



2013 AWARD Fellow
Oluwatosin Gbemisola Oladipo

Position	Principal Research Officer
Institution	National Centre for Technology Management Department of Training and Research Obafemi Awolowo University (OAU), Nigeria
Country	Nigeria
PhD	Ecology and Environmental Science, OAU Ile – Ife, Nigeria, 2013
Mentor	Dr. Abiodun Olusola Salami Reader and Department Head, OAU

Research area: Bioremediation strategies for heavy metal contaminated mine sites in southwestern Nigeria to increase crop productivity.

Oluwatosin Oladipo, the third in a family of five children, appreciates her parents' commitment to higher education, which encouraged her and all her siblings to obtain university degrees. Today, she is determined to help restore environmentally degraded lands so they can be used to grow food.

"About one quarter of the world's 800 million malnourished people live in sub-Saharan Africa—of which Nigeria is a part—according to a Food and Agricultural Organization report," she says. "Increasing food security must be a priority."

Many nations, including Nigeria, have placed priority on mineral exploration over agriculture due to the immediate economic returns realized, says Oladipo. Although Nigeria has vast expanses of fertile land that could be cultivated for food production, intense competition for petroleum and solid minerals means that much of it is used for mineral mining or other anthropogenic activities, leading to environmental degradation and exacerbating the food-insecurity situation.

In southwestern Nigeria, where Oladipo works, maize is one of the major food crops, but much farmland has been left with degraded and infertile soil, making cultivation difficult and often impossible. "Mining generates mine wastes that lead to reduced soil acidity and increased heavy metal burden making the soil frail and unproductive," she explains. "Mining has an impact on maternal health when heavy metals enter the food chain, and these foods are consumed, which can cause miscarriage and fetal malformation."

According to Oladipo, the answer is microbial remediation of such lands and the microbial utilization of heavy metals to reduce heavy-metal contamination. "We cannot keep the status quo. We need solutions that will not adversely affect women's health," stresses Oladipo, who wants to see environmental safety practices put into place.

Her current project involves isolating and identifying indigenous microorganisms from soils near the mine sites, which tolerate and utilize heavy metals, thereby improving soil and crop quality and maternal health. "The results of this research will be communicated to appropriate ministries in Nigeria in order to inform

their policy decisions and create exploration criteria and environmental standards for the nation," says Oladipo, who also plans to conduct awareness trainings and seminars for women living in or around mine sites to inform them of the effects of heavy metals on maternal health.

Oladipo worked as a junior research fellow for more than five years at the Center for Gender and Social Policy Studies at OAU, Ile – Ife, where she helped formulate the institution's gender policy. In her current position at OAU, she is part of a newly constituted gender team that will enhance and promote equal opportunities and gender mainstreaming within the organization. "Through my research work, I hope to also share the need for capacity-building training for women in agriculture, with respect to their health and environment, and to advocate gender-friendly policies."

While she works in a male-dominated environment, Oladipo says she has not felt any discrimination. "Once you are good at your job and you deliver on time, there's no room for disparity or bias."

Oladipo recently successfully defended her PhD thesis in Ecology and Environmental Science at OAU, and hopes to publish her research in peer-reviewed journals, and to use the results to help improve women's health. A strong advocate for women, she anticipates attending the AWARD Women's Leadership and Management Course and the AWARD Science Skills Course, which includes proposal-writing skills. "This will help me gain grants to assist the rural women who live around mining sites," she says.

She also expects that AWARD will help her further her goal to deliberately invest in the lives of younger professionals. "I hope to interact with senior scientists and mentors, and expand my professional network through collaborative research with international research institutions."

Oladipo has known her AWARD Mentor, a soil microbiologist involved in bioremediation, as a hard-working and concerned person who has already shown interest in her research work. "I believe I can learn a lot from her both professionally and personally."

Oladipo 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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