**Tafika Youth Organisation**

**Investment Proposal – Planting of a 10 acre forest of trees**

**Prepared** on 4-3-22

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**Outline of business idea**

Tafika would like to buy 10 acres of land to plant 6,000 fast growing pine trees to fix 600 tons of carbon. The project will also provide planks for construction of houses and wood for cookstoves. This project requires £22,500 of investment.

The chosen species of trees take 10 years to grow and the net revenue from each acre once it is cropped is estimated at £21,273 (at today’s prices). The forest will be cropped one acre at a time, with each acre being replanted as the trees are felled. This means a revolving revenue stream is being generated for Tafika to use to fund its many community based projects.

This project seeks to help Tafika reduce or remove our dependency on donors. It is about helping communities stand on their own two feet, enabling them to sort out problems for themselves.

**Who are Tafika?**

We are a Malawi registered Youth Group based in the north of Malawi near to Ekwendeni. Tafika already work with multiple NGO’s including Mary’s Meals where we are running an innovative champion/challenger model to Mary’s Meals core feeding programs. Additionally, we work with Smileawi, Zambia and Malawi Community Partnership, Plan Malawi, Banana Box, Nourishing Minds, Formidable Joy and Harvest Plus.

**Context**

Malawi has a rapidly growing population (11m people in 2000 compared to 21m people in 2022 [Malawi Population Growth Rate 1950-2022 | MacroTrends](https://www.macrotrends.net/countries/MWI/malawi/population-growth-rate)) and this has created demand for firewood and construction timber. It has also meant that Malawians have deforested their land in an attempt to provide for the demand, with some suggesting that Malawi could be stripped of all trees by 2079 ([Addressing Malawi’s deforestation crisis - Africa Geographic](https://africageographic.com/stories/addressing-malawis-deforestation-crisis/)). It is not all bad news though and Malawi has a fertile land which is able to sustain natural and commercial forest plantations and there are many examples of pine being grown commercially in the north of Malawi. This project aims to help reverse deforestation in our local area. Our community are behind this project and Appendix 1 shows letters of support from local chiefs and schools who are keen to see trees being grown in the area.

**What we will Plant and how we will Plant it**

The Malawi Department of Forestry have recommended we plant [Pinus Kesiya](https://tropix.cirad.fr/FichiersComplementaires/EN/Asia/PINUS%20KESIYA.pdf) and [Pinus Oocappa](https://www.prota4u.org/database/protav8.asp?g=psk&p=Pinus%20oocarpa), both are fast growing non-native species already being used in commercial forestry in the area. They recommend we plant trees 2.5m from each other.

We have identified 10 acres of land close to our existing projects, covering an area of around 40,470m2 (one acre is 4,047m2 – roughly 64m x 64m).

The trees will be planted in phases as follows:

Phase 1. A perimeter of trees (1,200 in all) will be planted around the entire area of the land to demark its use and demonstrate ownership. This will be completed in year 1.

Phase 2. Four acres will be planted with trees spaced 2.5m apart from each other. This will be completed in year 1.

Phase 3. Two acres will be planted with trees spaced 2.5m apart from each other. This will be completed in year 2.

Phase 4. Two acres will be planted with trees spaced 2.5m apart from each other. This will be completed in year 3.

The trees will take 10 years to reach maturity and will be cropped one acre a year (some of the acres will be left for 11, 12 and 13 years before they are cropped, creating extra growth in the trees). As each acre is cropped new trees will be replanted ensuring the forest remains intact.

**What funding do we need?**

We recognise we have to have some ‘skin in the game’ to provide investors with certainty about our intentions to successfully complete this project. Therefore, we are seeking to fund the first five years of this project and thereafter Tafika will supply the funds to complete the project. Your seed capital is vital to our success and we are seeking £22,500 to start the project and take it to the end of year five. Tafika will provide all of the administration and organisation of the project and can also provide regular progress reports.

**Details of the costs (assumed exchange rate is £1=MWK1,100)**

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| **£’s** | **Details** |
| £9,600 | Purchase 10 acres of land |
| £1,200 | Land ownership documentation and process cost |
| £545 | Build a guard shelter |
| £491 | **Year 1 Seedlings** – MK150 each4 acres of 600 seedlings per acre planted.1,200 seedlings planted as a perimeter – approx. 200 per acre for the remaining 6 acres. 3,600 Total in Year 1 covering a total of 6 acres. |
| £2,618 | **Year 1 Labour costs**Each acre will need 2 people for 3 months to prepare and plant the land and look after early stage seedlings. Each month will cost MK80,000. There are four acres to prepare, plant and look after.Additionally, there are 1200 trees for the perimeter to plant, which is an additional 2 acres, making a total of 6 acres planted in Year 1. |
| £164 | **Year 2 Seedlings** – MK150 each2 acres at 600 seedlings = 1200 trees planted this year. |
| £873 | **Year 2 Labour costs**Each acre will need 2 people for 3 months to prepare and plant the land and look after early stage seedlings. Each month will cost MK80,000. There are two acres to prepare, plant and look after. |
| £164 | **Year 3 Seedlings - MK150 each**2 acres at 600 seedlings equals 1200 total. |
| £873 | **Year 3 Labour costs**Each acre will need 2 people for 3 months to prepare and plant the land and look after early stage seedlings. Each month will cost MK80,000. There are two acres to prepare, plant and look after. |
| £1,746 | **Year 4 and onwards labour costs**The plantation will need to be looked after - a budget of 1 person being paid 80,000 a month for 12 months is suggested @£873 a year. |
| £2,500 | Guardian cost to ensure security and trim and water trees at MK550,000 (£500) a year for 5 years |
| £1,454 | Contingencies at 7% until Year 5 |
| **£22,227** | **First 5 years – rounded up to £22,500** |

**Revenue Metrics (assumed exchange rate is £1=MWK1,100)**

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|  | **£’s** | **Details** |
| 10 |   | Planks per tree |
| **MWK 6,500** | £5.91 | Cost of an 18ft plank |
|   | £59.09 | Revenue per tree |
| 600 |   | Trees per acre |
| **MWK 39,000,000** | **£35,455** | **Gross Revenue per acre** |
| **MWK 7,800,000** | £7,091 | Assumed wastage at 20% |
| **MWK 7,800,000** | £7,091 | Estimated harvesting / transport and sawmill costs per acre at 20% |
|   | £21,273 | Estimated real revenue per acre (at today’s prices) |

**Simple Cashflows**

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| **Expenditure details** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Year 7** | **Year 8** | **Year 9** | **Year 10** | **Year 11** | **Year 12** |
| **Land cost** | -£9,600 |  |  |  |  |  |  |  |  |  |  |  |
| **Seedling’s cost** | -£491 | -£164 | -£164 |   |   |   |   |   |   |   | -£164 | -£164 |
| **Labour cost** | -£2,618 | -£873 | -£873 | -£873 | -£873 | -£873 | -£873 | -£873 | -£873 | -£873 | -£873 | -£873 |
| **Security Guard** | -£500 | -£500 | -£500 | -£500 | -£500 | -£500 | -£500 | -£500 | -£500 | -£500 | -£500 | -£500 |
| **Timber Saw** |   |   |   |   |   |   |   |   |   | -£1,000 |   |   |
| **Land ownership documentation and process cost** | -£1,200 |   |   |   |   |   |   |   |   |   |   |   |
| **Construction of harvesting shed** |   |   |   |   |   |   |   |   |   |   | -£2,300 |   |
| **Guard shelter** | -£545 |   |   |   |   |   |   |   |   |   |   |   |
| **Simple Revenue**  |   |   |   |   |   |   |   |   |   |   | **£21,273** | **£21,273** |
| **Sub Total**  | -£14,955 | -£1,536 | -£1,536 | -£1,373 | -£1,373 | -£1,373 | -£1,373 | -£1,373 | -£1,373 | -£2,373 | **£17,436** | **£19,736** |
| **Contingency 7%** | -£1,047 | -£108 | -£108 | -£96 | -£96 | -£96 | -£96 | -£96 | -£96 | -£166 | **£0** | **£0** |
| **Annual Totals** | -£16,001 | -£1,644 | -£1,644 | -£1,469 | -£1,469 | -£1,469 | -£1,469 | -£1,469 | -£1,469 | -£2,539 | **£17,436** | **£19,736** |
| **Cumulative**  | **-£16,001** | **-£17,645** | **-£19,289** | **-£20,758** | **-£22,227** | **-£23,696** | **-£25,164** | **-£26,633** | **-£28,102** | **-£30,641** | **-£13,205** | **£6,532** |

Note:

1. We have made a zero inflation assumption here for the simple cashflows as we are creating a commodity (trees) which will benefit proportionally by the same amount of inflationary growth. As investment dividends are going to be paid from these same commodities the impact of exchange rate movements for investors will also be lessened.

2. The positive cashflows roll forward at this level from year 12 onwards generating meaningful value for the project over a 20 year time horizon.

**How will the money be used?**

By creating a forest, Tafika will be able to create a sustainable income stream which they can use to fund their own community activities. Tafika’s activities include:

* Building schools in the local communities
* Providing scholarships for disadvantage students
* Providing feeding for around 10,000 school children each year
* Running an extensive Sports Academy designed to provide youth with purpose and reduce early marriages and teenage pregnancy

For a more extensive list of our activities see our website [www.Tafikamalawi.com](http://www.Tafikamalawi.com)

At Tafika we are currently reliant on donors to assist our programs of work, however we want to move away from this model of dependency and create a self-sustaining community organisation that is not reliant on handouts.

**What makes tree planting such a great idea?**

Malawi suffers from the following problems

* Rapid population growth (Malawi’s population growth is one of the highest in the world at 2.7% per annum)
* Many acres of forest are being cleared for agriculture
* As forests disappear, mass erosion contributes to flooding
* Lack of a feeling of ownership for forests by the local community
* The government is under-resourced
* The growing population need places to live and this requires timber for construction
* The growing population continue to cook on wood. While alternatives are available in other countries; and while the efficient cookstoves we are building in our communities mean less wood is needed; wood will continue to be the major fuel used for cooking for many years to come. Sadly this is the reality in Malawi and we have a very long way to go before communities have a viable alternative to wood.
* Forests will provide a habitat for wildlife that are being forced out of other areas due to land pressure.

By planting trees as a crop, Tafika will be fixing carbon as well as producing wood for cook-stoves and planks for construction.

Our tree planting is NOT a verified carbon offsetting project but we can give you an estimate of how much carbon would be offset by investing in our tree planting project in Malawi. A realistic starting point is that one tree absorbs about one tonne of CO2 over a lifetime of 100 years – that is an average of 10 kg per year.

For our calculation, we are taking the life of the tree as 10 years. This would mean that, over the 10-year period, one tree would absorb 100 kg of CO2 and so 10 trees would absorb one tonne of CO2. (Source https://rippleafrica.org/project/tree-planting-in-malawi-africa/).

**What are the major risks?**

**Fire**

The varieties of pine we plan to plant are [fire sensitive](https://apps.worldagroforestry.org/usefultrees/pdflib/Pinus_oocarpa_ZAM.pdf) and will fare better when the ground is kept clear, ensuring any fire is of a lower intensity and therefore less destructive.

**Theft**

The land that will be used is known to the community and boundaries will be enforced by the initial planting of the boundary trees. We will have a guardian living on the plantation and they will ensure theft does not take place. The local chief will apply the law if the need arises. We do not have a culture of fencing land as the fence itself is costly, but the community understand what land belongs to the project and they understand they are also, ultimately, the beneficiaries.

**Poor Soil**

The chosen varieties grow well on the local soil and in the first planting cycle require no fertilizer. The trees fix nutrients and so the second planting cycle is also fertiliser free, while for the third planting additives will be needed to re-balance the soil.

**No buyers**

The population of Malawi is growing at 2.7% a year (one of the highest growth rates in the world) and there is already a scarcity of wood for construction and cooking.

**Pests**

These trees are resistant to some [pests](https://apps.worldagroforestry.org/usefultrees/pdflib/Pinus_oocarpa_ZAM.pdf) but not to others. We have assumed a 20% wastage figure, in the Revenue Metrics section, over the 10 year growth cycle, and Pests are expected to contribute to this loss.

**Lack of expertise**

We will be assisted by the Malawi Department of Forestry and also by Ripple Africa, who have successfully planted 17m trees in Malawi since 2004.

**Wind/Storm Damage**

We expect to lose some trees to storms. We have assumed a 20% wastage figure, in the Revenue Metrics section, over the 10 year growth cycle, and storm damage is expected to contribute to this loss. We will consider interplanting of fruit trees within the forest to create a variable canopy height which helps forests survive storms and which also provides income from the fruit trees after around 5 years. We are happy to discuss this plan further.

**Basis of funding**

As an organisation we are happy to work with both donors and investors on terms that are appropriate to the project and to the reality of our situation. We have some guiding principles:

1. We are delighted to receive donations.

2. We are delighted to receive commercial loans. Where money is received as a loan we would ask investors to think about the following:

* We recognise the Kwacha is a weak currency when compared to the currencies used by donors and investors and ask that currency risk is taken by the investor.
* Over the last 10 years we have experience [inflation](https://www.macrotrends.net/countries/MWI/malawi/inflation-rate-cpi) rates of between 7 and 27%. For long term investments such as this, investors should be aware of the risk.
* For this project there are no positive projected cash flows for 10 years so we cannot repay the loan or any interest until our revenue stream starts to work.
* We would prefer to pay investors in trees with a £1,000 initial investment being worth 10 trees a year for the first 10 year growing cycle. here is how this works out.
1. Imagine you had £1,000 and invested it at rates of 4% per annum. By Year 11 your investment would be worth £1,480 and by Year 20 it would be worth £2,107.
2. For this investment for each £1,000 you lend you will be ‘buying’ 10 trees in each year of the growing cycle from year 11 to year 20, in other words your investment will buy 100 mature trees.
3. Each tree is worth £59.09 now but by year 11 we assume they will be worth £87 (assuming a 4% rate of inflation), a total of £870 for your trees in the first repayment.
4. We know we will lose some trees so if we assume a 40% wastage figure we can expect a return of £524.81 in Year 11.
5. Years 12 to 20 will experience commodity price inflation of an assumed 4% meaning that by Year 20 each tree might be worth £124 (pre wastage). Once wastage is taken account of we estimate you will have made £6,300 from the sale of trees. A reasonable rate of return for your £1,000 investment over the 20 year period.
6. As a comparison, £1,000 would have to be inflated by a little over 10% annually to make this kind of return.
7. Note, as you are buying a future commodity you are essentially removing inflation and exchange rate risks

We will be happy to discuss the basis of any commercial terms with you.

**Managing your investment**

We work with UK Registered Charity, Zambia and Malawi Community Partnership (Charity Number : 1136225 [www.zmcpcharity.com](http://www.zmcpcharity.com)) and will use them as our UK ‘portal’ for donations or investment. ZMCP will hold the funds in a reserved GBP account and will release them to Tafika on an annual basis, ensuring proper control is maintained over the budget in the early years.

**Summary and Next Steps**

We are seeking £22,500 of funding to help us plant a forest of 6,000 trees.

We will harvest one acre of forest in Year 11 creating an expected revenue of £21,273 (at today’s prices), this acre will be re-planted and each year we will continue this process.

The forest itself will fix around 600 tons of carbon, helping protect Malawi’s environment.

The forest will provide wood for construction and the lower branches will provide fuel for cooking.

We are seeking both **donations** and **commercial** loans to allow us to proceed with this project.

If you would like to be part of this exciting venture please contact either Tafika or our UK based Charity partner who will be delighted to receive your donation or to draw up the necessary paperwork for your investment.

**Contacts**

**Tafika:** Shupo Kumwenda, Director, email: bupakumwenda@gmail.com Tel +265 888659925

**Zambia and Malawi Community Partnership**: Mick James, Treasurer, email: zmcpcharity@gmail.com Tel +44(0)7850501394

**Appendix 1 – Letters of Support for the Project**

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