned above are understood and/or applied in their communities.

Task 2: Assessing NAPAs through SWOT analysis (breakout groups and plenary)

Learning objective: Understand the challenges and opportunities of NAPAs in incorporating gender perspectives into adaptation to climate change



SWOT analysis of NAPAs from a gender perspective



30 minutes (group breakout discussions), **15 minutes** presentation of findings (three presentations of five minutes each), **20 minutes** plenary discussions



[NAPA Malawi \(2006\)](#)

[NAPA Eritrea \(2007\)](#)

[NAPA Guinea-Bissau \(2006\)](#)

Notes to the facilitator

- Divide the participants into three groups; give each group one country NAPA and have each group appoint its leader.
- Ask the groups to use the information on the above-cited materials and do a SWOT analysis of the NAPA at hand, from the vantage point of gender consciousness. (SWOT analysis for purposes of this task is a method used to evaluate the strengths, weaknesses/limitations, opportunities, and threats involved in a project/plan.)
- Ask each group to present its findings to the plenary.
- Finally, ask the participants to discuss what they have learned from the assignment.

Task 3: Drought adaptation (Kenya) – Group discussion (plenary)

Learning objective: Appreciate the importance of drought adaptation to women and men in poor communities



Drought Adaptation (CODES) (Video presentation)



10 Minutes (video presentation) **20 minutes** (group discussion and reflections)

Notes to the facilitator

- Encourage a general discussion on how adaptation efforts could benefit women and vice versa.

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- http://www.undp.org/content/undp/en/home/ourwork/environmentandenergy/focus_areas/gender.html
- <http://www.gendercc.net/>
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