



2013 AWARD Fellow
Delphine Aïssata Bama Nati

Position	Researcher, Agricultural Water Management
Institution	Institut de l'Environnement et de Recherches Agricoles (INERA), Burkina Faso
Country	Burkina Faso
MSc	Rural Engineering, Hassan II Agronomic and Veterinary Institute, Morocco, 2005
Mentor	Dr. Emmanuel Compaoré, Senior Researcher, INERA

Research area: How to make water resources available, in terms of both quantity and quality, for efficient use by crops, in order to sustainably improve agricultural production.

Delphine Aissata Bama Nati is one of the few female agricultural engineers in West Africa. Her early interest and excellence in the sciences earned her scholarships from both the government of Burkina Faso and the Kingdom of Morocco to pursue her bachelor's degree at the Hassan II Agronomic and Veterinary Institute in Rabat, and CRESA, a regional francophone center for specialized instruction in agriculture, supported her MSc with a scholarship to the same university.

"My family comes from a small village, and I am trained as a rural development engineer. I am passionate about improving the livelihoods of people in rural and peri-urban areas," she says. "However, I am also interested in the sustainability of agricultural production, particularly water use in our rather fragile environment."

Bama Nati is concerned about the negative effects of farmers' migration during the dry season, which lasts up to nine months. "Both men and women farmers do not really work during this time," she says. "They migrate into towns and also cross the border into Cote d'Ivoire, often increasing urban problems such as vandalism and banditry. If I can help them access water during the dry season, or at least prolong the growing period, they will be able to remain in the rural areas, produce more food, and sustain their families."

Farmers' problems are compounded by low crop yields in most areas of Burkina Faso. The government seeks ways to help by offering crop varieties with a short maturity period that can produce an acceptable yield with little water. The government also supports irrigation projects, including micro-dams to prevent the current inefficient water management leading to run-off and serious soil erosion.

After working in the private sector helping to construct large dams and water reservoirs, and even roads, Bama Nati joined INERA, the national agricultural research institute. Her PhD at Cheikh Anta Diop University in Dakar, is funded through the African Union's Mwalimu Nyerere African Union Scholarship Scheme program. It involves research in Sine-Saloum, a region of coastal lowlands in central Senegal. Research

activities were funded by Africa Rice and the United States Agency for International Development, under the Wula Nafa project, which in Wolof, the local language, means “return to the forest.” Rice farming in coastal regions in West Africa is often constrained by high soil salinity. Bama Nati is testing 11 improved rice varieties, selected under a Stress-tolerant Rice for Africa and South Asia project managed by the International Rice Research Institute and Africa Rice, for their suitability regarding the effects of anti-salinity dams, and to mitigate impacts of climate change.

Bama Nati hopes these dams, made of compacted sand, will help farmers to feed their families in a sustainable way. She specifically studies how the dam construction influences its hydraulic flow between lowlands and the sea. By determining how the soil near the dam absorbs water, she helps to develop recommendations on best use of this land to farm rice, and other crops, and what varieties to grow.

Nati is also involved in research on potatoes in the Dori area of Burkina Faso, particularly in designing drip irrigation for the production of seed potatoes, which are imported at high cost. She is also working on a water-use management project in western Burkina Faso, supporting a PhD student from an American university.

“Water is becoming more and more important, and predictions are that in 50 years, wars will not be caused by conflicts over oil, but by conflicts over water,” says Bama Nati. “I want to ensure that Burkina Faso, and the whole of Africa, will use available water resources more efficiently, while preserving the environment. This includes not only water for agricultural production, but drinking water for humans and animals in a sustainable way,” she adds.

Bama Nati gains great satisfaction from her field work. “I am happy when I see farmers interested in some of the technologies I can offer,” she notes. “I love to share my experience, not only through publishing, but also by teaching farmers, upcoming scientists and extension agents.”

Bama Nati is one of five African women who won a fellowship in the new AWARD Francophone Pilot Program, in partnership with CORAF/WECARD and Agropolis Fondation. “I like competing for grants and fellowships, and am proud to have won,” she says.

As an AWARD Fellow, Bama Nati looks forward to presenting a paper at an international conference and to increasing her professional networks—particularly internationally—by joining a professional association. She also expects her AWARD Mentor to help her develop a new perspective in her research and to improve her approach. Her work takes her to Senegal for some five months at a time, which is challenging as a mother of two young daughters, and she hopes to learn more about work/life balance through AWARD’s Women’s Leadership and Management Course.

Delphine 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