



Kayvey Nutri Foods: Affordable and Nutritious Food Formulas for Cameroonian Children

Kelley Putt & Jared Ginn



Photo courtesy of Kayvey Nutri Foods

Food Science in Action:

- ✓ Product Development
- ✓ Nutrition
- ✓ Food Processing
- ✓ Food Quality
- ✓ Food Safety

Rates of childhood malnutrition are high in Cameroon. Imported brands of infant formulas are expensive for Cameroonian mothers. Fien Fomunung Rosette Forkum, founder of **Kayvey Nutri Foods**, developed an affordable and nutritious formula. Through sourcing of raw materials from local farmers and employing women, Kayvey engages the community and creates jobs. From a start in her kitchen to manufacturing in a larger building with specialized equipment, **Kayvey Nutri Foods** distributes to stores and mothers in 6 regions in Cameroon. There are plans to keep growing by building out a larger plant. Along with conducting nutrition trials and improving shelf life through processing and packaging optimization, Rosette hopes to keep improving the company's products so that she can continue impacting the lives in Cameroon and her local community.

Project Overview

The rate of malnourished children in Cameroon is high, particularly in regions with refugee populations, where 10.0-17.4% of children under 5 are acutely malnourished.¹ For the country as a whole, 28.9% of children under age 5 experience stunting.¹ There are many factors that contribute to this. One reason is that imported brands of infant formulas are cost prohibitive for the average Cameroonian mother. Local infant food products are present but insufficient in supply, because domestic raw materials are primarily used for other non-child-based products.

Fien Fomunung Rosette Forkum, founder of Kayvey Nutri Foods, realized this problem and decided to find a solution herself. After doing research and prototyping in her kitchen to feed

her own children, she came up with a base formula that is still used for the Delight Cereal today: soybeans, yellow corns, sesame seeds, moringa leaves, and stevia.

Kayvey Nutri Foods uses locally available raw materials to manufacture nutritive food formulas for children and makes them available to families through a supply chain that engages women, thereby creating jobs in the process. With the help of dieticians, pediatricians, food scientists, and other team leaders, Kayvey has continuously expanded their offerings and production to keep up with the growing demand.

To make Kayvey Nutri Foods, raw materials are received, sorted, and cleaned to remove stones, dust, leaves, and dirt. After peeling and further processing, they are sieved. All of the well-cleaned raw materials are then roasted at high

enough temperatures to kill bacteria and other microorganisms, cooled down, placed in drums, and mixed, before being ground and sieved again to ensure proper cleanliness and specifications. After a final mix, the product is packaged in foil bags that are then placed into buckets and other protective packaging (Figure 2). Each bucket of cereal is hand packed by the team. The 3 levels of packaging and final moisture content and water activity allow an ambient shelf life of 12 months without preservatives. Since it comes in powder form, the mother or caretaker simply has to mix it with water and prepare it like a porridge.

Being a small company makes buying power a lot more restricted compared to large companies that can buy local raw materials with higher offers. Sometimes, Rosette cannot successfully buy local raw materials, but she hopes that by removing the middleman and creating a local circular economy, this will continue to build trusting partnerships that choose selling to Kayvey Nutri Foods because of their local impact and work to alleviate child malnutrition.

Successes

After developing an initial prototype, interest started to grow in Delight Cereal. At the same time, Rosette realized that she needed more data and support from dieticians, so she had them

optimize the formulas using the same ingredients but in different proportions. A pediatrician also removed some ingredients to make it more suitable for babies 6 months and older. Three nutrition tests and trials have been conducted on this product, including a test in the biggest hospital in the country: the Centre Pasteur in Cameroon (CPC), part of the Cameroonian Ministry of Public Health and the Institut Universitaire de Technologie (IUT) in Douala, Cameroon.

As demand grew, Rosette had to scale up production keeping optimization and food safety in mind. She has been in the same building for 7 years now, starting with machines that could only make 20 kg, then 200 kg, to now tons of product at a time. The team has worked hard to continually optimize and mechanize production as demand continues to grow, while maintaining the quality standards that the consumers expect.

Some challenges had to be overcome during scale up. Using new, larger processing equipment as well as storing higher volumes of bulk ingredients in the warehouse introduced new issues. During the rainy and humid periods, the Kayvey team had to find storage solutions including using drums for better protection. Since the ingredients are all dry, controlling the storage environment to minimize water migration has been critical to avoid spoilage and microbial growth.



Figure 1. Employees at the Kayvey Nutri Foods facility working on the production of Delight Cereal. (Photo courtesy of Fien Fomunung Rosette Forkum)



Figure 2. Various packaging formats of Kayvey Nutri Foods' Delight Cereal. (Photo courtesy of Fien Fomunung Rosette Forkum)

Properly packaging their products to extend shelf life and improve food safety has been an important milestone. The packaging is the only component that is not sourced locally, so finding an affordable and functionally reliable outside source was a necessity to increase product distribution to more mothers. After researching, they arrived on using packaging consisting of 3 different layers to prevent moisture from entering the product.

Kayvey Nutri Foods products are sold and distributed to major supermarket chains, hospitals, and other stores. Because they have proper certification from the Standards and Quality Agency of Cameroon ([ANOR](#)) that validate food safety, they can also be sold to different markets and the World Food Programme. Although there are other local competitors, they use raw materials imported from Nigeria. Kayvey Delight Cereal is unique because it is made from all locally procured raw materials, and mothers feel more confident knowing the crops are from local sources that they trust.

Kayvey Nutri Foods has already had a positive impact and broad reach. More than 11,000 mothers in five different regions feed their babies with Kayvey products. Recently, Kayvey extended their distribution to a sixth region, known for being the most malnourished area in Cameroon. Local farmers have also been positively impacted with Kayvey's success. Because Kayvey Nutri Foods buys directly from farmers, there is no money loss with middlemen and there is more relational trust in the products they buy.

Looking Ahead

Rosette plans to bring 14 products to the African market by offering other products and line extensions, including corn flakes, rice flakes, soy flakes, cheese balls, and other cereals for babies



Figure 3. Rosette, bottom left, with several employees at the Kayvey Nutri Foods facility. (Photo courtesy of Fien Fomunung Rosette Forkum)

made up of rice and millet. Like her current product, all these new products will have raw materials sourced from Cameroon. With existing support from a German partner, she hopes to get more funds to build and move into a new factory space to manufacture and package Kayvey Nutri Foods. Rosette has also started thinking about how growing her own crops could help with procuring a trusted supply chain.

The future looks promising for Rosette and Kayvey Nutri Foods. When she first launched the product, the acceptance was much higher than expected and continued growth brought new challenges. But seeing first-hand the positive impact Kayvey Nutri Foods has on babies, mothers, farmers, and her local community, she continues to be encouraged that when problems arise, people are interested in finding creative solutions. With the help of her cross-functional team, she will continue developing nutritious formulas and implementing processes to manufacture them as efficiently and safely as possible.

References

1. Global Nutrition Report. Cameroon. 2022. <https://globalnutritionreport.org/resources/nutrition-profiles/africa/middle-africa/cameroon/>. Accessed October 10, 2023.