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# Pwani Feeds Manufacturers Limited

## EXECUTIVE SUMMARY

This case study describes the success story of Pwani Feeds, a leading animal feed manufacturing company in Kenya. Shem Mwaura, the CEO of Pwani Feeds, is a Kenyan entrepreneur. Before establishing Pwani Feeds he worked in a mill and launched grocery and cereal shops with his wife.

In 1995, Mr. Mwaura decided to open his own business trading eggs and feed in Thika, Central Kenya. The original business model was based on two ideas: first, collecting eggs from decentralised local farmers and selling them on the market in Mombasa while simultaneously supplying these farmers with feeds they couldn't otherwise obtain. After three years, Mr. Mwaura extended his business by producing and selling his own animal and poultry feeds. A factory was set up in Mombasa and feed production experts were recruited to develop high performance feeds.

Pwani Feeds established egg collection centres in the Coastal Region and developed a unique "Delivery Route Business Model" for the Central Province. Farmers were guaranteed the same price offered by other middlemen, but what set Pwani apart was the provision of free additional services. The farmers benefited mostly from the company's direct delivery of feeds, which saved them time and transport costs. Advisory services (record keeping, animal health care, and a demonstration farm) were also provided for free. In 2006, the business model was expanded to the practice of fattening bulls that were about to be sold.

The socio-economic value of this case lies in the fact that the Pwani model created 300 jobs in two factories, thereby alleviating poverty as well as improving gender equality – 70 percent of the Kenyan poultry farmers are women.

## INTRODUCTION

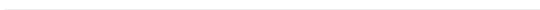
Mr. Shem Mwaura, the CEO of Pwani Feeds, had just settled down in his new offices in Thika, a town in the geographic centre of Kenya. The decision to relocate the head office from the coastal town of Mombasa to Thika was rooted in Mr. Mwaura's belief that with the company's infrastructure already well in place, the time was ripe to roll out more branches throughout the country. To do this, scalable systems and structures had to be established deeper in the hinterlands of Kenya to ensure a smoothly functioning organisation and the creation of an efficient logistical transportation structure. Up to this time, Pwani Feeds had been manufacturing animal feeds, mainly dairy and poultry feeds, with the majority of the firm's output serving the coastal and central regions of Kenya.

## AGRICULTURE & FEEDS MANUFACTURING IN KENYA

Agriculture is the lifeblood for about 80 percent of the Kenyan population. It provides employment to over 70 percent of the labour force and contributes 53 percent of the country's Gross Domestic Product (GDP) – 26 percent directly and 27 percent indirectly (through linkages to processing and services). It also

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### LOCATION OF THIKA AND MOMBASA



contributes 45 percent to the public coffer through taxation. Most of the agricultural production in Kenya is comprised of mixed farming (growing of crops and rearing of livestock). Livestock farming consists primarily of dairy and poultry farming (with pig farming occurring to a lesser extent).

## DAIRY FARMING IN KENYA

Kenya has one of the largest dairy industries in sub-Saharan Africa (EPZ 2009). The industry developed over a period of 90 years with several distinct evolutionary stages. The first 60 years were dominated by large-scale farmers, but the last 30 years have seen smallholder farms increasingly dominating the sector with smallholders now accounting for over 80 percent of total milk production.

The dairy trade has evolved through three distinct market periods:

- From the period up to 1969 it operated as an open market with various independent dairies being active market players;
- Between 1969 and 1992, primarily due to the rationalisation of the dairy industry by the Government, a monopolistic market situation existed; and
- From 1992 the market has operated under a Government-backed liberalisation plan.

Up to 1992, the dairy industry in Kenya was under government control. Policy guidelines and prices were set by the government and these determined which players could survive in the industry. The body responsible for regulating the dairy industry was the Kenya Dairy Board. During its history, Kenya has been largely self-sufficient in milk production. Production stood at 3.1 billion litres per annum. Although this amount met domestic consumption needs, much more demand existed within the export market. Kenya had an estimated 3.3 million dairy cattle and as stated, the Kenyan dairy industry was based mostly on smallholder milk production. About 600,000 smallholders produced 70 percent of the country's marketed milk. Approximately 56 percent of this milk was sold raw in the unregulated informal market, leading to public concerns about hygiene and safety.

## POULTRY FARMING IN KENYA

Poultry accounts for about 1.7 percent of total agricultural GDP. According to the 2007 Ministry of Livestock Development report (Mbugua 2010), the following were the estimated poultry product outputs:

- 21,000 tonnes of poultry meat, valued at 3.52 billion Kenyan shillings (KSh) (33.6 million Euro, as of 2011);
- 1.22 billion eggs (53 percent from hybrids and 47 percent from indigenous stock) valued at KSh 9.7 billion (92,7 million Euro).

Achieving optimal genetic potential within the chicken population depended on three main factors:

- The environment in which the chickens are raised should be managed to provide birds with proper ventilation, good air quality, comfortable temperatures, and adequate space;
- Developing chicks must be provided with a dietary regimen that supplies nutrients in an appropriate blend. Poultry get their nutrient requirements through the compounding of suitable feed ingredients plus proper management of the ratio in which feed and water are supplied (for a detailed egg production process see page 121);
- Effective sanitation and disease prevention programmes are the last crucial component. Farm procedures must be able to prevent disease incursion, and if prevention fails procedures must detect illness early and accurately diagnose ill health.

## ANIMAL FEEDS MANUFACTURING IN KENYA

Most animal feed manufacturers in Kenya practiced what was known as mixed feed production (Karuri 2010). This means that they produced feeds for dairy cattle, poultry, and pigs on the same site. The first firm to produce mixed feeds was established in Kenya in the 1950s. Since then, the feed industry has grown not only in terms of the volume of feed produced but also by putting in place policies to ensure quality feed production. In 1976, the government established the Kenya Bureau of Standards (KEBS). By the end of the decade, specifications for poultry, dairy, and pig feeds had been implemented. By 2010, there were 94 mixed feed manufacturing firms in Kenya, most of which were wholly locally owned. Animal feed production ranged from less than 1,000 tons to over 100,000 tons per annum

for the small and big firms respectively (Mbugu, P. N. 2010). The larger millers used computerised technology (imported continuous flow mixers) that facilitated higher output, while the small millers employed low investment, labour-intensive production technology. The total installed feed production capacity was about 843,000 tons, of which only 44.5 percent was utilised. This underutilisation – which at times prompted the closure of some mills – was owed to the lack of reliable quality raw materials/feed ingredients and in some cases, farmers' inability to purchase the feeds (preferring to grow their own feed on their farms).

The objectives of mixed feed manufacturing were to:

- Produce feed that was safe for animal use;
- Produce feed that ensured that the food product arising thereof was safe to the human consumer;
- Produce feed that meets the nutritional requirement of the animal; and
- Make a profit through the feed manufacturing endeavour.

KEBS was held responsible for ensuring the achievement of the first three quality objectives. Feed manufacturers were subjected to a rigorous certification and standardisation process before they could be permitted to sell their feeds. The

The Pwani Feeds production plant in Thika.



manufacturers were re-certified every three years to ensure they maintained their quality, but KEBS could conduct a feed quality audit at any time.

## PWANI FEEDS

Shem Mwaura, the CEO of Pwani Feeds, worked as an employee of one of the leading millers in Kenya: Unga Feeds Ltd. While working in the coastal town of Mombasa, he established a groceries and cereals shop that his wife managed. This was in 1995. With time, they started selling eggs, which did very well because the market for eggs in the coastal region was enormous. The many tourist hotels in the area plus the eating habits of coastal people demanded a regular supply of eggs. Mr. Mwaura recognised an opportunity and resigned from Unga to concentrate on the egg business.

After his resignation, Mr. Mwaura went to the Central Province of Kenya, the region known as the largest producer of eggs. He studied the region and its inhabitants' egg-producing techniques. With his newfound knowledge, Mwaura opened a shop at Thika Town (in Central Province), 50 km from the capital city of Nairobi and 500 km from Mombasa town (where his wife was still operating the shop).

The Thika Shop was to serve as a collection point for regionally produced eggs before they were transported to Mombasa. To attract more producers to bring their eggs to his shop, Mwaura started stocking his shop with poultry feeds from diverse manufacturers. The farmers would come with eggs and leave with feed. By 1998, he was delivering 1,500 trays (containing 30 eggs) per week to Mombasa. Around this time, Mwaura had the idea to further maximise profits by producing the feed himself.

## SETTING UP PWANI FEEDS MANUFACTURERS LTD

After his decision was made to set up a factory to manufacture animal and poultry feeds, Mr. Mwaura was faced with the dilemma of where to build such a factory. His choices were Mombasa or Thika town. The two main factors under his consideration were:

- Source of raw materials; and
- Target market for the products (poultry farmers).

	AMOUNT REQUIRED PER TON OF OUTPUT (IN KG)	COST PER KG (IN KSH)	COST PER TON OF OUTPUT (IN KSH)
<b>CARBOHYDRATE SOURCES</b>			
WHEAT POLLARD	240	12	2,880
MAIZE GRAIN	200	25.6	5,111
MAIZE GERM	120	10	1,200
WHEAT BRAN	80	9	720
<b>SOURCES OF PROTEIN (ANIMAL AND PLANT PROTEIN)</b>			
PRAIRIE MEAL	15	52	780
SOYA MEAL	20	48	960
SUNFLOWER SEAD CAKE	100	8	800
COTTON SEAD CAKE	50	12	600
OMENA	50	53	2,650
<b>MINERAL SOURCES</b>			
LIMESTONE	85	4	340
BONE MEAL	30	19	570
SALT	4	5	20
DCP	3	36	108
LYSINE	1	450	450
PREMIX	2	250	500
METHIONINE	0.5	450	225
<b>TOTAL PRODUCTION COST PER TON OF FEED</b>			<b>17,914</b>
			<b>COST PER 70 KG BAG (IN KSH)</b>
<b>COST OF RAW MATERIALS</b>			<b>1,254</b>
LABOUR			10
ELECTRICITY (for production)			10
ADMINISTRATION			80
TRANSPORT (of raw materials)			70
GUNNY BAG			30
<b>ADDITIONAL COSTS</b>			<b>200</b>
<b>TOTAL COST</b>			<b>1,454</b>

TABLE 1: Costing of layers mash

After surveying the availability of the required raw materials, it seemed that most of the raw materials were readily and cheaply available within the coastal region.

The main raw materials included: Wheat pollard, maize germ and wheat bran, all of which were by-products of wheat and maize millers. In the coastal region, there were five maize and wheat millers producing the required by-products in large quantities. Millers had nowhere to sell these by-products as there was initially no animal feed manufacturers in the region. This presented a business opportunity for both the millers and Mr. Mwaura, as he was able to purchase the by-products from the maize and wheat millers at very reasonable prices.

Despite the advantages of the coastal region, most of the poultry farmers (the consumers of the feed) were close to Thika. The decision was therefore either to set up the factory in Mombasa Town closer to the raw materials and transport the end product to Thika (where the majority of the consumers were), or set up the factory at Thika and transport the raw materials from Mombasa. Since raw materials were bulkier than finished products, it was decided to set up the factory in Mombasa. Pwani Feeds Manufactures Ltd was registered and set up in 1999.

## RECRUITING PERSONNEL

After the company became officially registered, the proprietors Mr. and Mrs. Mwaura faced the challenge of who to recruit for the venture. There was a need for three types of experts:

- High-level consultants who would be able to evaluate the reliability of potential suppliers of raw materials and who could draft services contracts;
- Individuals with feed production experience who could produce high quality feeds; and
- A diverse staff capable of marketing the company's products.

Budget constraints led the Mwauras to act as their own consultants and rely on Mr. Mwaura's experience gained while working at Unga Ltd. to identify qualified suppliers and draw up supplying terms.

## IDENTIFY RAW MATERIALS AND SUPPLIERS

To identify suppliers, the Mwauras needed to know the various raw materials required for producing high quality feeds. Therefore, it was important to recruit a feed formulator with adequate experience. They advertised an available position – a production manager. Once they recruited a skilled production manager, he



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## MAIN PRODUCTS OF PWANI FEEDS

**POULTRY FEEDS** Chick mash is fed to birds from week 1 to week 7. From the 7<sup>th</sup> to the 15<sup>th</sup> week, the birds are gradually weaned from chick mash to growers mash. From week 16 on, they are fed on layers mash until they start laying eggs at about week 18 and then until they are culled. They are sold for meat after week 70 and often fetch good prices. For broiler birds, it is recommended that each bird should consume at least 850 grammes of First Grow Broiler starter mash and 2,000 grammes of First Grow Broiler Finisher mash or pellets in order to attain an optimum live weight of 1.5 kg (after which they are sold). The time it takes to grow chicks to their slaughtering weight is about 42 days.

**DAIRY FEEDS** The recommended measure of dairy meal per day per cow is determined by the amount of milk produced. A cow producing about 20 litres of milk per day is considered high yielding. For cows producing less than 10 litres of milk per day, it is not economical to feed them on high yield dairy meal, which is more expensive than the standard dairy meal. A cow producing less than 4 litres of milk per day does not require standard dairy meal as it will not be able to sustain the associated costs.

**PIG FEEDS** Sow & Weaner meal is appropriate for young pigs under the age of 2 months, which is when they start feeding on Pig Finishing meal. They feed on finishing meal for another two to three months before slaughter.

**RABBIT PELLETS** These are fed to rabbits throughout their lifetime, which is often four to five months. Rabbits consume 100 gramme of feed per day.

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### POULTRY FEEDS

#### LAYER FEEDS

- Layers Mash
- Growers Mash
- Chick Mash

#### BROILER FEEDS

- First Grow Broiler starter Mash
- First Grow Broiler Finisher Mash
- First Grow Broiler Finisher Pellets

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### ANIMAL FEEDS

#### DAIRY CATTLE

- Standard Dairy Meal
- High Yield Dairy Meal
- Calf Pellets

#### PIGS

- Sow & Weaner Meal
- Pig Finishing Meal

#### RABBITS

- Rabbit Pellets
-

developed a feed formula and identified the various raw materials required. With the requirements identified, they approached various suppliers and entered into contracts.

#### COST ANALYSIS OF LAYERS MASH

Much research was put into formulation of feed to find the most cost-effective products while maintaining high performance. Table 1 shows an analysis of the raw materials and costing of layers mash. The same analysis was done for all the other products.

With the production cost of each product established, the management researched other companies' pricing and were able to prepare their own price list. After researching the logistics of starting up the factory, identifying suppliers of raw materials, and recruiting staff, full production began in October of 1999.

### BUSINESS MODEL DEVELOPMENT

Introducing a new product to the market was not easy. The marketing team (2 field officers and 2 salesmen) had to come up with a way to differentiate Pwani Feeds from the other market players.

#### INTRODUCING PWANI FEEDS TO THE COASTAL REGION

The management team saw value in cultivating and establishing a high level of trust between the company and the farmers. The marketing team had to be chosen carefully to include field officers trained in animal health care. Their marketing strategy entailed visiting farmers and giving free advice on the best available farming practices. For example, if a poultry farmer required a specialist to inspect their sheds and confirm that they met the required standard for the number of birds kept, they received the advice at no cost from the field officers. The officers also gave advice on the various vaccinations required and taught and encouraged farmers to keep records. Most farmers used manual labour for feeding and watering their birds. There was hardly any mechanisation because it was very costly to install, and most farms were too small to justify the expense.



Poultry farmers appreciate the free technical advice and high quality feed they receive from Pwani Feeds.

#### UNIQUE ADVISORY SERVICES AND DOOR-STEP POLICY

The farmers appreciated the free services and high quality feeds provided by Pwani Feeds. Eventually, they started asking Pwani field officers if they could provide the farmers with their feed products (along with their advisory services) on a regular basis. The Pwani strategy team realised that improvements in agri-knowledge and agricultural services efficiency would help the farmers improve their income and productivity. Thus the foundation of a win-win business model was laid, which cemented the unique selling proposition of Pwani Feeds. The field officers formed an implementation team and travelled around rural areas. Their efforts reached over 200 farmers. The team chose five coastal locations that had potential for growth: Mtwapa, Kilifi, Malindi, Ukunda and Mombasa town and its environs. The spacing of the locations, which were between 20 and 60 km apart from each other, was purposeful and supported the establishment of outlets where farmers would place their orders for feed and establish a delivery date for the eggs they were supplying to Pwani. With outlets located closer to the farmers, the team grasped that they would be able to provide feed products to the farmers on time and at the right prices.

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## THE EGG PRODUCTION PROCESS

**PRE-PLACEMENT PERIOD:** Before chicks are placed on a farm the coop is cleaned and covered with good quality litter. Chicks are transported during the cool hours of the day as they cannot regulate their body temperature until they are two weeks old.

**FEEDING:** Feed accounts for about 70 percent of the cost of production. As such, it is important to purchase feed from a reputable miller. From week one to week seven, the birds are fed chick mash. From week eight to week 15, the feed is gradually substituted by growers mash. From week 16 on, they are fed on layers mash. From the time the chicks are brought to the coop through week 16, the birds are fed according to body weight and/or age.

**PRODUCTION PHASE:** The birds first begin producing eggs once they are between 18 to 22 weeks old and reach peak production at around week 35 (95 percent production). Post-peak production continually decreases to approximately 50 percent at around week 70. 50 percent production is the approximate break-even point when cost of inputs is equal to the market price of the eggs. When production is less than 50 percent, a farmer must decide whether to continue with the production or cull the birds.




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The Pwani branches were opened and the strategy worked. No other competitor was delivering products to the doorsteps of farmers apart from Pwani Feeds. Again, it was only Pwani Feeds that was providing free advisory services to the farmers and this unique service rapidly expanded to most farmers. Within a year, Pwani Feeds established itself as the market-leader in production and sales of poultry feeds in the coastal region.



Pwani Feed produce ready for the market

## SETTING UP A DEMONSTRATION FARM

The strategy team felt that there was need for the company to lead by example. They floated the idea of Pwani Feeds setting up a demonstration farm where farmers could come to be taught practical lessons. The farm would also be used as a test-bed for new feed combinations before introducing them into the market to ensure that high standards were consistently maintained. In April 2002, the company purchased a 12-acre parcel of land in Kilifi District, also in the coastal region. Initially, 2,000 laying birds were introduced. In time, the flock was increased to 10,000 birds – all consuming Pwani Feeds products. Their egg production was greater than 300 trays per day. With each grown-up bird taking 140 grams of feed per day, the project acted as an internal customer that consumed 20 x 70 kg bags of feed per day. The demonstration farm became popular, with both farmers and educational institutions from the coastal region visiting it frequently. Five dairy cows were also purchased and put in the farm.

## SELLING PWANI FEEDS IN CENTRAL KENYA

Initially, once the feed was produced by the Mombasa factory, it was transported to the shop located in Thika town, which was within the Central Province and still acting as an egg collection centre. After a time, the shop logically stopped stocking other producers' products and started exclusively selling Pwani Feeds products.

Again, just like in the coast region, field officers were sent to the catchments areas and began offering free advisory services.

### FARM GATE PURCHASE OF EGGS

The approach in Central Province was to start with regular customers who were bringing their eggs to the shop. Pwani feeds intended to establish retail outlets similar to those from the coast. However, after some initial visits to the farms, it

ITEM	COST (IN KSH)
Day-old chick	80.00
<b>FEED COSTS</b>	
2 KG CHICK MASH (from day 1 to 8 weeks; KSh 1,950 per 70 kg bag)	56.00
7 KG GROWERS MASH (from 8 to 18 weeks; KSh 1,550 per 70 kg bag)	155.00
52 KG LAYERS MASH (during laying period; KSh 1,700 per 70 kg bag)	1,263.00
<b>SUB-TOTAL COST 1</b>	<b>1,554.00</b>
MORTALITY [Estimate at 10 percent of Sub-total 1]	155.40
<b>SUB-TOTAL COST 2</b>	<b>1,709.40</b>
OTHER COSTS OF PRODUCTION [brooding, water, labour, etc; estimate at 10 percent of sub-total 2]	170.95
<b>TOTAL COST</b>	<b>1,880.35</b>
COST PER EGG [280 eggs produced per layer and year]	6.72
<b>COST PER TRAY OF EGGS [30 PIECES]</b>	<b>201.60</b>

TABLE 2: Current cost of Egg production per bird in the first year



"Delivery Route Business Model":  
Feed is distributed to the farmers

was realised that farmers in Central Province were much further apart. Setting up retail outlets like those in the coastal region would not be economical. Therefore, only one shop was established and a 'Delivery Route Business Model' was developed for Central Kenya. In this model, delivery routes were identified for specific days of the week. On these delivery dates the trucks would deliver feed to the farmers and collect eggs. This scheme was known as the Farm Gate Purchase of Eggs.

Under the scheme, Pwani Feeds would take their products (poultry and dairy feeds) to farmers' doorstep and then purchase farmers' eggs directly from the farm. Delivery trucks would be loaded with assorted feeds and empty egg trays and take a pre-scheduled route. Trucks would then drop off feed to the farmers

and pick up eggs, making a calculated estimate of which party owes what after netting the transaction costs. For example, if a farmer had 500 chickens, of which 80 percent were laying, he would be collecting approximately 13 1/3 trays of eggs per day. This translates to approximately 93 trays per week. Feed required to support a population of 500 birds for one week (each bird consumes 140 g of feed per day) would be seven 70 kg bags of layers mash. If the prevailing market value of a tray of eggs was KSh 200, the total value of farmers eggs would be KSh 18,600 (93 x 200). If the cost of a 70 kg bag of layers mash was KSh 1,700, then the value of the weekly supply of seven bags would be KSh 11,900. Therefore, Pwani Feeds would leave seven bags of feed, collect 93 egg trays and pay the farmer KSh 6,700.

Note: For one to determine the profitability of poultry farming, the farmer would need to cost the entire business venture from the time of purchase of the day-old chicks to the time the birds are culled. These figures vary depending on the supplier of feeds, but it is a fair estimate.

The advantage to the farmer was that he did not have to leave his farm to purchase feed from the urban centres nor go to locate a market for the eggs. Another advantage to the farmer was that the costs of any breakages occurring after the eggs were collected would be borne by Pwani Feeds. For all these benefits to the farmer, Pwani Feeds was not charging extra and was buying eggs from the farmer at exactly the same price as the farmer would have gotten from brokers and other middlemen in town. This meant that the farmer would therefore save on transport and time.

However, there remained a need to increase the customer base along the identified routes so as to maximise economies of scale. The strategy team continued to market Pwani Feeds' two-pronged business model, facilitating both the input and

ITEM	COST (IN KSH)
PURCHASE OF MILL	4,500,000
PURCHASE OF SPARE PARTS	750,000
TRANSPORTATION OF MILL	50,000
CONTRACT FEES FOR REFURBISHMENT AND INSTALLATION	900,000
MISCELLANEOUS EXPENSES	300,000
<b>TOTAL COSTS</b>	<b>6,500,000</b>

TABLE 3: Costs of refurbishing and installing the plant



	OCT 2005	NOV 2005	DEC 2005	JAN 2006	FEB 2006	MAR 2006
THIKA	125	250	500	525	750	800
MOMBASA	375	400	425	425	400	425

**TABLE 4:** Amount of feeds in tonnes produced by the two factories in the first six months of operations in Thika

output side of the farm-to-consumer value chain. On the input side, Pwani Feeds provided a bundle of goods and services, including Agri-products and advisory services. On the output side, Pwani provided buyback facilities and a platform for market trading.

The scheme became very popular with farmers. It was not long before the company's routes reached a growing customer base that eventually required two delivery trucks to effectively cover all the customers.

## EXPANSION OF FEED PRODUCTION TO THE CENTRAL REGION

By early 2005, the demand for Pwani feeds in the Central Region was quite high and deriving an adequate supply of feed from the Mombasa Factory became challenging. Pwani's management decided to build or acquire another mill in Thika town. After carrying out the relevant feasibility studies, the management settled for a mill which was owned by Murang'a Farmers District Cooperative Union but that had been abandoned and vandalised (owing to the owners' inability to manufacture feeds profitably). Mr. Mwaura approached the Cooperative Union and entered into a negotiation to purchase the mill. The mill needed refurbishing and Mr. Mwaura hired the services of Buhler East Africa (the makers of the mill) to rebuild and install it.

The Operations Manager of the Mombasa Factory oversaw the rehabilitation works to completion. The process took three months, from early August 2005 to the end of October. At that time the plant was re-inspected by Buhler and confirmed to be fully reinstalled and commissioned.

On Monday, 31<sup>st</sup> October 2005, the operations manager – with a group of ten labourers who had been recruited two weeks earlier and trained in feed

manufacturing – staffed the Thika Factory, which rolled out the first batch of layers mash (poultry feeds) to the excitement of all who were present.

Pwani Feeds trucks would transport eggs to Mombasa and return with the necessary raw materials (although some of the bulky raw materials were sourced from Nairobi). Within a period of three months Pwani Feeds' Thika factory was producing and selling more feeds than the Mombasa factory.

Table 5 shows the tonnes of feed sold per day in both factories, with the sales in Thika doubling those in Mombasa by 2006. This trend has continued to date.

## FATTENING BULLS FOR SALE

As Mr. Mwaura continued to study opportunities for expanding his business further, he identified a new venture: the fattening of bulls. In 2006, Mr. Mwaura carried out a pilot study to determine the viability of his idea. He purchased 50 bulls from arid areas in the coastal region. Given that many pastoralists were looking to sell their animals (owing to scarcity of pastures), he was able to purchase the bulls at a reasonable price of KSh 85 per kg of live weight. Most of the bulls bought weighed approximately 150 to 200 kg.

Mr. Mwaura discovered that chicken droppings, with the addition of a few additives and supplements, made very effective bull-fattening feed. This was relatively easy and cheap to do since he was rearing approximately 10,000 birds in the Coastal Region. The birds were producing about one tonne of droppings per day. The by-product of poultry farming therefore became the input for bull fattening.

The bulls were fattened at the farm until they attained a live weight of approximately 300 to 350 kg. It took the bulls between four and six months to reach the

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
THIKA	-	-	-	-	-	-	8.75	25.00	29.25	33.00	38.00	45.25
MOMBASA	5.00	7.00	7.50	8.00	9.00	10.00	12.50	14.00	15.00	16.25	18.00	22.00
TOTAL	5.00	7.00	7.50	8.00	9.00	10.00	21.25	39.00	44.25	49.25	56.00	67.25

TABLE 5: Pwani Feeds growth trends 1999-2010 average amount of feeds sold (in tonnage) per day

ITEM	UNIT COST (IN KSH)	TOTAL COST (IN KSH)
PURCHASE PRICE (150 kg bull)	85/kg	12,750
TRANSPORTATION COST (10 bulls transported at a time, for about 100 km)	25/km	250
HOLDING AND FATTENING COSTS	12,000	12,000
<b>TOTAL COSTS</b>		<b>25,000</b>
SELLING PRICE (300 kg bull)	200/kg	60,000
<b>PROFIT</b>		<b>35,000</b>

TABLE 6: Cost of fattening one bull

desired weight. The following factors were considered and analysed to determine the potential profitability of the venture:

- Purchase price/weight;
- Transportation costs;
- Fattening and holding costs;
- Selling price.

In order to obtain a premium price, a minimum target live weight of 300 kg was required. The total cost associated with getting each bull to the desired weight was KSh 25,000. A bull's average selling price was KSh 60,000, which produced a KSh 35,000 profit. After the pilot study, it was decided that the company would take two consignments of 200 bulls annually.

## EGGS' TRADING CONTINUED

By 2010, Pwani Feeds had a customer base of close to 2,000 individual farmers, which were spread across all regions of Central Province. These farmers produced approximately 4,285 trays of eggs each day. Every week, Pwani Feeds collected 30,000 trays of eggs that were then transported to Mombasa Town to be sold. Since Pwani Feeds had established a reliable egg supply chain by gathering them directly from the farmers, their egg consumers in Mombasa were guaranteed a

steady supply. This assurance attracted more consumers to Pwani Feeds but it sometimes created a logistical nightmare when demand exceeded supply.

However, when demand was high, the price per tray would generally increase. To increase the trust and confidence of their farmer-suppliers (and thus also boost their core business of selling feed), Pwani Feeds always passed the added benefit back to the farmer by buying their eggs at an increased price per tray.

## PROFITABILITY OF POULTRY AND NON-POULTRY FEEDS

Although Pwani Feeds core business was production of poultry feed, the majority of their customers also kept dairy cows or pigs and a few also kept rabbits. To be able to address the wide range of farmers' needs, the production of diverse animal feeds became a necessity rather than an option. Diversifying their stock of feeds proved to be quite profitable as seen in Table 7, which compares the amounts of poultry and non-poultry feeds sold between January and June 2009.

As can be seen from the table, the non-poultry feeds were more profitable than the poultry feeds. However, Pwani Feeds also received a profit of KSh 1,440,000 from the sale of eggs through the Farm Gate Purchase of Eggs scheme, so they also considered this line of business worthwhile. Today, Pwani Feeds is among the top ten poultry and animal feeds manufacturers in Kenya (out of a total of over 90 manufacturers), with an annual turnover of over KSh 850 million (compared to the market leader's turnover of KSh 1.5 billion). Pwani Feeds' main products can be found on page 118.

	POULTRY FEEDS	NON-POULTRY FEEDS
NO. OF 70 KG BAGS SOLD	18,000	22,200
SALES (IN KSH)	22,500,000	41,055,000
OPERATING COSTS (IN KSH)	17,945,940	35,280,174
PROFITS (IN KSH)	4,554,060	5,774,826
PROFIT-TURNOVER RATIO	20.2 percent	14.1 percent

TABLE 7: Comparison of the profitability of poultry and non-poultry feeds.

## THE ROAD AHEAD

Most of Pwani Feeds operations were strictly confined to the central and coastal provinces of Kenya but plans have been made to expand the business to different regions and to enter the government-supported market of fish-pellet manufacturing.

### NORTH-EASTERN AND WESTERN KENYA

The Rift Valley and Western Province hold great potential, particularly in the realm of dairy farming. The Northern parts of Eastern Province were particularly suited to the bull fattening business. The Mwauras now had the infrastructure in place and a viable business model and were considering rolling out branches throughout the country. However, the poor roads in Kenya are an obstacle to expanding the business nationally. Pwani Feeds might potentially partner with or buy out smaller millers located closer to these new markets to enable their desired business expansion.

### FISH PELLETS

Another looming business opportunity is the manufacture of fish feeds. The Kenyan government, through its Economic Stimulus Programme, had introduced fish farming throughout most of the country in 2009. The Mwauras were formulating a strategy to get a share of the fish feed market but at present time lacked the requisite plant and material to begin manufacturing floating fish pellets.

## SOCIAL IMPACT

Although Pwani Feeds has several lines of business, its main social impact is owed to its core poultry business model where they sought to link with and support farmers directly. Through their Farm Gate Purchase of Eggs scheme they are enabling farmers to access distant markets and sell their eggs (and culled birds) without having to leave the farm. This was crucial as poultry farming in Kenya has several social knock-on effects such as its enhancement of gender equity. Women control about 70 percent of poultry production. The scheme has contributed to poverty alleviation and the upward mobility of farmers as they are able to

get good prices for their produce, technical support, and high quality animal feed. Poultry and poultry products are also an important pillar of food security.

Additionally, Pwani Feeds contributes directly and indirectly to job and wealth creation. Directly, 300 people work in their factories and as field officers. Indirectly, each poultry farmer has at least three people assisting him on his farm. As Pwani Feeds is working directly with about 3,000 farmers (2,000 in Central Kenya and about 1,000 at the Coast), this translates to the creation of over 9,000 secondary jobs. Furthermore, other jobs have been created for those who provide medicine for the birds as well as those individuals fabricating the feed and water troughs that farmers use for their birds.

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