



2013 AWARD Fellow
Grace Gyabaah

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| Position | Assistant District Manager |
| Institution | Resource Management Support Centre (RMSC) Forestry Commission of Ghana |
| Country | Ghana |
| BSc | Natural Resource Management Kwame Nkrumah University of Science and Technology, 2007 |
| Mentor | Valerie Fumey-Nassah, Manager Plantations Department, RMSC |

Research area: Research and develop approaches to promote sound environmental practices and influence people to buy into such approaches by encouraging grassroots participation, in order to improve the general well-being of people, especially those living in rural areas.

Grace Gyabaah was not entirely sure what natural resource management would entail when she chose it as her area of specialty upon entering Kwame Nkrumah University of Science and Technology. The first in her family to attend university, Gyabaah had always been interested in the sciences, and it was a family friend who suggested she investigate this field of study.

"I soon discovered a genuine interest in natural resource management," says Gyabaah. She quickly turned her attention to finding ways to help prevent environmental degradation, and to promoting sustainable land use practices. But her real passion is working directly with local farmers on environmental issues that pose threats to farming and soil resources.

Gyabaah is working on an MSc in Environmental Sciences. Her research focus has turned to climate change, where she feels a sense of urgency. "Climate change is gaining importance with regard to rates of deforestation, global warming, and their effects on food security in developing countries like Ghana," she says. "We need to do something as soon as possible." Her research is looking into how different land-use systems affect carbon emissions. She is conducting a study on the carbon sequestration potential of four such systems: natural forest, teak plantation, fallow land, and cropland. The point is to investigate the contribution of these land uses to the mitigation of climate change by assessing the carbon content of their trees, plants, shrubs, litter, and soils.

"I believe this information will help people, individuals, players, and stakeholders to make more prudent decisions about how to use the land, how to improve the carbon sequestration potential of land-use systems, and how to mitigate this all-important issue of climate change," says Gyabaah. Early findings from her research are already providing important clues, showing that carbon storage in fallow land is very minimal. "This took me by surprise," she says. "I would have thought that fallow land would have more carbon. Instead, these findings suggest that we can't just leave land to fallow to increase its level of carbon sequestration."

Gyabaah's research will complement work being undertaken in other parts of the country to compare carbon stocks across differing land-use systems. Her study's findings will help to create a broader country-wide assessment of carbon tradeoff options across the various regions of Ghana.

Through her position with the Forestry Commission of Ghana, Gyabaah also is involved in projects to protect forests and other natural resources. One involves the management of wildfires, which present a substantial threat to the transitional and savanna zones of northern Ghana, where the majority of food crops are produced. Her team conducts firefighting, education, awareness creation, and also trains community members as firefighters.

The establishment of green fire breaks to serve as fire prevention mechanisms involves community participation. The center works with local communities to implement a form of agroforestry known as modified *taungya* plantations. Green fire belts are interplanted with a fire-resistant evergreen species called *Senna siamea* along the boundaries of forest reserves, where basic food crops, such as plantain, cassava, and maize grow. This makes it possible for communities to still produce food and fuel wood for their families in areas where land is scarce, while increasing tree cover and fire resistance. When the canopy of the trees becomes too dense for growing crops, the farmers are given other lands for their crop production, when available.

As an AWARD Fellow, Gyabaah hopes to use the leadership development and mentoring opportunities offered to boost her confidence, build leadership skills, and become more assertive. She recognizes that forestry is a male-dominated field, which can be intimidating. "At least some of us should try to come up more in the profession and stand our guard so that our voices will be heard," notes Gyabaah. Once she completes her master's degree, she plans to pursue a PhD and transmit her knowledge and experience to others. She sees her AWARD Mentor, Valerie Fumey-Nassah, who is the only departmental female manager within the RMSC, as a strong role model. "I hope to learn a lot from her, the way she goes about her duties, and what keeps her going," concludes Gyabaah.

Gyabaah is one of a growing number of African women agricultural scientists who have won an AWARD Fellowship. AWARD is a career-development program that equips top women agricultural scientists across Sub-Saharan Africa to accelerate agricultural gains by strengthening their research and leadership skills through tailored fellowships. AWARD is a catalyst for innovations with high potential to contribute to the prosperity and well-being of African smallholder farmers, most of whom are women.

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