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IDEAL MATUNDA LTD: INVESTMENT CHALLENGES

Introduction

Sitting at her office, the CEO of Ideal Matunda Ms. Beth Mwangi was preparing for the next board meeting which was coming up the following week, 9th Thursday, September 2010. She was contemplating on issues she had discussed in meetings with the finance manager earlier that week and the operations manager that day. She needed to make a decision to present to the board, whether to invest in an Enterprise Resource Planning (ERP) system or another production plant for refining oil. . The Operations Manager was passionately rooting for the oil refinery plant while the Finance Manager was convinced the ERP was the priority to improve on organizational operations and to manage costs.

Having spent 4 years in the fruit business sub-sector, Ms. Mwangi looked back and realized she needed to move Ideal Matunda Ltd. to the next level. One option would be to diversify the business into refined avocado oils for local as well as international markets. The other would be to improve on operational efficiency of the company through the use of Information and Communications Technology (ICT). The later would cut down costs, enhance its competitiveness and differentiate it from its competitors in the fruit sector. The company could not implement both options due to financial constraints. Ms. Mwangi wondered whether she should invest in another production system for refined oils to diversify, or in ICT to improve on operational efficiency.

Company Background

Ideal Matunda was incorporated in October 2006 following the successful implementation of a pilot project targeting the tree fruit subsector by management consulting firm “Ideal Business Link Ltd (IBL)” in Central and Eastern Kenya. For the pilot project, IBL had been contracted

Philip Machoka, Lecturer of Information Systems & Technology and Dr. Gerald W. Chege, Assistant Professor of Information Systems & Technology, prepared this case with the assistance of Professor Leif M. Sjöblom of IMD business school, Switzerland, as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. United States International University (USIU) acknowledges the support of Global Business School Network (GBSN and financial support from Bill & Melinda Gates Foundation) in the preparation of this case study.

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by the USAID funded Kenya Business Development Services to design and implement a capacity building program for smallholder farmers and to commercialize grafting, pruning and spraying Services in the tree fruit subsector, with a specific focus on avocados, mangoes and passion fruits. The objective of the pilot project was to increase rural household incomes through improved agricultural practices. The reason for this was in Kenya, most fruit trees were not managed. They grew as wild fruit trees due to lack of good management practices for the orchard. Farmers, with these fruit trees still tried to make money out of them, though through a lot of inefficiencies and wastage. Having identified these challenges, Ideal Business in collaboration with Kenya Agriculture Research Institute (KARI) developed a model for training fruit tree farmers on methods to attend to fruit trees. They trained youth in Makueni district and Central province in Kenya to take care of fruit trees for income generation. They also sensitized farmers to produce good fruits which would give them a better income. For example, a good avocado tree could produce up to 1000 fruits per season. At an average of Kshs. 4.00 per fruit, a farmer could make up to Kshs. 4,000.00 per tree in a season. Depending on the number of trees, a farmer would make a decent income. Although one acre of land could grow 60 trees, on average, farmers had about 10-30 trees due to land pressure in many parts of Central Province.. Most farmers held about half an acre of land to till for food and for planting cash crops such as Avocado. Ideal Business also came up with a service provider model to commercialize pest control. The service providers were to help farmers in spraying and top-working of fruit trees. The pilot project was successfully implemented. However, it was realized that for sustainability, it was imperative to have an institution responsible for managing and coordinating the different activities in the value chain after expiry of the project. Since service provision along the value chain had already been commercialized, it was felt this was best done through a commercial private sector entity. To consolidate gains and experience gained from the pilot project, IBL decided to invest in a separate legal entity that would continue to offer business development services to smallholder farmers. This led to formation of Ideal Matunda Ltd. The company was registered in October 2006 and started in January 2007.

Ideal Matunda Ltd. had its offices located in Hurlingham area in Nairobi. It had a factory in Thika town, which is about 50km from the head office and also operated three field offices in Karatina, Kangema and Thika towns.

The company's goal was to empower rural based smallholder farmers by facilitating access to reliable and profitable markets for their horticultural produce. A decision was made to start with the avocado value chain where invaluable experience and expertise had already been built. One of the major activities Ideal Matunda Ltd. was involved in was using collaboration among farmers to form groups for easy sourcing for and access to services. . This method also helped farmers to motivate each other and support one another. Farmers planted and managed Avocado fruit trees while Ideal Matunda Ltd. provided a market for the fruits. Grade one fresh Avocado fruits was exported as whole fruits while what did not qualify as grade one was taken to the company's factory for avocado oil processing.

While Ideal Matunda had lived to its goal of empowering marginalized fruit farmers, it had to contend with other issues such as seasonality of fruit, market accessibility links, competition, scaling up, lack of enough grade one fruits to satisfy the export market and lack of bulk suppliers for export market (which required several containers per week). Other challenges included shipping line delays, unreliable supplies from farmers, reliance on brokers, managing fruit picking dates, monitoring factory activities remotely, coordinating field activities, transport logistics, managing field staff, managing farmer groups, payments to farmers, managing farmers savings and credit, poor information gathering and dissemination .

Ideal Matunda marketed the Avocado fruits to the international market. Their main market was the European Union (EU). Stringent international markets' requirements for grade one fresh fruits saw most Avocado fruits not meeting export quality grade, hence Ideal Matunda recognized the need to extract crude Avocado oils from these fruits which they could export to international refineries in South Africa, Greece, Spain, Italy, and China among others. They invested in a crude Avocado oil extraction machine. Users of crude Avocado oils were beauty product industries where the oil was used as an ingredient for beauty products. Crude Avocado oils could also be refined into edible oils for cooking.

Ideal Matunda used ICT in its day-to-day running of business operations. Computers were used to handle accounting functions based on QuickBooks accounting software at the head office.. However, the company was in the process of migrating to Tally Accounting Software which they felt offered better internal audit controls. Communication with field offices was through e-mail.

Ideal Matunda used a collaborative model which brought a group of 10 -15 farmers together. This model enabled farmers to source for services such as pruning and spraying as a group. The farmers harvested at the same time for ease of collection. They met to discuss farming issues, created group savings scheme where they saved money and a member would borrow from the scheme guaranteed by other members. Payment to farmers for their produce was done through the group's account held by a bank. Before farmers could be paid their dues for the produce, certain expenses had to be deducted. These expenses included costs of agro chemical spraying for pest and disease control. These expenses varied from farmer to farmer depending on the number of trees and services they received. All these had to be reconciled before a final payment was sent to the group's account.

Organization and Management Structure

Ideal Matunda had 16 permanent staff members and was headed by a CEO who reported to the Board of Directors. Reporting to the CEO were the Business Development Director, Finance and Administration Director and Sales and Marketing Director. The Internal Auditor also reported to the CEO. The Business and Development Director oversaw the Oil Processing Division, Fresh



Source: Ideal Matunda. Avocado Farmers Groups

Produce Division and the Dry Products Division (the latter was yet to be formed). The oil processing division was headed by the Production Manager while the Fresh produce division was headed by a General Manager Operations. During pick operations up to 20 casual staff were hired. The organizational structure of Ideal Matunda is shown in Figures 9, 10 and 11.

Background of the CEO

Ms. Beth Mwangi the CEO of Ideal Matunda Ltd. had worked in the banking industry for over 10 years before venturing into her own business. A graduate of the University of Nairobi, she received Bachelor of Arts degree in Economics in 1990 and an MBA in Strategic Management in 2001. During her career in banking, she attended a number of courses in Durham University Business School in the U.K in the areas of business development services and enterprise development. While attending these courses she developed an interest in Enterprise Development. She decided to venture into consulting services, eventually setting up Ideal Business Link Ltd in the year 2000. As a consultant, she has attended different training programs on market research, product development, and financial services in the SME sector.

In the year 2005, while consulting for a USAID funded Kenya Business Development Services program (KBDS) to build capacity in Agrochemical spraying services, she designed a program to commercialize pest and disease control services. She supervised spraying and helped local service providers who had low education levels, to understand and determine appropriate chemicals approved in the International market. She also helped farmers acquire spraying equipments and agrochemicals. The equipment costs were in the tune of Kshs. 40,000, which was a sizeable amount to poor farmers.

Ms. Mwangi's concept of commercializing pest and disease control services through the USAID funded KBDS pilot program was appreciated by rural based smallholder farmers and when the pilot ended, the farmers requested to be linked to reliable and profitable markets at a fee. This was because they were already used to paying for the services they got from the local service providers.

Avocado

The Avocado fruit was a native fruit to South America and had big demand worldwide due to its nutritional value and use in the cosmetic industry. In Kenya the fruit was grown in most parts of the country and mostly exported to Europe. The avocado tree grew erect, usually to 9 m but sometimes to 18 m or more, with a trunk in 30-60 cm in diameter. An evergreen tree, Avocado leaves are dark-green in color which shed briefly in dry seasons at blooming time. The leaves are alternate, dark- green and glossy on the upper surface, 'whitish' on the underside, and variable in shape and size. The flowers lack petals and are borne profusely in racemes near the branch tips. The fruits are pear- shaped oval, or almost round. Fuerte and Hass were the two main export varieties, although Hass was more preferred (see Fig. 1 for avocado varieties grown in Kenya).

Global Market Trends in Avocado Industry

In 2011, available world statistics estimated Avocado production to be between 2 to 4 million metric tonnes per year. However, due to unreliable production information because of seasonal production and lack of commercial orchards, these volumes could top 600 million metric tonnes per year worldwide. The top world producers of avocado were Mexico, Chile and the United States, with Mexico leading by being the largest producer and the largest market as well as supplying over 40% of the worlds exports. Chile was the second largest producer and supplied the United States with 89% of all its export followed by Mexico as exporter to USA. The United States and Europe formed the two largest blocs which are responsible for 90% of the world imports (see Fig 2).

There were two orientations for Avocado producing countries. One was where production was mainly for domestic consumption. The other was where an industry was solely established for export market. Israel, South Africa, and Chile were countries whose industries were mainly setup for export market. Mexico was an example of a country whose Avocado industry was setup for local consumption. For the latter case, the domestic market took up the surplus after export (see Fig. 3 for top world avocado importers).

Requirements and Standards

Avocado produce must meet quality requirements after preparation and packaging to be supplied fresh to consumers. The purpose of the standards was to define the quality requirements of avocados after preparation and packaging. The standards applied to all marketing stages under the conditions laid down by the Commission of the European Communities Regulation (EC) No 2200/964¹

- ✓ The fruit must be intact,
- ✓ sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded,
- ✓ clean, practically free of any visible foreign matter,
- ✓ practically free from damage caused by pests,
- ✓ free of damage caused by low temperature,
- ✓ have a stalk not more than 10 mm in length which must be cut off cleanly, however, its absence is not considered a defect on condition that the place of the stalk attachment is dry and intact,



Source: Ideal Matunda. Grafted Avocado tree

¹ [http://passionfruit.cirad.fr/index.php/download/\(id\)/3266/\(langue\)/eng/\(type\)/article](http://passionfruit.cirad.fr/index.php/download/(id)/3266/(langue)/eng/(type)/article)

- ✓ free of abnormal external moisture,
- ✓ free of any foreign smell and/or taste,
- ✓ Avocados must be firm at the point of dispatch, and carefully picked. Their development should have reached a physiological stage which will ensure a continuation of the ripening process to completion. The ripe fruit should be free from bitterness.
- ✓ The development and condition of the Avocados must be such as to enable them to withstand transport and handling, and to arrive in satisfactory condition at the place of destination

The Kenyan Avocado Industry

In Kenya, Avocado was available throughout the year though the main production was between the months of March to September. Hass and Fuerte are the two popular varieties of Avocado grown in Kenya. Most orchard trees were of the Fuerte variety with had been a popular variety. There was a shift towards the Hass variety because of the changes in market demands. Due to a high demand of the Hass Avocado, there were grafting services to change the Fuerte to Hass and this would help improve market positioning of Avocado fruits from Kenya in the world market.

In the late 2000s the market for Avocado had been growing in Kenya. There was demand for Avocado in the cosmetic industry as an ingredient in beauty products as well as for human consumption as edible oils. One company, Afrigarnics managed to report steady growth of between 20% -25% in the year 2006-2007, where export volumes grew from 1700 tonnes in 2006 to 2300 tonnes over the same period. This growth for Avocado from Kenya could be attributed to online marketing through the internet which was new in Africa. Also, new technologies were in place to prolong the fruit shelve life. The fruit shelve live could be prolonged from 5 to 10 days and this would reduce losses from export and increase export of Avocado by sea.

The largest exporter of Avocado to the European Union (EU) market from Kenya was Kakuzi Kenya Ltd. Kakuzi Kenya specialized in exporting the Hass variety of Avocado. In 2009 Kakuzi exported approximately 1,300 tonnes of Avocado to the EU. Kakuzi estates grew the Hass variety and a small amount of Pinkerton variety, though they also exported the Fuerte variety which they got from small scale farmers around the area they operated (see Fig. 4 for avocado value chain in Kenya).

The table in Fig 5 shows Avocado exports from Kenya in the year 2000 –2005.

Avocado Oil Extraction Process

The three most common types of Avocado for the export market were Fuerte, Hass and Pinkerton. Oil extracted from processed avocado depended on the type of fruit received for processing. Utmost care was required to eliminate immature fruits as well as fruits that did not fit one of the three types from getting their way to the crushing machine. The process of oil extraction took 5 stages:

Crushing

After sorting, the ripe avocados were manually loaded onto an auger and fed into a crusher, obtaining the avocado paste which was deposited into the malaxers where the new phase of melaxation started.

Melaxation

The paste that went into the Malaxer, was slowly and continuously mixed for about 45 minutes at a constant temperature of 600 C. With this process, the steel blades going through the avocado paste started the separation of the molecules of the oil from the paste

Centrifugation

Malaxed paste was automatically pumped, through mono pump, into the decanter. It separated the paste into three components according to the different specific weight of the paste: vegetation water, avocado oil and mud.

The first two components were filtered in a shaker and separated in two different containers, while mud usually humid and oily was transported outside of the building through a screw conveyor. The mud from avocado oil extraction [called pomace] was exhausted [i.e. the oil removed using solvents] and the residue, called "exhausted pomace", a combustible substance, was used in thermo-electric power stations in the North of Europe or commonly used to heat buildings.

Separation

Avocado oil and water of vegetation went into centrifugal separators to be filtered through inox saucers, and with the same principle of the centrifugation, it separated the oil from water and other impurities.

Storage

The last phase of the process was carried out by putting the avocado oil into plastic containers. The containers were placed in a cool dry and dark room.

ICT Challenges

ICT was not used effectively by Ideal Matunda. Field offices faced a number of challenges due to their locality in the rural areas. Power outages, unreliable internet connectivity, virus attacks and lack of qualified IT support personnel, hindered the company from efficiently using ICT. Field officers captured transactions manually, compiled and generated reports at the end of the week for onward transmission to the head office every Monday morning.

The company was having issues with the accounting software they were using. The software was not able to track changes made to the system and this posed a major risk in the accounting department.

ICT Investment

In the 20 century, it had become imperative for businesses dealing with suppliers, customers, employees, production, payments, purchasing, sales, products and services to organize work activities using relevant, accurate and timely, information so as to operate efficiently and enhance overall performance of the organization. The use of ICT helped companies manage information for executing business processes and better decision making.

Daily business activities co-ordination was not an easy task for Ms. Mwangi. Her office was located in Nairobi, more than 40 km from the factory, and over 100km from the farmers. This office also coordinated three other field offices, in addition to being in touch with what was going on in the field as the field officers went round to meet farmers and arrange for fruit collection. Activities in the field such as spraying the fruit trees, harvesting, collection transportation and managing farmers' group meetings, required the head office to be on top of what was happening in the field.

Information was a critical resource for Ms. Mwangi to make decisions on many aspects of the business. Fresh fruits were a highly perishable commodity and time was of essence. It required information to be readily available when needed. For example, for her to confirm orders to her overseas clients she required information about supplies from the farmers' groups regarding the quantities and grade of produce and if they met the export requirements. In many cases this information was not readily available to her. It had to be communicated to her from the field through the field officers, or they had to pick it from the weekly reports. This information was crucial for her to confirm orders as well as for cargo reservation for shipments.

Once fruits were picked from the farmers and transported to the factory, information was needed about the quantities and the various grades collected. To meet strict requirements for what qualified as grade one fruit for export market, it was important for information to be available at all stages about the produce. That is, from which farmer the fruit was picked, what quantity, the

grade of the fruit, the quantities received at the factory, packing details, and what was shipped out.

Traceability information for farm produce was an important requirement for its acceptance to most overseas markets. This meant that the farm product could be traced all the way to the farm it was harvested from. This information needed to be captured and relayed together with shipping documentation.

Another area where information was critical was in making payments to farmers for deliveries of their produce. Information was required by the accounts office for payment preparation and eventual dispatch of payment to the farmers' group accounts. This information was captured by the field officers who compiled it on weekly basis at the field offices and transmitted it to the head office for entry into the computer system. Thereafter, payment statements were generated and payments transmitted to respective group account.

Communication between the factory and Head Office was of essence since the factory activities were coordinated from the Nairobi Office. Information was vital for activities such as packaging, production and transportation of produce for onward shipment overseas.

As Information was critical for various processes to be performed on time, investment in an ICT solution was paramount to help provide information requirements for Ideal Matunda. This would help the company to manage the various business processes and activities in the supply chain. An Enterprise Resource Planning (ERP) system was such as system that could help Ideal Matunda manage their information challenges. A scaled down ERP that could integrate the various functional areas including Production, HR, Finance and Purchasing would be an appropriate solution. An ERP system would help manage product planning, purchasing, and stocks, manage suppliers, offer customer service relations and track orders that were placed as well as manage finance and human resource activities

By using an ERP, it could enable control over costs and production flow throughout the organization by providing real-time information. The primary benefits of implementing an ERP was to provide readily available information for decision making, elimination of inefficient outdated systems and improved workflow processes.

Enterprise Resource Planning (ERP)

An Enterprise Resource planning System (ERP) was an organization's management system which uses a software application to incorporate all areas of a business such as supply chain management, manufacturing, distribution, warehouse management, retail management, and

point-of-sale. It automated and facilitated flow of data between critical back-office functions, which may include finance, distribution, accounting, inventory management, sales, marketing, planning, human resources, manufacturing, and other operating units. Businesses could use ERP's to locate inefficiencies in their process and offer solutions to operational efficiencies and stream line business operational processes. ERP's also offered improved information management through readily accessible data from all functional areas of the organization. An ERP solved the problem of organizations using different systems to run operations. Implementation of an ERP could provide higher productivity, improved data flow, and reduced operating costs. There were a number of ERP systems available in the market including SAP, SAGE Oracle E-business suite, and Microsoft Dynamics among others. Most of the ERPs tended to be for large corporations, they were costly and took long to implement. However, there were scaled down versions of ERPs that were small enough to run Small Scale Businesses such as Small and Micro Enterprises (SME's). An Example of such was SAP Business One which cost between US\$ 50,000 to 70,000 depending on the number of licenses.

SAP Business One included financials, distribution, light manufacturing, customer relationship management, workflows and human resources. The system supported Microsoft SQL Server database and the Microsoft Windows operating system².

Customer relationship management (CRM)

Business One's CRM system included contact management, sales force automation and a service management system for dispatching, contract management, warranty tracking, knowledge management (track problem resolution) and billing for services.

Financials

The system also offered analysis codes (project base and cost centre) that could be attached either to account segments or transactions. Analysis codes were a great way to keep chart of accounts slim. Other financial features included allocations and unlimited budgets.

Distribution

Business One included quotes, returns, flexible pricing (multiple price lists, contract pricing, quantity breaks, group pricing, etc.), multiple warehouses and serial number tracking. It also included landed cost, alternative items, vendor and customer item number cross-referencing and an automatic summary wizard that allowed multiple shipment summaries onto a single invoice.

² <http://www.180systems.com/SapBusinessOneReview.php>

Work flow

Work flow allowed routing of transactions such as requisitions to the appropriate person for approval. Alerts for cases where inventory falls below a certain threshold were also provided.

Manufacturing

Light manufacturing, provided bill of materials, work orders, kits and assembly. The manufacturing system also included material requirements planning (MRP).

The table in Fig. 6 gives a breakdown of what it would cost to put up a scaled down ERP solution that fitted an SME the size of Ideal Matunda.

Oil Refinery Plant Investment

Processed Avocado yields edible Avocado oil, which is high in unsaturated fatty acids. Its chief constituents are oleic, palmitic and linoleic acids. It has a faint odor, bland taste and greenish color. The main use for edible Avocado oil was its application on salads and for cooking. The demand for edible oils was on the rise worldwide. In Kenya for example, the statistics showed a strong upward trend for edible oils as shown in the graph in Fig. 7. The consumption for edible oils in Kenya surpassed what the country could produce. .

In the quest for Ideal Matunda to invest in an oil refinery plant, it stood a chance not only to export edible oils overseas, but also to supply the oils in Kenya and the region. Not only would Ideal Matunda diversify to edible oils and have a local market share but it would also make sound business sense to invest in an oil refinery plant. With the oil refinery plant, it had the capability to produce edible Avocado oils and other oils from sunflower and Oilseed crops including coconut (leading oilseed crop), cashew nut, groundnuts, soybeans, palm oil, simsim (sesame), cotton seed, and maize germ.

By investing in an oil refinery plant it would promote social responsibility by getting a bigger market for farmers' produce in the Avocado sector given that a large quantity of their fruits did not make it to the international market as grade one fruits. In addition, the company would also recruit other farmers in Oilseed crops.

However, investing in an oil refinery plant would require a large financial outlay to put up such an investment. As it was, Ideal Matunda was in a loss making position as it had not recovered from what it had invested in the year 2007. The initial investment required was Kshs. 80,000,000 in its first year of operation but was only able to raise Kshs. 20,000,000. With this investment, they were under-producing though they had the potential to handle up to 10,000 farmers compared to the 2,000 farmers they were currently serving. This made their operations small scale in nature. They had also invested in cold room storage of Kshs. 10,000,000 which they had not fully paid for. The oil refinery investment projections were approximated at Kshs, 100,000,000. This included investing in the plant and land. There was no guarantee that this money would be available in full for this venture to start. The envisaged investment for an oil refinery plant is illustrated in Fig. 8.

EXHIBITS

-
- | | |
|-------------|------------|
| ✓ Fuerte | ✓ Duke |
| ✓ Hass | ✓ G6 |
| ✓ Keitt | ✓ G7 |
| ✓ Reed | ✓ Puebla |
| ✓ Booth 8 | ✓ Tonnage |
| ✓ Simmonds | ✓ Ettinger |
| ✓ Pinkerton | ✓ Hayes |
| ✓ Nabal | |
-

Figure 1: Varieties of Avocado fruits grown in Kenya³

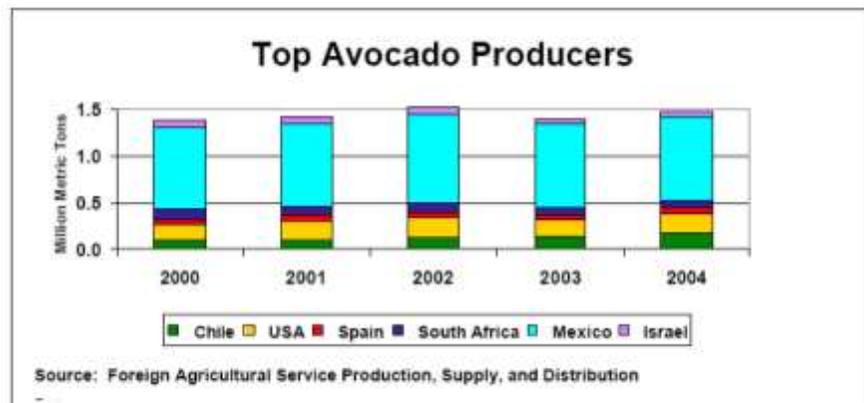


Figure 2: Top Avocado Producer⁴

³ http://www.hcda.or.ke/tech/cat_pages.php?cat_ID=24

⁴ http://www.fas.usda.gov/htp/Hort_Circular/2005/03-05/Avocados%203-7-05.pdf

Market Forecast: 2008 - 2012 Top Avocado Imports, Kton						
Countries	2008	2009	2010	2011	2012	Market Share
United States	229	247	264	282	299	39.6%
France	106	106	106	105	105	13.9%
Netherlands	42	45	47	50	52	6.9%
United Kingdom	39	41	42	44	45	6.0%
Japan	38	41	43	46	49	6.5%
Canada	23	24	25	27	28	3.7%
Colombia	18	19	20	21	22	2.9%
Germany	19	20	20	21	21	2.8%
El Salvador	20	21	22	24	25	3.3%
Spain	16	17	18	19	20	2.7%
World Total	629	661	692	724	755	100.0%

Figure 3: Top World Avocado Importers⁵

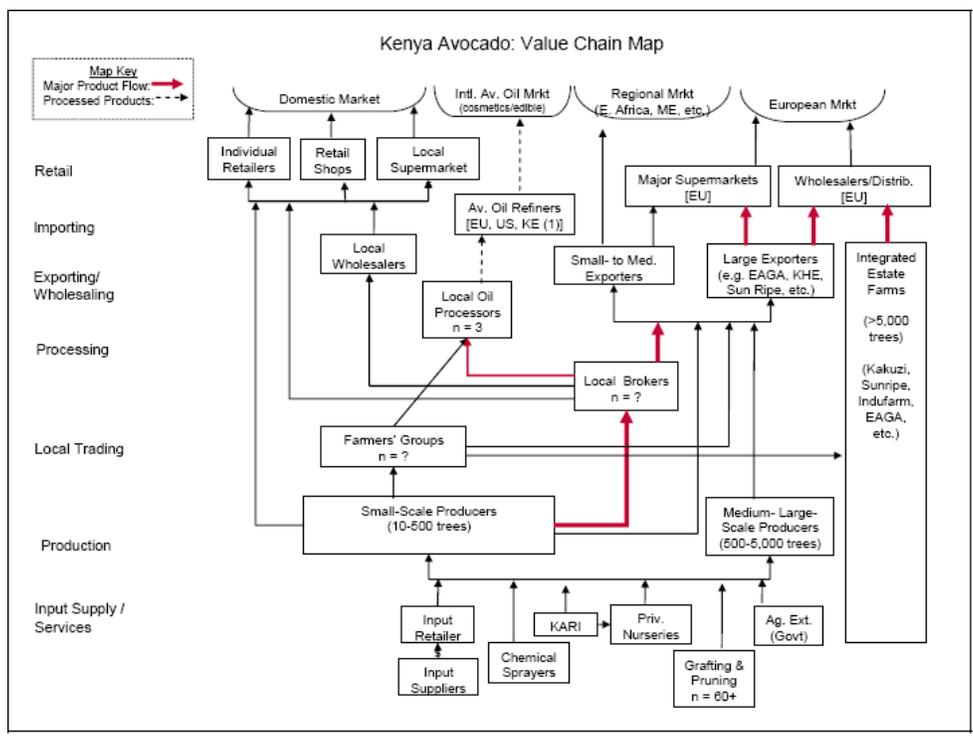


Figure 4: Kenya Avocado Value Chain Map⁶

⁵ <http://www.marketresearchanalyst.com/2008/01/14/avocado-market-forecast-2008-2012-production-exports-imports/>

⁶ IMPACTS OF THE KBDS AND KHDP PROJECTS ON THE TREE FRUIT VALUE CHAIN OF KENYA, 2008

Year	Volume (t)	Value (Ksh.)
2000	10,716	-
2001	15,373	-
2002	12,890	682,745,535
2003	19,020	892,871,043
2004	15,960	1,024,941,272
2005	15,243	873,296,576

Figure 5: Avocado Exports from Kenya⁷

⁷ http://www.hcda.or.ke/tech/cat_pages.php?cat_ID=24

	Description	Quantity	Cost (Ksh)
1	Server Machine	1	1,000,000.00
2	Computer	20	1,400,000.00
3	ERP Solution for:	Manufacturing Human Resources Accounting Purchasing Transport logistics	5,000,000.00
3	Software Licenses		3,200,000.00
4	Networking	1	1,000,000.00
5	Data Loggers equipment	5	500,000.00
6.	Miscellaneous		1,000,000.00
	TOTAL		13,100,000.00

Figure 6: ICT investment

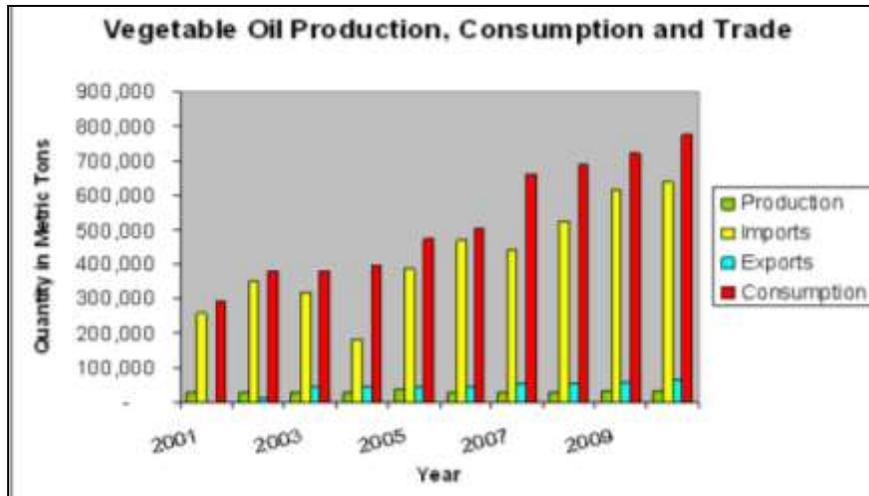


Figure 7: Vegetable Oil Production, consumption and Trade for Kenya⁸

	Description	Quantity	Cost (Ksh)
1	Plant Machinery & Equipment	1	12,400,000.00
2	Land	5 acres	50,000,000.00
	Building & Civil works		10,000,000.00
3	Vehicle Truck	1	5,000,000.00
4	Pre-production expenditure	1	3,000,000.00
5	Working Capital	1	20,000,000.00
	TOTAL		100,400,000.00

Figure 8: Oil refinery plant Investment

⁸ Ministry of Agriculture, Kenya National Bureau of Statistics, 2010

Organization Structure

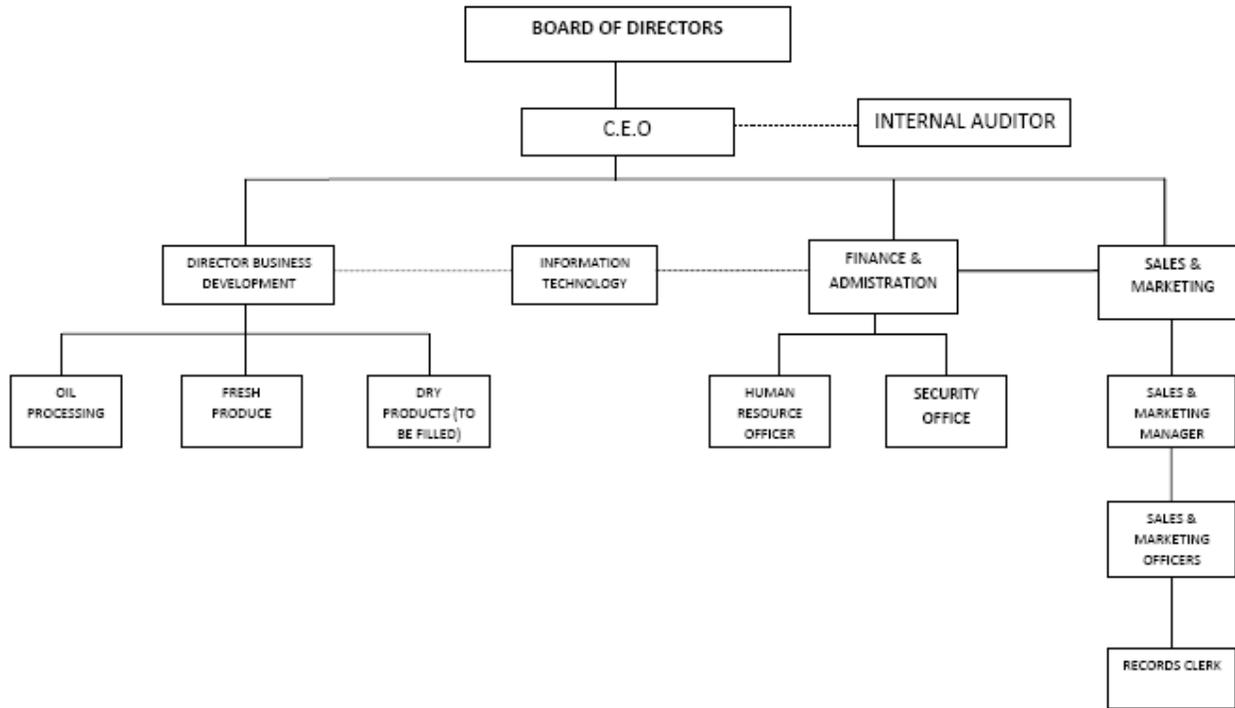


Figure 9: Ideal Matunda Organization Structure⁹

⁹ Source: Ideal Matunda

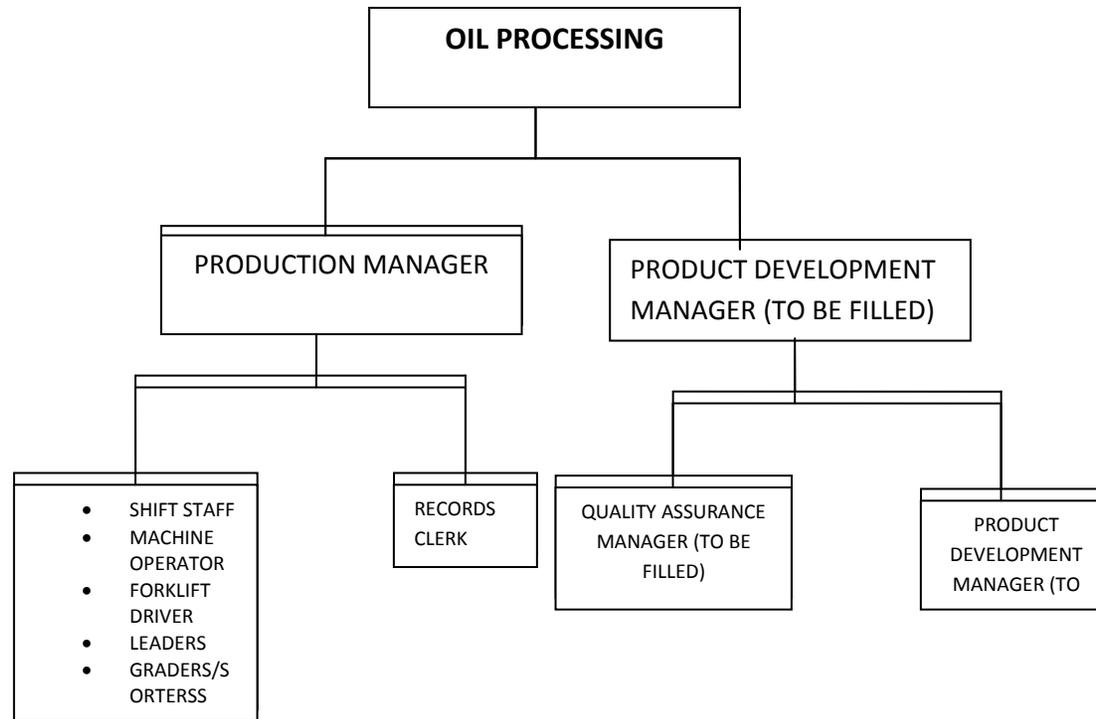


Figure 10: Ideal Matunda's Oil Processing Division Organization Chart¹⁰

¹⁰ Source: Ideal Matunda

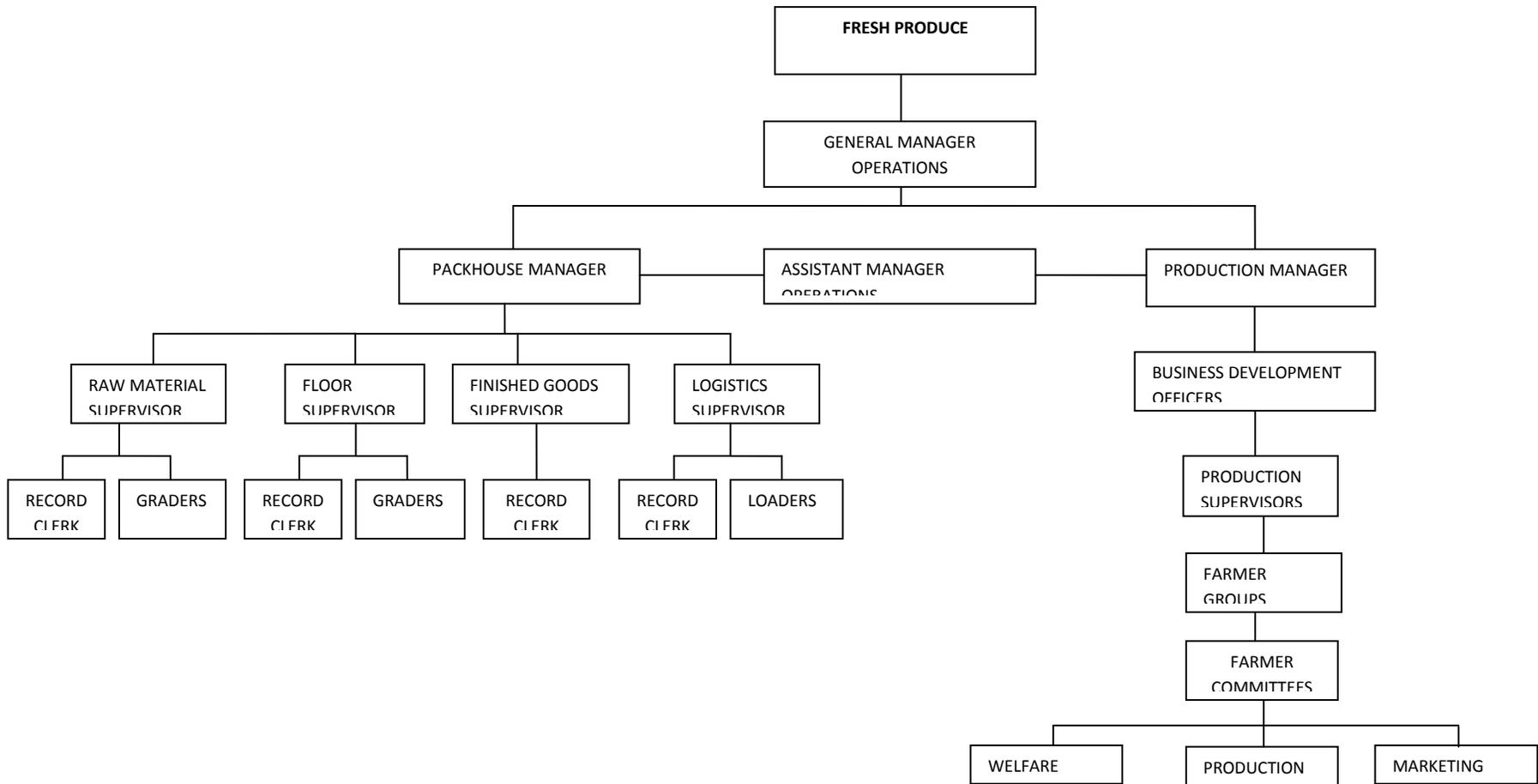


Figure 11: Ideal Matunda’s Fresh Produce Division Organization Chart¹¹

¹¹ Source: Ideal Matunda