



2009 AWARD Fellow
Dr. Carolyn Tyhra Kumasi

Position	Senior research officer
Institution	Triple-S Ghana Project
Country	Ghana
PhD	Biological Science, Kwame Nkrumah University of Science and Technology (KNUST), 2010
Mentor	Professor S. K. Opong, KNUST
Mentee	Felicia Adu-Berko, Agricultural Economics MSc student, KNUST

Dr. Carolyn Tyhra Kumasi is a visionary biologist and ardent environmentalist, and perhaps somewhat of an accidental advocate. This young scientist is conducting vital research on soil and water conservation to inform public policies affecting rural women—a bend in the career path upon which she initially embarked.

A gifted researcher, Kumasi obtained her PhD in 2010 at the age of 28, and began lecturing at KNUST. But she couldn't forget the community members she had worked with during her doctoral research examining the impact of land use change on water quality along the Barekese catchment area. The Barekese reservoir provides more than 80 percent of the total public pipe-borne water for Ghana's second-largest city, Kumasi, which is home to 2.5 million people. During the past two decades, persistent degradation of the watershed has raised concerns about deteriorating water quality.

Kumasi found that the reservoir is seriously polluted, in part by local communities' sanitation and agricultural practices. She discovered that land rights dating back 40 years factored largely in the situation. People had little regard for the reservoir, whose construction had forced them off their farms and ended their way of life. Going far beyond her lab research, Kumasi submitted a policy brief to the government, strongly recommending land and environmental policy changes for displaced people living along the reservoir.

"If implemented, these recommendations could help solve many of the conflicts between local communities and natural resource conservation projects," says Kumasi. "It is hoped that such a policy would provide communities with a sustainable livelihood, and that they, in turn, would begin to conserve natural resources."

Kumasi says that the guidance she received from her AWARD Mentor has sharpened her career focus.

"A journey of a thousand miles begins with a single step, but I set out without a professional plan. I just had an ambiguous approach about how I would achieve my purpose in life," she recalls. "Now I have a clearly defined roadmap. My life goal is to impact and influence the lives of rural women in the sustainable exploitation of natural resources in Ghana, and empower them with alternative livelihoods. And I'm on my well on my way."

Pursuing her passion, in 2011 Kumasi competed for an AWARD-sponsored research attachment and won a placement with the International Food Policy Research Institute in Ethiopia. She studied how smallholder farmers in Ethiopia's northern Tigray region are adapting to climate change. As part of the study, she assessed the collective mobilization of rural highland people to soil and water conservation projects, with woodlots and grazing lands management as a focal point for conservation and agricultural development.

"Through my attachment, I gained technical and practical research expertise in identifying the social, economic, and institutional factors that impede collective action, especially female-headed households' access to tools for ecological restoration in Ethiopia," notes Kumasi. "I also learned how to use new software called UNCINET to analyze data on farmers' social networking activities."

Findings from the study were published in an IFPRI discussion paper entitled "Responding to Land Degradation in the Highlands of Tigray, Northern Ethiopia." Kumasi also submitted a manuscript on "Collective action for ecological restoration in the northern highlands of Tigray" to the *Journal of Restoration Ecology*, and is awaiting reviewers' comments.

During her research attachment, Kumasi wrote a winning proposal on "Climate change adaptation strategies in agricultural practices and natural resources management in upper east region of Ghana," which was awarded \$15,000 from the Centre for International Governance Innovation (CIGI) Africa Research Grant Initiative. "The research work has been completed, and I have also submitted a draft discussion paper and policy brief to CIGI," she says.

Kumasi's experience in Ethiopia shaped her career and her priorities. "I'm convinced that my AWARD research attachment with IFPRI played a role in my move from teaching and research at the university to full-time research work," she says. "While there, I laid the foundation for a long-term commitment to agricultural research and to the lives of rural women. I plan to write proposals, policy briefs, and research and scientific publications to contribute to poverty reduction by informing policy makers on appropriate policies and interventions to tackle the challenges of African agriculture."

Acting on her convictions, Kumasi recently left her job as a university lecturer to become a senior research officer with Triple-S, a six-year research project managed by the International Water and Sanitation Centre and hosted and led by the Community Water and Sanitation Agency. Funded by the Bill & Melinda Gates Foundation, Triple-S seeks to tackle the long-term challenges of a sustainable water supply by contributing to a shift from an infrastructure perspective to a service-delivery approach for the rural water sector.

Kumasi says her increased visibility as an AWARD Fellow helped her to land this plum position. "The interview panel was impressed that I had been featured in an AWARD film, and my placement at a prestigious research institution like IFPRI gave me an advantage."

Kumasi has published several articles in respected journals since she became an AWARD Fellow in 2009, and has presented papers orally at the First World Young Earth-Scientists Congress in Beijing, China and a conference in South Africa. A skilled networker, she has also joined four professional associations: the International Water Association, the Ghana Science Association, the Gender and Water Alliance, and the International Association of Landscape Ecologists.

“The rural communities in my study area—especially the women farmers—are part of my success story. I see myself as the voice of the voiceless, and I want to help them to have sustainable livelihoods,” says Kumasi. “Undoubtedly, AWARD has equipped me with skills for the journey ahead, and the sky is definitely the limit. My ultimate dream is to become a member of government myself. I believe that African women have the resolve to fight hunger and poverty in this continent. We are the instruments of change. In the words of Francis Bacon, ‘knowledge is power’, and if we use that knowledge for human good, we can make a difference in our world.”
