



Pamela Kageliza is a teacher and PhD student in nuclear science whose aspiration is to one day manage a nuclear power station in Kenya.
Source: Pamela Kageliza

The skyline of Nairobi, Kenya's capital city.
Photo Credit: Devasahayam Chandra Dhas of Bogota, Columbia



When she was younger, Pamela Kageliza studied math, physics, chemistry, and other subjects in school. Her marks were better in some other subjects, but she stuck with physics because it was more “practical”. Now she would like to put physics to work in a nuclear power plant, if Kenya builds one.

THE TEACHER

Pamella Kageliza

In the small village in western Kenya where she grew up, only a few houses had electricity; everyone else relied on wood for cooking and kerosene for lighting. Now most houses do have power from the grid, but it is still too expensive for anything except lighting and perhaps a television. Adding nuclear power would solve several problems at once, she explains.

Today, women and girls spend long hours hauling water and fetching firewood for cooking. The girls have little or no time for school, and the women have no time for more productive work. “You are too busy collecting wood, and water, to do anything else,” says Kageliza.

To find fuel to cook and keep warm, people are destroying the forests and leaving the land vulnerable to erosion, a problem common in Africa. The search for wood takes them further and further away from home every year.

The problem is borne from necessity, not greed, she says. “There is a policy that no one is allowed to cut the trees,” explains Kageliza, “but they haven’t provided another option, so people still go ahead and cut the trees.”

The solution, she says, is a nuclear reactor. “It will provide clean energy, it’s sustainable, and it’s stable,” she says. Kenya has tried other energy sources, including hydro-electric power. But after years of drought, supplies are limited, blackouts are frequent, and electricity rationing lies ahead, she says, for villages and cities alike. Already, industries are not running the way they should, because of a shortage of electricity.

Kageliza, 42 years old, taught mathematics and physics in high school before she went to Kenyatta University for a degree in education. In 2014 she completed a Master’s degree in nuclear science from the University of Nairobi, and she is now working on her Ph.D. from the Technical

University of Kenya. She is still teaching, but has bigger aspirations for a future career in nuclear energy. She would like to be a manager at a power station.

Kenya has completed a preliminary study of its options and is now characterizing potential sites across the country; it could break ground by the end of 2020. Kenya is one of nine African countries pursuing a future in nuclear energy.

Although it has yet to choose a technology, Kageliza says that Small Modular Reactors might be a good choice for Kenya, because they can be installed over time as demand grows, and work well on small grids. But she was also impressed with the larger Pressurized Water Reactors she’s visited in Spain and Argentina. She has also visited China and Brazil for energy conferences or tours.

Nuclear power has helped her go places, meet people and develop a professional network. The first in her family to go to university, she’s also a mentor for her nieces and nephews, she says.

The message is clear: women don’t need to fetch wood and water: they can run nuclear reactors.