



Overview

Technology for Tomorrow, Ltd. Investment Profile

Summary: Dr. Moses Kizza Musaaazi, a professor at Makerere University in Kampala, Uganda, founded Technology for Tomorrow, Ltd. whose approach focuses on employing as many individuals as possible in the manufacturing of their products and provide environmentally friendly products to the community at the lowest possible cost. Their flagship product, MakaPads, are sanitary napkins made from sustainably harvested papyrus and recycled paper waste.

About

- **Mission:** To apply Appropriate Technologies for the betterment of the environment and humanity.
- **Founded:** started operations in 2003 with a \$78,000 grant from the Rockefeller foundation
- **Structure:** incorporated in 2007 at the request of UNHCR
- **Social Entrepreneur:** Moses Kizza Musaaazi, Founder & Team Leader
- **Where They Work:** Uganda (with ambitions to expand elsewhere in East Africa)
- **Delivery to Date:** production sold to the UNHCR has given access to sanitary pads to more than 45,000 women in refugee camps.

Business Model

Technology for Tomorrow, Ltd.'s main product is MakaPads, a sanitary napkin made from recycled paper waste and papyrus. MakaPads are sold in packs of 3 and 10. The UNHCR absorbs 90 to 100% of T4T's production for one year, with the remaining pads being sold to employees, friends and family, and in one-off deals with other NGOs. Technology for Tomorrow, Ltd. earns a maximum of at 10% margin on each pad. The company prioritizes social impact, both on its employees and on its customers. Technology for Tomorrow, Ltd. has set up its own supply chain, from the collection of papyrus, to its softening, processing, solar drying, and final packaging. All tasks are manually completed, and electricity from a photovoltaic solar array is used for sealing the pads and for sterilization at the end of the process.

Situation Analysis

- **Challenge:** without access to sanitary pads, many Ugandan girls stop going to school during their menstrual cycle and eventually end up dropping out completely. Girls usually resort to pieces of clothing, paper or leaves – none of them enabling them to have a normal life during their periods.
- **Theory of Change:** By providing an low-cost, effective product, low income-families and girls will be able to afford sanitary napkins and go to school, and by also providing employment to employees involved with production of MakaPads, these individuals and their families can be lifted out of near begging circumstances to being self-sustaining and economically empowered.
- **Client Profile:** The average Ugandan makes around \$1,500USD/year, and 80% of the workforce is in the agricultural sector, with the prominent export being coffee. Nearly 100% of MakaPads purchasers are women.
- **Opportunity:** Kampala is both the largest city and the capital of Uganda, and has a population of around 1.6 million people, with women comprising half of that population. With almost 60% of the Ugandan population is 24 or younger, the market for menstrual pads is incredibly large and only increasing, as Uganda is ranked 3rd for highest birth rate in world.
- **Product and Services:** T4T sells several products, including bricks, incinerators, water tanks, stoves, granaries, and latrines. MakaPads are priced at 1000-1500 USH (\$0.30-\$0.50) for a pack of 10.
- **Revenue Model:** T4T earns a margin (max. 10%) on each MakaPad sold. Similar margins are made on other T4T products.

How it works

- **Awareness & Outreach:** Currently, customers find MakaPads either via the UNHCR's packages to refugees, charitable donations to other organizations via partner NGOs, or as a friend or family of T4T employees.
- **Cottage Industry Model:** MakaPads are made by hand by local Ugandans in five different production facilities throughout Kampala and one in the UNHCR Kyaka II Refugee Settlement in the north-western part of the country. The employees are both men and women, and they are paid on a per unit of production basis depending on what they make in their part of the assembly of MakaPads. Technology for Tomorrow, Ltd. seeks to employ the most people that they can in order to have the greatest amount of social impact within the community.
- **Local Network:** Technology for Tomorrow, Ltd. recruits individuals who are most in need to make MakaPads. These individuals are typically single mothers, refugees, widows, or individuals who have many people in their household they need to take care of.
- **Trainings:** Technology for Tomorrow, Ltd. provides technical trainings to each employee on how to perform the task needed to make their part of the MakaPads product. Technology for Tomorrow, Ltd. will also train other members of that individual's household that same task so that if they become ill and have to miss work, another family member can fill in for them and still provide an income for the household.
- **Market Access:** (Trial Phase) Technology for Tomorrow, Ltd. is in the process of implementing a series of strategies specifically developed for them in order to increase their market access beyond the UNHCR.

Enablers

People

- **Leadership:** Dr. Moses Musaaazi, senior lecturer at Makerere University and founder of Technology for Tomorrow, Ltd.
- **Key People:** Julie Nakibuule, Emmanuel Miyingo
- **Partners:** Makerere University, Various University of Michigan faculty and students, Sustainability without Borders (SWB), the UNHCR, and other NGOs

Sustainability

Environmental: MakaPads are made from 90% local Ugandan materials, including sustainably harvested papyrus, and recycled paper waste. The pads are 95% biodegradable, and take up 3-4 times less space in latrines, which means the latrines do not have to be emptied/cleaned as often. MakaPads are made with very little electricity at only two points during the production process. Technology for Tomorrow, Ltd. is in the process of making the electricity that is used 100% solar powered in the next 1-3 years.

Financial: Technology for Tomorrow, Ltd. make a maximum of 10% profit on each of the MakaPads sold. The company prioritizes the income of its employees in order to make the biggest social impact within the community.

Lasting Behavior Change: All Technology for Tomorrow, Ltd. employees have access to buy MakaPads, and those that do are brand loyalist and prefer MakaPads to western brands because MakaPads are odorless, have no chemicals, and are locally made and more affordable.

Scalability

Easy Replication

There are very few inputs needed in order to make a new production site for MakaPads. Plastic screens in which the papyrus and paper sheets dry on are the most expensive overhead cost when it comes to setting up a new production facility. Other than the screens, it is very easy to replicate the production process in a multitude of different environments.

Pending successful implementation of market access expansion strategies, the need to scale up production will be necessary. Due to MakaPads easy replicability, scaling this operation would require the overhead costs of providing: plastic drying screens, drying stations, dry storage units, softening and cutting hand cranks, and sealing presses. The Technology for Tomorrow, Ltd. leadership envisions further scaling of MakaPads production facilities to other locations outside of Kampala, and ideally throughout Uganda. In order for scaling to happen, the demand for MakaPads would need to surpass the amount of MakaPads the current production facilities are making at present.

Impact

Environmental Impact: Currently, papyrus growth in Uganda is ubiquitous throughout the country of Uganda, and grows at an incredibly high pace. Technology for Tomorrow, Ltd. cuts and harvests all of their papyrus in a way that is not harmful to the future growth of the plant or the wetland as a whole.

School Absenteeism: Lack of access to feminine hygiene products is a major public health issue globally. According to UNICEF estimates, 1 in 10 girls do not attend school during menstruation; causing them to miss about 25% of the school year and, in many cases, eventually drop out. This problem is particularly prevalent in low-income communities in east Africa, and these young women and girl's absence from school leads to a reduction in overall education and usually a disadvantaged start in the workplace resulting in decreased income. MakaPads have the potential to keep more girls in school during menstruation at a more affordable monthly cost to their families.

Employment: At present, Technology for Tomorrow, Ltd. employs upwards of 75-110 MakaPads employees throughout the year. These employees are typically the main breadwinners for their households, and supplement the resources needed to provide for their household throughout the year.

Risks

Narrow margins: T4T's commitment to using maximizing employment by using manual labor and selling the product at the lowest possible cost limits T4T to a maximum profit margin of 10% under the best of circumstances. Consequently, T4T has no available capital to make investments such as production line improvements, marketing, etc. and forces the company to be dependent on grants.

Talent availability: Technology for Tomorrow, Ltd. has historically struggled to find competent and reliable managers and individuals with skills in areas such as marketing.

Dependence on UNHCR contract: T4T has to answer the UNCHR's international bidding on a yearly basis, and its operations can be slowed by delays in the UNHCR bureaucracy. Technology for Tomorrow, Ltd. has also struggled to raise prices with the UNHCR to match inflation, cutting into their already-narrow profit margin.

**Proposed
Milestones
2016**

Delivery

- Deploy pilot mobile marketing teams to 2 mobile markets in Kampala
- Set up an outlet for MakaPads to be sold in the Kyaka II refugee settlement
- Expand Technology for Tomorrow, Ltd.'s relationships with schools to sell MakaPads and provide educational seminars at 4 schools

Organization

- Begin meeting with professional network via Rockefeller Foundation and Ashoka regarding intentions to create a One-for-One relationship with a western company

Supply Chain

- Send a team of students from the University of Michigan to work with companies and government agencies to address a bottleneck in the MakaPads supply chain related to the acquisition of white paper