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Rice farmers transplant work at Mwea Irrigation Scheme in Kirinyaga County. [Lydiah Nyawira, Standard]

Farmers regret settling for thirsty eucalyptus draining soil's water

• Eucalyptus trees farming remains threat to environment for Kirinyaga residents.

► According to Kenya Forestry Research Institute, there are at least 100 species of eucalyptus trees.

LYDIAH NYAWIRA, KIRINYAGA

or close to 30 years, Perminus Muchira has been a eucalyptus tree farmer in his home village of Kirerema, Kirinyaga County. His interest in the trees has been waning over the past decade as he has observed a worrying trend on his farm.

The trees are locally known as *minywa mae* (water drinkers) due to their high water consumption trait, which has led to drying up of wetlands, springs and rivers. "I planted the eucalyptus but it got to a point they started destroying the soil here. Other plants and trees would not thrive in the middle of these eucalyptus plantations, and I considered replacing them," he said.

Mr Muchira blames the trees for the reduced water levels at the Thiba River, which feeds the Mwea Irrigation Scheme. Sometimes during dry seasons, the river slows down because the trees suck a lot of its water. "We were told to plant the trees because they prevent soil erosion and landslides. We planted plenty of them," says Mr Muchira.

He now plants other types of trees on his one-acre farm. "Initially I planted the eucalyptus trees for home use and sale. But now it seems I'm paying a very high price for this venture because it is taking water from the river," says Mr Muchira.

He says there is a big drop in water levels compared to the past, espe-



Mary Njeri, a rice farmer at the Mwea Irrigation Scheme.

After growing rice for 15 years, she says she is taking a break this planting season because of the low water levels.

cially in dry seasons, and the effects are felt in the irrigation canals on his farm. "Even when we need water at home, the flow into the canals is insufficient. Water is scarce when digging ditches for irrigation farming," he says.

Mr Elias Mugo is also a eucalyptus farmer in the same area. "I started farming around 1968 and I have grown maize, beans, oranges, macadamia, tea, bananas and other crops," he says.

He planted the trees because they made his farm look like a forest, which he believed was good for the soil.

"We keep planting the trees because we can sell the firewood to the tea factory. The trees are used to make furniture and for construction," Mugo says.

But despite the income Mr Mugo makes from selling firewood, his food production has declined significantly. "I used to plant one acre of maize and harvest bout 30 to 35 bags, but today the same land cannot produce more than 10 bags because the soil is damaged and has low water content," he says.

While Mugo is willing to replace



Perminus Muchira, eucalyptus farmer at his home in Kirerema.

He blames the Eucalyptus trees for the reduced water levels at the Thiba River, which feeds the Mwea Irrigation Scheme.

195505 PERIOD Thiba river had a lot of water and locals even caught fish in there. Nowadays fish and frogs are disappearing from the river.

SPECIES of eucalyptus trees (blue gum) in Kenya, according to KEFRI. The tree was introduced in Kenya in the 1900s during construction of the Kenyan Ugandan Railway, and was a key source of fuel.

the eucalyptus with other trees to improve the quality of the soil, he is uncertain of the type that suits the area. "I used to plant a variety of crops, but now I cannot because they do not grow. The trees have drained the water," he says.

The impact of the trees on the river



An unidentified rice farmer at the Mwea Irrigation Scheme.

She transplants shoots into paddies in preparation for rice planting season at Mwea Irrigation Scheme in Kirinyaga County.

is not just in the soil but also in the biodiversity within the river. "In the 1950s and 1960s the river had a lot of water and there was fish. We used to eat fish as young boys. Nowadays you can't even find fish or frogs in the river. The plants near the river have dried up and the water levels are so low," he says.

Further downstream at the Mwea Irrigation Scheme rice paddies, Ms Mary Njeri says lately high temperatures and low water levels have affected their productivity.

Ms Njeri, who has been a rice farmer for 15 years, says she is taking a break this planting season because of the low water levels. "We face devastating losses when we plant in the dry season. We have to wait until the rains start so that the paddies can have adequate water to support rice production," she says.

She spends most of her days trading rice in Wanguru town, as most of her neighbours do when the water levels in the paddies drop.

Kenya Forestry Research Institute (KEFRI) Chief Executive Researcher Mr Robert Nyambati says there are at least 100 species of eucalyptus trees (also known as blue gum) in the country. The tree, which was introduced in the country in the 1900s during the construction of the Kenyan Ugandan Railway, was a key source of fuel.

He says many Kenyan eucalyptus farmers planted the trees in wrong places, such as water catchment areas, along rivers and springs, which has affected these resources.

"Eucalyptus trees are deep-rooted plants and they tap into the soil water. They should not be planted near water catchment areas, because they can have devastating effects on the environment," he says.

Mr Nyambati says their research on agroforestry systems has established that the performance of the crops planted with the eucalyptus trees is affected based on the distance from the trees. "Crops such as maize planted close to the eucalyptus trees will have low yields and in extreme cases, no yields at all. This is because the trees tap all the moisture from the soil and therefore dry up due to their shallow root system," he explains.

He says the tree is good at converting the water into biomass (wood) and therefore they grow fast and efficiently.

The tree is also known to exudate allelopathic chemicals that inhibit undergrowth regeneration. "These chemicals it emits negatively influence agricultural production and this is a more significant factor in dry regions. Unfortunately, this makes the tree unsuitable for agroforestry, and should be grown separately away from other crops," he says.

Significant impact

Considering the significant impact the blue gum trees have on the environment Nyambati explained there was no clear national legislation and regulatory framework to address where the trees should be planted. "At the county level they should effect legislation to regulate the planting of eucalyptus trees and be guided by science to protect the environment," he said.

On the role of community mobilisation in increasing forest cover and conserving the environment, Mr Nyambati says there has been a tremendous impact in Nyeri and Murang'a counties due to campaigns initiated by the late Prof Wangari Maathai, who advocated planting of indigenous trees.

"In counties like Nyeri, where they have 38 per cent forest cover, you will rarely find the eucalyptus trees because reforestation efforts were focused on indigenous trees, which is not the case in Kirinyaga County," he says.

Mr Nyambati says the communities in areas like Kirinyaga County did not get the right information on where to plant the eucalyptus trees, which has been detrimental to their environment. He says with the right information, the situation can be rectified.

The writing of this story was enabled by Wan-Ifra. Views presented in this article are the writer's.