

Domesticating thabalaba, rare medicinal tuber

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Wellington Kondesi has been toiling in the sweltering heat of Nsanje District for as long as he can remember, but in vain. The 33-year-old smallholder farmer works tirelessly each planting season, yet he struggles to provide for his family, blaming the district's unfavourable weather conditions for his misfortune.

"We feel helpless because if it's not floods, it's drought. That is why we are now in this business and we pray it will lessen our suffering," Kondesi says, showing this writer a cassava-like root tuber.

And he adds as he plants the tuber: "This seed is giving us a ray of hope."

Malawi is classified as one of the world's poorest countries, but boasts an abundance of natural resources including Thabalaba, a plant that grows in the wild valued for its many medicinal uses.

"It's a national treasure," says environmentalist Noliopher Mponya, underscoring the importance of the creeper which is mostly found in the Matandwe Forest Reserve in Nsanje.

But Mponya warns that Thabalaba, the local name for the root tuber known as Colombo in English, which at a glance can be mistaken for cassava, is under threat due to overharvesting.

And it is because of this threat that plans are now afoot to domesticate the plant, also known by its scientific name *Jateorhiza palmata*, to prevent it from becoming extinct.

"The threat has come because Thabalaba is found in the forest. It is not grown," says Mponya, Head of the Malawi Genetic Resources Centre at Chitedze Research Station in Lilongwe.

She was speaking to reporters in Nsanje at a meeting for agriculture extension and forestry workers who were drawn from Mpasu, Magoti and Zande Extension Planning Areas (EPAs) in the district.

The purpose of the gathering, convened with support from the Shire Valley

Transformation Programme (SVTP), was to discuss the plant's domestication in the face of the said threat.

"It is one of the medicinal plants of Malawi so useful in the pharmacology world. We read from literature that it has a number of chemicals that are of use in developing drugs," Mponya says.

She says Thabalaba is one of the medicinal plants which from time immemorial has been used by the people of Nsanje and Chikwawa districts, resulting in it being overexploited.

Says Mponya: "The plant has been overexploited because people have been harvesting it in the wild without knowing the population of the material."

"Because this root is able to cure many diseases, our friends outside the country knew a long time ago of its importance and so they started coming to Malawi."

Once in the country, the foreign buyers engage Malawians who go to areas where Thabalaba is found and camp there for months at times, purchasing the commodity at very low prices.

"What is happening is that as the sellers repeatedly go to harvest and sell, quantities of Thabalaba have dwindled in the forest," Mponya says.

She says when environmentalists sat down, it dawned on them that Thabalaba, the one plant empowering locals financially and enabling them to meet their daily needs, was under threat.

Mponya says that when the SVTP came in because the programme has a component that is promoting management of natural resources in the target districts.

The SVTP is a 14-year programme (2018-2031) that the Department of Irrigation in the Ministry of Agriculture is implementing with support from Malawi's development partners.

It will irrigate 43 370 hectares of land by abstracting water from the Shire River at Kapichira and conveying it by gravity to the irrigable area in Chikwawa and Nsanje districts through canals.

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billion kwacha irrigation project is to increase agricultural productivity and commercialisation for the targeted 48 400 households.

The Malawi Government, the World Bank, the African Development Bank, Opec Fund for International Development and Global Environment Facility (GEF) are financing SVTP.

Construction works are in progress for the 118-kilometre main canal from Kapichira to Bangula.

The natural resources component of the SVTP reportedly one of the biggest irrigation projects in southern Africa, is vital to ensure that its impacts on the environment and wildlife are mitigated.

"So *Jateorhiza palmata*, being one of the natural resources, needs to be sustainably managed so that we encourage continued benefits from its utilisation," says Mponya, a PhD holder.

She says after observing that Thabalaba was under threat, environmentalists

agreed to find a way to help the farmer and "that was by removing the plant from the forest and bring it home".

"Some Thabalaba will remain in the forest, but another will be domesticated by growing it, the way our forefathers used to domesticate wild plants," she says.

It was learnt at the meeting that once the research proves a success, the exercise will be replicated across the country.

Mponya says the Nsanje meeting developed protocols on how best to domesticate the plant, by taking it from the wild and trying it on farmland to see if it will perform the same.

"When you are domesticating something from the wild, there are procedures to follow because this is a plant that is naturally adapted to that natural environment," Mponya says.

"It means it has existed with other plants for a long time. So, for it to be transferred from the wild to



Locals harvest Thabalaba in the Matandwe Forest

the farmlands, there should be some specific procedures."

The research is being conducted in collaboration with communities who are the primary beneficiaries of Thabalaba.

The gathering defined protocols on how to do research plots and best management practices that would produce optimum tuber yield of Thabalaba so farmers would stop harvesting from the wild.

Mponya says when transferring something from the wild, it has to be mimicked or copied from the experiment has to be done near where it is already adapted "so that you don't have a lot of issues".

The meeting also looked at the cost-benefit analysis of Thabalaba to see if it would be more beneficial for subsistence farmers to stop growing a crop that they have cultivated for a long time and opt for Thabalaba.

Ultimately, the decision



Elias: Thabalaba is also useful in the bedroom

whether or not to grow Thabalaba will rest with the farmer based on their own analysis of the benefits they will have after harvest compared to

the crop they rely on now.

"We have seen that this is an issue that has to be taken into consideration we have to come up with a number of resolutions," Mponya says.

"So it's optional to the farmer but our responsibility is to do research and have the information available to them and advise accordingly."

The meeting agreed that since there already existed groups that are in the Thabalaba business, as a first step agriculture and forestry extension, workers would identify lead farmers from among them.

At the time of writing this article, lead farmers from 10 villages had been identified as well as 10 research plots in the three EPAs that cover the Matandwe Forest Reserve.

Planting of tubers is in progress. Worthy of note is that the research

study has generated a lot of interest among stakeholders, including environmentalists and the local people.

"We now look to the future with optimism because of Thabalaba. We are grateful to Shire Valley [Transformation Programme] for enlightening us about the true value of the plant," says Kondesi.

Kondesi, of Group Village Head Chagwiragalu, Traditional Authority Tengani, says now that they know the importance of Thabalaba, farmers will not be duped anymore.

The father of four also chairs the village's Thabalaba committee of six men and five women. One of the committee's roles is to stop unscrupulous people from coming to the area to buy the tuber.

"Having been empowered with knowledge on Thabalaba, we will dictate prices. This



Kondesi: Thabalaba is giving us a ray of hope

will mean more money into our pockets and ultimately result in the improvement of our families," says Kondesi.

Mponya says they are involving farmers to be part of their research team because it answers the questions they have regarding Thabalaba and their needs.

"Farmers will also feel they own the research because they are part of it and will accept its results," she explains.

The Thabalaba plant produces thick fleshy yellow roots and hairy stems and leaves. The root has a bitter taste and is said to be useful for dealing with a number of health-related problems.

Locals tout the plant as a cure for fever, diarrhoea, rheumatism and for relieving vomiting and nausea. Crucially, it is also believed to have an anti-venom chemical needed for treatment of snake

much-needed forex.

It is estimated that annually, according to recorded data, Malawi exports close to 60 tonnes of dry Thabalaba, translating to 11 000 hectares of conservation land.

"If we are to sustain that demand, it means we need huge land to turn it into a conservation area so that Thabalaba is there and then we keep on harvesting," she says.

One of the attendees at the Nsanje preparatory meeting was deputy director of Forestry responsible for research Henry Utilla, who echoes Mponya's sentiments on the priceless plant.

Utilla says Thabalaba is exclusively found in the Matandwe Forest Reserve and also sounds the alarm over its continued overexploitation for its multi-purpose uses.

"Indeed, the country has been exporting and probably losing huge quantities of Thabalaba through various channels, some uncharted and others chartered," he says.

Utilla, who is based at the Forestry Research Institute of Malawi (Frim) in Zomba, says some of the quantities that have been going through Frim have been in excess of 30 tonnes monthly.

"That is what we know, but there are other ways that Thabalaba has left the country and that is a scary situation," he says.

He adds: "It is making the availability of Thabalaba look bleak and so we need to work towards restoring, conserving Colombo roots in the protected areas."

Utilla lauds efforts being made to breed the tuber artificially outside protected areas "so that it becomes locally available to the people who need it, and those who use it".

Mponya calls for collaborative effort in the Thabalaba research study, saying it is time Malawi took its research findings further so that they help to improve the country's economy.

"It is us who have to initiate. No person from outside the country will come to do it for us. It is us who know our problems and, so, it should be us solving them because we know them."

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