



2014 AWARD Fellow

**Edna Ekuia Kwansima
Quansah**

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Position	MSc Student
Institution	University of Ghana
Country	Ghana
BSc	Aquatic Resources and Fisheries
Mentor	Dr. RoseEmma Mamaa Entsua-Mensah Deputy Director-General, CSIR
Research Area	Examination of biodiversity and socio-economic issues related to the impact of ocean acidification on the diversity and abundance of fish species, and the resulting need for diversification of livelihoods in West Africa.

Edna Ekuia Kwansima Quansah grew up in a family that deeply valued education. "I would want to help my aunties in the kitchen, but my dad would say 'Go read a book'—and our house was filled with books," she recalls. "Whenever we went anywhere, I was encouraged to take a book along. I grew up with the idea that the sky is the limit."

Growing up in Ghana, Quansah says "everyone expects you to be a doctor. I did science at high school, but I was living other people's dreams of medicine." She became intrigued by oceanography and fisheries during her undergraduate studies, so decided to go into that field. "I really enjoyed the socio-economic aspect attached to it," she says. "I soon realized that I wanted to work to help bring change to people." She is currently in her final year of a master of philosophy degree in Fisheries Science.

Quansah's research is looking at the impact of ocean acidification on fish diversity and peoples' livelihoods. "Studies hypothesize that increases of carbon dioxide in the atmosphere are affecting the oceans," she explains. "Oceans are a reservoir for CO₂, which helps to reduce the global warming aspect of climate change. However, the chemistry of the ocean is changing, resulting in an increase of acidity. For example, as the acidity increases, there is less calcium carbonate available for shelled organisms to make their shells."

The research project Quansah is working on is coordinated by the International Atomic Energy Agency's Framework for Ocean Observation. "My work is a case study of Ghana," she continues.

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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

“At the end of the day, I am determining how ocean acidification is impacting fisheries. In the sites I’m using, I’m looking to see if there is any change in diversity or abundance of fish.” She is also exploring whether there are any key species that would be able to resist acidification.

The effect of acidification on livelihoods is another aspect of the issue. “What happens to the common fisherman or woman who depends on the fish?” asks Quansah. “My work is with small-scale and some semi-industrial fishermen and women. I’m looking at the status of their production, and whether there are any constraints.” It is the women who deal with fish processing or adding value to the fish, deciding how to process it and how to get it to the consumer.

Quansah says capture fishing is declining in Ghana. “The fishermen go out and come back with mainly refuse,” she says. “They are using bad fishing practices—they think because they aren’t getting much from the sea, then they’ll do it by hook or by crook. Instead, we need to maximize the outputs, and transform what is coming out of the sea to help the people who rely on it.”

Quansah’s chief goal is to be a scientist who can translate research findings into techniques that will enhance the livelihoods of small-scale fishermen and women. “Scientific findings can’t just stay on the shelf—they have to help someone,” she insists. “If climate change is going to reduce the abundance and diversity of fish, then we need to protect the little that comes out.”

Eager to learn more about climate change, Quansah hopes to complete a doctoral program within the next five years. “I am looking for courses that combine the climate and livelihood aspects,” she says.

As the first person from her department to have won an AWARD Fellowship, Quansah is proud. “I see myself as the luckiest person here. I am just starting my career, and being mentored will help me to define and shift my goals.” She expects to benefit from the program by improving her science and leadership skills, research methods, and proposal-writing skills.