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Guango Dairy Yoghurt: From Cow to Cup

Introduction

After a tiring day, Mr. Leonard Kigathi the General Manager of Guango Dairy decided to take a refreshing walk to have a feel of farm fresh air. As usual he took a stroll to the Guango Farm overlooking Guango River. Here, the sounds of the singing birds bidding bye to the day and the sounds of the water flowing down Guango falls gave a soothing feeling to Leonard. This provided a perfect time for him to reflect on the days happening as he planned for the next day going forward. However, the nice orchestra by the birds and the waters was interrupted by the sounds of cows in the shed and the noise from the yoghurt factory. This took Leonard back to the days' dilemma in a meeting he had with the Chairman of Guango Dairy Mr. Joseph Kigathi Senior. The fact that Guango Dairy had grown by leaps and bounds and had an installed yoghurt production capacity of 5000 Litres which was only 50% utilized. The Chairman had ended the meeting with the statement that now occupied his mind. "Leonard, we cannot afford to have idle capacity, we have invested in state of the art facilities yet we cannot utilize them to optimum capacity. You need to get out there and grow this business to the next level now that you have the required skills and time. It is now or never" the Chairman had lamented.

Guango Dairy

Guango Dairy began formalized operations in 2003 and was incorporated into a Limited Liability Company on 25th April 2006 with a staff of 7. It was located off Limuru Road 12Km from Nairobi's Central Business District and approximately 6 km from the Village Market on the plush and expansive Guango Estate. Its product was mainly Yoghurt which was in four flavors of Vanilla, Pineapple, Passion and Strawberry. The raw milk for the production of yoghurt was mainly from Guango's own farm milk and from 18 contracted dairy farmers within the locality of the factory.

Though Guango Dairy began formal operations in 2003, it previously was involved in informal operations of selling raw milk, and semi processed milk products to its neighbors. The Kigathis had a long history of Dairy farming spanning over 20 years. In the 1980s and 1990s, they were

Dr. Peter Kiriri, Associate Professor of Marketing prepared this case as a basis for class discussion rather than to illustrate either effective or ineffective handling of a management situation

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suppliers to Kenya Cooperative Creameries (KCC). However, with the collapse of KCC and the formal dairy sector in the late 1990s, the Kigathis were left with animals whose produce could not be entirely disposed. “As a result, we started supplying our neighbors, small eateries and milk bars in the surrounding shopping centers with raw milk. However, we occasionally ended with excess milk which brought in several challenges including marketing, storage, and preservation. Indeed, we even started pig farming so that we could feed the excess raw milk to the pigs” Leonard reminisces.

“We tried to sell our produce then to middlemen but we were even worse off” remembers Kigathi Senior. Leonard adds “with no contractual obligations with middlemen, sometimes they would show up while other times not showing up and we were left with milk we couldn’t sell. We were very vulnerable to middlemen antics that would lower prices as and when they felt like. This made it difficult to plan especially during the months of glut”.

By the end of 1999, the Kigathi’s decided to engage in value addition to the raw milk in order to address the challenges of lack of markets and storage. This led to pasteurizing the milk which was sold in the locality with any unsold milk let to go sour and sold as sour milk. The sour milk was supplied to milk bars in the surrounding shopping centers and construction sites. Remembers Leonard “the sale of sour milk had its own unique challenges as it could only last for 36 hours before it started separating. There were also challenges due to health and hygiene issues on the packaging and dispensing (sour milk then was sold in large containers then dispensed in cups) and the constant harassment by the city council health officers”. “The other challenge emanated from the inconsistency of the sour milk market as during the cold season people preferred to take tea as opposed to sour milk which could only be dispensed cold” added the Factory Manager.

During the period 2001 and 2002, the Kigathis attended various agricultural fairs, seminars and farm visits addressing issues on milk production, processing and value addition. “It was during the difficult periods that we realized we could invest in a more sustainable business that would address the various challenges of sour milk and raw milk sales we were facing” Said Leonard. “By the beginning of 2002, we started packing yoghurt in unbranded sachets using rudimentary equipment for processing and packaging. We felt yoghurt was better than sour milk as it had a long life of 4 weeks if refrigerated and had higher margins than the sour milk” continued Leonard. The yoghurt was also targeted at the local milk bars and construction sites.

In 2003, Guango Dairy was born with the aim of producing and supplying yoghurt and pasteurized milk. This saw the discontinuation of sour milk sales. This required an investment in modern processing equipment and Guango Dairy installed 1 mixing tank and a packaging line that would be sufficient to take in the farm produce, then at 100 litres of raw milk a day. At the same time Guango Dairy started branding its Yoghurt which was packed in sachets. “In the 2nd quarter of 2003 we started also packaging fresh pasteurized milk in sachets. However, by the

beginning of 2004, pasteurized milk processing and sales were discontinued due to low margins, equipment requirements, distribution requirements, quality requirements and the high economic volume levels required for a sustainable business of fresh milk” remembers Leonard. As a result, Guango Dairy focused on Yoghurt and changed the packing from sachets to 250ml and 500ml bottles of strawberry and vanilla flavors. In 2005, cups were introduced in the same flavors of 150ml, 250ml and 500ml. In 2007 new packaging of 1, 3 and 5 litres were introduced into the market. After a market survey in 2008, two new additional flavors of Pineapple and Passion Fruit were launched in 2009 in all the existing bottle and cup sizes (**See Exhibit I**).

Reflecting on the journey of Guango Dairy, the Chairman Mr. Joseph Kigathi Senior says, “Guango Dairy has grown in so many ways over the years it has existed, with a quality product portfolio, expanded geographical coverage and not to mention it has changed the lives of so many both financially and morally, creating jobs and offering security to many around it”. He continues “At Guango quality comes first. We have a self sufficient system where we rear our own cows hence creating a guarantee in both quality and supply, with a fully fledged dairy farm, with over 40 dairy cows. We also provide our own animal feeds, which are produced on the premises”. Leonard adds “This places Guango Dairy in a class of its own in both effective and quality delivery and that's why we produce truly irresistible yoghurt”.

In stressing the quality issue, the Factory manager quips “we have qualified dairy technologists who exercise strict hygienic conditions thus ensuring high quality products. We also have an active feedback system which our customers use to communicate with us throughout the year in regard to quality of our products. Indeed, some of our customers have complemented us all through the years for the consistently high quality products”. Guango Dairy acquired Kenya Bureau of Standards (KEBS) Standardization Mark in April 2008. “Our production and storage facilities are inspected occasionally (regularly?) by quality inspectors from the KEBS and since 2008 we have been found to meet and exceed minimum quality standards” prides Leonard.

In terms of sales staff, Leonard says “We have a well organized and trained sales and marketing team who are in charge of marketing and positioning of the product in the market”. In total Guango Dairy had a staff compliment of 12 both in the factory and sales and distribution network.

Guango Farm

The Guango dairy farm and factory were located on a 20 acre piece of land. Guango farm had a capacity to produce over 500 liters of milk per day which was supplied to the dairy. This ensured some level of self reliance for continuous supply of milk to the factory. There were 40 dairy cows which were milked 3 times a day using an automated milking process. On average each cow produced between 10 – 12.5 litres of milk a day.

Animal fodder was grown within the farm and was available throughout the year as this was both rain fed and irrigation fed during the dry season from the waters of Guango River. The manure from the cows provided the required supplements for the fodder growth. Excess fodder was harvested and stored in underground silos and retrieved during the dry season. “At any time, Guango farm has preserved fodder equivalent to 12 months requirement for 40 dairy cows and their calves” postulates Kigathi Senior. Guango River which was from an all season underground spring provided all the water requirements for the farm and factory use. “We also use the farm as a showcase for field study to upcoming farmers in the area as well as setting standards for the contracted farmers” concluded the Farm Manager.

Guango Feeds

In order to ensure continuous milk supply, Guango had an animal feed factory which had a capacity to produce 300 bags per day of animal feeds. The need for own production was also necessitated by the continuous shortages of animal feeds from suppliers. “We also did not have trust on our sources especially on the nutritional composition of the supplied feeds as whenever we fed our animals on the supplemental feeds, the milk output would decline by 30% per cow” painfully recalls Leonard. “That is why we decided to invest in a feed mixer to produce for our own consumption and as a new business venture since we could sell the excess feed to our contracted farmers as well as the general public under the brand name Guango Feeds. We indeed have our own sales outlet at the nearest town selling the feeds” proudly asserts Kigathi Senior. The contracted farmers could offset the cost of the feeds against delivered milk. However, by end of 2009, the feeds factory was not operating fulltime due to lack of feed inputs. Says the plant Supervisor “we do not produce feeds throughout the year since inputs like cakes and other nutritional supplements are erratic in supply. We only get supplied about 60% of our total orders”.

Key Management

The leadership of Guango Dairy consisted of the Chairman, the General Manager, Factory Manager, Farm Manager and an Operations Supervisor. The General Manager was in charge of the day to day operations while the chairman was more involved in key strategic issues at Guango Dairy since he was also involved in other businesses under the Guango Group of Companies.

Leonard was more involved in the day to day operations of the company. However, there were other directors of the company who were more in the management of other related companies. Leonard was a trained professional accountant and had worked for various multinational manufacturing and auditing firms in Kenya. He resigned and went into full time management of Guango Dairy in 2006. In 2009, Leonard enrolled and Graduated with the prestigious Global Executive Masters of Business Administration (GEMBA) jointly offered by the Chandaria School of Business at USIU and Columbia Business School, USA. As part of the program,

Leonard was involved in assessing various issues affecting local and international businesses in Agribusiness sector. He spent part of the program at the Columbia Business School in New York learning about best practices in business management.

A Global Dairy Industry Overview

World milk production in 2009 had reached 701 million litres, an increase of over 1.0 percent above 2008 with production increasing much faster in developing countries. World milk production in 2010 was projected to grow by 2 percent. Milk production in Africa was also anticipated to grow at 2 percent in 2010 to peak at 37.4 million litres. In the world, India was the largest milk producer (108 million tons), New Zealand largest exporter (exports about 95% of its milk production, 15 million tons) and Mexico is the world's largest importer (105,000MT).

A Kenyan Overview

Kenya had the largest dairy industry in sub-Saharan Africa. Developments in the industry spanned a period of more than 90 years and went through various evolutionary stages to become what it was. The country's dairy industry was based on smallholder milk production, with over one million small-scale farmers producing some 70% of the country's marketed milk. This had created over 500,000 waged jobs and over 700 000 jobs in the support service industry. Kenya was one of the largest producers and consumers of dairy products in Africa. The dairy sector accounted for 14 per cent of agricultural GDP and 3.5 per cent of national GDP. Kenya's milk production increased from 2.8 billion litres in 2002 to 4.2 billion litres in 2009. However, average milk production per cow per day at 5.7Kg was deemed low compared to the world average.

Kenya was largely self-sufficient in milk production except during dry weather spells. The milk produced was sufficient for local consumption with small quantities being exported to neighbouring countries. Milk production in Kenya was dependant on rain fed agriculture resulting in fluctuations in production during dry seasons. Thus whereas milk surplus was realized during the flush period, there was scarcity during the dry spells of January – April. This scenario had a direct bearing on fluctuating producer and consumer prices among other effects.

Milk processing and marketing was affected by several factors. Primary marketing faced infrastructure bottlenecks caused by poor road networks and lack of appropriate cooling and storage facilities. This largely affected the transport of milk from farms to the collection centres, and subsequently from the collection centres to the processors. The lack of electricity in most areas had limited the establishment of cooling plants. As a result, particularly during the flush period of March to June, there was surplus milk that could not be absorbed in the domestic market. In addition, low and irregular producer payments that coincided with the flush period were responsible for the price fluctuations.

Milk Marketing

Milk production and distribution could be categorized in terms of the key players level of formality and thus either informal or formal players. Informal milk outlets absorbed most of the milk from smallholder farmers accounting for over 70% of the total milk sold. Brokers, traders/hawkers, transporters, co-operatives and farmer groups were also important participants in the milk chain. The farmgate milk prices in informal markets were 22% higher than in the formal marketing channel. Cooperatives remained the main channel for collecting milk destined to the formal market. Analyses of marketing margins indicated that players in informal market had lower marketing margins as compared to the formal channel. As such, the informal channel out-competed the formal channel by charging prices that were 48% lower per litre of milk.

Most of the unprocessed and home processed milk was sold either through mobile traders or small retail outlets. The produce was often not properly packaged, but sold using re-usable containers or customers' own containers. In most urban areas, milk bars were licensed by KDB and the local government which subjected them to occasional public health and sanitation checks.

The competition in dairy processing was strong. There were about 34 registered processors including niche processors who focused on particular product lines such as Cheese, Yoghurt and Icecream. The industry was dominated by several players, including a revived New KCC, Brookside, Githunguri, and Buzeki dairies who controlled more than 80% of the market share and competed fiercely. According to the figures from Kenya Dairy Board (KDB) by end of 2009, the market share was dominated by Brookside with 38%, New KCC had 29%, Githunguru DFCS with 14%, Sameer A&L 4%, Buzeki Dairy (Molo Milk and Kilifi Gold) 4% and all other players combined had a market share of 16%. This information is presented in **Exhibit II**.

In terms of consumption, milk was consumed either raw or as its processed equivalent of fresh milk. In the informal market only about 16% of milk underwent home or artisanal processing and was sold as homemade sour milk (mala or lala) or yogurt. Very similar dynamics prevailed in formal market. About 85% of processed produce was sold as fresh milk either as short life pasteurized milk or long life UHT milk. Yogurt made another 3%, fermented milk 7% and powder milk 3%, with value-added products such as cheese and butter making less than 2% of produce sold. **See Exhibit III**.

Yoghurt as a Product

Yoghurt is a cultured milk product obtained by lactic acid fermentation through the action of *Lactobacillus bulgaricus* and *Streptococcus thermophilus*. Yoghurt is essentially fermented milk. During the fermentation process natural sugars in milk are converted to lactic acid which gives the yoghurt its thick texture and distinctive taste (See Exhibit IV Yoghurt Production Process).

Yoghurt can be made from whole or skimmed milk to suit different tastes. There are different types of yoghurt including *sweetened yoghurt* (yoghurt to which one or more sugars only have been added); *plain yoghurt* (yoghurt to which no sugar and food additives have been added); *flavored yoghurt* (yoghurt to which flavoring foods or other flavoring ingredients have been added); *fruit yoghurt* (yoghurt to which fruits have been added); *heat-treated yoghurt* (yoghurt which has been subjected to heat treatment after fermentation); *pasteurized yoghurt* (yoghurt which has been subjected to pasteurization process after fermentation); *thermized yoghurt* (yogurt that is heat-treated at 62 °C to 65 °C for 15 to 20 seconds aimed at reducing the number of viable organisms and prolonging shelf-life); *sterilized yoghurt* (yoghurt that is heat-treated at a minimum of 115 °C for 15 seconds aimed at attaining commercial sterility and prolonged shelf-life). See **Exhibit IV** for the Yoghurt Production Process.

According to the KDB, there were many benefits for consuming yoghurt including: it may help to help prevent osteoporosis as the calcium and phosphorous in yoghurt are essential for the growth and development of strong healthy bones; it may help reduce the risk of high blood pressure; it may make one feel fuller which is beneficial to those on weight reducing programs; and it may help reduce vaginal infections (the yoghurt with active cultures). The yoghurt with active cultures also help the gut and may help gastro-intestinal conditions such as lactose intolerance, constipation, diarrhoea, colon cancer, and inflammatory bowel disease.

The Global Yogurt

The global yogurt market is projected to surpass \$67 billion by the year 2015, driven by growing consumer desire for convenient and health promoting products, according to a report by Global Industry Analysts, Inc. The market is also favored by the increasing popularity of yogurt as a functional food. The global dairy industry's rapid growth is attributed primarily to the advent of functional products, with characteristics such as low-sugar, low-fat, cholesterol-lowering and favorable impact on digestive health, according to the Global Strategic Business Report on Yoghurt. Among all functional foods, yogurt is considered an ideal medium for delivery of beneficial functional ingredients.

Over the years, the market has witnessed a shift from conventional spoonable products towards yogurt drinks, as well as products that are specifically targeted at children. In addition, demand for organic yogurt products with natural ingredients is also on the rise. Innovative and premium products such as bio yogurts or yogurts enriched with juice and fruits are also finding favor among consumers.

The global yogurt market is characterized by intense competition prompting leading players to differentiate themselves by focusing on health benefits, branding, and incorporation of ingredients (namely fruits). The industry has seen also a renewed effort at positioning yoghurt differently from the past and developing new uses of yoghurt.

Consumer eating habits and dietary needs are changing all the time and as lifestyles become more hectic, people are becoming more aware of the importance of a healthy diet. The hottest trends in the global yogurt market are: organic and natural; functional yogurts made with probiotics, high protein and fiber; Greek-style yogurt; indulgent dessert-style yogurts and kid-targeted products. Whole grain, a major trend in other categories, has recently hit the yogurt market.

Kenya Yoghurt Industry

There are many issues affecting the yoghurt business in Kenya. These include the low barriers to entry thus attracting many in cottage industry in the production and supply of yoghurt (very basic equipment is required for a cottage industry). Most of the cottage producers do not meet strict quality requirements (no quality checks and standards not enforced) and have low overhead costs thus able to sell their Yoghurt at a price 30% lower than Guango Dairy prices. Every year there are many startups that do not see their 2nd birthday. This could be attributed to the intense and aggressive competition in the sector especially from the “big three” manufacturers who have huge budgets for packaging and product positioning. The Kenyan yoghurt industry has also witnessed a change in positioning of yoghurt as a lifestyle product. The industry has also witnessed acquisitions of the midsized producers by larger players. There was also a noted high growth within the industry in terms of volumes, product differentiation, quality improvement and per capita usage/consumption of yoghurt.

Guango Sales and Distribution

Guango Dairy sold and distributed its products through various channels of distribution. “We have a well organized and trained sales and marketing team who are in charge of marketing and positioning of the product in the market” says Leonard. Accordingly, the Chairman adds “Over the years, we have managed to capture key markets in Kenya including the regions of; Mount Kenya, Central Rift Valley and Nairobi and its environs. We have our own vans which have insulated fiber glass carrying bodies suitable for the purpose of handling milk products that we use for the distribution”.

Some of the major outlets where Guango Dairy products were readily available included some branches of Tuskys, Naivas, Ukwala, Eastmatt, Maathai, Maguanandu, Cleanshelf, Kamindi, Stagematt, Satellite, Kassmatt and Armed Forces shops (AFCO). Leonard observes “we also do not ignore the smaller retail outlets, shops and Kiosks countrywide”. See **Exhibit V** on Guango Dairy’s growth milestones.

There were several challenges in establishing a distribution structure. Due to the nature of the products, refrigerated vehicles were required for yoghurt distribution. To get shelf space in major supermarkets was difficult and took several years as witnessed by Guango Dairy. “We have been unsuccessful since 2007 to penetrate the Uchumi and Nakumatt Chains of Supermarkets”

laments Leonard. In supermarkets where Guango had shelf space, they were required to have supervisors and merchandisers who took orders daily, ensured product cleanliness and proper arrangement and that the allocated space was not taken over by competition. “In some outlets we have been forced to provide our own coolers and hire the space where the cooler stands while in others pay for space in the store provided coolers” says Leonard. “The barriers to entry into the large supermarket segments where 60% of yoghurt is sold are quite high” adds Kigathi Senior. For us to continue to have presence and visibility in supermarkets we have to work closely with the management and establish trust and reliability with the store manager. Otherwise you may find that no one cares about your products” says Leonard. “That is why as the Chairman of the organization I have to find time to visit every store at least twice a month and have a meeting with the store manager. When am not able to, I take upon myself to call the store and check how they were doing. This way I am able to strengthen our relationship and address issues before it’s too late. Relationships and networks are critical in this business” states Kigathi Senior categorically.

Cost Structure of Yoghurt

According to Leonard the pricing of yoghurt was determined by various factors including the cost of raw milk, the processing cost (cost of additives, sugar, culture, maize starch, flavoring, and other direct and indirect expenses), packaging costs and distribution costs. The cost structure of Yoghurt is presented in **Exhibit VI**.

Market Segmentation, Targeting and Positioning (STP)

Due to the nature of the yoghurt market, the process of segmenting the market, targeting the identified segments and positioning products with the segments would be critical. The STP process for yoghurt is shown in **Exhibit VII**.

Market Segmentation

The yoghurt market can be segmented using various segmentation bases. According to a source at the KDB, producers, in order to maximize their ability to satisfy consumers, divide up or segment the market for their products according to different consumer needs and preferences. There are many different ways or bases to segment a market and these include:

- *Geographic Segmentation:* Segmenting consumers according to their geographic location.
- *Demographic Segmentation:* segmenting markets according to some demographic criteria such as age, gender, occupation, family size or even marital status.
- *Psychographics Segmentation:* segmenting consumers according to the different lifestyles or according to their social class groupings or different personality types.
- *Behavioural Segmentation:* segmenting consumers according to their knowledge of a product or the way in which they react towards a product. One such way is by grouping consumers

according to the benefits that they look for or the occasion on which they use a product for example, yoghurt for breakfast or as a desert. See **Exhibit VIII** for benefit segmentation.

Guango Dairy had various product packaging targeting different customer segments. For the 500ml Yoghurt in Cups, the main target market was working middle aged women who mostly would buy for office consumption. This target region was Nairobi Central Business District. In terms of costs, cups were cheaper than bottles. Research has shown that this packaging appeals to working women as they would easily consume their yoghurt as they did their work and such would constitute a meal/lunch.

For 250ml cups, the main target markets were college going teenage women and school going children. For these groups the cup was preferred as it conferred a sense of fashion and was portable and easy to use when working in an office. Plastic bottle packaging on the other hand were targeted at people on the move. Due to the ease of use and portability convenience, people travelling using private and public means found the same ideal. The sales of the bottle package were high in sales outlets near bus terminus as this was the preferred size by those travelling on public means.

Leonard's Dilemma

The farm supplied the yoghurt factory with an average of 500 litres a day while contracted farmers supplied another 2,000 litres. This differed during the dry season when total on farm and out farm collection would drop from 2,500 litres to 1,250 litres a day. The existing situation was that during the peak season milk deliveries to the factory was 50% of installed capacity while in the dry season it was 25% of installed capacity. This presented Leonard with a dilemma. How was he going to ensure increased capacity? As a chain from cow to cup what were the critical success factors? How was he going to grow the business to the next level of performance?

As Leonard walked back to pick his laptop from the office and headed home, he kept wondering what was the best way forward. The sound of the waters dropping down the Guango falls didn't help either. "Or should I start water bottling since we have a natural underground spring and could utilize the same yoghurt plant for bottled water?" He wondered.

EXHIBITS

Exhibit I: Packaging Guango Dairy Products



Exhibit II: Processor Milk Market Share

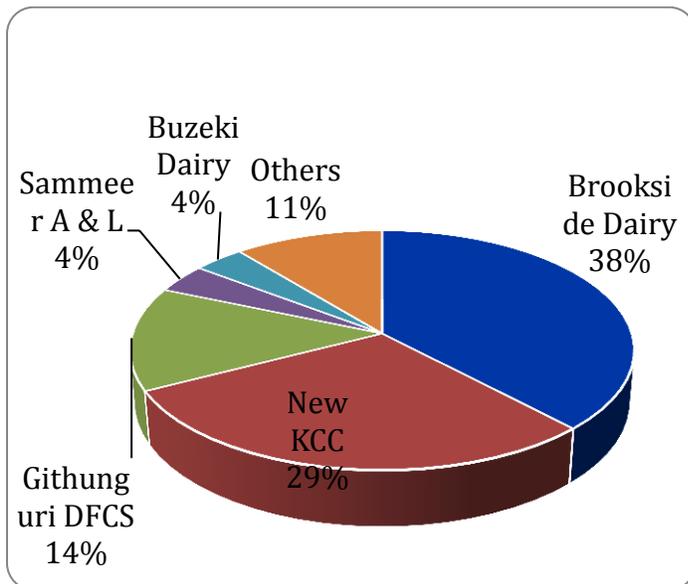


Exhibit III: Processed Milk Market Share by Product Category

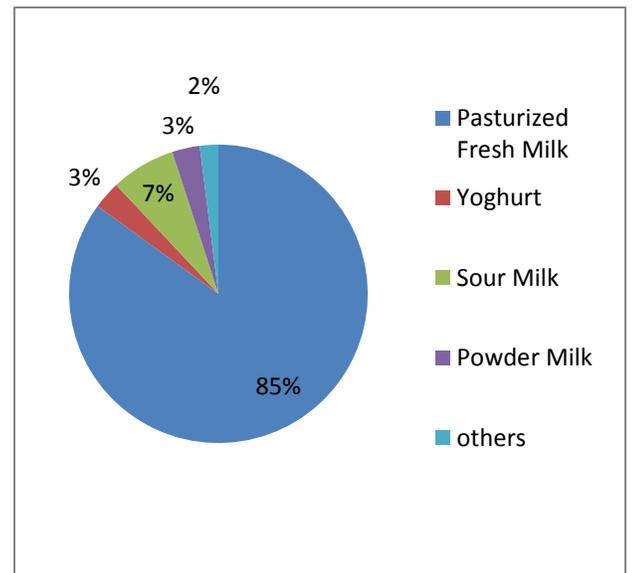


Exhibit IV: Yoghurt Making Process

SET YOGHURT YOGHURT

STIRRED/DRINKING

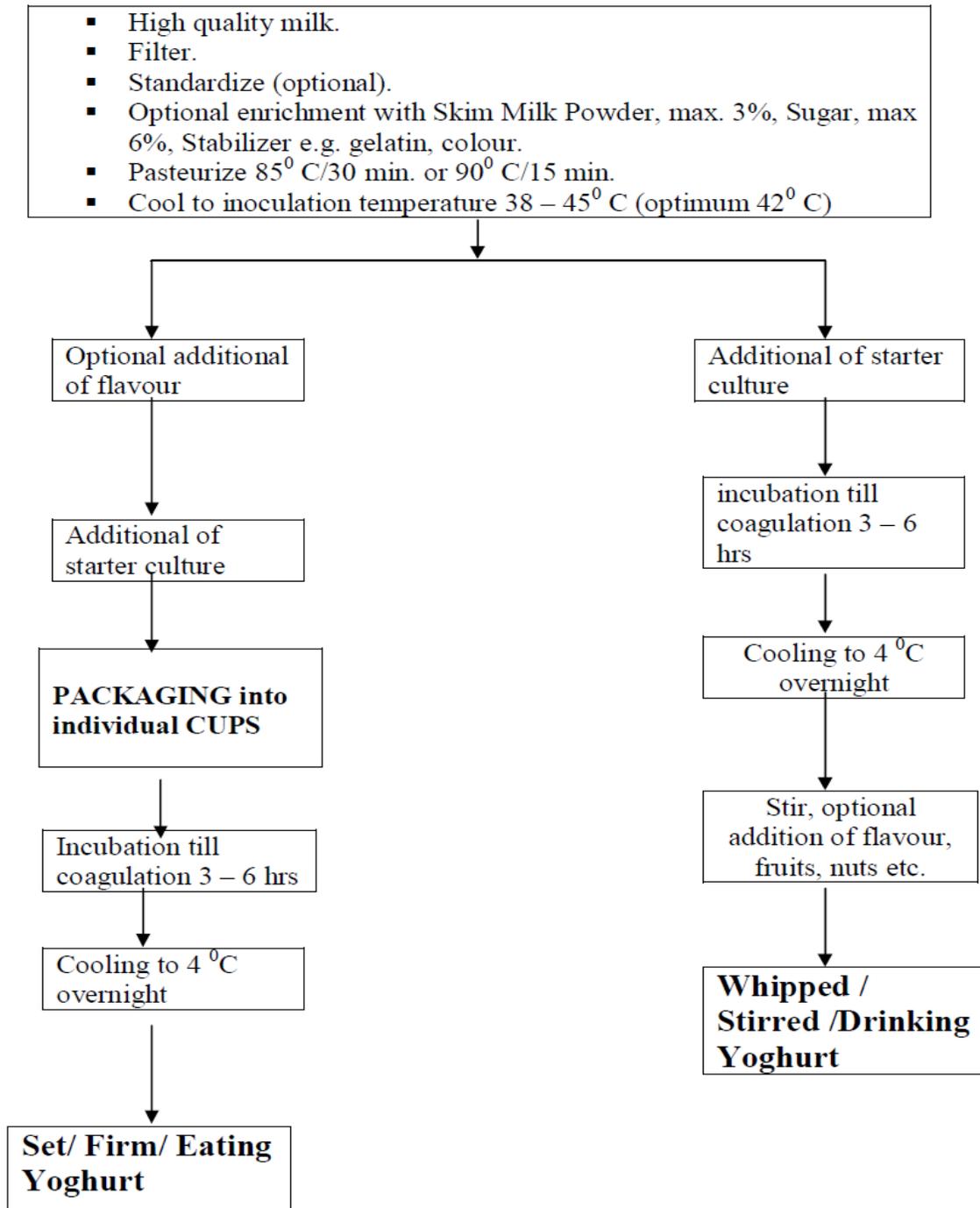


Exhibit V: Guango Dairy Growth Milestones

Period	Strategy	Coverage
2003	<ul style="list-style-type: none"> • Focused on selling Yoghurt to milk bars and construction sites. • Yoghurt packaged in Sachets • Distribution with 3 bicycle sales people • 1 distribution van 	A radius of 10 Km
2004	<ul style="list-style-type: none"> • Expanded distribution targeting major markets within the locality by hawking during market days especially towards lunch time and early afternoon • Identified Strategic points in the surrounding shopping centers and stationed a sales person with several crates to sell to passerby • Started selling to shops, minimarkets and Kiosks in the locality 	A radius of 25 km
2005 – 2006	<ul style="list-style-type: none"> • Targeted small stores and supermarkets in estates within various surrounding locations • entered the highly populated Eastlands region of Nairobi targeting mainly mini supermarkets and midsized supermarkets • Mid 2006 targeted other towns closer to Nairobi e.g. Rongai, Thika Mlolongo, Limuru, Kijabe • Increased fleet size to 2 vans and 4 Bicycles 	about 40 - 60km radius
2007	<ul style="list-style-type: none"> • Entered the Mt Kenya Region of Nyeri and Nanyuki mostly supplying to outlets of the existing customers like Maathai Supermarket in Thika • Got supply rights to Naivas Supermaket outlets within Nairobi and its environs 	A radius of about 150 Km
2008	<ul style="list-style-type: none"> • Entered an agreement to supply Ukwala Supermarkets in Nairobi and environs 	Nairobi and environs
2009	<ul style="list-style-type: none"> • Made a breakthrough to supply Tuskys Supermarket – initial agreement was that this only applied to the Thika branch only • Received rights to supply AFKO stores in Nairobi • By end of 2009 was allowed to supply other branches of Tuskys Supermarkets save for Nairobi. These included those within the area of coverage like Naivasha, Gilgil and Nakuru • Bought another 2 ton van to specifically cover the Central Rift Valley Region. Total fleet of vans now 4. 	Nairobi, Mt Kenya and Central Rift Valley

Exhibit VI: Cost Structure of Yoghurt

Cost Element Per Litre	Cost (Kshs)	Percent
Raw Milk	30	35%
Processing cost	25	29%
Administrative costs	10	12%
Packaging costs	15	17%
Distribution costs	6	7%
Total Costs	86	100%
Margin	34	40%
Selling Price per Litre	120	140%

Exhibit VII: Yoghurt STP Process

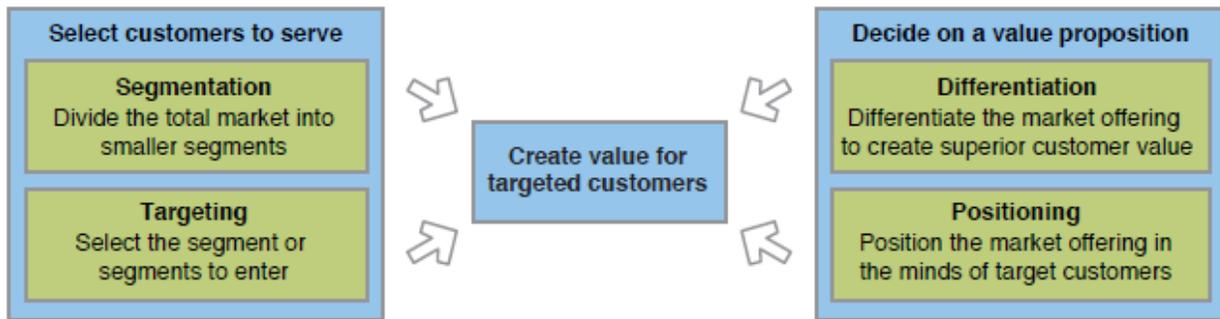


Exhibit VIII: Yoghurt Benefit Segmentation Model

Benefit Segmentation Applied to Yoghurt Market

BENEFITS SOUGHT FROM YOGURT	Attributes of Yoghurt							
	Individually packaged	With fruit	High-priced	Mild	Organic	Contains bio-bifidus	Low fat	Low-priced
Provides choice for family members	X	X						
Convenient to use	X							
Tastes good		X		X				
Good quality		X	X	X	X			
Healthy		X		X	X	X		
Helps digestion							X	
Helps diet							X	
Spend less money								X

Exhibit IX: Kenya Production and Consumption

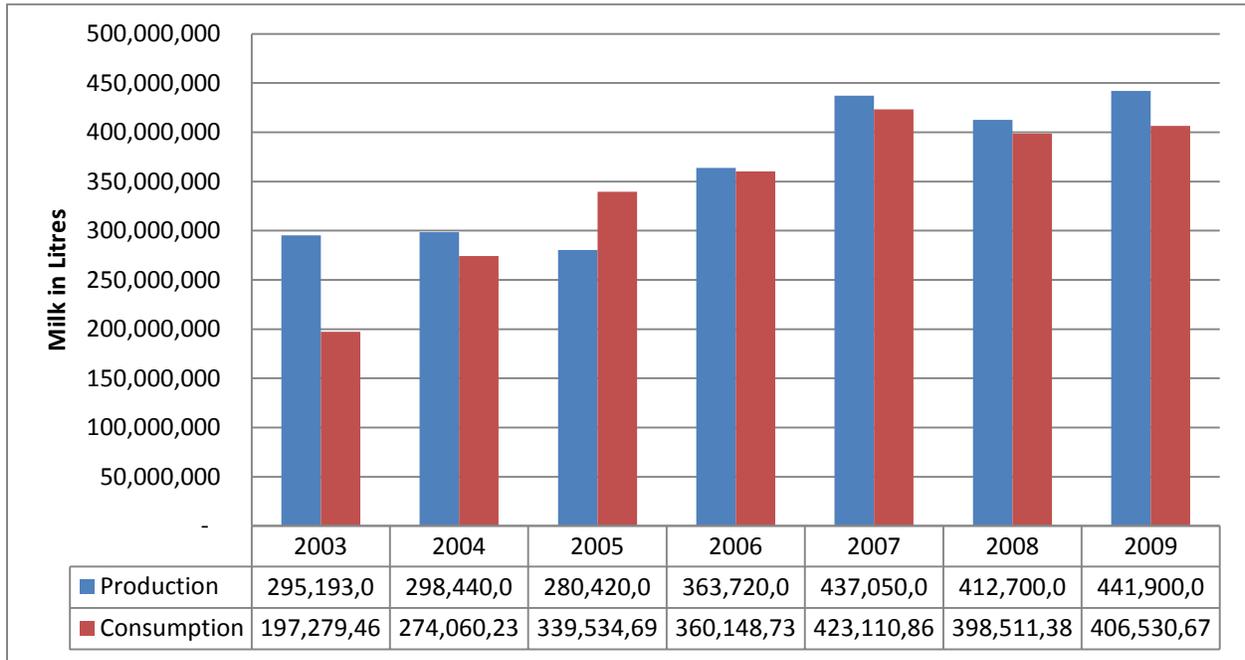


Exhibit IX: Guango Performance 2006 – 2009: Sales and Profits

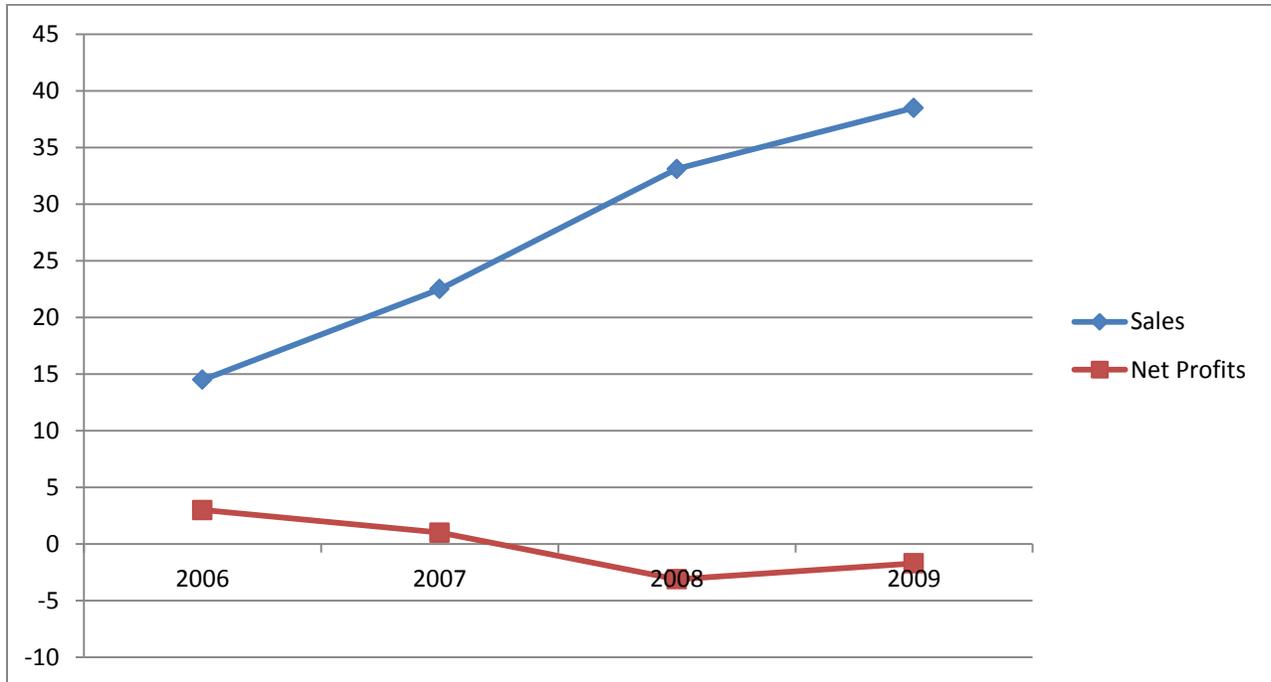


Exhibit X: Guango Performance 2006 – 2009: Sales, Overheads and Profits

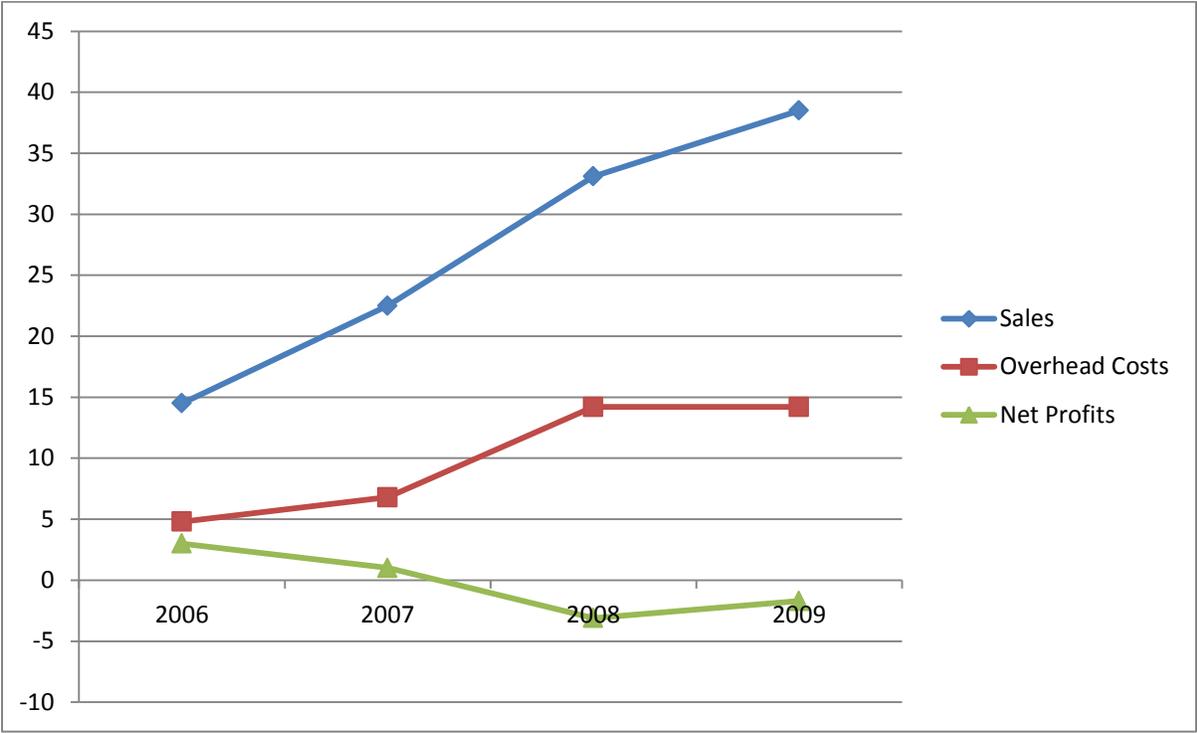


Exhibit XI: Yoghurt Value Chain

