



2014 AWARD Fellow  
**Beatrice Wangui Mugo**

<b>Position</b>	District Crops Development Officer
<b>Institution</b>	Ministry of Agriculture
<b>Country</b>	Kenya
<b>BSc</b>	Horticulture, Egerton University, 2005
<b>Mentor</b>	Grace Gathoni Kimaru, Senior Assistant Director of Livestock Production State Department of Livestock
<b>Research Area</b>	Addressing food security issues in relation to innovations applied by small-scale farmers' food security and wealth creation.

“With climate change and shifts in rainfall patterns, we need to diversify crop production and focus on root crops that grow during the dry season.”

Beatrice Wangui Mugo experienced firsthand the income-generating potential of horticultural crops. Her father, a horticultural farmer, educated 11 children with profits from his produce, equipping Mugo in the process with basic skills and interest in the field. Her expertise in crop production was later gained from her university studies in horticulture and her post-graduate diploma in gender, poverty, and development, as well as through years of practical application as an agricultural extension and district crops development officer with the Ministry of Agriculture.

Mugo is devoted to helping farmers gain access to improved crop technologies in order to boost their food security and livelihoods. She trains farmers to incorporate high-value crops, be more business oriented, and become aware of new innovations, such as greenhouse crop production technology.

“If farmers respond to the market demand for high-value crops, they will increase their incomes by exporting, earn foreign exchange for the country, and help reach our national strategic vision of increasing income, employment, and food security,” says Mugo.

From her training and experience, Mugo has seen the importance of integrating gender in agricultural extension services. She has been helping farmers understand the role of gender, including the contribution of women to income generation, especially in the production of cash crops, such as tea and coffee. Gender training involves changing the attitudes and perspectives of both men and women to improve standards of living for all.

“When we offer a training session for coffee farmers, the men

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respond, but very few women attend, because it is the men who take the income from the coffee production," explains Mugo. "But the labor—from production to marketing—is done primarily by women and children. So I am promoting the formation of community management groups in the coffee sector, which must include at least 25 percent women."

Currently, Mugo is focused on arrowroot (*Colocasia esculenta*), a food security crop traditionally grown and controlled by women. With increasing urban demand for arrowroot and challenges regarding yields and quality, she sees great potential to be achieved from crop improvement in this sector.

"With climate change and shifts in rainfall patterns, we need to diversify crop production and focus on root crops that grow during the dry season," notes Mugo. "Arrowroot is in demand as a substitute for bread in both rural and urban areas. However, it has not received much research attention to address issues of declining yields or preferences regarding taste and texture."

Arrowroot is grown along river valleys, or upland in sunken beds lined with polythene paper to retain water. The shortage of planting materials for arrowroot is limiting production, which has prompted Mugo to promote the production of arrowroot suckers to increase yields. She is working with farmers to use dry grass mulch in the sunken beds. In addition, she is encouraging farmers to organize the collection and marketing of their arrowroots, including exploring potential avenues for value addition.

Mugo has long been a trailblazer. In 1997, she was one of only two women trained in implementing farmer field schools in western Kenya, and she later spearheaded their application to horticulture in central Kenya. In 2013, she was chosen as one of 15 participants from 11 African countries for a seven-week training program in Australia on dryland farming (conservation agriculture) for food security, sponsored by the Australian government.

Mugo anticipates that being an AWARD Fellow will build her confidence, broaden her vision, and expand her leadership and mentoring capabilities to achieve higher levels within the Ministry of Agriculture. "I aim to rise in my profession so that my input is realized, its impacts are felt by rural farmers, and our country's youth see agriculture as a promising future," says Mugo.