



*Empowered lives.
Resilient nations.*



GENDER AND CLIMATE CHANGE
Capacity development series
AFRICA Training module **4**

Gender, agriculture and food security

© 2012 United Nations Development Programme
All rights reserved.

The views expressed in this publication are those of the author(s)
and do not necessarily represent those of the United Nations,
including its Member States and UNDP.

AUTHOR: Zerisenay Habtezion

CONTRIBUTORS: Tim Scott, Lucy Wanjiru and Agnes Babugura

WRITTEN PEER REVIEWERS: Ana Rojas, Anesu Makina, Anthony Kagoro,
Evelyne Nairesiae, Gisele Dodji Dovi, Hannah Strohmeier, Kajjage 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)

PHOTOGRAPHY: Curt Carnemark/World Bank and UN Photo/
Albert Gonzalez Farran (p. 4)

I. Purpose of the training module	2
II. Objectives	4
III. Key messages	5
IV. Gender roles in agriculture	6
V. Gender-differentiated impacts of climate change on agriculture	11
VI. Incorporating gender perspectives to improve agricultural development and food security	15
VII. Conclusion	20
Appendix A: Case studies	21
Appendix B: Learning tools	27
References	29

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 African region with respect to gender and climate change and 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 other 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 fourth module in the series deals with gender issues related to agriculture and food security.

IB Module structure and method

This module provides basic information and learning tools needed to understand and advocate for

integration of gender issues in climate change policies at the regional, national, and community levels. It focuses on gender, agriculture and food security. The following themes are covered:

- The different roles of men and women in agriculture and food security in Africa
- Gender dimensions of climate stressors on agricultural production and food and nutritional security
- The need and options for integrating of gender perspectives into agricultural and food security policies

The module starts by outlining its learning 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 address the interlinkages between gender and climate change in the agriculture sector, including the gender-based constraints that women face in this context. Part VI presents policy options to bridge the gender gaps in this sector.

The module uses case studies from countries in the region and other learning tools, including group activities and video. It uses seven easily identifiable pictures and icons that make the content more user-friendly (see box 1).

This module includes references to other thematic modules in this series. Facilitators and participants are, therefore, encouraged to consult these modules.

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

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

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

II Objectives

- Understand the gender-differentiated roles in agriculture and food security in Africa.
- Understand the gender-differentiated impacts of climate change on agriculture and food security in Africa.
- Identify the gender gaps in the agricultural sector that make women particularly vulnerable to food insecurity as well as show they hinder agricultural development in rural communities.
- Identify appropriate responses to close the gender gap in the agricultural sector in order to achieve gender equality and food security.



III Key messages



- In Africa, agriculture is the mainstay of 70 percent of the continent's population and this critical sector will be most impacted by climate change.
- Women play a vital role in food production, food distribution, and food utilization – the three components of food security; they also undertake a range of community-level activities that support agricultural development, such as soil and water conservation, afforestation and crop domestication.
- Women face numerous obstacles to access productive inputs, assets and services; these obstacles not only heighten their vulnerability to food insecurity, but also considerably reduce their contribution to overall agricultural production.
- Agriculture is central to women's livelihoods, especially in Africa. Climatic stresses on agricultural production will make women particularly vulnerable to food insecurity.
- Women often face a greater burden in responding and adapting to climatic stresses due to their lack of access to land, financial services, social capital and technology. In some cases, discriminatory social attitudes and traditions are sanctioned by law.
- Empowering women and girls is not just necessary for their well-being, but also a means to broader agricultural development and food security, and it is economically sound. Studies show that, if women farmers were given the same access to resources (such as land, finance and technology) as men, their agricultural yields could increase by 20 to 30 percent; national agricultural output could rise by 2.5 to 4 percent; and the number of malnourished people could be reduced by 12 to 17 percent.
- Eliminating gender-based discrimination under the law, ensuring gender-sensitive policies and programming decisions, and giving women greater voice in decision-making at all levels are necessary for mainstreaming gender in agriculture and food security.

IV Gender roles in agriculture

Learning Objective: Understand the linkages among gender, climate change, agriculture and food security

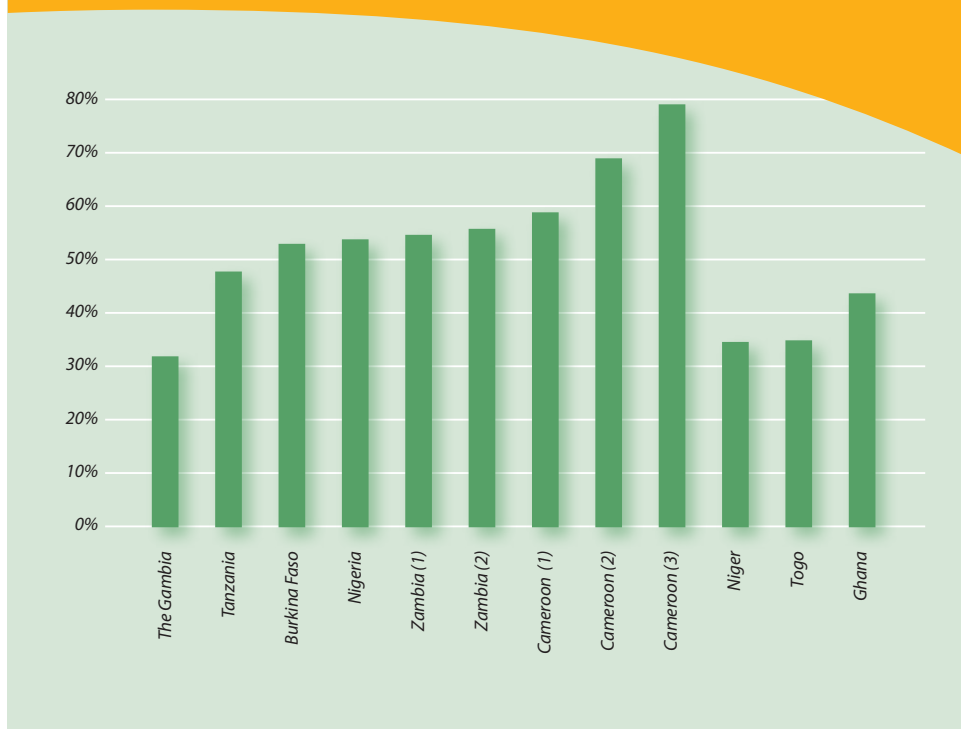
1. Climate change affects regions differently, but the poorest regions experience the worst impacts because they are very vulnerable. Countries low on the Human Development Index already experience the greatest reduction in rainfall and the greatest increase in its variability, with implications for agricultural production and livelihoods (UNDP HDR 2011; see FAO 2011a). In Africa, current and possible future impacts include increased sea level rise and coastal erosion, stresses on fresh water resources, deforestation, increased intensity and recurrence of disasters, and the spread of malaria. Many African countries are dealing with poverty, a lack of good governance, debt, conflicts, and disease, including HIV/AIDS — all this reduces their capacity to adapt to climate change (Boko et al. 2007; Toulmin 2009; see Figure 2).
2. The Intergovernmental Panel on Climate Change (IPCC) Synthesis Report and the Summary for Policy Makers of the Working Group II Report note that, by 2020, some African countries will see yields from rain-fed agriculture reduced by up to 50 percent; that agricultural production, including access to food, could be severely compromised; and that this would further adversely affect food security and exacerbate malnutrition (IPCC 2007a, 2007b). Newer studies also confirm the predicted climatic risks for African agriculture and food production (see Müller et al. 2011). It should be noted that the effects of climate change on agriculture vary with the crop, region and season and there may well be certain crops, such as rice, that will be helped by climatic changes. But, overall, agricultural production and food security in Africa are expected to suffer additional stress (UNDP 2011; FAO 2007). The stress could manifest itself in crop failures, pest and disease outbreaks, and the degradation of land and water resources (FAO 2007; Boko et al. 2007; Toulmin 2009). For example, changes in precipitation could lead to erratic weather patterns (rainy seasons beginning earlier or later than normal, or sudden rain spells in a region that is normally dry), which, in turn, could lead to crop failures.



Water scarcity, climate change and agriculture (Benin) (video link)

3. These impacts are likely to be felt more acutely at the individual level, as agriculture is the mainstay of 70 percent of the continent's 1 billion population, employing 65 percent of its labour force and contributing to about 30 percent of the GDP and 50 percent of the total export value (IPCC 2007; Toulmin 2009; World Bank 2011a). Environmental degradation in general can strain agricultural productivity and food security in Africa; for example, drylands, home to about a third of the world's population, are currently threatened by desertification. Climate change would aggravate these problems. Sub-Saharan Africa's drylands are said to be especially vulnerable because of the region's low adaptive capacity UNDP HDR 2011; International Union for Conservation of Nature (IUCN)/International Institute for Environment and Development(IIED)/UNDP 2009.
4. Agriculture and food security are characterized by gendered dimensions in that women play a key role in agricultural production, food processing and marketing. They play a decisive role in dietary diversity and are responsible for nutrition in the home. In addition, women are involved in the production and domestication of plants and animals; they are knowledgeable in seed selection and vegetative propagation; they understand how plants and animals grow and reproduce; and they plant trees. Women comprise 20 to 50 percent of the agricultural labour force in developing countries (FAO 2011b) and 79 percent of women in least developed countries who are economically active report that agriculture is their primary economic activity (Doss 2011). While the roles of women in agriculture vary widely by region, age, ethnicity and social station, their participation rates in the agricultural labour force in sub-Saharan Africa is the highest in the world. For example, the percentage of women in agricultural activities ranges from 36 percent in Côte d'Ivoire and Niger to over 60 percent in Lesotho, Mozambique and Sierra Leone (FAO 2011b). Figure 1 provides additional percentages of women in various African countries involved in agricultural activities.

Figure 1: Proportion of labour in all agricultural activities that is supplied by women within various African countries



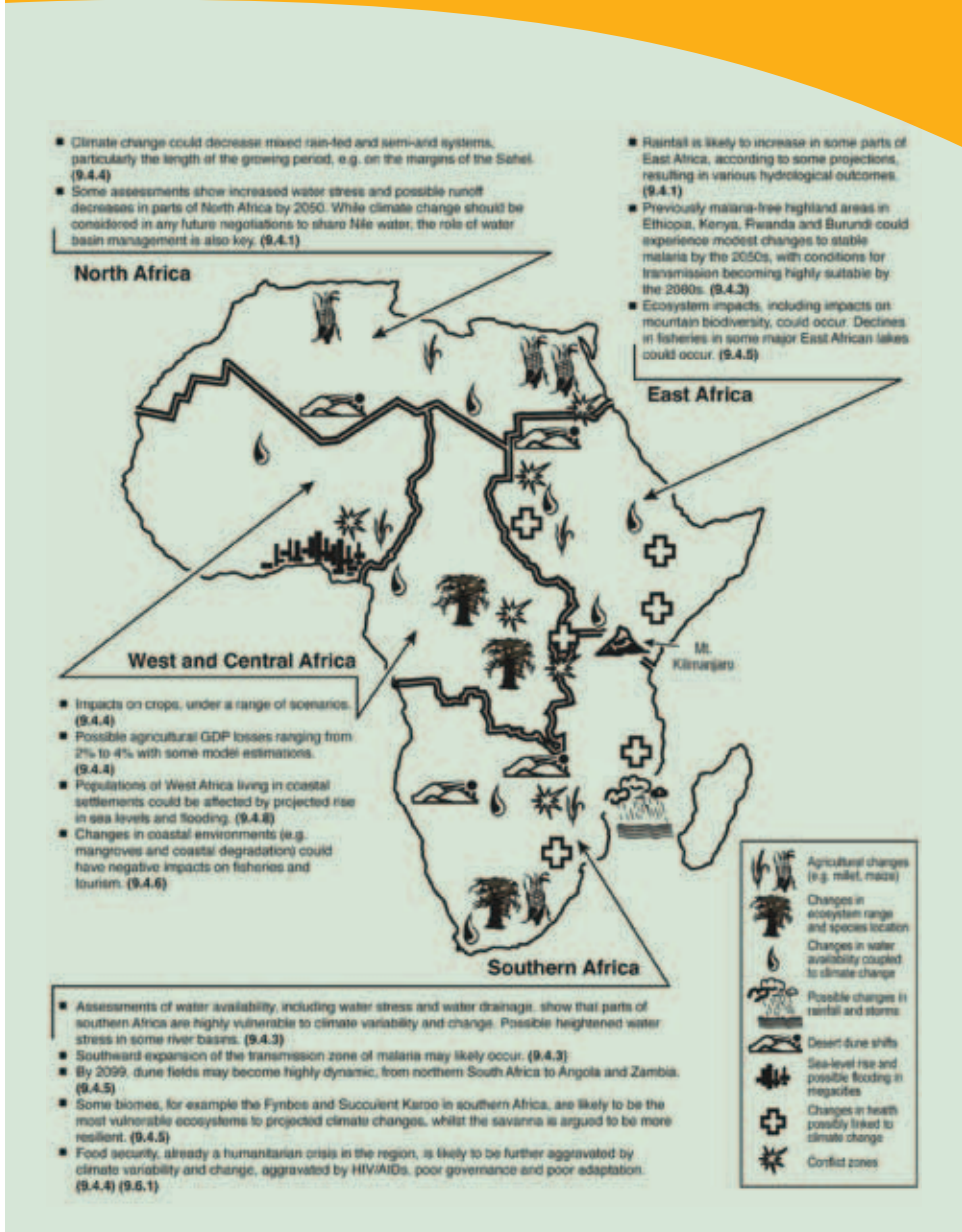
Note: Multiple results per country are reported where available studies reflect different time periods or locations.

Source: Adapted from FAO (2011b).

5. Because women tend to heavily rely on agriculture, a highly climate-sensitive sector, any stresses on the sector, including those related to climate change, are likely to have disparate impacts on their livelihoods.

5A. Unmitigated climate change is potentially one of the most consequential stresses to agriculture in sub-Saharan Africa (UNDP 2011; FAO 2007; IPCC 2007a, 2007b; see Figure 2). Just as different countries and societies have varying degrees of susceptibility to the adverse impacts of climate change, men and women also have different coping and adaptive capacities and consequently disparate vulnerabilities to the impacts of a changing climate (UNDP 2010; Women Watch 2008). This disparity has been evident in current experiences of extreme climatic events such as droughts and flood.

Figure 2: Examples of current and possible future impacts and vulnerabilities associated with climate variability and change in Africa



Source: Boko et al. 2007.

5B. One main reason for this disparity is the gender gap that restricts the access of women to land, financial services, social capital as well as access to technology, which renders them vulnerable to food insecurity (FAO 2011b; World Bank 2011a). According to a recent study by the World Bank, 103 of 141 countries (25 of 35 economies in sub-Saharan Africa) have laws that likely thwart women's economic opportunities and socio-cultural barriers that can inhibit women from effectively responding to climatic risk (World Bank 2010). See module 2 (particularly Section V) for details of social limitations imposed on the adaptive capacity of women. Often, these regressive social attitudes and traditions may be sanctioned by law (World Bank 2011b).



Module No. 2

6. Men also play a crucial role in food production; they, however, face fewer constraints than women. Men are more likely to have access to productive resources such as land, credit and extension services. In cases of crop failure due to harsh climatic conditions, cultural traditions often make it easier for men to leave their farms in search of employment elsewhere, leaving women behind to struggle to feed their families and make ends meet. In many cases, women have diminished assets and resources to help them plan for and potentially avert the next crisis. Related to this, it has recently been noted that numerous countries in Africa have also seen substantial increases in the female share of the agricultural labour force in recent decades due to external pressures such as conflict, HIV/AIDS and migration (FAO 2011b).

Summary questions

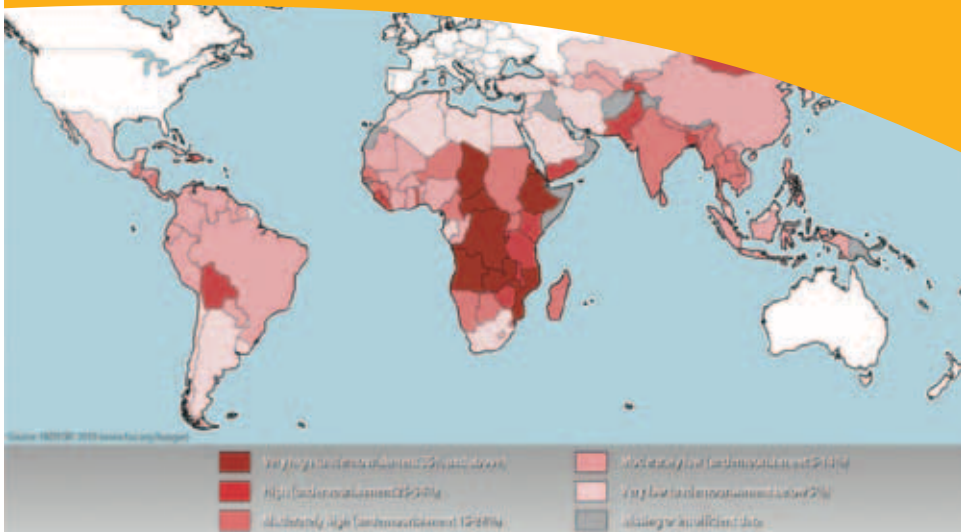
- **What are the key gender issues in agriculture and food security?**
- **Give some examples of current and possible future impacts and vulnerabilities associated with climate variability and change, gender, agriculture and food security in Africa.**
- **Why are women farmers more likely to be disproportionately vulnerable to climate change impacts than men farmers?**

V Gender-differentiated impacts of climate change on agriculture

Learning objective: Identify gender gaps in the agricultural sector that increase the vulnerability of women to food insecurity, and the cumulative effect on rural agricultural development

7. Figure 3 shows that food security is already a serious problem for many countries in Africa. Food security is a situation that exists when “all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO 2002). Food availability, at least on the supply side, is likely to be exasperated by climate change (FAO 2011a; also see paragraph 2 in this module). Women play a pivotal role in the three components of food security: **food availability** (production), **food access** (distribution), and **food utilization** (use and processing) (World Bank 2009). These are discussed below.

Figure 3: FAO Hunger Map 2010 – prevalence of undernourishment in developing countries



Sources: FAOSTAT 2010 (www.fao.org/hunger).

8. Women participate in food production activities such as hoeing, weeding, harvesting, land preparation, threshing, transportation and usage. They also broadly support agricultural development through soil and water conservation, afforestation and crop domestication. However, the asymmetries in ownership of and access to vital livelihood assets (such as land, water, energy, credit, knowledge and labour) constrain women's contributions to food production (World Bank 2009; FAO 2011b). For example, men's land holdings are almost three times that of women's land holdings. In certain cases, the asymmetries are even more acute. For example, women are 5 percent of registered landholders in Kenya. Limitations on such essential assets often lead to lower yields for women than would otherwise be possible if household resources were allocated equitably (World Bank 2009; FAO 2011b). This also leads to women having a lower adaptive capacity (UNDP HDR 2007).
9. As with food production, women play a key role in food distribution (access). At the household level, once a family collects its harvest, women must distribute and allocate the food stock until the next harvest. Women often manage the production of subsistence crops, increasing food availability for the household. Related to this, rural women tend to spend more of the income they make from food crops (compared to men) on food, health, clothing and education for their children, hence improving the entire household's food security (World Bank 2009; FAO 2011b). However, women still face difficulties related to food distribution. In many African states, distribution of food to local markets, especially for food crops, as opposed to cash crops, entails arduous head-loading by women. Some studies note that women transport 26 metric-ton kilometres per year compared to less than 7 metric-ton kilometres for men (World Bank 2009). A related obstacle for women in rural areas is time poverty, that is, the ability of people to engage in other productive activities (such as education) that is constrained by time spent on subsistence chores. Firewood and water collection is largely done by women and girls on foot. Climate-induced scarcity of natural resources can diminish food security by further constraining the time available to women. Water degradation and pollution can force women to travel farther to collect water and reduce the amount they collect.



See Module No. 5

10. Finally, in food utilization (use and processing), women process many food and related products that support the livelihood of the household, hence adding value. Women are typically responsible for food preparation and are therefore crucial to the dietary diversity of their households. Women are generally responsible for selecting food purchased to complement staple foods and to balance the household's diet (World Bank 2009). Although the contributions of women to food use and processing are widely known, there is gender bias in this regard as well. Women are, for instance, said to be more undernourished than men, as they tend to eat less in times of food shortage (Dankelman 2010; WHO 2011).
11. In agricultural practice, there are several gender-specific constraints that limit the access of women to productive inputs, assets and services. These fall broadly under the categories of **ownership of assets**, access to **productive inputs** such as fertilizers, and access to credit and **extension services**. (FAO 2011b; World Bank 2011a). These are discussed below.
12. On land ownership, between 10 to 20 percent of all landholders are women although there is a significant variance in this range among countries even within the same region. In Africa, an average of 15 percent of landholders are women; the range in relation to land ownership is considerable – from less than 5 percent in Mali to over 30 percent in Botswana, Cape Verde and Malawi. In many developing countries, land is predominantly owned by men and transferred intergenerationally to males. Even when women are able to access land, lack of ownership creates a disincentive to invest time and resources into sustainable farming practices, which, in turn, lowers production and results in less income and food for the household. In some countries, farms operated by female-headed households are only one half to two thirds as large as farms operated by male-headed households.
13. With regards to livestock, the holdings of female farmers are much smaller than those of men in all countries for which data are available, and women earn less than men from their livestock holdings. Women are much less likely to own large animals, such as cattle and oxen that are useful as drought animals. Farms run by female-headed households have less labour available because these households are typically smaller and have fewer working-age adult members and because women have heavy and unpaid household duties that divert them from more productive activities.

14. Women receive only 5 percent of agricultural extension services worldwide. Time constraints and cultural reservations may also hinder women from participating in extension activities, such as field days, outside their village or within mixed groups. In most countries, the share of female smallholders who can access credit is 5 to 10 percentage points lower than that of male smallholders. The reason for this is partly that women often do not have the necessary collateral. As noted above (paragraph 5b), many countries have laws and established legal practices that discriminate against women, including on access to credit. Access to credit and insurance are important for accumulating and retaining other assets.
15. Women are much less likely to use purchased inputs such as fertilizers and improved seeds or to make use of mechanical tools and equipment. In many countries, women are only one half as likely as men to use fertilizers. Studies in Burkina Faso, Kenya, Nigeria and Zambia showed that, due to differential control over resources, women were at a disadvantage when men and women grew the same crop on individual plots. Most inputs, such as labour and fertilizer, went to the men's plots.



Group exercise (see Appendix: Learning Tools)

Summary questions

- **What is food security?**
- **How do women contribute to food security?**
- **What are some of the gender based constraints that women face in the agricultural sector?**

VI Incorporating gender perspectives to improve agricultural development and food security

Learning objective: Identify appropriate policy responses to address gender gaps in agriculture and food security

16. Empowering women and girls is critical for agricultural development and food security (World Bank 2009), but there is also a strong economic rationale for this: if women farmers were given the same access to resources, such as finance, 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 2011b; Bertini 2011). It has recently been observed that, if African women were given equal access as men to vocational training and technology, the continent's economy would expand by at least 40 percent (Krause-Jackson 2011). Box 3 provides a notable ongoing effort to address gender issues in agriculture in the Southern African Development Community (SADC).



RAP: SADC Regional Agricultural Policy (RAP)

PGD: SADC Protocol on Gender and Development (PGD)

Box 2: In focus: Gender mainstreaming in agriculture (SADC Regional Agricultural Policy)

In Africa, the Southern African Development Community (SADC) has identified gender issues as a top priority. The SADC Protocol on Gender and Development (2008) (PCD) requires, in particular, that gender issues be mainstreamed into all of SADC's actions. The objective of the PCD is to "provide for the empowerment of women, to eliminate discrimination and to achieve gender equality and equity through the development and implementation of gender responsive legislation policies, programmes and projects" (Art. 3). The PCD has 43 Articles under eight headings: constitutional and legal rights; governance; education and training; productive resources and employment; gender-based violence; health and HIV/AIDS; peace building and conflict resolution; and media, information and communication. There are 23 set targets, including that women should hold 50 percent of decision-making positions in the public and private sectors by 2015. Other key targets include ensuring that provisions for gender equality are contained in all constitutions and include affirmative action clauses, halving gender-based violence, and abolishing the minority status of women codified in many of the member states' constitutions based on the dual legal systems that recognize customary law. The PCD also calls for stepping up prevention, treatment and support of HIV/AIDS victims. A section on 'final provisions' includes sections on remedies, institutional arrangements, and implementation, monitoring and evaluation. The PCD 'gender mainstreaming' requirement has recently been adopted within the context of the regional Agricultural Policy (RAP) of the SADC region. The RAP notes:

"Rural women are key contributors to economic development, particularly in terms of farm production and productivity, local processing and marketing. Their role in contributing to appropriate nutrition has been well documented, including their inter-generational impact on development. The numerous constraints that women face in developing their economic and social functions are of various kinds (e.g. social rights, access to finance and land, time and labour, adapted agricultural and processing technology, etc.). These constraints need to be addressed at various levels (legal/economic, national/local, global/sector specific, etc.). However, despite several decades of promoting related issues, they have not been properly reflected in public action.

SADC has identified gender issues as top priority. Among the latest and most important developments is the Protocol on Gender and Development (Aug. 2008), which requires in particular that gender issues be mainstreamed into all SADC's actions. This includes the RAP.

Suggested key policy issues for inclusion in the RAP in relation to gender, therefore, include:

- *Systematically mainstreaming women promotion under all pillars of the RAP: (1) Production, Productivity & Competitiveness; (2) Trade and Markets and (3) Financing and Investments; and*
- *Supporting Member States' planning and action to improve women's beneficial involvement in agriculture."*

(Adopted from SADC RAP 2010, SADC PCD 2008).

17. The following are a set of recommended policy measures that could be employed in addressing gender-based barriers in the agricultural sector (see FAO 2011):

Box 3: Addressing gender barriers in agriculture

Closing the gap in access to land

- *Eliminate discrimination under the law*
- *Recognize the importance and power of customary land rights*
- *Educate officials and evaluate them on gender targets*
- *Educate women regarding land rights*
- *Ensure that women's voices are heard*
- *Adjust bureaucratic procedures*
- *Gather sex-disaggregated data for policy design and monitoring*

Closing the gap in rural labour markets

- *Target women's multiple trade-offs*
- *Reduce gender inequalities in human capital*
- *Capitalize on public work programmes*
- *Strengthen women's rights and voice*

Closing the financial services gap

- *Promote financial literacy*
- *Design products that meet the needs of women*
- *Promote a women-friendly and empowering culture*

Closing the gap in social capital through women's groups

- *Use technology and innovative delivery channels*

Closing the technology gap

- *Develop technologies and environments that address women's needs*
- *Improve extension services*
- *Scale up farmer field schools*

18. Gender mainstreaming focuses on the fact that women and men experience life differently and have different needs and priorities and that development policies and interventions affect them differently. The process requires taking into account several considerations as well as commitment of human and physical resources to produce specific activities, outputs, and outcomes that benefit men and women equally. In the context of agriculture and food security, it is important that men and women of all ages, ethnicities, religions, and socioeconomic levels have enough food and especially that the food be readily available, accessible, and appropriately used. Gender-based inequalities along the food production chain ‘from farm to plate’ that impede the attainment of food and nutritional security must therefore be addressed through effective gender responsive policies, programs, and projects (World Bank 2009). See Figure 4 for a step-by-step process for integrating gender into agriculture and food security policy, projects and programmes.
19. Carefully designed policies, strategies and projects can work within existing cultural norms and through the public and private sectors in ways that benefit both women and men. Many steps are required by many different actors — governments, civil society, the private sector and individuals — but the basic principles are the same across the board: eliminate discrimination under the law, make gender-aware policy and programming decisions, and give women a greater voice in decision-making at all levels.



Group exercise (see Appendix B: Learning tools)

Summary questions

- **Provide some examples of how gender-based constraints in agriculture can be addressed.**
- **Mention some ways of mainstreaming gender in agriculture and food security policy, projects and programming.**
- **How does the SADC address gender matters in its Regional Agricultural Policy?**

Figure 4: Integrating gender into agriculture and food security



VII Conclusion

The agriculture sector in Africa is being severely affected by climate change and will be even more so in the future. Many women, among the poorest and most vulnerable groups, are particularly hard-hit by these effects. The majority of women, especially in Africa, are involved in agriculture and the sector is crucial to their livelihoods. On the one hand, they play a pivotal role in food production, food distribution and food utilization — the three components of food security — as well as in various activities that support agricultural development such as soil and water conservation, afforestation and crop domestication. On the other hand, they are often constrained heavily by discriminatory policies and social norms that limit their access to productive inputs, assets and services. This increases their vulnerability to food insecurity and heavily limits their contributions to agricultural productivity.

Eliminating gender-based discrimination under the law, ensuring gender-aware policy and programming decisions, and giving women a greater voice in decision-making at all levels are important for mainstreaming gender within agriculture and food security programming and policy. The increased participation of women and their empowerment, which includes giving them better if not equal access to resources such as land and credit, are essential components of sound social and economic policy. Empowering women can also help improve agricultural development and food security for the community as a whole.

Appendix A. Case studies

Case study 1

Closing the technology gender gap in agriculture (Uganda)

Source: Adapted from FAO 2011c.

Farmer field schools have proved to be a participatory and effective way of empowering and transferring knowledge to women farmers. This was evident in Kenya, Uganda and Tanzania, where women who participated in these field schools were more likely to adopt major technologies, including improved crop varieties, livestock management and pest control techniques.

The sustainable rural livelihoods programme established in 2004 in eastern Uganda's Kamuli District was designed to improve food security, nutrition and health at the household and community levels. The programme employs a farmer-to-farmer training and extension approach to demonstrate and disseminate information on key management practices such as planting banana or cassava. This is done in ways that ensure productivity and control diseases, enhancing soil fertility through composting with manure, growing and using nutrient-dense crops such as amaranth grain and vitamin A-rich sweet potatoes. It also emphasizes the establishment of multiplication gardens and seed nurseries, post-harvest management and storage, improving livestock breeding and feeding, integrating nutrition and health with agriculture, farm enterprise development, marketing, and strengthening farmer groups. Women make up the majority of farm group members, leaders and trainers. They comprise about 58 percent of community-based rural development extension workers, 75 percent of community nutrition and health workers, 76 percent of committee members and 71 percent of executive committee members.

The programme has enriched women's human capital through training and experience gained in developing leadership skills, improved nutrition and health, and communitywide respect for their role as sources of valuable knowledge. The women are also involved in farm groups and emerging marketing associations. Another key reported result has been a significant increase in household food security.

Case study 2

Climate change and food insecurity: The case of the Wula Ekumpuo community (Nigeria)

Source: NEST 2011.

“A needs assessment conducted in the community of Wula in Cross River State, showed that food shortage and water scarcity during the dry season are the major impacts resulting, in part, from climate change. Other related problems include the loss of animal and plant species due to deforestation as people continue to harvest firewood for domestic use and sale.

People generally attribute the food shortage to poor soil fertility, which is made worse by changing and unpredictable rainfall patterns. As an adaptation strategy, people have resorted to growing cassava as a staple food, instead of yam, since cassava grows better in infertile soils than yam. People are also more often resorting to buying imported foods, such as rice, ‘indomie’ (Chinese instant noodles), spaghetti and other ‘exotic’ food items from outside the community. The effect of this dependency on cassava and imported foods is lack of adequate nutrition for children.

Water scarcity has put an additional burden on women and children in Wula since they are the ones primarily involved in water collection. The reduced nutritional status of the diet together with the increased burden of water collection in the community means that the women and children are very vulnerable to further changes in resource availability due to climate change.”

Case study 3

Gender, international finance institutions and food security (Ethiopia)

Source: Extracted from Arend, E. 2011.

“Poor, rural Ethiopians, the majority of whom are women and girls, experience chronic food insecurity. Despite decades of agricultural investments from international finance institutions (IFIs), overall productivity in Ethiopia’s agriculture sector has stagnated, leaving 8.3 million Ethiopians more or less perennially dependent on food security programs, and several million more [who] are susceptible to food insufficiency in the event of adverse climatic shocks (World Bank, 2008). Although the World Bank (WB) has invested a total of \$2.5 billion in agriculture and food security projects in Ethiopia since 1970, a 2010 WB project appraisal stated that the capacity of [Ethiopia’s] agricultural institutions is still weak, [...] yields remain low, and many geographical areas have unexploited potential for productivity growth. The WB noted that Ethiopia’s poor have also suffered disproportionately from the global economic crisis, as the price of goods consumed by the poor is estimated to have risen by 78 percent in urban areas and 85 percent in rural areas between 2008-2010 (2010). Households are often forced to fulfil basic food needs by selling assets, reducing the number of meals eaten per day, or borrowing food or money (FAO, 2009). Ethiopian women and girls bear the greatest burdens due to food insecurity, since they have a substantive productive role in the rural sector, including participation in livestock maintenance and management, crop production and marketing of rural produce (Ethiopian Ministry of Foreign Affairs, 2010).

This case study applies Gender Action’s Essential Gender Analysis Checklist to four active IFI projects in Ethiopia that focus on agriculture, land management and nutrition. Totalling \$384 million and funded by the WB, none of these projects embrace a gender rights perspective or analyse differential impacts on men and women, boys and girls; and only two out the four projects discuss gender equality. The WB’s private sector arm, the International Finance Corporation (IFC), also invests in Ethiopia: in 2010, the IFC extended a ‘risk-sharing facility’ worth up to

\$10 million to Ethiopia's Nib International Bank to increase the number of loans offered to 70 coffee farmer cooperatives. Although the IFC claims that its focus on agribusiness and industry benefits small and medium enterprises by helping them access finance (2010), small-scale and subsistence farmers—the majority of whom are women—are unlikely to benefit from such large-scale investments. The African Development Bank has also invested in agriculture projects in Ethiopia, but its most recent agriculture project closed in 2010.

Some recommendations based on the case study are the following:

- Approach agriculture and food security investments from gender and human rights perspectives.
- Eliminate investments that undermine developing countries' local agricultural markets and harm the livelihoods of poor women and girls.
- Explicitly promote the integration of women throughout agriculture and nutrition project cycles and promote outcomes that increase food security, especially for women and girls.
- Integrate the needs of women and girls into agriculture investments and promote outcomes that equally benefit men and women, boys and girls.

Case study 4

Climate change and women farmers in Burkina Faso

Source: Extracted from Intermón Oxfam 2011.

“Burkina Faso’s geographical situation makes it particularly vulnerable to climate change. As a country in the Sahel in the heart of western Africa, Burkina Faso suffers an extreme, variable climate: the same area can be affected by both flooding and drought within only a few months. The economy of this largely rural country is essentially based on agriculture and stockbreeding. According to various predictions, climate change will have an impact on agricultural production and food security, and will therefore affect inhabitants of rural areas, especially those who are most vulnerable, such as women.”

Recent research by OXFAM on the interconnections between agriculture, adaptation to climate change and gender seeks to “1) analyse the specific impact of climate change on women in Burkina Faso’s agricultural sector, 2) analyse how gender and women are taken into account in national adaptation and rural development policies and programmes, and 3) examine adaptation practices aimed at women and the outcomes of such practices in terms of both gender and adaptation.”

In Burkina Faso as everywhere else, the effects of climate change disproportionately affect women and their livelihoods. The following are recommendations based on the research:

Recommendations for taking women’s vulnerability into account in climate change adaptation

“At institutional level

- Involve rural communities, especially women, in the planning and carrying out of climate change adaptation initiatives in development and adaptation plans and policies.
- Develop awareness and information campaigns about climate change and its effects for inhabitants of rural areas.
- Promote awareness raising and training among those involved in rural development (at national, regional and local levels) with regard to the specific impact that climate change has on women.
- Involve rural communities, and women in particular, in the sustainable management of resources such as water and forests.

- Promote adapted farming systems, the use of water- and soil-conservation techniques, reforestation and sustainable resource management.
- Improve women's access to land ownership; develop awareness raising programmes within communities and among those involved in development at local, regional and national levels. Promote the amendment of laws to grant women the right to ownership.
- Promote women's access to agricultural-extension services and training on farming adaptation techniques. Improve women's access to credit and the inputs needed to increase agricultural yield.
- Promote access for both men and women farmers to information about the climate, including weather forecasts, so that they can decide on the best time to plant seeds.
- Promote suitable frameworks and tools for analysing interactions between climate change and development, with a view to consistently incorporating climate change into planning at national, regional and local levels.
- Support a long-term assessment of the NAPA and the rewriting of a programmatic, fairer and gender-sensitive NAPA.

At organisational level

- Work on identifying and eliminating factors that limit women's capacity to adapt. Give women training so that they can develop their adaptation skills, and promote medium- and long-term strategic changes in order to achieve greater gender equality.
- Promote participation by women in the planning and carrying out of adaptation measures so that their needs and priorities are taken into account.
- With regard to adaptation, work on adaptation measures with a view to responding to known risks (heavy and irregular rain and extreme events) and information on weather conditions (rainfall measurement) so that people can be better prepared.
- Promote women's access to adaptation techniques: water- and soil-conservation techniques, use of improved seeds, diversification of crops, composting and horticulture.
- Strengthen women's organisations in rural communities and support their participation in the planning and carrying out of adaptation measures so that their needs and priorities are taken into account. Promote active participation in community decision making.
- Develop credit and storage systems to support families during the period between harvests so that they do not have to sell their capital to buy food when market prices are higher."

Appendix B. Learning tools

Task 1: Water scarcity, climate change and agriculture (Benin) (plenary)

Learning Objective: Understand how gender roles in society differently determine how men and women farmers experience the impacts of climate-induced water scarcity



Water scarcity, climate change and agriculture (Benin) (video presentation)



7 Minutes (video presentation)

20 minutes (group discussion and reflections)

Notes to the Facilitator

- Encourage a discussion on the take-away message from the video presentation.
- Encourage a discussion on the question, “How does climate change impact men and women farmers?” Encourage the participants to discuss the gender dimensions of food insecurity in their local context.

Task 2: Time-use activity (breakout groups and plenary)

Learning Objective: Understand the gender differentiated climate change impacts in agriculture and how these impacts could worsen time poverty of women



Time-use activity



50 minutes (group breakout discussions);
15 minutes (presentation of findings, with three five-minute presentations);
20 minutes (plenary discussions)

Activities	Time (hrs./day/person)		Remarks
	Women	Men	
Collection of food			
Collection of water			
Crop farming			
Food Processing			
Hunting, gathering			
Herding			
Fish farming			
Land preparation			
Fencing			
Gardening			

Notes to the Facilitator

Men and women play multiple roles (productive, reproductive and community management) in society. These patterns of time use are differentiated by gender. Encourage the participants (divided into groups) to identify time expended in agricultural activities by gender in their communities. You may encourage the participants to add to or modify the activities listed in the table to suit their circumstances. Finally, ask the participants to discuss what they have learned from the assignment.

References

- Arend, Elizabeth (2011). "Gender, IFIs and Food Insecurity Case Study: Ethiopia," Gender Action, Washington DC.
- Bertini, Catherine (2011). *Girls grow: a vital force in rural economies*, research report, Chicago: Chicago Council on Global Affairs.
- Boko, M., I. Niang, A. Nyong, C. Vogel, A. Githeko, M. Medany, B. Osman-Elasha, R. Tabo and P. Yanda (2007). "Africa. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change," M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds.), Cambridge: Cambridge University Press, 433-467.
- Dankelman, Irene (ed.) (2010). *Gender and Climate Change: An Introduction*, London: Earthscan.
- Doss, Cheryl (2011). "If women hold up half the sky, how much of the world's food do they produce?," FAO (Agricultural Development Economics Division (ESA), Working Paper No. 11-04.
- Global Gender and Climate Alliance (2009). "Training Manual on Gender and Climate Change"
- Intergovernmental Panel on Climate Change (2007a). IPCC (2007a) *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.). Geneva: IPC.
- Intergovernmental Panel on Climate Change (2007b). Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- International Union for Conservation of Nature, International Institute for Environment and Development and United Nations Development Programme (2009). *Dry Land Opportunities: A New Paradigm for People, Ecosystems and Development*. Gland, Switzerland: IUCN; London: IIED; New York: UNDP.
- Intermon Oxfam (2011). "Climate change and women farmers in Burkina Faso – Impact and adaptation policies and practices", OXFAM, Oxford. <http://www.oxfam.org/sites/www.oxfam.org/files/rr-climate-change-women-farmers-burkina-130711-en.pdf>
- Krause-Jackson, Flavia (2011). "Clinton Tells African Leaders Economies Would Fail Without Women's Toil," Bloomberg News, 28 June 2011.
- Müller, Christoph, Wolfgang Cramer, William L. Hare and Hermann Lotze-Campen (2011). "Climate change risks for African agriculture," *Proceedings of the National Academy of Social Sciences (PNAS)*, vol. 108, no. 11, 4313–4315.
- Nigerian Environmental Study/Action Team (NEST) (2011). "Gender and Climate Change Adaptation: Tools for Community-level Action in Nigeria," (Building Nigeria's Response to Climate Change (BNRCC) Project, Nigeria).
- Toulmin, Camilla (2009). *Climate Change in Africa*, London: Zed Books.
- United Nations Food and Agriculture Organisation (2002). *The State of Food Insecurity in the World 2001*. Rome: FAO.
- United Nations Food and Agriculture Organisation (2011a). *The State of Food Insecurity in The World (How does international price volatility affect domestic economies and food security?)* Rome: FAO.

United Nations Food and Agriculture Organisation (2011b). *The State of Food and Agriculture*, Rome: FAO.

United Nations Food and Agriculture Organisation (2007). "Climate Change and Food Security: a Framework Document," FAO Interdepartmental Working Group on Climate Change.

UN Women Watch (2009). "Women, Gender Equality & Climate Change," fact sheet.

United Nations Development Programme (2010). *Gender, Climate Change and Community-Based Adaptation*, New York.

United Nations Development Programme (2007, 2011). *Human Development Report*, New York.

World Bank (2011a). *Women Business and the Law 2012: Removing barriers to economic inclusion*, Washington, DC: World Bank.

World Bank (2011b). *World Development Report*, Washington, DC: World Bank.

World Bank (2006). "Gender, Time Use, and Poverty in Sub-Saharan Africa," Working Paper no. 73.

World Health Organization (2011). *Gender, Climate Change and Health*, Geneva: WHO.

World Bank (2009). *Gender in Agriculture Sourcebook*, Washington, DC: World Bank.

World Bank (2010). *Social Dimensions of Climate Change*, Washington, DC: World Bank.

World Bank (2010; 2011b). *World Development Report*, Washington, DC: World Bank.

World Health Organization (2011). *Gender, Climate Change and Health*. Geneva: WHO.

Links for further reference

<http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf>

<http://www.gendercc.net/>

<http://www.africa-adapt.net/>

<http://weadapt.org/>

Notes

Notes



*Empowered lives.
Resilient nations.*



United Nations Development Programme
220 East 42nd Street, New York, NY 10017, USA
www.undp.org/gender