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References
I. PURPOSE OF THE TRAINING MODULE

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, finance, agriculture and food security, and energy and technology. These knowledge packages are expected to assist in capacity-building efforts in the Africa region on gender and climate change and on broader issues of sustainable development. These materials draw on 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 fourth module in the series deals with gender issues relating to agriculture and food security.

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 gender, agriculture and food security, and covers the following themes:

- The different roles of men and women in agriculture and food security in Africa and the central role of women and girls in food production and distribution
- Climatic stresses on agricultural production, and food and nutritional security and the gender dimensions of these stresses

Box 1: Key to pictures and icons

| ![Activity or exercise](image) | Activity or exercise |
| ![Link to other modules](image) | Link to other modules |
| ![PowerPoint / video presentation](image) | PowerPoint / video presentation |
| ![Readings](image) | Readings |
| ![Important information](image) | Important information |
| ![Timing indication](image) | Timing indication |
| ![Internet link](image) | Internet link |
The need and options for integrating gender perspectives in 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 the agriculture sector. Part VI presents policy options to bridge the gender gaps in this sector.

The module utilizes case studies from countries in the region and other learning tools including group activities and video. It uses seven easily identifiable pictures and icons (see box 1).

This module includes references to other thematic modules in this series. Both the 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. LEARNING OBJECTIVES

- Understand the central role of women and girls in agriculture and the production and dissemination of food in Africa
- Understand the gender-differentiated impacts of climate change in agricultural production and food security in Africa
- Identify gender gaps in the agricultural sector that make women particularly vulnerable to food insecurity, and the cumulative effect on agricultural development in rural communities
- Identify appropriate responses to close the gender gap in the agricultural sector in order to achieve gender equity 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.
- Yet, women face a number of obstacles that limit their access to 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 these climatic stresses because of 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. It is 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 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 centrality of women to agriculture and food production and how and why climate change will severely affect them

1. Climate change affects regions differently but it is the poorest regions that are impacted the worst because of their high level of vulnerability. 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 2011; see FAO2011a). In Africa, current and possible future impacts include increased sea level rise and coastal erosion, stresses on fresh water resources, deforestation, and increase in the intensity and recurrence of disasters and the spread of malaria (see figure 1). 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 (IPCC 2007; Toulmin 2009).

The 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 that will be helped by climatic changes, such as rice. 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 the form of crop failures, pest and disease outbreaks, and the degradation of land and water resources (FAO 2007; IPCC 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)

2. These impacts are likely to be felt at the individual level more acutely, 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 being threatened by desertification. Climate change would aggravate these problems. Sub-Saharan Africa’s drylands are said to be especially vulnerable because of the low adaptive capacity of the region (UNDP 2011; IUCN/IIED/UNDP 2009).
3. Women are involved in a direct and central way in agriculture and food production. They are involved in the production and domestication of plants and animals; many women know seed selection, vegetative propagation and understand very well how plants and animals grow and reproduce. Women 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 agriculture as their primary economic activity (Doss 2011). While the roles of women in agriculture vary widely by region, age, ethnicity and social station, in sub-Saharan Africa, women’s participation rates in the agricultural labour force is the highest in the world, ranging from range from 36 percent in Côte d’Ivoire and the Niger to over 60 percent in Lesotho, Mozambique and Sierra Leone (FAO 2011b). See box 2 for a breakdown of women’s work in agriculture by country.

Box 2: Role of women in agriculture

<table>
<thead>
<tr>
<th>Country</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benin</td>
<td>70 percent of the female population live in rural areas, where they carry out 60 to 80 percent of the agricultural work and furnish up to 44 percent of the work necessary for household subsistence.</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>Women constitute 48 percent of the labourers in the agricultural sector.</td>
</tr>
<tr>
<td>Congo</td>
<td>Women account for 73 percent of those economically active in agriculture and produce more than 80 percent of the food crops.</td>
</tr>
<tr>
<td>Mauritania</td>
<td>Despite data gaps, it is estimated that women cover 45 percent of the needs in rural areas (further details not specified).</td>
</tr>
<tr>
<td>Morocco</td>
<td>Approximately 57% percent of the female population participates in agricultural activities, with greater involvement in animal (68 percent) as opposed to vegetable production (46 percent). Studies have indicated that the proportion of agricultural work carried out by men, women and children is 42 percent, 45 percent and 14 percent respectively.</td>
</tr>
<tr>
<td>Namibia</td>
<td>Data from the 1991 census reveals that women account for 59 percent of those engaged in skilled and subsistence agriculture work and that women continue to shoulder the primary responsibility for food production and preparation.</td>
</tr>
<tr>
<td>Sudan</td>
<td>In the traditional sector, women constitute 80 percent of the farmers. Women farmers represent approximately 49 percent of the farmers in the irrigated sector and 57 percent in the traditional sector. Thirty percent of the food in the country is produced by women.</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Ninety-eight percent of the rural women defined as economically active are engaged in agriculture and produce a substantial share of the food crops for both household consumption and for export.</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>Women constitute 61 percent of the farmers in the Communal areas and comprise at least 70 percent of the labour force in these areas.</td>
</tr>
</tbody>
</table>

4. It is now widely acknowledged that climate change impacts will not be gender neutral. This is already evident from current experiences of extreme climatic events such as droughts and floods. 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). 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 out 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 of that module) 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).

5. Men also play a crucial role in food production; they, however, face lesser 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 the number of 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).
Figure 1: Examples of current and possible future impacts and vulnerabilities associated with climate variability and change in Africa

- Climate change could decrease mixed rain-fed and semi-arid systems, particularly the length of the growing period, e.g. on the margins of the Sahel. (9.4.4)
- Some assessments show increased water stress and possible runoff decreases in parts of North Africa by 2050. While climate change should be considered in any future negotiations to share Nile water, the role of water basin management is also key. (9.4.1)
- Rainfall is likely to increase in some parts of East Africa, according to some projections, resulting in various hydrological outcomes. (9.4.1)
- Previously malaria-free highland areas in Ethiopia, Kenya, Rwanda and Burundi could experience modest changes to stable malaria by the 2050s, with conditions for transmission becoming highly suitable by the 2080s. (9.4.3)
- Ecosystem impacts, including impacts on mountain biodiversity, could occur. Declines in fisheries in some major East African lakes could occur. (9.4.5)

North Africa

- Impact on crops, under a range of scenarios. (9.4.4)
- Possible agricultural GDP losses ranging from 2% to 4% with some model estimations. (9.4.4)
- Populations of West Africa living in coastal settlements could be affected by projected rise in sea levels and flooding. (9.4.6)
- Changes in coastal environments (e.g. mangroves and coastal degradation) could have negative impacts on fisheries and tourism. (9.4.6)

West and Central Africa

- Assessments of water availability, including water stress and water drainage show that parts of southern Africa are highly vulnerable to climate variability and change. Possible heightened water stresses in some river basins. (9.4.3)
- Southward expansion of the transmission zone of malaria may likely occur. (9.4.3)
- By 2050, dune fields may become highly dynamic, from northern South Africa to Angola and Zambia. (9.4.5)
- Some biomes, for example the Fynbos and Succulent Karoo in southern Africa, are likely to be the most vulnerable ecosystems to projected climate changes, whilst the savanna is argued to be more resilient. (9.4.5)
- Food security, already a humanitarian crisis in the region, is likely to be further aggravated by climate variability and change, aggravated by HIV/AIDS, poor governance and poor adaptation. (9.4.4) (9.6.1)

Source: (IPCC 2007).
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

6. Figure 2 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 exacerbated 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 2: FAO Hunger Map 2010
Prevalence of undernourishment in developing countries

7. Women participate in food production activities such as hoeing, weeding, harvesting, land preparation, threshing, transportation and usage. Besides, they play a wide range of activities that support agricultural development such as 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, land holdings of men 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 2007).

8. As with food production, women play a key role in food distribution (access). At the household level, once a family collects its harvest, women have the responsibility of distribution and allocation of 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 enhancing food security of the entire household (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 kilo meters per year compared to less than 7 for men (World Bank 2009). A related obstacle for women in rural areas is time poverty, 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 adversely impact 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. 3

9. 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 is widely known, there is gender bias in this regard as well. Women are, for instance, said to be more undernourished relative to men, as they tend to eat less in times of food shortage (Dankelman 2010; WHO 2011).
10. 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** and (FAO 2011b; World Bank 2011a). These are discussed below.

11. Between 10 to 20 percent of all land holders are women, although this masks significant differences among countries even within the same region. In Africa on average 15 percent of land holders are women; the range is 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 half to two-third the size of farms operated by male-headed households. The livestock 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 draught 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 take them away from more productive activities.

12. 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. This is in part because women often do not have the necessary collateral. Of 141 countries (25 of 35 in Africa), 103 have legal differences between men and women that can hinder women’s economic opportunities, including access to credit. Access to credit and insurance are important for accumulating and retaining other assets.

13. 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 half as likely as men to use fertilizers. Studies in Burkina Faso, Kenya, Nigeria and Zambia showed that due to differential control over resources, when men and women grew the same crop on individual plots, women were at a disadvantage. Most inputs, such as labour and fertilizer, went to the men’s plots.

**Group exercise (see appendix B: Learning tools)**
VI. INCREASING GENDER EQUITY IN AGRICULTURE AND IMPROVING FOOD SECURITY

Learning objective: Identify appropriate policy response for gender gaps in the agricultural sector that need to be closed in order to achieve gender equity and food security

14. 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; the number of malnourished people could be reduced by 12 to 17 percent (FAO 2011b; Bertini 2011). A study by Prof. Calestous Juma of Harvard University is reported to have recently 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: In focus: Gender mainstreaming in agriculture (SADC Regional Agricultural Policy)

In Africa, Southern African Development Community (SADC), has identified gender issues as a top priority. SADC was formed by the leaders of the then only majority ruled countries of Southern Africa — Angola, Botswana, Lesotho, Mozambique, Swaziland, United Republic of Tanzania and Zambia, to promote sustainable and equitable economic growth and socio-economic development in the region. The SADC Protocol on Gender and Development (PCD) (2008) requires in particular that gender issues be mainstreamed into all 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 enshrined 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 of the SADC region. The policy 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.”

Among the latest and most important developments is the Protocol on Gender and Development (August 2008), which requires in particular that gender issues be mainstreamed into all SADC's actions. This includes the Regional Agricultural Policy.

Suggestions for key gender-related policies to be included in the Regional Agricultural Policy include:

a) Systematically mainstreaming the promotion of women under all pillars of the Policy: (1) production, productivity & competitiveness; (2) trade and markets and (3) financing and investments;

b) Supporting planning and action in Member States so that they improve the involvement of women in agriculture.

(Adapted from SADC RAP 2010; SADC PCD 2008).

15. 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):

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 in decision-making;
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 works programmes;
Strengthen women’s rights and voice in decision-making.

Closing the financial services gap

Promote financial literacy;
Design products that meet the needs of women;
Promote a women-friendly, 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.

16. Carefully designed policies, strategies and projects can work within existing cultural norms, 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 greater voice in decision-making at all levels.

Group exercise (see appendix B: Learning tools)
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 a range of activities that support agricultural development such as soil and water conservation, afforestation and crop domestication. On the other, 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 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, is sound social and economic policy. Women more than men spend the bulk of their labour and their earnings and resources on the well-being of the household; empowering women also can 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)

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 in ways that ensure productivity and control diseases, enhancing soil fertility through composting with manure, growing and utilizing 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 resulted in the enhancement of women’s human capital through training and experience gained in developing leadership skills, improved nutrition and health, and community-wide 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.

Source: Adapted from FAO 2011b.

Case study 2: Climate change and food insecurity in the Wula Ekumpuo community (Nigeria)

“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 the 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. “

Source: NEST 2011.

Case study 3: Gender, international finance institutions and food security (Ethiopia)

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 fulfill basic food needs by selling assets, reducing the number of meals eaten per day, or borrowing food or money (World Bank, 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. Totaling $384 million and funded by the WB, none of these projects embrace a gender rights perspective or analyze differential impacts on men and women, boys and girls; and only two out of 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.
The following are some recommendations based on the case study:

- 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

Source: Extract from Arend 2011.
APPENDIX B: LEARNING TOOLS

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

Learning objective: Understand the different ways in which gender roles in society determine the ways in which 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 experiences in 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 (3 presentations of five minutes each); 20 minutes plenary discussions
<table>
<thead>
<tr>
<th>Activities</th>
<th>Time (hrs/day/person)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection of food</td>
<td></td>
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<tr>
<td>Collection of water</td>
<td></td>
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<tr>
<td>Crop farming</td>
<td></td>
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<tr>
<td>Food processing</td>
<td></td>
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<tr>
<td>Hunting and gathering</td>
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<tr>
<td>Herding</td>
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<tr>
<td>Fish farming</td>
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<tr>
<td>Land preparation</td>
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<td>fencing</td>
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<td></td>
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<tr>
<td>Gardening</td>
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</tr>
</tbody>
</table>

**Notes to the facilitator**

Both 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 in 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.


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.


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


