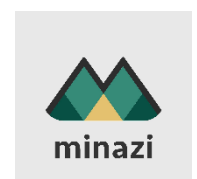




# Sanitary Pad Project

Minazi Consulting and Dufatanye Organization  
Site Visit Report – August 2023



## Introduction

Access to sanitary products is difficult for women in the villages in Nyanza, Rwanda. Most pads in the market are expensive and this means that women are unable to purchase the sanitary products they require. Additionally, women are unable to access reliable information on periods. This leads to some girls using unsuitable rags on their periods which stain their clothes and make girls feel uncomfortable, resulting in female students missing school.

## Background

In 2021, Minazi conducted detailed focus groups & interviews with 12 women in Nyanza on period pad usage and found a number of pain points. This primary research showed that in many cases, women were still using rags instead of sanitary pads. Although women knew about sanitary pads, they found the pads expensive. It was found that women from the low income backgrounds were most unable to access sanitary products, with those of school age often missing days from school when they did not have pads they could wear. When the rags 'leaked', they also felt a sense of shame. Most women in the villages were unable to read & even where they could read, the packaging was not clear or in a different language – this led to a key insight that there is not enough information on sanitary practices either; which adds to the feeling of shame and discomfort around periods. This aligns to published findings around period poverty in Rwanda as well, with a number of organisations reporting girls missing school days as a result of periods <sup>1,2</sup>.

This project is based in Nyanza. Research conducted during the site visit in 2023 shows that the price of the pads in Nyanza is 1,000 RWF from available brands like Supa. A farmer in Nyanza from a poor area can have a limited take home income. For reference, the minimum wage in Rwanda is around 100 RWF per day<sup>3</sup>. Comparatively, the Anker living wage for rural Rwanda, which is the estimated wage required for a basic but decent standard of living around 174,000 RWF per month<sup>4</sup>, the poorest farmers simply do not earn enough per month, and struggle to afford food or living essentials.

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<sup>1</sup> <https://rwanda.unfpa.org/en/news/menstrual-health-hygiene-why-there-still-more-be-done#:~:text=In%20Rwanda%2C%20the%20situation%20isn,Aime%20%26%20Pugalenth%2C%202020.>

<sup>2</sup> [https://menstrualhygieneday.org/wp-content/uploads/2022/10/MHH\\_Rwanda-Snapshot\\_2022.pdf](https://menstrualhygieneday.org/wp-content/uploads/2022/10/MHH_Rwanda-Snapshot_2022.pdf)

<sup>3</sup> <https://align-tool.com/source-map/rwanda#:~:text=The%20minimum%20wage%20in%20Rwanda,jobs%20in%20the%20informal%20sector.>

<sup>4</sup> <https://www.globallivingwage.org/wp-content/uploads/2022/12/Rwanda-Rural-Living-Wage-Update-20220926-3-1.pdf>



Additionally, with the rising inflation rates at Rwandan markets, such as the price of a kg of potatoes rising to 1,500RWF overnight in September 2023, the decision can fall down to the purchase sanitary pads or purchase of food for a self-subsistence farmer.

With that in mind, most women will not purchase sanitary pads if there is no monthly budget to do so. If a family has the available disposable income for purchase of sanitary pads, then there is another issue that rises. Due to the remote village locations, and prevalence of farming communities and lifestyles, most homes are located on farming land. In these locations, waste disposal and collection facilities are limited, even if farmers live close to the roadside, as there are no waste bins. Composting is the primary form of disposal in the region. This is a perfectly adequate if not preferred form of disposal for agricultural waste as it results in rich manure. However, plastics cannot be composted and as such, nappies, plastic packaging and sanitary pads remain, slowly polluting the nearby environment.



## Unlocking the potential of local resources

The sanitary pad project was designed to address the high cost of sanitary pads and increase the access to sanitary products in Nyanza in an environmentally friendly and sustainable manner. With sustainability at the core of the project, it was decided to utilize resources available in the region, which would not only lead to creation of local industry but also increase the local capacity of the region.

One of the raw materials that is readily available in Rwanda is banana trees as bananas are a staple crop covering around 23% of all land in Rwanda<sup>5</sup>. The fibres of the banana tree trunk are highly absorbent and as such, they can be used to create absorbent cores

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<sup>5</sup> <https://rwanda.un.org/en/1228-increasing-banana-production-and-productivity-through-clean-and-high-yielding-suckers>



of sanitary pads. A benefit of this process is that it also makes use of waste banana trees. Banana trees have a single fruiting cycle - after the banana tree bears fruit, the tree begins to rot and die. This means banana trees result in a large amount of agricultural waste.

The sanitary pad absorbent cores were designed to be made with banana fibre that is extracted and processed on the farm. This would utilise the agricultural waste from the 3,000 banana trees in the nearby banana plantation whilst addressing the key menstrual hygiene needs of the community.

Banana plantation on the farm



## **Project Details**

The sanitary pad project aims to build a local production facility & pilot the production of 10,000 biodegradable & environmentally sustainable sanitary pads from banana fibre, sourcing fibre from a local banana tree plantation in Nyanza, Rwanda. The pads are to be distributed for free (or made available at a subsidized cost). The sanitary pad production is to be supplemented with the creation and dissemination of information through awareness days and educational programs on safe, sanitary practices for menstrual health management.

## **Goals**

The sanitary pad project goal is to increase access to and awareness of sanitary practices for women in Nyanza, Rwanda through an environmentally friendly approach. The target group for this project is women from low-income families in Nyanza for whom sanitary pads are particularly expensive. This project falls under UN Sustainable Development Goals 3 (Good health and wellbeing) and 5 (gender equality).

## **Progress Summary**

This project has been under development for a couple of years. It was possible to begin the production facility of the sanitary pad project in August 2023. The site visit started on the 15<sup>th</sup> of August and completed on the 5<sup>th</sup> of September. A number of items and objectives were completed. Extraction of banana fibre using a banana fibre extractor machine has been started and the production of sanitary pads has also begun on the site.

The production site has also been improved with the addition of desks, electrical connections and storage facilities. Initial materials for trials have also been procured. The assembly line and assembly procedure has been developed, and procurement of relevant machinery has also been completed where possible.





Extraction of banana fibre on the site



Extracted banana fibre left to dry



Machine extraction of banana fibre has been particularly useful for extraction of banana fibres as it reduces the time to extract fibres from 1 week manually to around 30 mins. This proved that the purchase of the banana fibre extractor was a viable addition. Additionally, due to the quantity of fibres extracted, it was also clear that the fibre could serve secondary purposes in addition to being a raw material for the sanitary pads. For example, Dufatanye Organisation have an arts-and-crafts initiative. This initiative helps provide a daily activity for widows, genocide and AIDs survivors, who have no other family in the community. They create artistic produce using bamboo which is purchased externally. However, due to the abundance of banana fibre, crafts such as banana fibre baskets and bags can also be produced here with the excess banana fibre that is extracted.





## Achieved Objectives

### Installation of equipment on site.

A major objective of the project was to install equipment on the site and create assembly workstations. To do this, new furniture was added such as tables for the assembly process. The room where sanitary pads were to be produced was cleaned thoroughly and electricity was installed for the processes. A carpenter was called to install a storage shelf. Future work will include tiling and painting the walls, reinforcing the window for safety and other improvements.

Initial equipment such as a small steriliser has been purchased. A carding machine developed at Imperial College London has been safely received and installed on the site. The carding machine will help with combing the fibres and softening them as intended.

Installation of equipment on site





## Partnering with Kosmotive, Rwanda

It is very important that the product is made in an environmentally sustainable way, however when it comes to waterproof fabrics, the material selection is limited. Waterproof fabrics are currently difficult to source in Rwanda. There is only one supplier who has been able to secure waterproof material in Rwanda for sanitary pad applications. Kosmotive, a women led initiative in Rwanda, produces reusable sanitary pads in a small production site in Kigali. A thorough discussion with the CEO of Kosmotive, Blandine Umuziranenge, has led to insight on the stigma and material requirements of reusable sanitary pads, which the team have taken on board.

Kosmotive have agreed to supply our project with waterproof backing material for the sanitary pad. As an organisation with a similar mission to end period poverty in Rwanda, they believe in this project and are also willing to explore the option of using the 'banana fibre cores' produced in Nyanza for their pads.



Kosmotive, Minazi & Dufatanye work together to address period poverty in Nyanza



Producing 'fibre' for sanitary pads

### Improved production of banana fibre for sanitary pad core

Whilst the team have been experimenting with banana fibre since this project first started in 2021, the process of producing soft, absorbent banana fibre was improved during the site visit in 2023. This was a huge achievement for the site team because the process of pulping banana fibre to create banana fibre is commercially sensitive, and therefore, the chemical process is not readily available online. Several attempts were made and the process was tweaked a few times until the produced fibre was soft, and therefore could form the core of the pad – initial testing of the previous design had found that there were some hard edges in the banana fibre core due to insufficient softening of the banana fibre. In addition to the carding machine which provided some mechanical softening of the fibre, the optimization of the process was important as mechanical softening alone was



insufficient to produce the core. However, once the optimisation process was completed the final product was similar in consistency and softness to cotton and wool. This matched the overall quality required for the product as it was found to be soft against the skin.

### Trial production of sanitary pads

Having sourced suppliers, installed important equipment at the site and optimized the process of creating banana fibre, sanitary pads are being produced with the new and improved designs. The designs of the sanitary pads will be described below. During the site visit, 10 pads of the new designs were trialed. These have been distributed to community members for feedback.





## Pad Designs

Pad designs have been developed to match the requirements of the community, driven by insights obtained during primary research. Two designs are being trialled; a fully reusable sanitary pad & a partially compostable sanitary 'napkin'. The partially compostable sanitary pad uses absorbent banana fibre core enveloped in a muslin-like material which is made from 100% cotton<sup>6</sup> so that it can be composted in the farm. A waterproof panty liner is supplied with the partially compostable pads to ensure the pads remain leak-proof.

### Design 1: Reusable sanitary pads

The first design is creating reusable sanitary pads following a standard approach of sanitary pads: a top sheet which transfers the menstrual blood to the absorbent core, and a waterproof base which keeps the menstrual blood in the pad to prevent leaks. This is a common reusable pad design. The pad is stitched together on a manual sewing machine.



<sup>6</sup> An anticipated future stage of the project is to create banana fibre fabric so that the pads can be produced almost entirely out of locally sourced banana fibre



## Design 2: Partially compostable sanitary pads

This design was born out of the specific need of requiring disposable sanitary pads on the farm. This design is based on creating a disposable design in the current climate with limited supply chain options, as well as the lack of clarity on environmental impacts of biodegradable plastics – as ‘plastic’ is the only current form of waterproofing. The design inspiration of this design is ‘tampons’ which are a common menstrual product that are made from compressed cotton. Tampons have to be inserted into the vagina to soak the menstrual blood however, due to lack of clean water for cleansing the hands prior to insertion, there are risks of infections with tampons in this region.

The idea of the compostable pocket, napkin or cushion is that it is an expanded tampon that is worn over the vagina as opposed to inserted. The leak-proof protection comes from a waterproof panty liner.

The partially compostable design is being trialled for two reasons:

1. School students may not like to carry their used reusable pads with them at school and back. This can be unhygienic and difficult. If they want to change the pads at school, they can simply replace the ‘disposable’ section.
2. The market preference is currently unclear and there is not enough evidence to support the choice of either design. Trialling of the two designs will lead to greater insight.





## Summary

The highlights from the site visit can be summarized in terms of material production, successful banana fibre process and optimization, purchase of equipment for sanitary pad production facility, and identification of material suppliers for key aspects of the pad. The site visit has been successful and provided a large amount of insights – it has also meant that trial production of pads can be started. The progress made in three weeks sets the foundation for the remainder of the project. After the current stage, the next part of the project is to scale production, so that the overall project goal of producing 10,000 sanitary pads can be achieved.

