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## POLICY BRIEF Climate-Smart Agriculture is "Smarter" When Informed by a Gender Perspective



Women farmers in Burundi

Dr Lamia El-Fattal – WOCAN  
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*In order to meet the increasing global demand for food, farmers – small and large – must be able to boost food production to much higher levels than they are today. FAO estimates that by 2050, feeding the projected population of 9 billion will require a 70 percent increase in food production. This is a daunting task, given that food production is highly susceptible to the short- and long-term climate effects of droughts and floods. Not only is agriculture affected by climate change, it also contributes to climate change – it is estimated by the IPCC to be directly responsible for at least 14 percent of all greenhouse emissions, with deforestation and forest degradation accounting for another 17 percent. While there are multiple causes of deforestation, agricultural expansion is by far the most important, highlighting the urgent need to address the competition for land, for both food production, and forest regeneration and protection.*

*Climate-smart agriculture is currently being hailed as a multi-sectoral approach to help meet global food security, while simultaneously reducing carbon emissions. **What are the implications of such an approach to the livelihoods and well-being of small farmers who account for 60 percent of the global agriculture production; who provide food for a third of humanity, while belonging to the world's poorest social segments?** How will climate-smart agriculture affect women farmers and gender relations? What policies and activities can be enacted to ensure that women, as well as men, farmers benefit from such an approach?*

## What is Climate-Smart Agriculture?

Climate-smart agriculture (CSA) is an integrated approach which uses a combination of technologies and practices to meet food security goals while adapting to, and mitigating, climate change. In practice, it means having access to agricultural technologies such as crop varieties and livestock breeds that are more adapted to a changing climate, improved water management techniques to use water more efficiently, and practicing agro-forestry, crop rotation, mulching, intercropping, integrated crop-livestock management, and improved grazing to help conserve water and carbon in the soil. CSA also focuses on better weather forecasting, early warning systems, and insurance to help farmers reduce risk. Using available technologies and practices, CSA can increase agricultural productivity, adapt to climate change, reduce greenhouse emissions from agriculture, and strengthen resilience in smallholder farming systems and livelihoods.



Since 2000, CSA has been put into practice in many countries, and is supported by numerous organizations. For example, the TerrAfrica program for regional sustainable land management, supported by sub-Saharan governments, NEPAD, UNCCD, FAO, IFAD, UNDP, AFDB, the European Commission, bilateral donors, representatives from civil society, and the World Bank have implemented over 36 CSA projects in 26 African countries to date. The projects have diversified food sources and livelihood options, increased land productivity, improved soil cover, conserved soil and water, adapted livestock grazing to changing climates, and used trees and other perennials to store carbon while restoring degraded lands and watersheds.

In Ghana, a minimum tillage and direct planting project replaced the traditional slash and burn practice. After slashing existing vegetation and allowing re-growth of up to 30 cm, herbicides are applied to kill weeds without the need for cultivation, thus allowing crop residues to protect the soil surface from erosion. Direct planting of maize is then carried out through the mulch. The advantages of this approach are numerous: better soil cover, reduced soil loss, improved harvesting of surface runoff, increased soil moisture, a 200-300 percent increase in crop yield and a 150 percent increase in farm income, in addition to a substantial reduction in workloads for women and children, who are relieved from heavy work usually spent on land preparation and weeding. According to TerrAfrica, a total area covering 2,800 km<sup>2</sup> and comprising 21 communities are now benefitting from this CSA technology. There are many other projects utilizing CSA technologies and practices that have contributed – as in the Ghana example – to improved food security, and better adaptation and mitigation to climate change. These are the “triple-wins” of CSA.

In September 2011, the African Ministerial Conference on Climate-Smart Agriculture issued the Johannesburg Communiqué, recognizing CSA as an approach to green growth, food security, and climate change adaptation and mitigation. In October 2011, Wageningen University in the Netherlands hosted a high-level international scientific conference on CSA. Both these efforts have helped put CSA on the global policy agenda and assured its inclusion within the Green Climate Fund, stressing the need for more consideration for agriculture in all meetings of the UNFCCC and other global fora.

## Where does gender fit in?

CSA cannot be promoted without exploring its implications on the dynamics between men and women farmers and their roles and responsibilities, not only to promote equality among them – which is only fair – but also because policies, projects and programs are more effective and efficient when gender considerations are taken into account. It would be short-sighted if we do not include women farmers, as we do men, in our assessment of CSA, given that women farmers are key to food security. According to the FAO, in developing countries, an average of 43 percent of the agricultural labor force is made up of women; in many countries this proportion is much higher. Climate change affects women and men farmers in different ways. The capacity to adapt to climate change is also gendered. We argue that there is enough evidence to suggest that women farmers have a higher exposure to climate risks and less adaptive capacity because, compared to their male counterparts, women farmers are poorer and have insufficient assets (financial, technological, knowledge, natural and physical capital), fewer entitlements (rights, voice and access to institutions), and less mobility to help them cope with climate change effects. According to the research conducted by Oxfam in Burkina Faso (Romero Gonzalez et. al. 2011), the degradation of natural resources as a result of climate change has a more drastic impact on women’s livelihood, since they are more dependent on ‘natural capital’ to make a living. The research also highlighted that the plots cultivated by women are more vulnerable to climate change; predominantly because these plots are usually of poor quality and women do not have access to the appropriate tools to increase the yield, as those tools are reserved for family/men’s plots.

Similar gender inequalities play out elsewhere:

- ✓ **In Uganda and Nigeria, research has shown that women are risking their health and safety by travelling longer distances for the collection of water and firewood.**
- ✓ **In Cambodia, Indonesia and Timor-Leste, women cope with crop failures by eating less.**
- ✓ **In Andhra Pradesh, India, only 21 percent of women compared to 47 percent men received information on cropping strategies for coping with climate change.**

## CSA and gender considerations

CSA seeks to achieve the triple wins of food security, and better adaptation and mitigation to climate change. As such, it involves changing the way farmers manage their agricultural resources. CSA requires new ways of farming, replacing traditions and changing behavior. It often demands different types of labor and financial inputs for their successful implementation. In many cases, CSA involves long-term commitment and investment to improved land management. Are the opportunities to adopt and benefit from CSA the same for women and men farmers?

The evaluation of TerrAfrica projects (2011) indicates that some CSA technologies have had a positive effect on women farmers while others have not, thus affecting how these projects are able to meet their objectives. For example:

- A project on minimum tillage and direct planting in Ghana benefitted women and children by reducing their workload in land preparation and weeding.
- In regions where land tenure is insecure, farmers are unlikely to invest in conservation agriculture, a CSA practice which uses crop rotations, permanent soil cover and minimally disturbs the soil. This is because conservation agriculture requires investment in more expensive equipment and involves higher maintenance costs compared to traditional agriculture. Women farmers, significantly more than men farmers, have less access to, and control of land, making it less likely for them to switch to conservation agriculture which requires long-term, secure access to land. Efforts to improve women’s access to secure land will encourage their adoption of conservation agriculture.
- Some CSA technologies, for example conservation tillage, require the use of heavy equipment, which is a male-oriented activity. In order for women farmers to adopt conservation tillage, more effort is needed to develop lighter equipment and provide women with access to it.
- CSA technologies such as, improved distribution of water wells for sustainable pastoralism reduces the distances women and men herders need to travel to water their livestock, but the high costs of well establishment are often prohibitive for women, because they have considerably less access to cash or credit.
- Women farmers are yet to benefit from carbon markets when they practice CSA and succeed in storing carbon. Currently, WOCAN is working with the private sector to develop a certification label that creates a standard for endorsing carbon offset projects that promote women’s empowerment and sustainable development.

## Five concrete policy recommendations to make CSA more gender-smart

For CSA to be effective and produce the benefits of the triple win, women – like men – must be able to operate in a supportive political, economic and cultural environment. CSA is smarter when it is able to help meet food security, adapt to and mitigate climate change, and promote equality between men and women in a changing climate. The following are five concrete policy recommendations to make CSA more gender-smart:

- ✓ **Conduct gender analysis within all CSA projects, programs and policies to assess the implications and benefits of CSA technologies and practices on men and women.**
- ✓ **Identify women’s groups and provide them with training and support for leadership, negotiation and communication skills, as well as business skills.**
- ✓ **Support women’s participation in decision-making related to climate change, particularly at the local level.**
- ✓ **Provide training to both men and women on CSA technologies and practices, and gender awareness.**
- ✓ **Facilitate women’s access to land and credit through transforming laws and local practices.**