



# The Women's Bakery

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Photo: TWB

## Food Science in Action:

- ✓ Nutrition
- ✓ Product Development
- ✓ Packaging
- ✓ Engineering
- ✓ Food Processing

*Women are prepared through extensive training to work in the bakeries*

**Malnutrition and lack of opportunity for women** are problems in Rwanda. The Women's Bakery (TWB) opened its first bakery in 2015, providing an opportunity for women to take the lead and be a part of the solution to improve their own lives as well as provide additional benefits to their community. Highly nutritious bakery products are made with local ingredients to improve the health of the people. Besides selling at cafes and bakeries, bread is also distributed in schools to mitigate children's hunger so they can learn better. TWB has been successful and is expanding to create additional bakeries and franchises—opportunities in the communities for strong, hardworking women.

## Introduction

In 2010, as a Peace Corps Volunteer, Markey Culver identified opportunities for sustainable development in Rwanda. Many Rwandan communities face food insecurities and malnutrition. It was estimated that 40% of Rwandan children were chronically malnourished.<sup>1</sup> Many women who looked after these children had limited access to higher education and gainful employment opportunities, making it difficult for them to provide for themselves and their families. Not all children were able to go to school, and those that could go were often hungry, making learning a challenge. Although education was valued in the communities, most families were not able to afford the schools that are not fully funded by the

public system. As well, the public health system was not able to meet all the medical needs of the people.

Although well known, bread is of limited availability in the rural areas of Rwanda and the local women were not familiar with its production process. Once the process was explained to them and an oven devised, women began making more bread than they could eat and they began selling it. Ms. Culver realized that there was an opportunity in this demand for bread to empower women through employment and create access to bread for rural communities. This turned into the concept of nutritious bread that would help create access to more nutritious options, for affordable prices. Over a few years, the idea became formalized into The Women's Bakery (TWB), an International Social Enterprise.<sup>2</sup>

The main challenges that TWB works on are: malnutrition, social and economic disparities, and lack of opportunities—especially for women. In the last 6 years, the non-profit social enterprise has grown, developed, and improved the lives of many, but not without some hurdles. However, the endeavor is unique and has many positive outcomes. Sharing this story can provide guidance for other populations that have similar needs.

The work discussed in this case study benefits a community in a long-term way. Besides impacting the bakery staff and their families, healthy food is reaching many more youth in the schools while improving their quality of life and that of others who shop at the bakeries and cafes. Additionally, the goods and services the bakery needs are purchased locally, which promotes economic growth.

*“The kids who dropped out of school because of hunger have now come back since this project started. And they are studying well.”*

**Headmaster from Inyange**

## Response

The Women’s Bakery began in Kigali, Rwanda, where the bakery headquarters are located. Markey Culver, the founder and now CEO of the organization, was the driving force behind the process. Bread was always the focus, and making it as nutritious as possible was important to address malnutrition. Hence, professional

bakers and a food ingredient company were used to help develop formulas that contain 7-9 g of protein per serving, through the inclusion of milk and eggs. Taking into consideration the communities’ dietary habits was key for the product’s success, so all formulations were based on wheat flour which is the most consumed bread type in the region. Moreover, local ingredients are used—this makes them easier to source and also familiar for the consumers. The ingredients include flour, vegetables, fruits, and peanuts which also support local farmers and in turn the health of the community members. The TWB team formulated the products to have the correct balance of ingredients to meet nutrition goals (i.e., 7-9 g of protein/serving) and to be acceptable by the local consumers.

Once the formulas were developed and demand increased, equipment was needed to scale up production. Collaboration with bakery equipment companies was necessary to learn about their options. Bakery equipment and especially ovens did not exist in the rural areas. The high import taxes and tariffs, and equipment transportation logistics from Europe, South Africa, South Korea, and China to Rwanda posed a huge challenge for TWB, in addition to the operating training and maintenance. Equipment included commercial mixers, dough dividers, shapers, proofers, and ovens. Until 2020 only woodfired ovens were used, which resulted in uneven baking; electricity was of limited availability.

The Women’s Bakery is a hybrid non-profit/for-profit organization. Their non-profit is the parent company, headquartered in Denver, Colorado, USA.<sup>3</sup> The non-profit parent company owns and



*A wide variety of products were developed specifically to appeal to the local customers of the bakeries.*

*Photo: TWB*



*One Bread Project provides nutritional bread to school children.*

*Photo: TWB*

injects capital into for-profit bakeries in Rwanda until those bakeries become self-sustaining (i.e., profitable). Hence, donations are an important part of their development. The women are sponsored (requiring additional donations) through training, bakery opening, and day-to-day operations. An extensive training program, which is over 200 hours, was developed to meet the goal of providing opportunities to women by building the infrastructure for the graduates to begin work immediately. Many of the women have no formal education, and some cannot read or write. They are highly motivated and enthusiastic. The training program is unique, and this is the first time many of the women have the opportunity to gain a formal education. The program teaches specific topics about how to make bread, ensure it is safe and meets quality standards, equipment care, business education, and how to sell the baked products. The material covers fundamental food science concepts such as ingredients functionality, food safety, and unit operations (e.g., measuring ingredients, mixing, forming, baking, and cooling), among others. All aspects of operating the bakeries are understood by all the team members. In addition to bakery production, there are business operations to manage—marketing, sales, and distribution which are also handled by the employees of TWB.

The effort required to create the bakeries in Rwanda was not insignificant. Tasks included building the physical structure, learning about food production, sales, technical production processes (e.g. formulations, baking times and temperature, etc.), regulation aspects, and finding the right equipment and consulting partnerships. All these have contributed to TWB's success and

continuous growth. Moreover, TWB piloted their franchise model and provided accredited training and ongoing oversight of the bakery while allowing for their financial and operational independence. The first TWB franchise opened in 2018 in Namayemba, Uganda owned by AsOne Ministries. This bakery employs 8 women and 1 man in a rural area in Uganda.

## Results

Achieving women's economic independence, improved nutritional content of local bread, and creation of leaders based on business and food science education are the foundation of The Women's Bakery. This process has resulted in successful businesses. The cafe in Kigali is boasted as one of the top 5 places to visit in that city, by *The New York Times*.<sup>4</sup> The Women's Bakery Ruyenzi location provides bread orders to the local community and nearby schools despite their small baking team with six members. Their newest location, in Gicumbi, is available for schools, business, and catering orders, in addition to their small cafe. As of 2020, 4,687 people consume TWB bread every day. Moreover, despite COVID-19-related pauses on operations and challenges, TWB increased bread sales by 25% in 2020 compared to 2019.<sup>8</sup> TWB is very prosperous and growing. The infographic below shows the annual bread production from all TWB bakeries from 2016 to 2020. These numbers do not include the other 4 franchise locations.<sup>6</sup>

As part of their objectives, TWB helps to provide a healthy snack for school children through a

## The Model is Working!

Bakery revenue is largely generated through the sale of simple, nutritious, and affordable bread. Keeping the average cost of a piece of bread to 50–100 Rwandan Francs (\$0.05–\$0.10 USD) is critical to our mission because our bread is being consumed by children and low-income families. Continuing to increase bread sales brings TWB closer to becoming self-sustaining bakeries.



In 2020, TWB bakeries produced **672,516** pieces of bread.

Bakery sales hit **\$73,103** in 2020.



In 2021 so far, bakers have been producing **66lbs of bread per 8-hour shift**.

### Bread Units Sold Over Time

Women bakers have become more efficient in producing bread, contributing to a steady increase in bread sales over the years.



Infographic: TWB

School Feeding Program called One Bread Project, which started in 2020 and is funded through grants and donations. Since then, donations from the Bakery Equipment Manufacturers and Allies increased their production capabilities, and the project went from serving about 440 students per day in 2020 to 6,000 students by the end of 2021.<sup>8</sup> This project is core to the mission of TWB of nourishing children. Children learn better when they are not hungry<sup>5</sup> and with the help of this program the

children's retention at school has increased, which provides a better learning environment. The improvements in the students' performance have been measured by TWB through surveys starting at the beginning of the project and then quarterly thereafter. The surveys have shown overwhelmingly positive results with 99.6% of teachers reporting improvement in student attentiveness after observing how students were more engaged in comparison to their attentiveness in class prior to the bread deliveries.<sup>8</sup>

Their products consist of a wide variety of bakery products including brown bread (whole wheat), white bread, muffins (banana, carrot, and beet), beet brownies, sweet potato bread, pretzels, sweet bread, tresse (braided bread), and buns (see the images of bread menu items). Local ingredients were chosen due to their availability and nutritional values. Their preservative-free recipes have a shelf life of 3-5 days based on microbial spoilage. Children are primary consumers for the bread, and it was decided that preservatives would not be used so products have a cleaner label. Moreover, ingredients to extend shelf life were not locally available, would add extra cost, and are not necessary. Due to the bread's short shelf life, production is planned based on the communities' demand. Bread is packed in wax paper bags to avoid single-use plastic bags for small orders, and reusable containers are used for larger volumes (e.g., school orders).

Food safety is a very important part of production and is part of the training provided for the team. Equipment, utensils, and facility cleaning protocols are in place to prevent pathogenic and food spoilage microorganisms. TWB is currently working with Rwanda's Food and Drugs Authority to become an accredited facility.

TWB's revenue consists of both funds raised through their non-profit parent organization and bakery sales. The infographic "2020 Financials" shows that the sales from the bakeries does not cover all the expenses. Fundraising for this non-profit organization (primarily led by a group in the USA based in Denver) allows the company to keep growing. Efficiencies are improving, and the bakery is on track to be profitable after about 6 years of operation. To date, 50 women and 7 men have benefited from the training. Besides the information obtained, the women also benefit

from increased income of approximately 4 times their pre-training income (some up to 8 times). Additionally, the organization provides health insurance to all team members, which is a very positive improvement since there is limited health care in Rwanda. The economic growth is also reflected in the women's families, who previously could only provide 1-2 meals/day and now can provide 2-3 nutritious meals.

Gender equality is an important part of the United Nations' (UN) agenda to achieve the Sustainable Development Goals (SDG) as the foundation for a peaceful, prosperous, and sustainable world. "Being employed with TWB has impacted my life in big ways. I pay my rent and all my bills. I am able to provide all basic needs and food for my family. I am able to pay school fees for some of my children. I hope to save enough to pay for all of them as school costs our family much money," said Suzanne, who has been working with TWB since 2015. "I have gained much self-esteem, and I know a woman can do anything. A woman can be a mirror for everyone," said Madina who has been working with TWB since 2017.

## Lessons learned

The Women's Bakery has been an ongoing learning experience for the team, and they have proven not to be afraid of the F word...failure.

Their *Failing Fearlessly* at TWB blog shares their journey establishing a new business and production model.<sup>7</sup> Here are some examples of approaches that in hindsight could have been done differently:

- Failed to invest in high quality industrial equipment when the business first started. The lack of industrial baking equipment posed a major bottleneck in production, limiting their production capabilities and later on their growing opportunities. Over time with in-kind donations and thrifty second-hand equipment purchases, the production has spiked and made the operations much more efficient.
- Didn't focus only on bread production. Their flagship bakery has a large storefront which is great as a gathering space in the community. In hindsight, that store isn't critical to the mission of TWB. And the extra cost of this location has held this bakery back from being profitable.
- Social impact not clearly defined. A failure of TWB was to not define social impact early enough in the development of the program to be able to quantify how the women's lives were improved. This was important for employees and those looking to invest. Over time, the company has gotten better at asking the right questions to define and measure impact (how and who).
- Establishing bulk raw materials procurement. Costs of raw materials and its transportation were stabilized with additional storage space and affordable transportation, which facilitated decreasing purchase frequencies. Moreover, they overcame transportation issues due to COVID-19 related lockdowns to and from Kigali and other districts by renting a truck for transportation of goods.

## 2020 Financials

### A Year of Efficiencies

<b>REVENUE</b>	
Fundraising	\$999,462
Bakery Sales	\$73,103
<b>Total Revenue</b>	<b>\$1,072,565</b>
<b>EXPENDITURES</b>	
Women Power (payroll)	\$419,728
Bread Power (bakery operations)	\$143,573
Professional Power (admin.)	\$123,651
<b>Total Expenditures</b>	<b>\$686,952</b>
<b>TOTAL YEAR END ASSETS*</b>	<b>\$385,613</b>

*The Women's Bakery 2020 financial summary*

Source: TWB

## Next steps / call to action

A continuous improvement approach has been adopted to constantly strive for a higher efficiency production system. At the bakeries, spreadsheets and paper documents are used for keeping track and managing all aspects of ingredients, formulas, and production specifications. There is a desire for more automation and the ability for data analysis which can be achieved with an Enterprise Resource Planning (ERP) system. The

business is looking to reduce the cost of goods sold (COGS). A strategy has been developed to achieve this goal which includes bulk sourcing, sponsorships, contracts with local farmers, and waste elimination. The final goal is to increase productivity and subsequently the business's revenues and social impacts.

Four major next steps have been identified as part of their growth roadmap:

1. To transition The One Bread Project from primarily donation financing to a model where schools are able to purchase the bread on their own.
2. To develop a distributor model for companies to purchase large quantities of bread and sell at a profit.
3. Establishing a microfranchise model to equip more women with the training and tools to sell bread on their own.
4. A new bakery is planned for 2022 in partnership with the University of Global Health Equity (UGHE), a subsidiary of Partners in Health.

The business model built by TWB has not only brought financial independence to the women employed and a nutritious contribution to the children in the area, but it is a working example of the use of food science principles in a holistic way to provide solutions for food and nutrition insecurity.

For more information about the efforts of TWB, or to assist in their mission, please visit [www.womensbakery.com](http://www.womensbakery.com).

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Photo credits: The Women's Bakery (TWB).

## References

- <sup>1</sup> UNICEF: Rwanda. <https://www.unicef.org/rwanda/nutrition>. Accessed March 8, 2022.
- <sup>2</sup> The Women's Bakery homepage. <https://www.womensbakery.com/home> Accessed March 8, 2022.
- <sup>3</sup> The Women's Bakery: Who We Are. <https://www.womensbakery.com/whoweare>. Accessed March 8, 2022.
- <sup>4</sup> The Women's Bakery: Where We Work. <https://www.womensbakery.com/wherewework>. Accessed March 23, 2022.
- <sup>5</sup> American Psychological Association. What are the Psychological Effects of Hunger on Children? <https://www.apa.org/advocacy/socioeconomic-status/hunger.pdf>. Accessed March 8, 2022.
- <sup>6</sup> The Women's Bakery, Financials. <https://www.womensbakery.com/financials>. Accessed February 15, 2022.
- <sup>7</sup> The Women's Bakery blog. <https://www.womensbakery.com/blog>. Accessed March 8, 2022.
- <sup>8</sup> The Women's Bakery blog. The One Bread Project Update. <https://www.womensbakery.com/blog-main/2022/1/31/the-one-bread-project-update>. Accessed March 28, 2022.



*Women organize the bread in reusable containers for delivery.*

*Photo: TWB*