

Kenyan researcher Mary Njenga tells us how research can improve people's lives

By Arsene, Ahijah, Hubert, Inna, Mélodie and Sabrina (students at the LDD)

On March the 21th, 2014, Dr Mary Njenga came to the Lycée Denis Diderot (LDD) to make a speech at a conference on "How to feed humanity". It was her second participation in this annual event held at our school, and she once again made a very brilliant presentation on the importance of developing urban agriculture.

About 200 students and teachers from 3 different schools (LDD, Starehe Girls School and Hope International School), attended this event. After her speech, Dr Njenga kindly accepted to answer our many questions about her studies and her achievements as a scientist. Mary Njenga has a PhD in Management of Agrecosystems and Environment at the University of Nairobi and is a post-doctoral fellow at the World Agroforestry Centre (ICRAF). She wrote her thesis on Biomass Energy, and in particular, on fuel briquettes which is a type of cooking fuel made from different biomass materials (e.g. charcoal dust, paper, and gum resin). Dr. Njenga is also an Adjunct visiting Professor at North Illinois University, USA.



Mary, thank you for being here with us. Can you tell us more about your studies ?

For my first degree, I went to Egerton University in Njoro in Kenya. I did a Bachelor of Science in Natural Resource Management. After that, I undertook a Master of Science in Biology of Conservation at the University of Nairobi. Finally, I did a PHD in Management of Agroecosystems and Environment at the University of Nairobi.

How long did this take you to achieve ?

The whole process took many years. I finished my first degree in 1996, that's when I graduated. And I finished my PhD last year in August, that's when I became a doctor. But between then and last year, there were periods when I was not in school. After my first degree I went to work, and then I went back to study for my masters, then I worked again and so on. In life, it is important to stay focused on what you really want.

What inspired you to do this job ?

I grew up in a rural village 50 km west of Nairobi. I grew up in a farm. I was involved in agriculture with my family and I also went to the forest to fetch firewood with my sisters and my mother. With that kind of exposure, I naturally developed an interest for nature.

I was also seeing the changes that were happening to the countryside. We had a river which was permanent and as time went by, it became seasonal. It dried up completely sometimes. When I looked closely at that problem, I also realized the problem was coming from the trees being cut in the area. I was trying to link my personal experience with what was happening to nature, and I decided to become a scientist to understand and try to improve things.



Can you give us a little more information about your work at the moment ?

I am a post-doctoral fellow right now. I am doing my “post doc” this year and next year at the World Agroforestry Centre (ICRAF). It is an international research institute based here in Nairobi on Gigiri Avenue next to the UN headquarters.

We do research on the importance of planting trees on farms. What benefits are people getting from trees being on farms in terms of food security, wood fuel and the ecosystem services ? The presence of trees influences the microclimate and macro-climate. We work with farmers to encourage them to plant protect and manage trees, because their environment will be improved if they have more trees.

What topic did you work on for your PhD?

I worked on fuel briquettes for my PhD thesis, and I am continuing working on the same topic this year and the following one, because I want them developed as a a cheaper source of cooking

fuel that is also cleaner. As you know, biomass energy produces a lot of unhealthy emissions, and it affects especially women, as they spend more time in the kitchen, and also kids. Little kids below two years are especially affected, as their mothers carry them on their back when they are cooking. My research is based on how I can come up with a product that is cheaper so that people can afford it and that is also cleaner so that it has less toxic emissions.

Are you selling the charcoal briquettes now ?

No, I am not in business, I am not selling anything! (laughing). I am just doing research as a scientist. I am researching with the community groups, because there are already some communities who are making fuel briquettes. I am working with them and I have already done a lot of studies on how to make them. What are the raw materials they use ? How do they mix it ? How long does it take to dry ? What is the quality in terms of cooking ? If it has to come out as a product that competes with other cooking fuel, it's quality has to be good for people to like it, for people to use it and appreciate it. I am working with them on how we could improve its quality and also how we could work on a good communication strategy so the world knows about these briquettes.

How does your research improve the lives of the people ?

For my PhD, I worked with eight different self-help groups, women groups. I studied what type of briquettes they produced and I analysed samples at the laboratory. I measured the amount of heat it had and measured the emission, and I published my work on how to improve the quality of the products.

For my Post Doc, I am studying how the work of these women groups can be scaled up: At the moment they are producing the briquettes on the ground and they have little space. How can they get a bigger place, a production plant where they can have a store for the raw materials, an area to mix the materials, one where they can dry the products and also a place for selling. We need to scale up what they are doing, so they can make more quantities of good quality and earn more income.

Out of Kenya, I also established a charcoal briquetting enterprise in Mogadishu, the Somali capital, in partnership with UN-Habitat, Human Relief Foundation and Cooperazione E Sviluppo Onlus (CESVI).

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