

INVESTING IN SUSTAINABLE BIODIVERSITY

Mapping and Domesticating Mycological Riches of Rwanda's Forests

In 2015, the Rwanda Green Fund (FONERWA) invested in sustainable biodiversity by providing a grant to Kigali Farms to map and domesticate the mycological riches of the country's forests. This investment has created an inventory of edible mushroom populations in Rwanda's forest ecosystems and identified species that are suitable for export and have the potential for cultivation. Today, mushrooms grown in Rwanda are exported across the region, improving the health and livelihoods of tens of thousands of farmers and customers.

The Rwanda Green Fund investment of approximately Rwf 40 million in local mushroom producer, Kigali Farms, aimed to create an inventory of edible mushroom species in Rwanda's forest ecosystems. The study identified species that are suitable for food, export and wide-scale cultivation. The study was conducted in the forests of Nyungwe and Volcanoes national parks by Kigali Farms, in collaboration with experts from the Botanic Garden Meise in Belgium and the Rwanda Development Board.

The study revealed more than 20 mushroom species in Rwanda, though not all can be domesticated.

These three mushrooms types, yellow oyster, lenthynus and juda's ear, are very rich in the vitamins and nutrients essential for people to stay healthy. The findings of the study have helped to start a new business venture - a laboratory producing mushrooms species that are adaptive to local environment and soil.

After a series of tests in their growing houses, the oyster mushrooms proved to be most suitable and flourished. Since then, Kigali Farms has expanded its population.



In the past, Kigali Farms bought spawn from a third party supplier. However, the support from the fund has eased the lab work, which led to the production of their own spawns.

"We have been able to improve the quality of oyster mushrooms that we originally didn't have. As a result, we now get much better yields," said Mr Demuyneck.



“Thanks to the Rwanda Green Fund investment, we have also carried out tests that resulted in improved strains used in our growing farms. We have also been able to focus on our own laboratory and our own spawn production,”

Laurent Demuynck.

“ The research funded by the Rwanda Green Fund helped us identify what types of edible mushrooms are in Rwanda’s forests so they can be domesticated. We brought them into the laboratory and found really interesting species that we could export to the neighbouring countries.

One of the species that can be domesticated is the yellow oyster mushroom, which is particularly rich in nutrition, even more than normal oyster mushrooms. We also found lenthynus and judas’s ear, which are very popular in Asian cuisine.

Laurent Demuynck
CEO of Kigali Farms

SOCIAL DEVELOPMENT

The fund’s investment in Kigali Farms is also contributing to the fight against malnutrition and is boosting food security across the country. For example, those living in the rural areas have benefited from the diversification and increased production of the crop, either from direct consumption of the nutrients in the mushrooms or from income generated from selling their harvest.

Kigali Farms has also partnered with local leaders in Burera District, close to where the mushroom plant is located, to identify the most vulnerable people in the community and provide them with mushrooms to grow and eat at home. This is also part of efforts to address the challenge of malnutrition.

“Fighting malnutrition is our priority. Mushrooms are highly rich in protein. So they support this effort,” Mr Demuynck said.



JOB CREATION

The fund's investment has created more than 70 full-time jobs and 1,000 casual jobs, such as the delivery of the mushrooms to the processing and packaging site.

Vestine Ntirampeba is a member of Twisungane Mutara Cooperative that sells mushrooms whose strains are supplied by Kigali Farms. For Vestine, life has improved dramatically since she started growing mushrooms.

"I used to be a local businesswoman, selling sorghum malt at the market. But the business was not promising at all. People would take loans from me and never end up paying. Besides, the whole malting process, which involves sorghum steeping, washing and drying would take days - more than two weeks," said Vestine.

"But now that I am working with a cooperative made up of seven people, we can sell more than 200 kgs of mushrooms every month."

As part of efforts to expand mushroom farming and provide skills to local farmers, Kigali Farms has trained cooperatives, individuals, and 30 facilitators from Musanze and Burera Districts in the Northern Province about the benefits of mushrooms growing and their consumption.



“ After being trained by Kigali Farms on growing mushrooms, consuming them, the nutrition benefits and the business opportunities, I understood that mushrooms are the right path to success. ”

Vestine Ntirampeba

RETURN ON INVESTMENT

20

species of mushrooms mapped, of which a number have been domesticated

70

full-time jobs

Increased capacity by Kigali Farms to create its own mushroom spawn

1,000

casual jobs created

Farmers and cooperatives trained in the benefits and growing of mushrooms

Creation of new laboratory business producing species adaptive to the local environment and soil



BIG BUSINESS

Since the fund's investment, Kigali Farms has expanded and now distributes its products to Kigali, Uganda and Kenya - its biggest market.

"Today we sell more than one tonne every week across the region. Our goal is for Rwanda to become a centre for excellence in mushroom growing. Because there are so many favourable conditions for growing mushrooms in Rwanda, particularly the weather, the country could easily become the main exporter of mushrooms across the region," said Mr Demuynck.



“ Kigali Farms chose to start this new venture in the Northern Province, where such species are likely to be found. The weather in Musanze is also highly favourable for mushrooms. ”

Samuel Niyomugabo,
Musanze Mushroom Plant
Manager

ENVIRONMENTAL BENEFITS

One of the key benefits of mushrooms is that they are not seasonal crops. In an environment where seasons are becoming less reliable due to climate change, mushrooms are a relatively safe crop. With a little water to keep the mushroom growing, mushrooms are well placed to withstand the effects of climate change.

Another benefit of mushrooms is that they grow on agricultural waste, such as wheat straw, which doesn't easily decompose. Usually, farmers burn this waste to speed up the decomposition process, but this releases carbon dioxide, which is very harmful to the environment and human health.

"With mushrooms, we give the wheat straw another chance to create life. In fact, we use wheat straw to grow mushrooms, and this creates compost which now goes back into the soil. So the carbon returns to the soil rather than dissipating in the air. Thus mushrooms are recyclers," said Kigali Farms CEO Laurent Demuynck.

RWANDA GREEN FUND

The Rwanda Green Fund is a national environment and climate change fund that invests in public and private projects that have the potential for transformative change and that align with Rwanda's commitment to building a green and climate resilient economy. Learn more at www.fonerwa.org or follow us on Twitter at @GreenFundRw.

FUND PARTNERS

This fund is thankful to our partners who have joined us on the journey to build a green Rwanda and we look forward to even greater impact in the future.



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