



Gender, climate change and food security

If women farmers were given the same access to resources (such as finance) as men, women's agricultural yields could increase by 20 percent to 30 percent; national agricultural production could rise by 2.5 percent to 4 percent; the number of malnourished people could be reduced by 12 to 17 percent.

Source: FAO 2011b.

The agriculture sector is predicted to come under substantial stress from climate change-induced increases in temperature, variability in rainfall and extreme weather events that could trigger crop failures, pest and disease outbreaks, and the degradation of land and water resources.¹ These impacts will be felt more acutely in the poorest regions of the world such as sub-Saharan Africa, where agriculture is the mainstay of millions.² In Africa, for instance, agriculture supports 70 percent of the population and accounts for about 30 percent of the continent's GDP.³ Women play vital roles in ensuring food security and enhancing agricultural productivity. It is therefore important that the response to climatic stresses on the agriculture sector be not limited by gender-based constraints.

Gender-based constraints in agriculture

- *Adverse environmental factors are expected to boost world food prices 30 to 50 percent in the coming decades and to increase price volatility, with harsh repercussions for poor households. The largest risks are faced by the 1.3 billion people involved in agriculture, fishing, forestry, hunting and gathering.*
- *Between 10 to 20 percent of all land holders are women. In Africa, on average, 15 percent of landholders are women; the range is from below 5 percent (Mali) to above 30 percent (Botswana, Cape Verde and Malawi).*
- *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.*
- *Women receive only 5 percent of agricultural extension services worldwide.*
- *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 partly attributable to the fact that women often do not have the necessary collateral.*
- *Of 141 countries, 103 (25 of 35 in Africa) have legal differences between men and women that may hinder women's economic opportunities, including access to credit.*
- *Studies in Burkina Faso, Kenya, Nigeria and Zambia show that women are much less likely to use purchased inputs such as fertilizers and improved seeds or to make use of mechanical tools and equipment.*

Sources: UNDP 2011, FAO 2011a, FAO 2011b, World Bank 2011b.

Agriculture is central to the livelihoods of women

It is now widely acknowledged that climate change impacts will not be gender-neutral. This is evident from current experiences of extreme climatic events such as droughts and floods. Men and women have different coping and adaptive capacities that translate to gender-differentiated vulnerabilities to the impacts of a changing climate.⁴ Gender-based inequalities in access to assets and gendered social roles are mainly responsible for this difference in adaptive capacities to respond to the effects of climate change. Legal and sociocultural barriers also inhibit women from effectively responding to climatic risk.⁵

These barriers notwithstanding, women do play a major role in agricultural production. Women farmers generally have valuable knowledge in seed selection, vegetative propagation and the reproduction of plants and animals. Although the roles of women in agriculture vary widely by region, age, ethnicity and social status, women are involved in agricultural production, food security as well as other related agricultural ventures.⁶ Women comprise 20 to 50 percent of the agricultural labour force in developing countries.⁷ More than three quarters (79 percent) of women in Least Developed Countries who are economically active report agriculture as their primary economic activity, which highlights the importance of the agricultural sector for women.⁸ In countries such as Lesotho, Mozambique and Sierra Leone, women constitute over 60 percent of the agricultural labour force.⁹

Gender-based constraints in agriculture

Women play a pivotal role in the three components of food security: food availability (production), food access (distribution), and food utilization.¹⁰ Women also play a role in a wide range of activities that support agricultural development, such as soil and water conservation, afforestation and crop domestication.

Men also play a crucial role in food production, although they face far fewer constraints than women (see box ‘Uganda: Closing the technology gender-gap in agriculture’). Men are more likely to have access to productive resources such as land, credit and extension services (see box ‘Gender-based constraints in agriculture’).¹¹ In cases of crop failure due to harsh climatic conditions, culture often makes 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. As illustrated in the box above, diverse gender-based barriers in accessing land, financial services, social capital and access to technology render women vulnerable to food insecurity.¹² Backward sociocultural inhibitions (such as customary laws on access to land) are among these barriers.¹³

Uganda: Closing the technology gender-gap in agriculture

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 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 farmer-to-farmer training and extension services 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; and 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 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: FAO 2011b.

Empowerment of women and girls is critical for agricultural development and food security

Empowerment of women and girls is critical for agricultural development and food security.¹⁴ There is also a strong economic rationale for this — if women farmers were given the same access to resources (such as finance) as men, 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.¹⁵

More importantly, gender equality is a fundamental human right. It is imperative, therefore, to discard the systemic cultural and legal barriers that constrain women from making even more contributions to agricultural production.

Recommendations for action

- **Eliminate legal discrimination related to ownership and access to assets.** Improving women's access, ownership, and control over land will potentially contribute to greater investments in the land and increased productivity and welfare.
- **Integrate gender analysis and gender-sensitive tools** (such as assessment, design, monitoring and evaluation). These should be integrated into all areas of adaptation planning, including for the agriculture sector.
- **Gather sex-disaggregated data** in agriculture and food security, including on access to land and land tenure security, finance, extension services and agricultural tools. This would be helpful for gender-responsive policy design and monitoring.
- **Make sure that women benefit from access to agricultural extension services.** At present, only 5 percent of women farmers have meaningful access to extension services. The design and implementation of the gender-aware agricultural extension strategy is, therefore, essential to ensuring that women use and benefit from vital information.
- **Ensure that women's voices are heard** at all levels of governance and in all policy and decision-making processes.
- **Develop technologies and environments that address women's needs.**

Gender, climate change and food security

Improving women's access, ownership, and control over land can potentially contribute to increased investments in and productivity of land, thus improving food security, nutrition and health at household and community levels.



REFERENCES: 1. Food and Agriculture Organization of the United Nations, *The State of Food Insecurity in The World (How does international price volatility affect domestic economies and food security?)* Rome, 2011a; Inter-Governmental Panel on Climate Change, "Chapter 9: Africa," 2007a. 2. Intergovernmental Panel on Climate Change, *Climate Change* (Synthesis Report), Geneva, 2007b; Christoph Müller, Wolfgang Cramer, William L. Hare and Hermann Lotze-Campen, "Climate change risks for African agriculture," *Proceedings of the National Academy of Social Sciences* (PNAS), 2011, vol. 108, no. 11, 4313–4315. 3. Camilla Toulmin, *Climate Change in Africa*, Zed Books, London, 2009; World Bank, *Gender in Agriculture Sourcebook*, Washington, DC, 2009. 4. United Nations Development Programme, *Gender, Climate Change and Community-Based Adaptation*, New York, 2010. 5. FAO, Note 1, 2011a; World Bank, *Women Business and the Law 2012: Removing barriers to economic inclusion*, Washington DC 2011a; World Bank, *Social Dimensions of Climate Change*, Washington DC, 2010. 6. World Bank, Note 3, 2009. 7. Food and Agriculture Organization of the United Nations, *The State of Food and Agriculture*, Rome, 2011b. 8. Cheryl Doss, "If women hold up half the sky, how much of the world's food do they produce?," 2011. FAO (Agricultural Development Economics Division (ESA), Working Paper No. 11 - 04. 9. FAO, Note 7, 2011b. 10. World Bank, Note 3, 2009. 11. FAO, Note 7, 2011b. 12. FAO, Note 7, 2011b. 13. Irene Dankelman (ed.), *Gender and Climate Change: An Introduction*, London: Earthscan, 2010. 14. World Bank, Note 3, 2009. 15. FAO, Note 7, 2011b.



Empowered lives.
Resilient nations.



United Nations Development Programme
304 East 45th Street, New York, NY 10017, USA
www.undp.org/gender

© 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 the official position of the United Nations, including United Nations Member States and the United Nations Development Programme.

AUTHOR: Senay 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, Kaijage Erneus, Kathleen Rutherford, Norah Matovu, Pia Treichel, Restituta Bogere, Simon Billett, Susanne Olbrisch and Marie-Laure Mpeck Nyemeck.

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

EDITOR: Lance W. Garmer

DESIGN: Suazion, Inc. (suazion.com)

PHOTOGRAPHY: UN Photo/Ray Witlin (front cover) and UN Photo/Ky Chung (this page)