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Local Income Solution



**MUSHROOM
GARDENS**



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SOLUTION ENTREPRENEUR

MALE • 27 YEARS • NAMAYUMBA, UGANDA

Ronald grew up in a rural community of Uganda. His parents were farmers and grew cassava, maize and beans. The income from the farm was not enough to continue paying his school fee. At the age of 11, Ronald had lost all hope of completing his education and becoming a doctor. Luckily, his relatives paid for his schooling. He was not admitted into the medicine program but he completed his university degree in biological agriculture.

Ronald loves people and always had a passion to help vulnerable people in farming communities given his own background. In university, he did an internship with the National Union of Coffee Agribusinesses and Farm Enterprises (NUCAFE), an organization working with a million coffee farmers in Uganda. He noticed the struggles of women and youth to earn a living from coffee farming. With four other interns, they started the organization Dynamic Agrilink with the goal to increase the income levels through using coffee husk to grow mushrooms. In the last three years, they have trained 1,000 women and youth farmers in Waskiso, Kamuli and Lira Districts.

HIS FAVOURITE QUOTE

“A journey of 1000 miles starts with one step.



INCOME FACTS

- Startup cost: 150,000 UGX (35 Euros)
- Selling price: 1kg for 6,000 UGX (1.5 Euros)
- Income potential: 450,000 UGX (59 Euros)



SALE TIPS

- Have a positive attitude towards working in agriculture
- Have people on your team with integrity
- Don't fear anything, believe in your dreams



POTENTIAL CHALLENGES

- Avoid touching the mushrooms while growing; this contaminates them
- It can be costly to dry or cool the mushrooms after they are harvested
- Transportation cost could be high if you have a large network of farmers

5-YEAR VISION

A leader of mushroom products in East Africa.



LEARNING VIDEO

Click the video and learn how to do this income solution.



10 Steps TO MUSHROOM GARDENS

INGREDIENTS

Small plastic bags	50 pcs
Ethanol	1/2 L
PV tubes cut in small rings	1, size 3
Watering can	1
Mushroom spawn (seeds)	5 kg
Strings	5 rolls
Water	20 L
Empty rice sack	1
Metallic drum	1
Water basin	1
A pair of scissors	1
Small dark room (or kitchen)	12 by 15 ft

SUBSTRATE

The following materials can make 50 oyster mushroom gardens

Cottonseed hulls ...	1 bag
Coffee husks	1 bag

FACTS

In Uganda, the spawn is UGX 3,000 per bottle from the National Agricultural Research Organization in Kawanda. For those located outside Uganda, a local supplier can provide the spawn.

Benefits

- Rich in vitamins (B, C, D)
- Boosts immune system



Dry mushroom substrate in sunlight to reduce the moisture and contamination from the field.¹

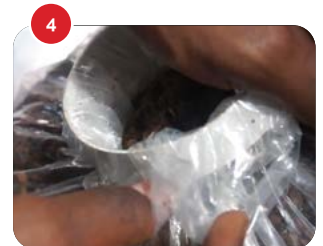


Take substrate through a two-step sterilization process.

Step 1 - Wet sterilization: Mix the substrate with water in a basin until it is wet but not soaked.²
Step 2 - Steam sterilization: Pour 20 liters of water in the drum and place a rice sack with substrate in the water. Heat the water to allow steam to pass through the substrate in the garden sack. Steam for 3-4 hours and let cool for 1-2 hours.



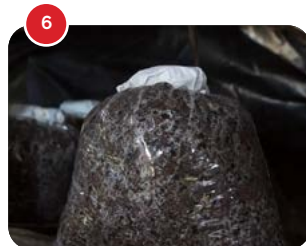
Start the inoculation, adding spawn (seeds) to substrate.³ Mix the 100g of spawn with 2 kg of substrate to make 1 garden. Ensure to disseminate the spawn fully in the substrate. 100g is roughly a handful.



Place the mixture in a small plastic bag, tie it with the small PV tube rings and then cover the top of the bag with paper.^{4,5}



Poke small holes around the bag to allow aeration into the gardens.



Place the gardens in a dark room for 14 days to allow full colonisation of the spawn with the mixed substrate.



After 14 days, hang the mushroom gardens on a string in the dark room with temperatures above 32 degrees.⁶



Cut vertical slits around the garden and remove the paper to irrigate.⁷



Water the mushrooms bags in the morning and evening (1 cup each time). Do not soak the gardens. Just leave them moist.



The mushrooms start sprawling 3 to 5 days after hanging and will be ready for harvest. You can dry and package the mushrooms or sell them fresh.

TIPS

1. The mushroom substrate is a mixture of coffee husks and cottonseed hulls. The cottonseed hulls can be bought at a local ginnery at UGX 30,000 a sack. Sifting helps to aerate the flour and give the cake a great texture.
2. This process eliminates microorganisms.
3. Before you start, disinfect your hands and materials with ethanol.
4. These tube rings allow the flow of water during irrigation
5. The paper prevents infections and contamination while in the dark room.
6. The gardens have colonized when the garden turns white.
7. The slits make the irrigation process easier.