Project Grow – An Ethical Plant-Based Environmental Initiative to Empower At-Risk Ugandans.

Overview

Background

The Podrska Foundation (www.podrskafoundation.org) is a grassroots organization that advocates for human and non-human animals in Uganda. Established by Dash Meizler in 2018, the Podrska Foundation seeks to improve the lives of vulnerable humans whilst promoting compassion for non-human animals. We also see care of the environment as an integral part of our work. After all, it takes a healthy environment for humans and non-humans to thrive together. Through our ongoing outreach work in the slums of Kampala, we have gained insight into a number of simple ways in which we can improve peoples' lives. One such way is *Project Grow*: a grassroots initiative designed to practice and promote the care of all three spheres of life – humans, non-human animals and the environment.

Above: Podrska founder, Dash Meizler

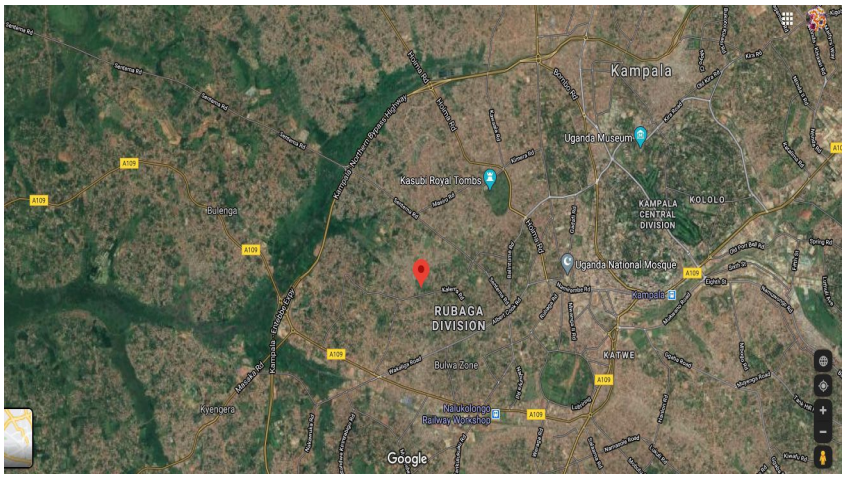
Project Grow will enable participants to learn about environmentally sustainable plant-based ways to improve all three spheres of life. This will be achieved by training participants to acquire the understanding, skills and means to recycle their organic waste into usable compost. Additionally, some participants of the project will be given the training and materials needed to grow nutritional vegetable crops to feed themselves and their families whilst others will be supported to grow mushrooms as a cash crop to pay for essential needs.
As an organisation that actively campaigns for non-human animals, we at Podrska will also be sharing information on the ethics and benefits associated with a vegan approach to life with participants throughout the duration of the project (see appendix A for examples of Podrska's vegan training schedule). To our knowledge, *Project Grow* is unique in Uganda and the Podrska Foundation is well-placed to deliver it.

Above: Podrska Foundation animal advocacy campaign

Participants

In order to make the best use of finances, resources and time, we will initially run this as a pilot project on behalf of a limited number of participants from a single district. It is our intention to extend the reach of the project to cover members of the community at large in Uganda. By first running it as a pilot project we will be able to analyse its strengths and weaknesses and use the feedback to make any improvements.

In its pilot phase, *Project Grow* will consist of ten households from the slum district of Kiwunya in Kampala, Uganda. Residents of Kiwunya face many challenges. There are high illiteracy rates, poor housing conditions, overcrowding, water logging and poor sanitation. Many residents not only have health issues but are also without work and live in extreme poverty. All households will be involved in the part of the project pertaining to recycling and transforming organic waste into usable compost. Five households will participate in the part of the project that pertains to growing vegetables and five other households will participate in the part of the project that pertains to growing mushrooms. The selection of initial participants for the pilot will be according to their level of vulnerability and availability of space for growing plants.



Kiwunya, Kampala Uganda

Delivery and Orientation

Project Grow will be launched when sufficient funds are raised. With the permission of the local rural development offices, the Podrska Foundation's local and international volunteers and advisers will oversee the project. Training in technical areas such as mushroom production and container gardening (about which the Podrska team has insufficient knowledge) will be delivered by qualified instructors. Participants will initially take part in an orientation conducted by the director of Podrska. This will include not only information about the Podrska Foundation's activities but also an outline of the proposed project and its goals.

Arvind Thomas, PHD: external adviser

Aporu Constantine: field volunteer, Uganda

Nirvikalpini Nithya: international volunteer

Monitoring, Evaluation and Reporting

The Podrska Foundation will monitor the various aspects of *Project Grow* and obtain feedback throughout from volunteers, trainers and participants as to the strengths and weaknesses of the project. Participants will also be asked to complete a simple feedback form at the end of the pilot project (see appendix B). The founder of Podrska (Dash Meizler) will meet with international volunteers and advisers via the internet to discuss the feedback in depth and accordingly make suitable adjustments to the project. Financial sponsors and interested parties will receive regular reports on the project's progress.

Funding

For the initial pilot project, we will be seeking funding from individuals interested in helping us support a vulnerable community in an ethical and environmentally friendly way. The cost to run each component of the project is shown in the relevant section below. An overview of the total cost of the project can be seen in appendix C. After launching the initial pilot project, we will be seeking institutional grants and/or funding from individuals to extend *Project Grow* to involve more households. By undertaking a pilot project first, we will be able to see if any of the project's components need altering to make improvements before we roll it out to the wider community. This will be ascertained in light of the observations of those delivering the project and via feedback from the project's participants. For example, if the participants have difficulty with understanding or implementing the recycling of organic waste, we can adjust the training schedule accordingly.

Sustainability

Project Grow is designed to be self-sustaining for participants. After the initial costs and training, participants should be able to afford the materials that will be needed to continue through the sale either of mushrooms or of any surplus vegetables. The growing medium for the container gardens will be eventually provided from the compost that is produced from the organic waste collected at the participants' homes. Podrska will be fully involved with overseeing, training and managing all aspects of the project during the first growing season (up to 6 months). It is our aim and hope that after receiving the initial training, the participants will be able to continue to recycle and grow their crops without Podrska's continual oversight or further training.
By enabling the participants to acquire knowledge and practical experience regarding plant-based diets and natural cycles involved in crop production and the decomposition of organic waste, *Project Grow* will also promote sustainability for the environment as a whole.

Components

Organic waste recycling

Currently in the slums of Kampala there is a lack of knowledge of the benefits and processes involved in recycling organic waste. Most of the organic waste comes from food, plant waste and paper which ,rather than being composted, is currently dumped on the streets or in trenches along with non-organic waste. Apart from missing the opportunity to create a fertile compost, this approach to waste management impacts the community by creating unpleasant odours, encouraging unwanted rodents and insects (such as cockroaches) and blocking the movement of water which can stagnate and become a breeding ground for mosquitoes. All of these consequences can have a negative impact on the residents' health. For this part of the project, Podrska will provide rodent-proof bins for organic waste collection. Podrska's founder (Dash Meizler) is currently receiving training to teach participants about the process and benefits of recycling organic waste (see appendix D for the organic recycling training schedule for participants). We intend to transport the organic waste to an area of rented land in order to compost it. The resulting compost will then be used to provide an organic growing medium for future container gardens. The two main benefits of the project are improvements to community health and the production of a valuable and natural organic medium. We believe that these anticipated benefits will provide sufficient incentive to the participants to continue recycling their waste.

Requirements

ITEM	QUANTITY	UNIT PRICE UGX	AMOUNT UGX	AMOUNT $*
Recycling bin	10	100000	1000000	268.78
Land rent for composting	3 months	350000	1050000	282.22
Transportation-taking organic waste for composting	6 (2 trips per month for 3 months)	300000	1800000	483.81
TOTAL			**3850000**	**1035.18**

** please note that the amount in USD is subject to change depending on the exchange rate at the time of purchase*

Vegetable container gardening

Currently, plant-based farming is scarce in Kampala's urban slum areas. A shortage of land has led to the over cultivation of available land. The result has been soil erosion and poor soil fertility. Given the low productivity of the land, the potential for crop failure is a common concern. Furthermore, the slum areas tend to have too much water which does not support crop growth. However, by enabling the slum-dwellers to grow nutrient-rich vegetables in containers, we can address their food insecurities without exploiting either non-human animals or the environment. It is proposed that participants will be given theoretical and practical training by Spark Growers, a company from Kampala that specializes in organic growing (see appendix E). They will also be provided with the materials to grow a selection of

nutritional crops which are suitable for container growing. For example, if participants grow spinach, a leafy vegetable that is high in vitamins and minerals, it will take around two months from the seedling stage to the first harvest. As spinach is a 'cut and come' vegetable, there is potential for harvesting its leaves for over five months, if it is watered and fed with an organic plant feed when necessary. Participants will also be provided with vegan organic feed to sustain plant growth and obtaining water for growing plants will not be an issue due to the abundance of water in the slums. When the plant has reached the end of its cropping phase, the containers can be refreshed with new growing medium and used for replanting. In growing their own plants, participants can become self-sufficient. At this stage, the Podrska Foundation can speak with participants about ethical food choices, give a practical demonstration of sustainable food production that does not adversely impact non-human animals. At the same time, we can show them the productive value of recycling their own organic waste.

Above left: examples of crops growing in planting bags Above right: planting bags on a mini garden construction

Requirements

ITEM	**QUANTITY**	**UNIT PRICE UGX**	**AMOUNT UGX**	**AMOUNT $***
Tomatoes	10 seedlings	3000	30000	8.07
Spinach	10 seedlings	2000	15000	4.03
Springs	10 seedlings	2000	20000	5.38
Beetroot	10 seedlings	2000	20000	5.38
Amaranthus	5	20000 handful	100000	26.89
Solanum aethiopicum	5	20000 handful	100000	26.89
Collards	5	20000 handful	100000	26.89
Training	5	200000	1000000	268.88
Mini Garden construction with soil	5	300000	1500000	403.32
Planting containers/ bags	20	15000	300000	80.67
TOTAL			**3185000**	**856.39**

** please note that the amount in USD is subject to change depending on the exchange rate at the time of purchase*

Mushroom production

Residents of Kampala's slum areas are mostly unemployed, which has a negative impact on many aspects of their lives such as their physical and mental wellbeing. As growing and selling mushrooms have recently been a popular means of generating income in Uganda, we are sure that our project's participants will reap its economic benefits (https://businessfocus.co.ug/kahuga-explains-how-farmers-can-mint-millions-from-mushrooms/?fbclid=IwAR3sgquShAw2tt8TaTOqvX3dl4ChIUtxFUZ3YinHHlBHOVSMAbTcxEbiZRQ). For the pilot study, it is proposed that 5 households will be trained by an experienced mushroom grower and also given the means to grow mushrooms as a cash crop. Participating households will work as a group in a building that will be rented specifically for the purpose of incubating and growing mushrooms. Mushrooms can easily be sold in Kampala. It will be possible for participants to work as a group in the pilot project as they all live closely together. However, when the project is extended, it is intended that participants will work individually. In sum, participants will have the opportunity to create an income without adversely impacting either non-human animals or the environment. A detailed account of how the mushrooms will be grown can be seen in appendix F.

Requirements

ITEM	**QUANTITY**	**UNIT PRICE (UGX)**	**AMOUNT (UGX)**	**AMOUNT $***
Cotton husks	10 bags	50000	500000	134.44
Spawn	50kgs	5000	250000	67.22
Maize bran	20kgs	1000	20000	5.38
Lime	5kgs	4000	20000	5.38
Bags	3kgs	25000	75000	20.17
Rings	600 pcs	200	120000	32.27
Rubber bands	1kg	30000	30000	8.07
Disinfectant (Biosafe)	1ltr	25000	25000	6.72
Firewood	3 bunch	15000	45000	12.1
Housing			700000	188.21
Metallic drum	2 drums	100000	200000	53.78
Training	Whole group		500000	134.44
Rent for mushroom house	2 months	300000	600000	161.33
TOTAL			**3085000**	**829.51**

** please note that the amount in USD is subject to change depending on the exchange rate at the time of purchase*

Miscellaneous Expenses

Transportation expenses

ITEM	QUANTITY	UNIT PRICE (UGX)	AMOUNT (UGX)	AMOUNT $*
Transportation-delivery of materials	Aiming for one trip of all the materials needed for the whole project	250000	250000	67.22
TOTAL			**250000**	**67.22**

**please note that the amount in USD is subject to change depending on the exchange rate at the time of purchase*

Administration expenses

ITEM	QUANTITY	UNIT PRICE (UGX)	AMOUNT (UGX)	AMOUNT $*
Government administration			350000	94.11
Phone			100000	26.89
Internet			150000	40.33
TOTAL			**600000**	**161.33**

** please note that the amount in USD is subject to change depending on the exchange rate at the time of purchase*

Promotion expenses

In order to increase visibility about the project and attract interest and potential sponsorship, we intend to share it not only on our electronic media but also in our printed media as outlined below:

ITEM	QUANTITY	UNIT PRICE (UGX)	AMOUNT (UGX)	AMOUNT $
Banners	3	70000	210000	56.46
Pull ups	2	350000	700000	188.21
Tear drops	2	450000	900000	241.99
Posters	20	2500	50000	13.44
T-shirts	25	45000	1125000	302.49
TOTAL			**2985000**	**802.6**

** please note that the amount in USD is subject to change depending on the exchange rate at the time of purchase*

Appendices

Appendix A: Examples of Podrska's vegan training schedule

Learning Objectives:

To understand what veganism is and to reflect on why someone chooses to be vegan.

Knowledge to be shared:

- What vegans do and do not eat.
- The positive health implications of a vegan diet
- The sentient nature of non-human animals and the exploitation done to them for food and other products
- The environmental impact of animal agriculture.

Success Criteria:

Gaining an understanding of a vegan diet and non-human animal exploitation in order for participants to make informed personal choices as to whether or not to adopt a vegan lifestyle.

Appendix B: Evaluation of Project Grow (pilot project)

Your candid evaluation of *Project Grow* is integral to its future success. We urge you to offer constructive feedback on the instructor and the project. Your feedback will help us revise and relaunch *Project Grow* on a larger scale. Below are some guidelines to evaluate the instructor(s) and the project.

1) How effective was the instructor in teaching you the benefits of the following?
   In answering the questions for each of the four stages listed below, feel free to identify any aspect(s) that you felt the instructor had not clearly described.

   a) Recycling organic waste

   b) Composting

c) Container gardening

d) Adopting a vegan lifestyle

2) To what extent were the lectures/presentations for each of the four stages well-prepared and suited to you?

a) Recycling organic waste

b) Composting

c) Container gardening

d) Adopting a vegan lifestyle

3) How confident do you feel about being able to do the following?

a) Practicing recycling of organic waste at home
b) Making compost from the recycled waste
c) Starting container gardening
d) Adopting a plant-based lifestyle

4) How welcome did you or the participants feel in asking questions or seeking help during the project?

5) How willing are you to recommend this project to others?

Please identify at least three strengths of the instructor and/or the project:
1)
2)
3)

Please identify at least three weaknesses of the instructor and/or the project:
1)
2)
3)

Please offer at least three suggestions that you think we should immediately follow in order to improve the project and its vision of care for both human and non-human animals.

Appendix C: Total overall cost for Project Grow

COMPONENT	**COST UGX**	**COST $***
Organic Waste Recycling	3850000	1035.18
Container Gardening	3185000	856.38
Mushroom Growing	3085000	829.51
Miscellaneous	3835000	1031.15
TOTAL	**13955000**	**3752.22**

** please note that the amount in USD is subject to change depending on the exchange rate at the time of purchase*

Appendix D: Organic waste recycling and the composting process

Participant organic recycling training schedule

Learning Objectives:

To have an understanding of the benefits of recycling organic waste and to be able to successfully separate household waste to make organic compost.

Knowledge to be shared:

- Which items are suitable and not suitable for composting.
- How to separate and collect organic waste in a way that will not attract unwanted insects and rodents.
- How organic waste breaks down.
- The benefits of organic compost
- The benefits of recycling organic waste to the local and wider environments.

Success Criteria: Participants are motivated to make organic waste recycling part of their regular routines.

The Composting Process

Step 1- Separating the waste:
Beneficiaries will separate their edible kitchen waste such as cooked food waste, and left over fruit and vegetable peels into one container which will be provided.
Step 2- Creating the composting areas:
Holes will be dug at the composting site in which to compost the organic waste.
Step 3- Initiating the composting process:
To maintain the dry waste (carbon) and wet waste (nitrogen) ratio needed for optimum composting, dry organic material such as leaves or newspaper will be added in alternate layers to the food waste. Soil will be added to the heap weekly and water will be added, if the materials become too dry for proper composting to take place. In order to help activate the composting process, semi-composted compost will be introduced to the pile. The pile will be turned regularly in order to make sure there is sufficient aeration.
Step 4- Utilising the compost:
The compost will be ready to add to garden soils within 2 – 3 months and can be used for the container gardening after approximately 4-5 months when it has completely broken down into a friable medium.

Appendix E: Participant container gardening training schedule

Learning Objectives: To understand the benefits and best practices associated with container gardening and how it supports a vegan lifestyle.

Knowledge to be shared:
What is container gardening?
The benefits of container gardening such as food security and nutritional benefits
Types of plants suitable for container gardening
Plant needs such as nutrients, water and sun/shade

Success Criteria:
Gaining practical experience of container gardening and its benefits as well as an understanding of how container gardening is non-exploitative to non-human animals and the environment.

Appendix F: Mushroom growing process

REVISED GUIDE TO MUSHROOM GROWING: PODRSKA FOUNDATION
In this revised edition, we focus on common practices for growing oyster mushrooms in a much simplified way.
Let’s kick off by understanding the nature of mushroom structures and where to grow them.

MUSHROOM HOUSE
Structures that provide cold conditions favour mushroom growing. We will use materials that insulate the house from heating like papyrus, grass, timber, fine charcoal, sand etc.
To support the mushroom gardens, we shall install partitions or provisions either by the use of poles (to make shelves) or suspend strings from the roof. We could just as well modify any

structure with iron sheets by just adding a papyrus ceiling beneath the roofing to capture all the heat and also improve the ventilation to carry away the extra heat.
A special room known as “the incubator” will be prepared for use during the incubation stage which will be constructed either as part of the mushroom house or as a separate structure from the main mushroom house.
A clean room will serve as an incubator so long as it provides the necessary conditions which are warm temperatures ranging between 21oC – 25oC (the usual room temperature here in the tropics) for oyster mushrooms. The room will be free of rats, which usually destroy the incubating gardens. It will provide clean aeration for colonization and be free from any possible contaminants but have light good enough for one to read a newspaper.

GARDENS/GROWKITS/BAGS MAKING PROCESS
Mushrooms are grown in decomposing farm waste materials such as maize cobs, cotton husks, and wood shavings. We will take the waste materials through a process that makes them decompose. On adding seeds/spawns to the decomposed waste, mushrooms grow in them (mycelium colonization). After the preparation of the substrates, they will be packed in bags (referred to as mushroom bags/grow kits/gardens). They form the basis of mushroom production. Under favourable conditions, mushroom fruits are ready to bag.

The following are the various steps of composting organic waste in order to prepare mushroom gardens:

1. SOAKING

There are various methods of soaking substrates depending on the nature of the substrate in question. We can dip the substrate/agricultural waste into a drum of water and leave it fully immersed for 24hrs or just wet it with water and then compost it for days.

2. DRAINING

The substrate will draw in excess water which will be drained by placing it onto a porous surface such as wire mesh in the shade for 2-5 hours.

3. STEAMING SUBSTRATES
We boil the substrates to eliminate other micro-organisms like fungi and bacteria so that we can only grow the mushroom mycelium with no competition from other organisms.

Depending on the amount of organic wastes to be steamed, prepare the steaming equipment by inserting a steaming stool/wooden rack to prevent it from coming into contact with the water. We will make sure we put enough water capable of boiling the waste for 3-6 hrs.

4. SOWING MUSHROOM SPAWN/SPAWNING

After steaming the organic wastes, we let them cool completely before mixing them with mushroom seeds/spawn. We must make sure to mix the right amount of spawn at a spawning rate of 5 – 10%. This is a critical stage that requires good hygiene to prevent contamination.

After mixing the spawn with the steamed substrates, they are packed into plastic bags with aeration inlets and then transferred to the incubation room for incubation.

5. INCUBATION/COLONISATION PERIOD
During this period, the mycelia grows into the substrate material which takes around 2 – 3 weeks

after which they become fully colonized.

For incubating oyster mushrooms, ambient room temperatures especially here in the tropics are sufficient for colonization to take place. The mycelia colonization (mushroom spawn growing into the garden) can be seen in the whitish stuff growing in the gardens.

Colonizing garden/kits show a pale whitish colour and presence of other colours like green, brown or black signifies contamination by other bad fungi or bacteria.

6. FRUITING

After colonization, bags will be transferred into the grow room, which is characterized by temperatures less than 25oC, 75% humidity, dim light and good aeration.

We will stimulate the mushroom gardens to fruit by exposing parts of them to air by making cuts through the bags and watering that area. Fruiting follows within 7 days of exposure and manifests itself as small fruit structures around the exposed area.

With good watering (3-5 times a day) and provision of favourable cold conditions, fruiting bodies develop into mushrooms ready for harvesting within 3 days.

7. HARVESTING AND MARKETING

Mushrooms are very perishable and deteriorate fast when not handled properly. Harvesting of mushrooms involves twisting the ready fruit onto one side, breaking its stem, and packing. Plastic buckets can be used for harvesting. Equipment such as a weighing scale are essential for a mushroom farmer for accountability purposes.