



2013 AWARD Fellow
Mary Mamle Apetorgbor

Position	Senior Research Scientist
Institution	Council for Scientific and Industrial Research (CSIR) Forestry Research Institute of Ghana (FORIG), Kumasi
Country	Ghana
PhD	Botany, University of Ghana, Legon, 1994
Mentor	Dr. Stella A. Ennin, Chief Research Scientist CSIR-Crops Research Institute, Kumasi

Research area: Biodiversity conservation of forest trees and mushrooms to improve livelihoods of local communities.

As a young girl, Mary Mamle Apetorgbor used to follow her parents to the farm, balancing a load of produce or wood on her head. Passing through the Cocoa Research Institute of Ghana on her walk, she decided that one day she would become a scientist. Years later, after graduating with her BSc degree in Botany, Apetorgbor supported herself by teaching biology in a secondary school. She dreamed of eventually obtaining a post-graduate degree, and then her luck turned. "Soon after I began the course work for my master's degree, I was promoted directly into the PhD program as the best graduate science student," she proudly remembers.

Apetorgbor's interest in mushrooms developed during her graduate studies at the University of Ghana, which involved extensive work on fungi. Later, at FORIG she worked with farmers in the field, researching edible and medicinal local mushrooms.

"Apart from their high protein content, mushrooms also have twice the vitamin C content of oranges," she explains. "They are as nutritious as fish." Apetorgbor wants to promote to farmers the cultivation of a long stem, popular species of edible mushroom that grows near termite hills. "People stop their cars to buy them along the roadside, especially in southern Ghana," she reports. "They use the mushrooms in stew or soup." Her aim is to create awareness of biodiversity conservation by initiating alternative livelihood strategies in forest-fringe communities, because gathering preferred mushroom species in the wild has led to unintended damage of the mushroom population.

Apetorgbor's current research at FORIG focuses on the biodiversity conservation and cultivation of edible and medicinal mushrooms in the Bobiri Forest Reserve and Bui National Park. She is also looking at the integrated pest and disease management of exotic and indigenous plantations in order to improve the livelihoods of smallholder farmers in forest-fringe communities in southern Ghana.

"Many of the mushroom species found in our parks and forest reserves are not yet well described," says Apetorgbor. "Existing inventories and databases contain only scanty or basic information on tropical species."

She is working in the domestication of preferred edible and medicinal mushrooms, and demonstrating cultivation technology, especially to women and youth living in communities around the protected areas.

The research on domestication of preferred wild mushroom species has led Apetorgbor to test numerous products as growth media. She has worked with forest waste products, such as sawdust, as well as root and tuber waste to grow oil palm mushrooms. She has also organized mushroom training programs for the unemployed, housewives, retirees, and school children.

Her secondary research focus is on plant pathogens that cause plantation tree seedlings to die, causing serious economic losses. Kapok tree seedlings are particularly affected, both in the wild and in nurseries. "This tree species has particular problems with pathogens when raised in plantations," Apetorgbor explains. "I have started working with breeders, entomologists, and social scientists to get to the bottom of this problem." Using molecular biology tools, she aims to select tolerant and resistant varieties.

She also interviews farmers, farm laborers, and plantation managers on the use and application of herbicides at the initial stages of plantation development in order to establish the right interactions between microbes and herbicides in the tree-root environment. She hopes to eventually work with women's groups to launch successful tree nurseries. Apetorgbor is determined to raise awareness about the policy changes needed regarding the indiscriminate importation and application of agrochemicals in Ghana.

As an AWARD Fellow, Apetorgbor wants to improve her proposal writing and leadership skills. "AWARD has energized me and renewed my desire to help women in local communities," she says. "It is a joy for me to see a problem solved, trees surviving, and women and men growing mushrooms successfully. It is possible. I know of a retiree who is earning an income by supplying a shopping mall with mushrooms."

Apetorgbor 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.

AWARD is generously supported by the Bill & Melinda Gates Foundation, the United States Agency for International Development, the Alliance for a Green Revolution in Africa, and Agropolis Fondation. For more information, visit www.awardfellowships.org