



## **SESAME SECTOR INVESTMENT OPPORTUNITY BRIEF**

### **SESAME OIL**



## **EXECUTIVE SUMMARY**

This Sesame sector investment opportunity brief highlights the establishment of a Sesame processing facility to produce Sesame Oil. The processing capacity of the facility is assumed to be 8 kg/hour.

The total investment requirement is estimated at approximately \$236,483, out of which \$52,181 will be spent on purchase of processing machine. The Processing plant will create employment opportunities for 31 individuals.

The project is financially viable with an average annual net profit of \$368,848, an average net profit margin of 43%, and a ten-year internal rate of return (IRR) of 25%. The NPV, at a 10% discount rate, is expected to be \$364,659.

## **PRODUCT DESCRIPTION**

Sesame Seed is one the oldest oilseeds known to man. There are a number of health benefits that can be drawn from the oil extracted from Sesame Seeds. Some of the benefits include lower blood glucose level; lowering effects on blood pressure; lowering the level of Sodium in blood stream; skin benefits from antioxidants in Sesame Oil. Sesame Oil is either toasted or light Sesame Oil. Toasted Sesame Oil has a nutty flavor and is primarily used for seasoning, rather than cooking. On the other hand, the Light Sesame Oil is made from untoasted seeds while the flavor is mild. The latter is preferable for cooking, in comparison.

The ruminant cake after the Sesame Seed has been pressed is a high in demand animal feed component. Local animal feed processors are discouraged from utilizing the Sesame Oil Cake as a result of the high transportation cost of transporting it from cultivation areas such as Hummera.

## **SESAME OIL SECTOR**

The Sesame Sector of Ethiopia is dominated by raw Sesame Seed exporters as opposed to processors. There are currently more than 190 entities with a license to export Sesame while there are only three that are actively engaged in Processing. However, there are no organizations that have engaged in Commercial production of Sesame Oil. The global Sesame Oil market is dominated by producers in China, India, Myanmar, Japan, Bangladesh, Thailand, Nigeria, and Tanzania.

Despite the numerous health benefits of consuming Sesame oil, it has still not been adopted into the local cuisine. Rather, the edible oil that is available in the market includes Vegetable oil, Sunflower Oil, Palm Oil and others. As a result, the envisioned organization will be a pioneer in the sector opening the door to the higher value addition than is customary in the Sesame Sub-sector.

## **PRICING**

There is no commercial production of Sesame oil in Ethiopia. However, there is a practice of extracting Sesame Oil in small amounts for home-use. Recent market survey of Sesame Oil in international markets has shown that Sesame Oil is available at a price of \$ 8 – 16, depending on the location of the market. In order to penetrate the international market while covering its cost, the envisioned organization has set its selling price for \$10.50 for the first year of operation. Sesame Oil Cake is available in the local market at prices ranging between \$21.79 and \$23.08 per Quintal. Taking this prices into consideration, the envisioned organization will be supplying the Sesame Oil Cake at \$22.50 at the launch of its operation.

## **PLANT CAPACITY**

The envisioned organization will be operating with a cleaning machine and 5 oil press machines. The cleaning machine is able to clean 2.5 tons of Sesame Seed per hour while a single oil press machine is able to press 8 kg of Sesame Seed per hour. The organization will be launching its operation at 80% capacity which will increase to reach 90% in the 5th Year.

## **RAW MATERIALS**

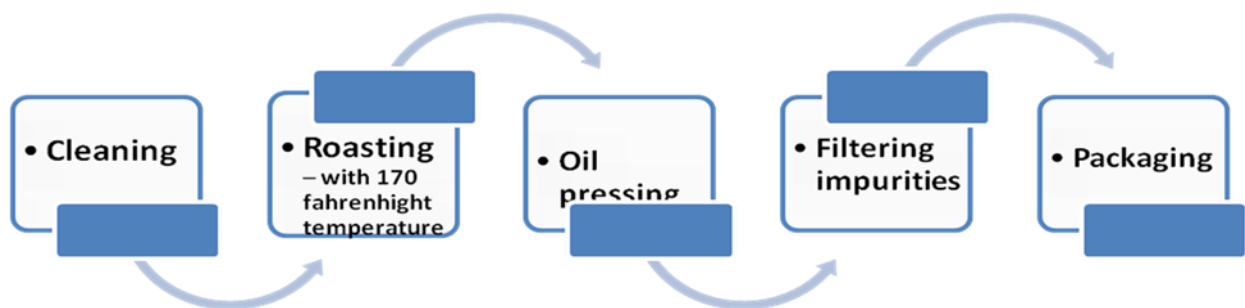
The principal raw material required for the production of Sesame Oil is Sesame Seed. In order to ensure the quality of the product is maintained while maintaining a marketable stature, the Sesame oil will be packed in sealed clear bottles.

## **UTILITIES**

The major utilities required by the envisaged project are electric power and water. The cost of these services is estimated to be minimal at slightly above \$900 per year.

## **PRODUCTION PROCESS**

As in any Sesame Processing line, the Sesame is primarily cleaned. The cleaned Sesame is then roasted and moves on to oil presser.



Extracted Sesame Oil is liquid at room temperature and can be extracted either through mechanical pressing and solvent extraction.

## **ENVIRONMENTAL IMPACT**

Generally, mechanical presses, has the advantage no danger of fire from combustible solvent, and more controllable production process with smaller number of skilled staff over solvent extraction process. As a result, the hydraulic oil press machine, which has been selected by the envisioned organization, will not emit pollutants which will be harmful to the environment. Additionally, the waste materials from the product line will also be disposed of in a timely manner.

## **MACHINERY AND EQUIPMENT**

The plant machinery and equipment required for the project is estimated to cost \$52,181. This cost includes the cleaning machine and five oil pressing machines.

## **LAND, BUILDINGS AND CIVIL WORKS**

Total land area required is 6,500 square meters, which will be housing the Sesame Cleaning Plant, Sesame Oil Press Machines, and the warehouse for the input (raw Sesame Seed) and output (Sesame Oil).

Land can be leased from the City Administration, and as such, the cost of leasing land in the outskirts of Addis Ababa is estimated to be \$26 per m<sup>2</sup>. The total cost of leasing the land for 50 years is \$6,333.

## **STAFFING**

The total human resource required for the envisaged plant is 31 persons. The estimated annual salary requirement is anticipated to be \$61,477. At time of processing machine installation, training will be provided to operators and management team on how to properly operate and maintain equipment.

## FINANCIAL ASSUMPTIONS

The financial model of the project is based on the following assumptions;

	Project Years									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Quantity (L)</b>										
Sesame Oil	20,736	41,472	44,064	44,064	46,656	46,656	46,656	46,656	46,656	46,656
<b>Price (USD)</b>										
Sesame Oil	10.50	11.55	12.71	13.98	15.37	16.91	18.60	20.46	22.51	24.76
<b>Revenue</b>										
Sesame Oil	217,728	479,002	559,833	615,816	717,245	788,970	867,866	954,653	1,050,118	1,155,130
<b>Quantity (kg)</b>										
Animal Feed	353	353	375	375	397	397	397	397	397	397
<b>Price (USD)</b>										
Animal Feed	22.50	24.75	27.23	29.95	32.94	36.24	39.86	43.85	48.23	53.05
<b>Revenue</b>										
Animal Feed	7,949	8,744	10,219	11,241	13,093	14,402	15,842	17,426	19,169	21,086

## TOTAL INITIAL INVESTMENT COST

The total investment cost of the project including working capital is estimated to be \$236,483. The following table summarizes the total investment cost breakdown;

<b>Investment Type</b>	<b>USD</b>
Land Lease	16,667
Building and Civil work	65,000
Machinery and Equipment	52,181
Vehicles	38,462
Office Furniture and Equipment	10,769
Working Capital	53,404
<b>Total Investment Cost</b>	<b>236,483</b>

## **FINANCIAL ANALYSIS**

Based on the projected financial statement, the project will generate profit starting from the 2<sup>nd</sup> Year. Annual average net profit after tax is projected to be \$368,848 with an average margin of 43%. The EBITDA margin is expected to be 52%. The IRR of the project will be 25%, indicating the financial viability of the business. The payback period of the project is 3 years. The NPV, at a 10% discount rate, is expected to be \$364,659.

Description	Project Years									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Sales Revenue</b>	225,677	487,745	570,052	627,058	730,338	803,371	883,708	972,079	1,069,287	1,176,216
<b>Operating Costs:</b>										
Raw Material Cost	157,538	165,415	184,542	193,769	215,425	226,196	237,506	249,381	261,851	274,943
Wages and Salaries	61,477	64,551	67,778	71,167	74,726	78,462	82,385	86,504	90,829	95,371
Utilities	923	969	1,018	1,069	1,122	1,178	1,237	1,299	1,364	1,432
Fuel, oil and Lubricants	3,077	3,231	3,392	3,562	3,740	3,927	4,123	4,330	4,546	4,773
Insurance	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496
Repair and Maintenance	7,267	7,630	8,012	8,412	8,833	9,274	9,738	10,225	10,736	11,273
Stationery and P.T.T	1,231	1,292	1,357	1,425	1,496	1,571	1,649	1,732	1,818	1,909
Audit Fee	1,282	1,346	1,413	1,484	1,558	1,636	1,718	1,804	1,894	1,989
Miscellaneous	2,564	2,564	2,564	2,564	2,564	2,564	2,564	2,564	2,564	2,564
Land Lease Expenses	256	256	256	256	256	256	256	256	256	256
<b>Total Operating Costs</b>	<b>238,112</b>	<b>249,751</b>	<b>272,828</b>	<b>286,204</b>	<b>312,216</b>	<b>327,561</b>	<b>343,674</b>	<b>360,592</b>	<b>378,355</b>	<b>397,007</b>
<b>Gross Profit</b>	<b>(12,434.80)</b>	<b>237,993.93</b>	<b>297,224</b>	<b>340,853</b>	<b>418,121</b>	<b>475,810</b>	<b>540,035</b>	<b>611,488</b>	<b>690,932</b>	<b>779,209</b>
Depredation & Amortization	23,532	23,532	23,532	23,532	23,532	24,547	24,547	24,547	24,547	24,547
<b>Profit Before Income tax</b>	<b>(35,967)</b>	<b>214,462</b>	<b>273,691</b>	<b>317,321</b>	<b>394,589</b>	<b>451,263</b>	<b>515,488</b>	<b>586,941</b>	<b>666,385</b>	<b>754,662</b>
Less: Income tax	-	-	-	29,129	41,582	51,066	62,072	74,429	88,283	103,800
<b>Net Profit</b>	<b>(35,967)</b>	<b>214,462</b>	<b>273,691</b>	<b>288,192</b>	<b>353,007</b>	<b>400,197</b>	<b>453,416</b>	<b>512,513</b>	<b>578,102</b>	<b>650,863</b>