



## Feed the Future Country Fact Sheet

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# In Kenya, Climate-Smart Agriculture Lays the Foundation for a Food Secure Future



World Agroforestry Center

Participants indirectly measure carbon in biomass by measuring diameter at breast height during field practice.

By 2050, the world population is expected to reach nine billion. To respond to the consequently greater food demand, the UN Food and Agriculture Organization (FAO) estimates that food production must increase by at least 60 percent. Meanwhile, rising temperatures and the increased frequency of extreme weather events are directly affecting agriculture and reducing the ability of countries around the world to meet this global food security challenge.

Recognizing that food security is inextricably intertwined with climate change, an Enhancing Capacity for Low Emission Development Strategies project in Kenya provided farmers, extension agents and local officials with the hands-on information needed to help build technical capacity and resilience in the country's rural communities. The project, which ended in March 2015, is improving Kenya's agricultural productivity and resiliency in the face of climate change and serve as a model for other nations that are actively developing climate-smart agriculture.

The project was aimed at strengthening both technical and policy capabilities. It included workshops and training for county government agricultural extension staff; featured the development of a climate-smart agriculture manual for Kenya's agricultural extension professionals; and fostered collaboration between Kenya's Ministry of Agriculture, Livestock and Fisheries and the World Agroforestry Center to quantify the benefits of climate-smart agricultural practices in the field. In addition, the project enabled Ministry officials to participate in scientific exchanges about climate-smart agriculture at two U.S. land grant universities.

In total, the project trained Kenyan participants from 30 counties, five universities, two forestry research institutes, and 10 local agricultural and livestock research organizations on how to demonstrate and disseminate locally relevant climate-smart agricultural practices and how to understand the importance of quantifying the benefits of those practices, especially to sustainably increase productivity. Climate-smart agricultural practices include: capturing, conserving, and applying water more efficiently to crops; building soil health and improving the effectiveness of fertilizer-use while reducing potential greenhouse gas emissions; and managing livestock and livestock waste to gain production efficiencies while reducing potential greenhouse gas emissions. The trainees and their teachers discussed how to incorporate those practices into policy and budgetary considerations during the development of Kenya's national planning process—County Investment Development Plans.

The training also stressed how to accurately measure agricultural greenhouse gas emissions in Kenya. Quantification is critical to improving science-based decision-making about agricultural production practices and policies at the county and

national levels. Sessions covered agricultural greenhouse gas emissions in Kenya; how greenhouse gas reductions are quantified in agriculture; and how to measure carbon in biomass, soil carbon, greenhouse gas emissions from soil and methane emissions from livestock. The World Agroforestry Center drafted a preliminary monitoring plan for quantifying emission reductions and carbon sequestration from climate-smart agriculture, which was shared with stakeholders to consider for further development and implementation.

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