AWARD
African Women in Agricultural Research and Development

Profile

2014 AWARD Fellow

Omolara Titilayo Aladesanmi

Position	Senior Research Officer
Institution	National Centre for Technology Management, Federal Ministry of Science and Technology
Country	Nigeria
MSc	Biochemistry, Obafemi Awolowo University (OAU), 2008
Mentor	Prof Olusegun Olufemi Awotoye, Director, Institute of Ecology and Environmental Studies, OAU
Research Area	Establishment of pollution status of selected streams and sediment and their effects on fishponds and pond-cultivated fish.

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Omolara Titilayo Aladesanmi was raised in Lagos, Nigeria in a family of six children, in which getting a good education was emphasized and expected. She was highly influenced by her parents and an older brother, a pharmacist, who helped spur her interest in biochemistry. She excelled in that field as an undergraduate student at the Federal University of Technology and later chose to focus on eco-toxicology for her MSc and her current PhD research at OAU.

"Toxicology is very applied and has direct impacts on both people and the environment," notes Aladesanmi. "The World Health Organization (WHO) estimates that about a quarter of the diseases affecting humankind are due to prolonged exposure to environmental pollution, including pollutants that may be difficult to detect and that build up slowly in the body."

Aladesanmi has focused her research on contaminant levels in fish because of the importance of fish production and consumption in Nigeria. She is examining biomarkers, such as antioxidant enzymes, to measure the concentration of residue contaminants in the tissues of African sharptooth catfish (*Clarias gariepinus* Burchall). She is also analyzing their levels in earthen ponds and feeder streams in southwestern Nigeria. Her objective is to compare her findings with pollution standards from the WHO and the Food and Agriculture Organization of the United Nations (FAO). She is also studying potential pollution-causing activities, such as industrial waste, farming, and other discharges that affect the fishponds, partly to better inform public policies.

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Her results are showing high levels of pollutants associated with human activity near streams. Farmers soak cassava in water to remove toxic levels of cyanide, which is then released into the streams and found in the fish. Lead and chromium residues seep in from mechanics' workshops, and other pollutants are discharged from factories and from sewage in nearby villages. Aladesanmi is finding the highest concentrations of pollutants in the fish, rather than in the water, underscoring the risk of bioaccumulation, which can be transferred to humans through fish consumption.

Catfish is a good choice for this research because it is the preferred fish for small-scale cultivation in Nigeria. This omnivore grows quickly and easily, feeding on a wide variety of food. Catfish can be consumed fresh or smoked, and is an important source of income for fish farmers, many of whom are women.

"Women tend to have smaller ponds than do men, and are more reliant on them to meet their basic needs," says Aladesanmi. "But they need information and capacity strengthening regarding the pollution risks to their ponds—as well as alternative locations, actions, or technologies that can reduce contamination."

Aladesanmi is devoted to gender mainstreaming in scientific research, capacity building, and education. She received a Carnegie Foundation Scholarship for female postgraduate students at her university's Centre for Gender and Social Policy Studies, and has co-authored an article entitled "Postgraduate Science and Technology Education in Nigeria: The Gender Perspective," published in the *Journal of Behavioral Research* (Vol., 5 (1): 72-82). As a member of the Committee on Health Concerns of the Organization of Women in Science in the Developing World, she is actively developing programs for girls in secondary school. She also works on gender policies for her institution, the National Centre for Technology Management.

Aladesanmi's goal is to formulate policy at a higher level, enforcing a fishpond monitoring system and other standards in national and, ultimately, international forums. Being an AWARD Fellow has already raised her profile at home and increased her professional connections for post-doctoral work abroad.

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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, and the Alliance for a Green Revolution in Africa. For more information, visit www.awardfellowships.org