

# **Kilimo Bora | Smart Farming**

## **Short description of project**

Facilitation of mushroom farming in rural Tanzania for local and international markets leading to poverty alleviation and better nutritional health.

## **Organisational background and track record**

Australia for Cedar Tanzania was established in 2018 and is registered with the Australian Charities and Not-for-profits Commission (ACNC) as a Public Benevolent Institution (PBI) with the purpose of Advancing Public Welfare. Through our sister organisation, The Cedar Foundation Tanzania (Cedar Tanzania), we create positive sustainable change in rural Tanzania.

We assist communities to thrive through improving health services, education, empowering women and vulnerable groups, and increasing entrepreneurial opportunities.

Cedar Tanzania is a registered NGO in Tanzania and has been working in the field of Participatory Community Development in Tanzania since 2014.

Our projects take place in the Nyamatongo Ward in the Mwanza Region of Tanzania. This rural area is situated on the shores of Lake Victoria in north-western Tanzania and is home to approximately 35,000 residents.

### **Key activities and achievements:**

#### **KAMANGA HEALTH CENTRE**

Provision of Healthcare Services via the Construction, Operation and Management of Kamanga Health Centre:

- Public-Private-Partnership with the Tanzanian government, although we remain in financial and administrative control.
- Outpatient department and maternal ward including antenatal care, children clinic and family planning services.
- Averaging 1,500 patients monthly including 50+ deliveries.
- Collaboration and training of locally elected Community Health Workers.
- Consistent and continuous volunteer base from Liverpool School of Tropical Medicine.

#### **FOOTBALL IN ACTION**

Education and Sexual and Reproductive Health and Rights to Adolescents:

- Sports-led HIV/AIDS awareness targeting adolescent community members and indirectly the wider community.
- Promoting and offering free voluntary HIV testing and counselling.
- Successfully led a 1-year project for 320 youths.

#### **SASA!**

Prevention of Violence against Women and HIV/AIDS:

- Prevention of violence against women and HIV/AIDS through facilitations conducted by Community Activists.
- Training and mentoring of Community Activists.
- 500+ community members reached monthly.
- Collaboration with Local Government Authorities, medical staff, local and religious leaders, the Police and Social Welfare Officers to provide a holistic service for victims of violence.

#### **OUTREACH HEALTH SERVICES**

Community Based Rehabilitation for People with Disabilities:

- Mobile delivery of in-home medical health services and occupational therapy to people with disabilities.
- Facilitation of locally manufactured assistive devices.
- Extensive information to families and guardians on the provision of appropriate care of living with disabilities.
- Awareness and information campaigns throughout the community.

## KILIMO BORA

Development and delivery of extensive mushroom farming project ready for scalability:

- Set-up of central training facility in newly established Community Centre.
- Full farming cycle completed including value chain addition.
- Contact made and samples sent to several interested buyers.
- Innovative low-tech dryers developed and constructed.
- Development of scalable project plans.

## COMMUNITY CENTRE

Renovation and refurbishment of unfinished and abandoned building:

- Extensive renovations of building and surroundings.
- Community Centre connected to electricity grid and prepared for water collection.
- Enables Cedar Tanzania to host training modules and centralised projects.

## OCCUPATIONAL THERAPY

Facilitation of centrally available occupational therapy services and rehabilitation:

- Construction of additional building in connection to Kamanga Health Centre.
- Establishing rehabilitation and occupational therapy centre with appropriate training devices and aids.
- Information and education of benefits of occupational therapy to the wider community.

## GREEN KAMANGA

Establishment of plant nurseries, tree planting, and development of 3-year climate change project:

- 600 trees planted over a 2-year period.
- Education and training delivered in germinating seeds and care for seedlings.
- Plant nursery established.
- Development of scalable project plans.

## Problem Statement

90% of the Tanzanian population of 60 million people are living on less than \$5.00 PPP. 49% is surviving on less \$1.90 PPP per day – the international definition of severe poverty. Of these, the vast majority, 80%, are living in rural areas such as the Nyamatongo Ward.

Households in this area typically has no access to improved water facilities, nor are they connected to the electricity grid.

Overall, only 1 out of every 4 people in Nyamatongo Ward has any further education than primary school. Our recent survey shows that 83.74% of women finished primary school or less against men's 67.35%.

Gender inequality is prevalent in Tanzania and starts for girls already at a very young age when they often are deprived of the chance of an education in favour of their brothers. Without a good education, many girls and young women will remain both financially and emotionally dependent on parents, partners, or husbands.

People with disabilities (PWDs) bear the double burden of poverty and exclusion due to financial, social, and environmental barriers coupled with the high degree of stigma experienced by PWDs across Tanzania.

The UN's Disability and Development Report 2018 shows a deep correlation between disability and poverty not only for the individual PWD but also highly affecting the entire household. Our own observations confirm this, as most PWDs in the Nyamatongo Ward are extremely poor and only a handful are pursuing income generating activities. Consequently, by giving PWDs, or any of their household members, opportunities to become financially independent will improve the economic welfare of the entire household.

Food insecurity is prevalent with more than 62% of the residents stating they usually have no more than 2 meals a day and that they feel hunger sometimes or more.

Further, nearly half of the residents (48%) have experienced food shortage during the year of 2021 caused by failed or insufficient crops, and lack of income to purchase food.

According to the Tanzania's draft Review of National Land Policy (2017) only 15% of Tanzanian land is titled, which contributes to high insecurity, loss of rights, constraint to investment and indorses land conflicts.

Women are often unaware of their rights to access, own, use and transfer land. Hence women focus less on agricultural activities as without a certificate of ownership land can easily be claimed by male relatives or neighbours.

Tanzania's main economic activity is agriculture; it employs about 80% of the total population. Current opportunities for work within the Nyamatongo Ward remain limited as no commercial industry takes place in the area. The majority of the population survives on income generated from fishing, farming, or small informal businesses.

The Tanzanian agricultural industry depends heavily on the seasonal rainfalls which are dramatically changing. The adverse impacts of climate change include both reduced crop-yield due to drought and floods as well as reduced water availability.

Along with unreliable rainfall, farming comes with major challenges of low production and productivity due to pests, poor soil fertility, improper use of agriculture inputs, and poor infrastructure.

Malnutrition in childhood and pregnancy has many adverse consequences for child survival and long-term well-being. It also has far-reaching consequences for human capital, economic productivity, and national development overall. 32% of children under five years are experiencing stunted growth and development, with an average prevalence of 38% in rural areas such as Nyamatongo Ward, and 58% suffer from anaemia, according to the Tanzania Nutrition Survey 2018 and the most recent Demographic and Health Survey (2016).

UNICEF writes: Investing in nutrition is essential for Tanzania to progress. It is estimated that the country will lose US\$20 billion by 2025 if the nutrition situation does not improve. In contrast, by investing in nutrition and improving the population's nutritional status, the country could gain up to US\$4.7 billion by 2025.

Cedar Tanzania has, along with many other NGOs and other players working within global development, experienced a decline in external funding over the last few years. COVID, global financial downturn and general financial insecurity, war in Ukraine, inflation, rising oil prices and international political shifts has all happened within a short time span. Many of these are interconnected and outside our control.

It is therefore important to us as an organisation to ensure a higher degree of self-funding to be able to continue to provide poverty alleviation and healthcare services to those in need.

## Project Description

Kilimo Bora means Smart Farming in Swahili. All projects under this banner revolve around food security, entrepreneurship, gender equality, climate change, nutritional health, and the environment. Our first Smart Farming project has been the establishment of mushroom farming. This includes mushroom growth, drying methods, business skills and export agreements. Mushroom farming as a business is new in Tanzania, and we are one of the leading pioneers in the area.

Through this project we are addressing a range of social, economic, and environmental challenges. These include providing skilled training for vulnerable groups such as young women and people with disabilities and their household members.

Participants are offered a hands-on of training, in which they are taught both the agricultural and business aspects of operating and managing a mushroom farm. The training includes how to grow and harvest mushrooms, preparing substrate, value addition of drying and packaging, how to meet international sterilization and hygiene standards, quality control, bookkeeping, environmental best practises and compliance, market navigation, and customer service. Additionally, the participants learn how to source organic substrate materials locally and how to store this for optimal produce production.

Innovative custom-built driers, not using electricity but only the heat from the sun, have been developed and will enable us to produce a high-quality product ready for both local distribution and for the international market.

During the selection of participants priority was given to young women and to PWDs or their household members.

In our community-based surveys, we have consistently received feedback from our beneficiaries that one of their major concerns are how to improve their families' income. By introducing entrepreneurship opportunities with long-term growth plans, we are offering a direct solution to this urgent desire.

Choosing mushrooms as the vehicle for agri-business is beneficial for several reasons:

### No Land Required

Mushrooms are grown in buckets and indoors, and hence easier allow women and PWDs to become equal participants in their family's and community's economic life.

Research shows that fewer women and PWDs own land, and that they do not have equal access to manual labour.

#### Year-Round Crop, Independent of Rainfall

Through careful selection of species and growing conditions, mushrooms can be grown year-round regardless of change in rain patterns.

Climate change has shown irregularities to rainfall in the region with current draught and famine in the Horn of Africa. More specifically, the Mwanza region has experienced persistent irregular rainfall over the last number of years, which has had extensively harmful effects on local agriculture.

#### Minimal Initial Investment

This allows for economic opportunity even for women and PWDs with minimal control of their family finances. Our project encourages collaborative farming and includes financial support and training during the initial set-up period.

#### Fast Return on Investment

The mushroom growth cycle can be as short as 8 weeks, allowing farmers to see profit extremely quickly. This is important for the ability to establish income and re-investment in next growth cycle.

#### Not Labour Intensive

Mushrooms can easily be grown by women, PWDs, and their relatives without the need to hire additional help. One of the main barriers seen to extensive farming is access to labour and machinery.

#### No Educational Background Required

After a relatively short training period, participants are ready to begin cultivating mushrooms.

We embrace a hands-on learning process which allows participants to gain the necessary skills no matter previous level of schooling and their academic capabilities.

#### High Nutritional Value

Mushrooms are rich in protein, vitamins, and minerals and provide an excellent nutritional boost in areas that suffer from malnutrition such as the communities in which we are working.

Through our initial pilot project, we have already seen several tangible outcomes which will only multiply through our upscaled project plan expected to start Q1 2023.

As a result of the training and experience gained, 100% of our participants have shown interest and excitement towards setting up their own collaborative farms.

The prospect of collaborative farming minimises investment costs for the participants. This includes cost to transport bio waste, initial purchases of assets, and a cost-effective solution to house the farm.

Further, a collaborative farm has other advantages: the strength of the shared knowledge and the ability to support each other in farming duties. This increases the success rate of the farm as well as enhances the quality of the produce.

By giving a preference to women and PWDs and their household members we are ensuring the initiative is supporting the most vulnerable groups within the community. Through research, it has been proven that when women are being supported in taking up income generating activities, the financial outcome is then reinvested for the benefit of the entire household i.e., invested in children's education and health or in long-term and sustainable investments in collective living standards. Furthermore, such women tend to benefit from increased social status due to their newfound income, directly improving situations in which gender inequality is the norm.

Having an increased production of fresh mushrooms will benefit the entire community of 35,000 people through access to an additional and affordable crop with high nutritional value.

Stunted growth and development are caused by a combination of malnutrition, prolonged and repeated infections, and untreated worms and parasites. This is common sight as it is prevalent in 38% of children under five years old in rural Tanzania. Supplementing their diets with oyster mushrooms will assist in combatting stunted growth in children.

Oyster mushrooms are protein rich (32% protein) which is often a deficit in the diet in rural Tanzania. They are also an excellent source of several vitamins, including niacin (providing 21% of recommended daily intake), riboflavin (18%), and pantothenic acid (vitamin B5 - 11%). They also contain smaller amounts of folate, vitamin B6, and thiamine. Minerals in oyster mushrooms include phosphorus, potassium, copper (10% of daily needs for each), iron, magnesium, zinc, manganese, and selenium.

Oyster mushrooms benefit the immune system, heart health, lower cholesterol levels and has anti-inflammatory benefits.

The benefit to health is easily measurable through our healthcare services which already covers the entire population of the Nyamatongo Ward. The health benefits will be directly from consuming mushrooms and indirectly by an improved living standard as a result of increased income.

In the Nyamatongo Ward, the residents mainly use untreated water from Lake Victoria. As result, residents often suffer from preventable waterborne diseases and health complications.

There are no improved water facilities within the Nyamatongo Ward hence water purification is currently the best solution. We are simultaneously exploring all avenues available to provide sustainable clean water solutions to these communities.

This project promotes and teaches the importance of using exclusively purified water, as it is needed to produce an internationally accredited product, whilst creating significant increases in the families' incomes at the same time. Thereby, as a side effect from producing mushrooms, we are changing current water habits leading to positive sustainable health impacts.

As we have operated in this area since 2014, we are well accustomed to measure outcomes and diligently perform quality monitoring and evaluation of all our projects.

## **Beneficiaries**

Total: 35,000 residents

This project will directly benefit 200 participants over the first 12 months. These are the participants that directly receive the training in growing mushrooms. These beneficiaries are encouraged to set up collaborative farms which will have a much wider effect on the society.

Firstly, their income will be improved long-term which will benefit their families. Families will be able to afford better and more nutritious food items, better afford education related costs, and afford healthcare services when needed. This again will have a positive effect on the economy in these communities.

Secondly, the production of local mushrooms will introduce a new and affordable crop to the market. This will benefit everyone as there will be an affordable alternative to less nutritious crops. Long term effects will prove less deficiencies, less stunted growth and development, children that are better equipped to receive education as they are not battling malnutrition.

Thirdly, improved purified water will lead to a decrease in waterborne infections again decreasing stunted growth and development. Fewer deaths of children under 5 as this is often caused by diarrhea stemming from untreated water.

Lastly, the direct participants will harbour the knowledge of how to grow mushrooms and will be able to teach these skills to others, their community members, and their children.

Hence, we believe this project is a great benefit to the whole of the ward in which we work.

## Project Goals, Activities, and Indicators

Project Goals (Desirables)	Project Activities (Deliverables)	Project Indicators (Measurables)
<p>Create new farming opportunities introducing a climate change resilient crop especially suited to women and people with disabilities.</p> <p>Permanent production and ongoing training at our community centre</p>	<p>Establishment of training centre in mushroom growing at our community centre.</p> <p>Provide education with rolling intake with priority given to women and people with disabilities.</p> <p>Establish continuous production, drying, and packaging of mushrooms at community centre.</p>	<p>Training of Cedar Tanzania staff in mushroom growing.</p> <p>200 residents successfully trained in mushroom growing through the first 12 months.</p> <p>Ongoing production from the training facilities at the community centre.</p>
<p>Promote healthy and ecological practices including eco-friendly recycling of agricultural waste and creation of waste-free fertiliser.</p>	<p>Deliver training on the negative impacts of climate change and provide mitigating solutions where practical and available.</p> <p>Provide training in environmental best practices within mushroom farming and the context in which we work.</p>	<p>Decrease in bio-waste being burnt on fields within the ward.</p> <p>Increase in utilising mushroom waste as fertiliser.</p> <p>Increase in behaviours mitigating climate change.</p>
<p>Uptake of mushroom farming in the local community.</p>	<p>Encourage beneficiaries to establish collaborative farms.</p> <p>Deliver ongoing advisory support to new farms.</p> <p>Deliver teaching in business skills and banking.</p> <p>Provide advice on packaging, sales, and customer service.</p>	<p>Percentage of the trained clients who successfully establish farms and who is still farming after six months.</p> <p>Number of contact points and visits to newly established farms within first six months of operation.</p> <p>Increase in availability of locally produced mushrooms.</p>
<p>Increase in wellbeing resulting from directly improving nutritional deficits through greater availability of highly nutritious locally sourced produce, and from an increase in household income.</p> <p>Strengthen vulnerable groups such as women and people with disabilities' position in their communities.</p>	<p>Explain nutritional values and benefits of mushrooms to the wider community.</p> <p>Deliver practical cooking lessons.</p> <p>Deliver teaching in re-investing in business and in savings.</p> <p>Provide information on healthcare and education available.</p>	<p>Decrease in children diagnosed with malnutrition and stunted growth and development in the area.</p> <p>Increase in health for mothers and children under 5.</p> <p>Increase in knowledge on nutritional health.</p> <p>Increase in household living standards and overall wellbeing.</p>
<p>Safety-net newly established mushroom farms against loss from over-production.</p> <p>Connecting the local agricultural activities with the international market in a manner that promotes and ensures sustainability and fair wages.</p>	<p>Approve and test methods used at each farm are in alignment with international requirements.</p> <p>Ensure water used for mushroom farming is tested and approved.</p> <p>Ensure community centre has capacity to dry excess production purchased.</p> <p>Communicate and teach procedures required for uptake of excess production.</p>	<p>Minimum of wasted or lost mushroom production due to satiated local market.</p> <p>Manuals and procedures in place and accessible to all community members.</p> <p>Testing and certification records on file.</p> <p>Increased capacity for drying and packaging surplus production.</p>
<p>Achieve a higher degree of self-funding within Cedar Tanzania and prove project ready to scale further.</p>	<p>Achieve year-round harvest from community centre.</p>	<p>Agreements in place with buyers internationally and locally.</p>

	<p>Achieve all required licences and certificates for sale of mushrooms locally and internationally.</p> <p>Ability to package and sell B2B and B2C (bulk/wholesale and shelf-ready retail).</p>	<p>Licences and certifications on file.</p> <p>Project financially sustainable after 12 months.</p> <p>Project is ready to copy and implement into other areas with similar conditions.</p>
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## Sustainability

During our years of operating in the Nyamatongo Ward we have established close ties with the communities we serve allowing us to gain a deep understanding of the context and needs of its residents. Through our extensive community work and participatory approach in the implementation of our projects we have earned great credibility and trust within the community fostering beneficial conditions for introduction of new projects.

During project development and in our daily work, we regularly consult stakeholders including district, ward, village and hamlet leaders, religious leaders and a wide cross section of community members including children and PWDs, considering gender and cultural characteristics to thoroughly understand the immediate fears, concerns and needs of the residents of Nyamatongo Ward.

We have acquired the competences to plan and carry out projects accurately and to create thorough and well considered project plans through our experience in running several projects simultaneously, and through insights gained from pilots and focus groups.

We draw on our expertise from the other large-scale projects we have carried out successfully such as the construction and running of the Kamanga Health Centre, and we consistently place emphasis on sound financial planning and adherence to budgets to ensure planned activities are implemented in a timely manner and within the resources allocated.

Reliable and relevant M&E ensures that we meet the needs of our target groups and achieve desired outcomes. Our proven proficiency in regularly obtaining feedback from beneficiaries and stakeholders as well as gathering of relevant data through a range of activities shape our project implementations and ensures flexibility in adjusting project activities to remain relevant and in line with desired outcomes.

Further, we regularly draw on expertise found outside Cedar Tanzania and our communities to assist on technical aspects and to provide knowledge and training on specific subjects. We believe collaboration across sectors and industries create a more effective and impactful outcome. We encourage cross sector involvement and promote collaboration with the private sector.

As such, we have on this project partnered with Entrepreneurs vs. Poverty on project development and with Mamaland Mushrooms for their local expertise and ability to provide training in Swahili.

We have previously enjoyed working with the private sector on specific projects aligned to each company's profile and core values, and we also enjoy the expertise from several high positioned global industry leaders on our board.

We receive great support from the Tanzanian government and have yearly visits by the Minister of Health, Regional Commissioner, and other notables.

Specific sustainably factors of this project:

### Responsible Cyclic Agriculture and Prevents the Burning of Agricultural Waste

Our mushrooms are grown on agricultural waste, saving expenses, and preventing the common practice of burning waste.

Avoiding burning of agricultural waste ties in with climate change best practises.

### No Pesticides or Fertilizer Required

This both saves on expenses while also ensuring no chemical runoff or harmful agricultural practices. Spent substrates can be reused or sold as fertilizer after the mushroom growth is complete.

With the current hike in fertilizer price and scarce availability this makes mushroom farming a very appealing and cost-effective crop. In addition, in rural areas women are often at a significant disadvantage in regard to purchasing quality fertilizer, since access to such products are often prioritized towards male farmers.

#### Long-Term Financial Growth Potential

There are several ways a farm could expand: Entrepreneurs can expand into more exotic, high-value mushroom strands as their financial stability increases. Alternatively, there is a growing market for medicinal mushrooms. Further several niche products are being produced such as mushroom leather, mushroom bricks, or to dispose of oil spills and non-degradable waste products.

Additionally, part of our long-term project plan is to provide a safety-net option to purchase any surplus production which will be dried and exported as wholesale to the international market.

#### High Demand on the International Market

Dried mushrooms have a one-year shelf life and can be sold internationally to a wide range of customers. This includes both B2B and B2C customers, wholesaling, distribution, and to businesses for further processing. We currently have buyers in Singapore and in East Africa for distribution in Europe and in the USA.

#### Financial Sustainability after Seed-Funding

After initial central set-up and establishment of first round of collaborative farms the project is financially sustainable with income generated from export of central production as well as surplus production from the collaborative farms.

As a not-for-profit, any financial surplus will be re-invested into further strengthening and expansion of the mushroom project or into our healthcare services.

Furthermore, interest has already been shown from international impact investing companies for further scaling and expansion.

#### Scalability to other areas

Long-term plans include scaling this project to other areas outside of Nyamatongo Ward. Interest for our project has been shown by organisations working in the refugee camps in the Kigoma area housing approximately 250,000 residents.

Additionally, a potential collaboration with companies working with other dried fruit and vegetables could be imagined. Also in this area, interest has been shown from potential partner companies.

## **Budget**

AUD \$150,000

USD \$105,000

This budget will take the project through its first 12 months after which it is expected to be financially sustainable. Summary budget available upon request.

## **SDGs**

SDG 1: No Poverty

SDG 2: End Hunger

SDG 3: Good Health and Well-being

SDG 4: Quality Education

SDG 5: Gender Equality

SDG 6: Clean Water and Sanitation

SDG 8: Decent Work and Economic Growth

SDG 9: Industry, Innovation, and Infrastructure

SDG 10: Reduced Inequalities

SDG 12: Responsible Consumption and Production

SDG 13: Climate Action

SDG 17: Partnerships for the Goals



## Risks and mitigations

**Type:** Operational

**Category:** Quality issues

**Risk:** The quality of mushrooms produced at the Community Centre is lacking.

**Mitigation:** Through our initial pilot, we tested all procedures to ensure we can deliver a quality product. This was confirmed by independent lab tests and samples sent to international buyers. We will continue to refine our methods and seek advice through international consults.

**Type:** Operational

**Category:** Quality issues

**Risk:** The quality of mushrooms produced by small holder farmers is lacking.

**Mitigation:** Through our training we emphasise the importance of using sterilised water, correct storage and drying of bio waste and correct procedures throughout the farming process. With continuous support and regular visits to all smallholder farms we ensure the quality of product is remaining to international standards. Every batch of mushrooms will be tested by third-party lab before purchase and on-sale.

**Type:** Operational

**Category:** Project relevance

**Risk:** The beneficiaries have no interest in the project, or in taking up collaborative mushroom farming.

**Mitigation:** A small pilot was carried out in 2022 with great success and with high interest from the participants.

**Type:** Operational

**Category:** Supply issues

**Risk:** The volume of mushrooms produced by the Community Centre is less than expected.

**Mitigation:** In our budget, we are anticipating a smaller than usual outcome from our Community Center through year 1. Further, we have allowed for 2 x training by external mushroom farming expert onsite. Additionally, our expectations are kept very conservative to allow for an occasional smaller output.

**Type:** Operational

**Category:** Supply issues

**Risk:** The volume of mushrooms produced by small holder farmers is less than expected.

**Mitigation:** In our budget, we are anticipating a smaller than usual outcome from our smallholder farmers through year 1. Further, we are allowing for one of our staff members to visit all smallholder farms on a regular basis and we remain available to them as consultants and advisors to optimise their farm outputs. Additionally, our expectations are kept very conservative to allow for an occasional smaller output.

**Type:** Financial

**Category:** Currency changes

**Risk:** The budget is under or overestimating real time costs due to fluctuations in exchange rates.

**Mitigation:** Allowing a financial buffer in the budget to absorb any fluctuations.

**Type:** Financial

**Category:** Inflation

**Risk:** The budget is not allowing for local inflation and/or cost of budgeted items and services.

**Mitigation:** Incorporate costs for forecasted inflation increase in prices from reliable sources.

**Type:** Financial

**Category:** Financial Sustainability

**Risk:** The project is not sustainable in itself after Year 1.

**Mitigation:** We have extensive experience in project planning and budgeting for similar projects. To ensure we remain within planned budget financial reports will be made every quarter.

**Type:** Financial

**Category:** Adherence to budget.

**Risk:** The budget is unrealistic and is has omitted significant factors.

**Mitigation:** We have extensive experience in project planning and implementation of similar size projects in the same environment.

**Type:** Hazard

**Category:** Political environment

**Risk:** The political environment is changing and becoming difficult to operate in.

**Mitigation:** Due to our organisation's longevity operating within Tanzania we now have an entirely local management and core staff in place. Further, we have obtained all required local registrations. Over the years, we have enjoyed great support from local authorities as well as ministerial level.

**Type:** Hazard

**Category:** Natural hazards

**Risk:** Flooding, draught and other climate change related changes to weather causing changes to the natural occurring weather patterns.

**Mitigation:** We have purposely chosen mushroom as a crop to mitigate climate change factors. Further, no land is required as they are grown indoors. Finally, our Community Center is located on a hill and has been unaffected by any previous floodings caused by climate change.

**Type:** Strategic

**Category:** Business growth

**Risk:** Lack of vision to grow the business.

**Mitigation:** There are many opportunities to grow this business. Construction bricks, leather, chemical engineering, and medicinal industries are all possible avenues.

**Type:** Strategic

**Category:** Business growth.

**Risk:** Not utilising opportunities to scale.

**Mitigation:** Initial conversations to scale into larger permanent refugee camps has already been held. Also interest in scaling this project to other neighbouring countries which has very similar conditions and societies.

**Type:** Strategic

**Category:** Competition.

**Risk:** Small holder farmers not selling to us.

**Mitigation:** As we are offering to buy mushrooms at market value there will be no unnatural competition. By offering training and continuous support we are building a trusting relation with these farmers. Further, by relying on smaller amounts but from many smallholder farmers we are hedging against loss of a sole supplier.

**Type:** Strategic.

**Category:** Competition.

**Risk:** Satiated market.

**Mitigation:** By ensuring our mushrooms are of international quality we are opening our market opportunities. By drying mushrooms, we are ensuring long shelf life of our product (1-2 years). These two factors allow us to sell fresh at the local market, dried mushrooms across Tanzania both as retail and wholesale, and it opens up for international sale for both retail and wholesale.

## More information

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