Camellia PLC

Export Avocado & Macadamia Production in Tanzania – Phase 1

A proposed investment to plant 650 ha with their associated export processing facilities in Kilolo Districts, Iringa Region.

Contents

1. Executive Summary

The overall objective is to plant 650 ha of irrigated avocados for export in Phase 1 and subsequently within a short period of time to plant 650 ha of irrigated macadamia nuts for export as Phase 2.

Phase 1 – Export Avocado Production will be planted on two Land Titles as shown in the table below.

LR No.	Area (ha)	District	Crop
16860 – MBYLR. L.O. No. 149215, Farm No. 584 Kihesa, Mgagao	885	Kilolo	Avocados
7119 – MBYLR. L.O. No. 149111, Farm No. 563 Mtanga Village	705	Kilolo	Avocados

Phase 2 – Export Macadamia Production will be planted on five land titles as shown in the table below.

A separate TIC application will be presented for Phase 2.

LR No.	Area (ha)	District	Crop
18888 MBYLR. L.O. No. 95063, Farm No 985	519.5	Iringa	Macadamia
Farm No. 10, Maboga Village	313.2	Iringa	Macadamia
16815 – MBYLR. L.O. 95298. No. Farm No. 956	85.25		Macadamia
14941– MBYLR. L.O. No. 95298. Farm No. 955	218.71		Macadamia
20862 – MBYLR. L.O. No. 95383. Farm No. 10	135.6		Macadamia

This application covers the request for a Certificate of Incentives for Phase 1 of the project.

2. Project Statement for Phase 1.

To develop a 650 ha irrigated avocado farm with a dedicated processing unit to export fruit to international markets.

Mgagao Farm, located in Kilolo District, will be planted over a period of 10 years along with the associated infrastructure development of irrigation dams, state of the art export packing facility and small holder and technology transfer units.

The total project cost for phase 1 will be approximately US$ 19,000,000. Replanting will begin after 25 years to ensure the long term sustainability of production levels. The replanting costs have not been factored into phase 1 costs.

When mature the farm will generate annual export earnings of US$ 24,000,000 and employ over 1,000 people at peak.

It is anticipated that a significant small holder operation will be created, encouraging local communities to grow export quality fruit. Technical extension services to facilitate this will be established within Kilolo District and Iringa, Njombe and Mbeya Regions.

3. Company Structure & Derivate Rights

EP (T) East Africa Ltd (EPT) has been incorporated in Tanzania (Memorandum & Articles of Association & BRELA Registration are contained with Annexure 1 & 2) as a wholly owned subsidiary of Camellia PLC (Incorporated in the United Kingdom and whose annual report is contained with Annexure 5)

EPT has entered into an Asset Purchase Agreement and a lease agreement with Mtanga Farms Limited (the seller) to acquire the land parcels detailed below.

It is the intention of EPT to register with TIC to obtain a Certificate of Incentives and to submit the land titles below for the grant of a derivate right for a period of 98 years.

No.	Description	Area
1.	16860 – MBYLR. L.O. No. 149215, Farm No. 584 Kihesa, Mgagao	885 ha
2.	7119 – MBYLR. L.O. No. 149111, Farm No. 563 Mtanga Village	705 ha

A further TIC application is intended to be submitted to cover the investment capital equipment for the development of the avocado operations.

4. Investor Profile

Camellia Plc is an international group, a global family of diverse companies with a 130-year heritage employing approximately 80,000 people worldwide. From the start, Camellia's ethos has been based on the highest moral and professional integrity and a commitment to doing the right thing – ethically and commercially both globally and locally where the company operates.

The entire emphasis is towards the development of a world-wide group of businesses which by their very nature require their management teams to take a long-term view. Many companies in the group are more than 100 years old and have developed particular skills and traditions. We do not see these assets as objects or commodities or bits of paper that can be traded, but rather, as living entities from which, if properly managed, we might earn an attractive long-term return on our investment. We also consider it our prime responsibility to ensure the continuity, development and progressive growth of these individual enterprises through a process of continuous improvement.

We are committed to the ultimate welfare of our employees and also to the communities in which we live. As Camellia we believe our business can and should grow with respect and care for the environment rather than at the cost of it. We proactively invest in ensuring that the environments where we operate are continually protected and improved.

Camellia PLC has a significant track record in growing tea, avocados and macadamia nuts in Kenya, Malawi, South Africa, India & Bangladesh. Within Kenya Camellia is the majority shareholder of Kakuzi PLC, East Africa's largest grower and exporter of avocados. As well as the company's estate production it also has effectively developed over 2,500 small holder farmers throughout Central Kenya. These farmers now benefit from international market prices for their fruit through the Company's extensive marketing networks.

Within Tanzania a new Company, EP (T) East Africa Ltd, has been incorporated which will operate and own Mgagao and Kiyegema Farms. This will be a wholly owned subsidiary of Camellia PLC which will be funded directly from the United Kingdom.

A copy of Camellia PLC Annual Report and Account for 2017 is contained within Annexure 5. A full description of the company and its history can also be obtained from the website www.camellia.plc.uk

5. Marketing & Markets

5.1. Avocados

The current growth in global consumption of avocados is anticipated to continue but the rate of this growth will be dependent on how quickly China and Asia adopt avocado as part of their "normal diet". Indications are that demand in these countries is growing quickly, albeit from a small base, and that global demand will continue to rise while supply in the medium term at least, will lag behind.

Since 2012/13 the average annual growth rate in the total avocado consumer demand has been 15%. Current market assessments for growth indicate that we could experience a continued annual increase of around 10% in both Europe and the USA for the next 10 years (*growth rates in the last four years have been in excess of this, averaging between 15% and 18% respectively*). This translates to a further 10 million and 25 million cartons per year respectively, which will be required to meet demand.

When the anticipated demand of China, Japan, India and the Middle East are also factored in, the total increase in demand for avocado equates to 60 Million 4Kg cartons/year. This translates to an additional requirement of 15-25,000Ha/Yr of new plantings.

Based on this dynamic we would expect demand to outstrip supply for some time. However, this will not prevent market over supply occurring at certain peak times during the year (particularly in the European summer season, July-August) causing prices to drop. Such periods could witness extreme volatility in pricing, as has been experienced over the last few years both in Europe and the USA.

Overall, prices have risen 39% between 2013 and 2016 and remained firm through 2017. Camellia's principle market is currently Europe where consumption in 2016 was 484 Kilotons and this is expected to rise to 1,346 Kilotons by 2026.

The main growth areas in production, Peru and Columbia are continuing to grow. Mexico and Columbia appear able to provide fruit throughout the year and are fuelling the growth in demand in the EU. Year-round supply is an ideal position to attain for any producer. As with all our commodities the key to maximising the available price is quality and reputation.

Key market drivers for global avocado consumption include, growing body and health awareness trends with the "good for you" trend pulling customers towards avocados. This is correlated to tightening quality regulation in the market. Consumer education initiatives through marketing efforts such as promotion campaigns led by associations from producing countries like Peru, Chile and South Africa, are a solid underlying driver of demand. Global growth in GDP and rising living standards are also important, especially in emerging countries (Asia, Middle East, Africa), which pushes consumption of more expensive fruit like avocado. Year-round continuous availability in key markets, thanks to varying seasonality of producer nations and good global shipping logistics, helps to keep avocado in front of the consumer all year and drives demand.

Regionally, Southern Tanzania is well placed to supply fresh fruit into the South African domestic market during their summer periods of October through to December. The ability for Tanzania to export to the Middle East, China and in the future India, are also important market developments for this venture.

6. Avocado Detailed Project Description

Currently the Company is in negotiations to purchase the land asset and convert the title through the TIC into a Derivative Right (DR) for 98 years.

It is anticipated that as soon as the DR is issued the development can begin. The development is estimated to cost US$ 19,000,000 as detailed in the table below.

Figure 1 Mgagoa Development Costs

Land purchase & start up	= US $3.3m
Planting & establishment	= US $2.7m
Irrigation costs	= US $3.2m
Dams	= US $1.0m
Plant & equipment	= US $4.2m
Pack house	= US $3.4m
Housing & infrastructure	= US $0.9m
Total	**= US $19m**

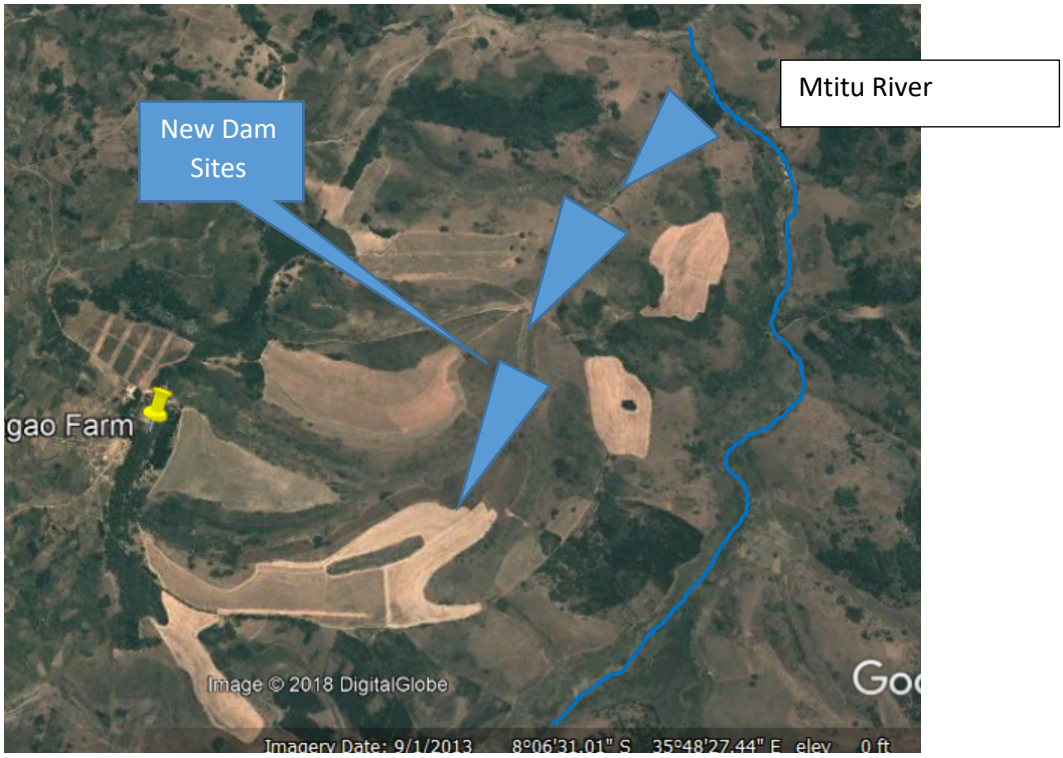
6.1. Mgagao Farm Description

The farm is located near Kilolo town some 2 hour's drive from Iringa in the Southern Highlands of Tanzania. The farm comprises of 1,589 hectares most of which is grazing for cattle or was planted to barley and seed potato production in the past.

The farm has significant internal water resources and over time a number of dams will be constructed to harness these. The Mtitu River flows along the Eastern Boundary of the farm. It would not be the intention to pump from this river in the dry season but to construct on-farm water storage which could be supplemented from the river during the rains.

The diagram below illustrates the farm and the proposed dam sites. A full EIA and water abstraction and dam construction permits would be applied for from NEMC, The Rufiji Water Basin Authority and The Ministry of Water.

Figure 2 Mgagao Farm



6.2. Infrastructure & Planting Program

Before any planting can commence the main water resources need developing and the irrigation systems require construction.

A state of the art solid-set irrigation system comprised of micro-jet irrigators, filtration, pumping and control systems will be installed for each avocado tree prior to planting. The first dam will also be constructed to capture the wet season stream flows and run-off from within the farm.

The installed irrigation costs are budgeted to be US$ 5,000 per hectare with an additional US$ 1,000,000 be allocated for the dam developments.

A schedule of the proposed planting program is shown in the figure below. Planting will be completed by 2025 with the last trees beginning their mature phase in 2028.

Prior to the land being planted intensive land preparation to deep-rip and apply pre plant fertilizers is also required. Provision for an agricultural bulldozer has been made in the budget to perform this deep-ripping task.

Figure 3 Planting Program

Avocado Planting Program

Operation	2017 (ha)	2018 (ha)	2019 (ha)	2020 (ha)	2021 (ha)	2022 (ha)	2023 (ha)	2024 (ha)	2025 (ha)	2026 (ha)	2027 (ha)	2028 (ha)
Land Preparation			50	100	100	100	100	100	100			
Pre-Plant Fertiliser	-	-	50	100	100	100	100	100	100	-	-	-
Plants	-	-	50	100	100	100	100	100	100	-	-	-
Planting Costs	-	-	50	100	100	100	100	100	100	-	-	-
Post Planting Upkeep (Yr 2)		-	-	50	100	100	100	100	100	100	-	-
Post Planting Upkeep (Yr 3)			-	-	50	100	100	100	100	100	100	-
Post Planting Upkeep (Yr 4)				-	-	50	100	100	100	100	100	100

The planting and establishment costs for the 650 ha are estimated to be US$ 2,706,019 over the period as shown in the table below.

Figure 4 Planting & Establishment Costs

Avocado Planting Program

Operation	2019 (US$)	2020 (US$)	2021 (US$)	2022 (US$)	2023 (US$)	2024 (US$)	2025 (US$)	2026 (US$)	2027 (US$)	2028 (US$)	Total (US$)
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Land Preparation	$ 24,272	$ 48,544	$ 48,544	$ 48,544	$ 48,544	$ 48,544	$ 48,544	$ -	$ -	$ -	**$ 315,534**
Pre-Plant Fertiliser	$ 50,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ -	$ -	$ -	**$ 650,000**
Plants	$ 24,272	$ 48,544	$ 48,544	$ 48,544	$ 48,544	$ 48,544	$ 48,544	$ -	$ -	$ -	**$ 315,534**
Planting Costs	$ 4,612	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ -	$ -	$ -	**$ 59,951**
Post Planting Upkeep (Yr 2)	$ -	$ 25,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ -	$ -	**$ 325,000**
Post Planting Upkeep (Yr 3)	$ -	$ -	$ 30,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ -	**$ 390,000**
Post Planting Upkeep (Yr 4)		$ -	$ -	$ 50,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	**$ 650,000**
											$ -
	$ 103,155	**$ 231,311**	**$ 286,311**	**$ 366,311**	**$ 416,311**	**$ 416,311**	**$ 416,311**	**$ 210,000**	**$ 160,000**	**$ 100,000**	**$ 2,706,019**

Irrigation development costs during this period are estimated to be US$ 4,155,340.

Housing for workers as well as stores, estate offices, clinics and domestic water facilities have been provided in the budget totaling US$ 945,000.

Crop management will be mainly undertaken using tractors and sophisticated tractor propelled spraying equipment. The table below illustrates the agricultural equipment required.

Figure 5 Agricultural Equipment List

Operation	Unit	Total (No.)	Unit Cost (US$)	Total (US$)
60 hp 2WD Tractors	(No.)	12	35,000	420,000
85 hp 4WD Tractors	(No.)	20	55,000	1,100,000
Telescopic Loaders	(No.)	4	50,000	200,000
General Purpose Trailer	(No.)	6	10,000	60,000
Jacto Spray Unit	(No.)	20	35,000	700,000
Water Bowser	(No.)	3	10,000	30,000
Gyromower	(No.)	7	5,000	35,000
Crop Transport Trailers (Lugs)	(No.)	20	15,000	300,000
Telescopic Chain Saw Units	(No.)	26	300	7,800
PTO Driven Chipper Units	(No.)	20	30,000	600,000
Farm Motor Cycle	(No.)	9	5,000	45,000
Farm 4WD D/C Pick up	(No.)	8	40,000	320,000
Farm 4WD S/C Pick up	(No.)	3	35,000	105,000

With the inclusion of a Bulldozer for ripping and bush clearing the plant and equipment costs for the project are US$ 4,172,800.

6.3. Processing & Value Addition Facilities

The pack house, to prepare the fruit for export, will be required as soon as production starts. This is anticipated to be in 2021. The pack house equipment comprises of fruit reception, cleaning and applying post-harvest chemicals, waxing, removing any defective fruit, weighing the fruit to size and packaging. It is imperative that once harvested the fruit is packed into the sales cartons and placed in a cold room within 24 hours from picking. Sophisticated cold rooms are required to reduce the pulp temperature to that required for shipping; this is below 7°C. At peak the pack house will be designed to manage 130,000 kg of fruit a day. To achieve this the equipment will need to be sized to process 10,000 kilos per hour with cold rooms big enough to receive the packed products.

The pack house is anticipated to cost US$ 3,400,000.

6.4. Projected Production & Export Revenues

Production volumes will grow slowly as the orchards mature. The current 10 year projections are shown in the figure below. Avocados are exported in 4 kg cartons; within each carton the fruit has been selected to be of uniform size.

Figure 6 Production Volumes (4kg Cartons) & Export Revenues

Avocado Production Volumes & Revenues

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Export Volumes (Cartons)	-	-	19,024	85,610	199,756	361,463	570,732	827,561	1,131,951	1,417,317	1,645,610
Revenues (US$)	$ -	$ -	$ 217,620	$ 979,290	$ 2,285,010	$ 4,134,780	$ 6,528,600	$ 9,466,470	$ 12,948,390	$ 16,212,690	$ 18,824,130

7. Avocado Financing & Pay Back Model

Phase 1 project costs are budgeted to be US$ 19,000,000. This will be funded directly from Camellia PLC in the UK in the form of equity and shareholder loans. Local bank debt may be sought, however at this stage this has not been factored into the financial model.

The table below illustrates the funds required from Camellia for the development.

Figure 7 Investment Funds Required

Year		Capital
Year 1	$	2,681,500
Year 2	$	1,432,374
Year 3	$	1,201,748
Year 4	$	3,666,748
Year 5	$	1,796,748
Year 6	$	1,531,748
Year 7	$	1,161,748
Year 8	$	1,587,348
Year 9	$	1,030,600
Year 10	$	360,600
Year 11+	$	2,241,000
Total	**$**	**18,692,159**

7.1. Pay Back Analysis

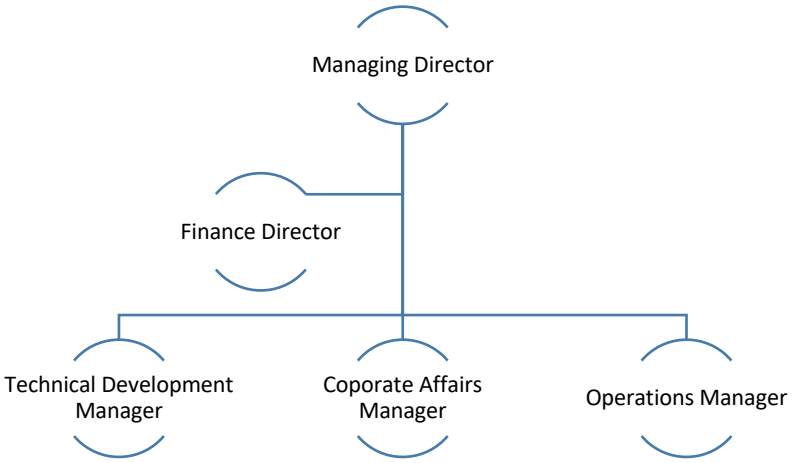
Various scenarios and sensitivity tests have been modeled. The base case scenario shows a simple payback of 20 to 25 years. The model is highly sensitive to the international market price for avocados. Long term land tenure is essential to allow for this lengthy payback and to allow for further plantings of different cultivars to diversify production.

8. Project Employment Generation and Skill Development

Commercial avocado and macadamia production is relatively new to Tanzania, however in the past 5 to 10 years there have been significant developments in both the Mbeya and Kilimanjaro Regions.

The new Company would have a significant management structure as shown in the tables below.

Figure 8 Senior Management Structure



The middle and junior management structure would also accommodate management trainee posts which will be filled by agricultural, food science and engineering graduates. A significant emphasis of the training programs would be focused on Tanzanian graduates to impart the horticultural skills necessary for growing high value tree crops. This is illustrated in the table below.

Figure 9 Middle & Junior Management Structure –Field

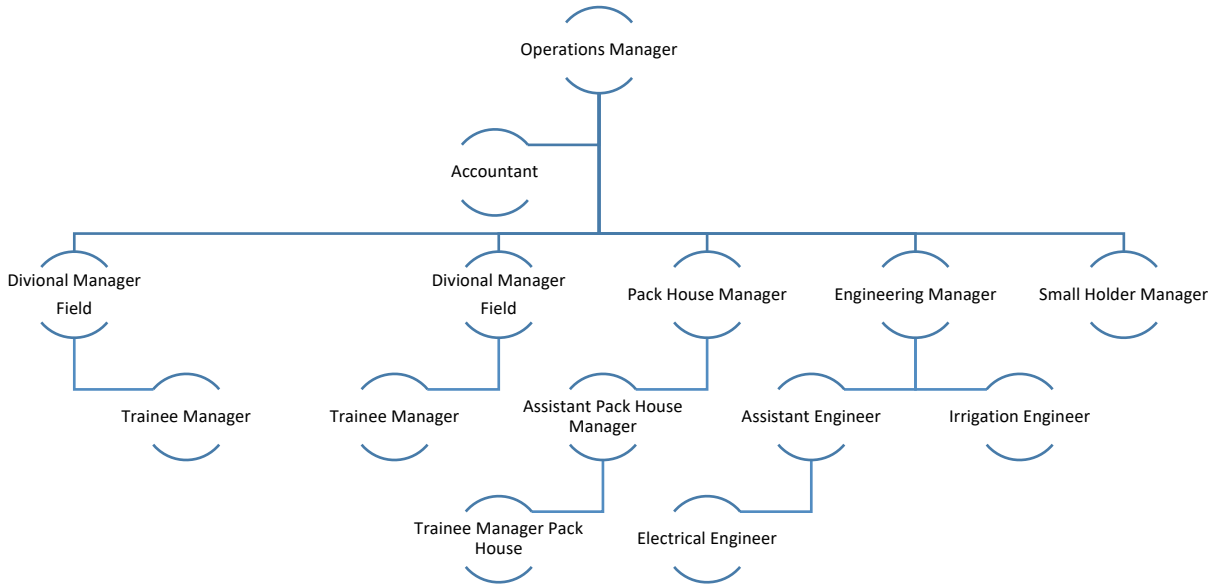
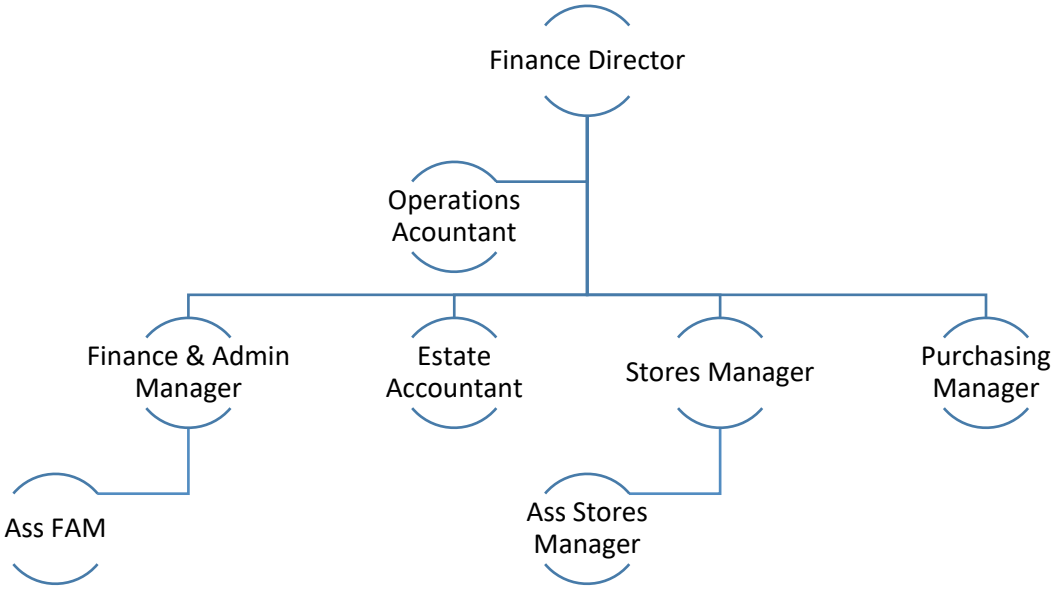


Figure 10 Middle & Junior Management – Finance



Support staff and artisan employment will also be required to provide the necessary infrastructure maintenance, stores, accounting and administrational back up.

At peak the project is anticipated to employ approximately 1,000 people on a daily basis for the harvesting and processing season. In the off season considerable employment opportunities are available to fertilize, prune, plant, irrigate and perform general estate upkeep operations.

9. Environment and Water Resource Protection

Camellia has a significant track record in operating agricultural businesses to the highest standards of environmental protection and enhancement.

A full Environmental Impact Assessment will be undertaken; however the following are considered key areas:

9.1. Water Resource Protection

Irrigation Dams will be constructed in compliance with building and water abstraction regulations. The project will not abstract from rivers during the dry season but instead aim to capture run off and stream flow on the farms.

A wet season abstraction license from the Mtitu River will be sought to 'top-up' the dams if required.

Planting of avocado and macadamia trees will not be undertaken within riparian or sensitive water catchment areas. Erosion control measures will also be implemented.

9.2. Chemical Hazards

Agro chemicals will only be used as per the Material Safety Data Sheet for the product. Empty containers and wash down water will be handled in the correct manner to prevent any discharge into the environment. Fertilizers will be applied in a manner which the trees are able to take up the nutrients and such nutrients will not therefore contaminate ground or surface water sources.

9.3. Pack House and Cracking Plant Wash-down Water

Any wash-down water from the pack house and cracking plant will be managed through filtration and cleaning processes to prevent any contamination reaching the natural environment.

9.4. Protection of Bio Diversity

Bio-Diversity is essential for a healthy orchard. Avocados and macadamias are pollinated by bees and other insects which thus require the protection of natural forests, swamps and riparian areas of the farm.

10. Community Development & Corporate Social Responsibility

A key element for the Company is its 'License to Trade'. From the outset it is the intention that the business will actively encouraging farmers in the catchment area to plant avocados. The Company will support these farmers with good quality nursery plants, technical extension services and a sustainable pricing mechanisms.

Our existing operations in both Malawi and Kenya have sophisticated and well established CSR programs focusing on sanitation, education and the provision of clean drinking water. Our farms provide clinics, primary and secondary educational facilities as well as welfare facilities for our employees to relax and play sports, within the properties.

11. Small Holder Development

Our current avocado operations in Kenya support 2,500 small holder farmers. We have developed a fruit purchase contract with the farmers whereby they are paid an initial payment, on the delivery of the fruit and a second, or bonus payment, depending upon the market price of the fruit when sold in the export destination.

This system has allowed farmers to benefit from the final 'market' price but also to appreciate the importance of growing exportable quality fruit.

Our operations also cover 'Managed Clients' where we simply provide management and technical services to a farmer group and assist them with the processing, export and sales of their product. This system tends to be more applicable to co-operatives or village groups rather than small scale farmers.

It is the intention to develop both of these from the outset.

Appendix 1 – EP (T) East Africa Ltd Memorandum & Articles of Association

Appendix 2 – EP (T) East Africa Ltd – Certificate of Incorporation

Appendix 3 – Asset Purchase & Lease Agreement

Appendix 4 – EP (T) East Africa Ltd Board resolution for TIC registration.

Appendix 5 – Camellia PLC Annual Report & Statement of Accounts 2017