



Islamic Republic of Iran

North Khorasan Organization of Economic Affairs and Finance



Grape Seed Oil
In Bidak Bojnourd Industrial Park
Center of Investment Services of
North Khorasan

2021 April

Summary of Technical-Economical Pre-Feasibility Study

The name: Grape Seed Oil

Sector: Agricultural

Subsector: Alterant Industries

ISIC Code: 1514412314

The owner of:

Organization of Economic Affairs and Finance (North Khorasan)



The ADDRESS:

Iran, North Khorasan, Bojnourd

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1 Abstract

1.1 Project Profile - Summary Sheet

Table 1: Summary Sheet

Project Introduction			
Project Title	Grape Seed Oil		
Sector	Agricultural		
Sub Sector	Alterant Industries		
Location	Iran, North khorasan, Bojnourd		
The County	Bojnourd		
Products / Services	Crude Grape Seed Oil, Oilseed Cake		
Annual Nominal Capacity	300		Ton's
The Raw Material	Grape Seed And Packaging Equipment		
Employment	23		Person
Land Area	5,600		m ²
Floor Area	2,195		m ²
Energy and Water Consumption	Water Consumption	15,000	m ³ in year
	Electricity Consumption	240	KW
	Gas Consumption	200,000	m ³ in year
Fixed Capital	126,056		Million Rial
Working Capital (The First Year)	12,931		Million Rial
Payback Period	2.77		Year
Net Present Value (NPV)	385,821		Million Rial
Internal Rate of Return (IRR)	72		%
Modified Internal Rate of Return (MIRR)	31		%
Break Even Point	27		%
The Exchange Rate (Dolar)	240,000		Rial
Description	In this project, all the materials related to the study of the Grape seed Oil market are examined.		

Table 2: Legal Authorizations

Licensure Status	
Descriptions	Issuance Status
Principal Agreement (Establishment Licensure)	☒
Land Allocation	☒
Environmental Inquiry	☒
Possibility of Water Supply	☒
Possibility of Electricity Supply	☒
Possibility of Electricity Supply	☒
Possibility of Gas Supply	☒

Table 3: Total Investment

Descriptions	Local Currency Required			Foreign Currency Required (Million Euro)	Total (Million Euro)
	(Million Rial)	Rate	Equivalent in (Million Euro)		
Fixed Capital	126,056	240,000	0.52	0.52	0.52
Working Capital	12,931		0.05	0.05	0.05
Total Investment	138,987		0.57	0.57	0.57

- Value of Foreign Equipment / Machinery: 0 Million Euro
- Value of Local Equipment / Machinery: 0.39 Million Euro
- Net Present Value (NPV): 1.6 Million Euro in Years
- Internal Rate of Return (IRR): 72%
- Payback Period: 2.77 Years

Table 4: General Information

Company Profile	
Project Type	Establishment <input checked="" type="checkbox"/>
Company Name	North Khorasan Organization of Agriculture Jihad
Contact Person (Name and Position)	Mr Rezvan Nikbakht
Email	et.1383@yahoo.com
Mobile	+989379094738
Tel	+9858-32257990
Website	http://portal.nkj.ir
Address	North Khorasan Province, Bojnurd, Chehelodometri Kamarbandi Blvd, North Khorasan Organization of Agriculture Jihad
Company's Legal Structure	Government <input checked="" type="checkbox"/>

2 Project Location

2.1 Province: North khorasan

2.2 The County: Bojnourd

Bojnourd is the capital city of North Khorasan Province, Iran. It is about 701 km from Tehran. Bojnourd is located in the plains enjoying a mild and mountainous weather.

There are several reason for investing in bojnourd, such as

2.2.1 Agriculture Section Advantages

- Suitable and diverse climatic conditions and having relatively suitable rainfall
- Having far more livestock per capita than the national average
- Having a considerable supply of diverse fruits
- The Possibility of establishing agricultural conversion industries in industrial parks

2.2.2 Tourism Section Advantages

- Having the presence of different ethnicities and producing handicrafts related to the culture of each ethnic group
- Being in a special geographical position and traveling 24 million passengers annually (ten percent of the total number of traveling passengers in the country) through North Khorasan

2.2.3 Mine and Industry Section Advantages

- Having large industries of alumina, steel, piping, petrochemical, cement and the availability of the development of industrial activities in downstream industries and creating a value chain.
- Conducting mineral exploration studies in Bojnourd, and valuable minerals for processing
- The existence of the Bojnord special economic zone has distinct advantages, including the shortest distance to the provincial capital among all special economic zones in the country, as well as its proximity to the Bidak industrial town.

2.2.4 Urban Development Section Advantages

- Appropriate and significant justification of urban and commercial projects and plans according to the characteristics and advantages of tourism, agriculture and industrial areas.
- The existence of transferable lands with suitable location.
- The need for commercial and tourism spaces in Bojnord due to the low per capita of these spaces.

This project will be construct in part 16 with coordinates (4147095,521603) in Bidak Bojnourd Industrial Park. Proposed location of project is shown in Figure 1.



Figure 1: Location of Proposed Land in Bidak Bojnourd Industrial Park

2.3 The Project: Grape seed oil

2.4 Access to the Infrastructures

Table 5: Access to Infrastructures

No.	Needed Infrastructures	Distance to the Project	The Supply Infrastructures
1	Water	0	is provided
2	Electricity	0	is provided
3	Gas	0	is provided
4	Telecommunications	0	is provided
5	High way	<1 km	is provided
6	Sub way	0	is provided
7	Airport	8	is provided
8	Amirabad Port (Behshahr)	417	is provided
9	Bandar Abbas Port	1,493	is provided
10	Rail way station of Joveyn	170	is provided
11	Rail way station of Jajarm	192	is provided

3 Technical Specifications of Plan

3.1 Product

Table 6: Project Specifications Based on ISIC Code

The Project	ISIC Code	Customs Tariff	Environmental Category
Grape seed oil	1514412314	15159090	4

In this project, all the materials related to the study of the grape seed oil market are examined. The purpose of the project is to strengthen the export sector, replace imports, etc. According to studies on the supply and demand of grape seed oil, the production of this product from 2,021 to 2,025 will have an increasing trend that reassures new investors. Also, the import chart is bullish and this is a good opportunity for domestic production to replace imports. The amount of product exports is also expanding; therefore, new factories can enter this competition. Finally, domestic demand for grape seed oil is increasing from

2,021 to 2,025. Also, between 2,020 and 2,023, there is a shortage of about 300 tons, which must be compensated by the construction of new factories. In addition, the factory can plan for exports. Therefore, it is suggested that the investor invest in this project.

Undoubtedly, the most important reasons for justifying a project are based on its economic considerations. Gaining a suitable share of the domestic or foreign market, expanding the target market, and having appropriate financial and economic indicators (NPVR, IRR), and so on are among the most important goals of an economic enterprise to create or develop an industrial plan. In addition, the national and macroeconomic aspects of the project should be considered.

Also, the study of the effect of project implementation on social and cultural indicators at the national and regional levels such as unemployment, labor migration, cultural effects, and finally the political considerations of the feasibility study, both nationally and internationally, can justify the necessity of implementing a project. Getting out of dependence on the outside, increasing domestic production, etc. can be studied and analyzed in this section.

3.2 Project's Requirements

Existing standards for oil packaging according to the national standard of Iran: 18,920

-Packing of refined grape seed oil should be done in strong, suitable and impermeable containers.

-The packaging material should not have adverse effects on the oil and its packaging should be such that it is not possible to Manipulation it.

-Packing in impermeable containers with appropriate lids in accordance with the National Standard of Iran (2,237)

-The type of packaging containers includes glass, PET and metal and the packaging in authorized plastic containers (with food grade) is in accordance with the national standard of Iran.

-In case of packaging in plastic or glass containers, in order to prevent the penetration of sunlight, should will used its dark type.

-The use of PVC containers is not allowed.

-The maximum volume of packaging containers for household use should be one liter. The maximum storage period of the product is 6-12 months

3.3 Space and Infrastructure Required

Table 7: Land Purchase Costs (Million Rial)

Specifications	Area (m ²)	Price per m ²	Cost		
			Paid Cost	Needed Fund	Total
A piece of land in Bojnourd	5,600	1.5	0	0	8,400

Table 8: Site Preparation and Development Costs (Million Rial)

Description	Working Capacity	Unit	Unit Price	Paid Cost	Needed Fund	Total
Excavation	1,680	cm	0.3	0	504	504
Wall Construction and door	600	Sm	0.9	0	5,400	5,400
street construction(5% of the amount of land)	280	Sm	7	0	1,960	1,960
Green space and Lighting (1% of the amount of land)	56	No	8	0	448	448
Total					8,312	8,312

Table 9: Civil Works, Structures and Buildings Costs (Million Rial)

Description	Area (m ²)	Unit Price	Paid Cost	Needed Fund	Total
Production Hall	825	25	0	0	20,625
Raw material warehouse	450	30	0	0	13,500
Facilities and laboratories	170	20		0	3,400
Product warehouse	450	25	0	0	11,250
Guardroom	130	45	0	0	5,850
office building	170	45	0	0	7,650
Infrastructure (of raw material silos and crude oil)	600	10	0	0	6,000
Total			0	0	68,275

Table 10: Infrastructures

No	Description	Unit	Annual Consumption	Unit Cost (Rial)	Total (Million Rial)
1	Water consumption	m^3	15,000	7,000	105
2	Electricity consumption	Kw	1,200,000	1,100	1,320
3	Gas consumption	m^3	200,000	1,200	240
4	Gasoline	$Litr$	5,000	30,000	150
5	Unforeseen cost				150
Total					1,965

3.3.1 Equipment and Machinery

Table 11: Plant Machinery and Equipment Costs (Million Rial)

Description	Unit cost	Costs Required				Total
		Local Costs	Costs of Currency		Cost To Complete	
			Rate	(Million Euro)		
Cold press	3,220	3,220	240,000	0.01	3,220	3,220
dryer	2,300	2,300		0.01	2,300	2,300
Sieve	500	500		0	500	500
Transmitter	330	330		0	330	330
Baking tower						
Raw material silo and gearbox	2,500	2,500		0.01	2,500	2,500
Oil storage tank	600	600		0	600	600
Pipes and fittings	80	80		0	80	80
Total cost of machinery	80	9,530			0.03	9,530

The exchange rate is: 1 € = 240,000 Rial

3.3.2 Raw Material and Intermediate Components

Table 12: Raw Material and Intermediate Components (Million Rial)

Description	Unit	Total Consumption of the Raw Material	Price per Unit of Raw Material	Annual Cost of Providing Material
Raw material & Packaging	ton	-	-	10,000
Salary	Rial	-	-	2,700
Energy costs (fuel, electricity and water)	L/KW/CM	-	-	231
Total				12,931

3.3.3 Management and Human Resources

Table 13: Salary of Administrative Staff (Million Rial)

No.	Position	Number of Shifts	Personnel per Shift (No.)	Total Staff (People)	Monthly Salary (per Person)	Annual Salary
1	manpower (in Administrative sector)	-	-	6	65	4,680
2	manpower (in Production sector)	-	-	17	56.47	11,520
Total				23		16,200

- Number of skilled personnel required: 17
- Number of non- skilled personnel required: 6
- Total number of personnel required: 23

4 Market Study and Competition

4.1 Examining Supply And Demand Trends

The amount of domestic supply or production of grape seed oil based on license (according to the information of the Ministry of industry, Mine and Trade) from 2015 up to 2020 is presented in Table 14.

Table 14: The Amount of Domestic Supply

Year	Nominal Capacity (Tons)
2015	786
2016	1,712
2017	2,525
2018	3,900
2019	5,797
2020	24,437

The real production capacity of active units in 2015 up to 2019 is shown in Table 15.

Table 15: The Real Production Capacity of Active Units in 2015 up to 2019

Year	Nominal Capacity (Tons)
2015	29
2016	64
2017	95
2018	146
2019	217
2020	916

The following chart shows the prediction of production according to the Table 15 based on linear regression.

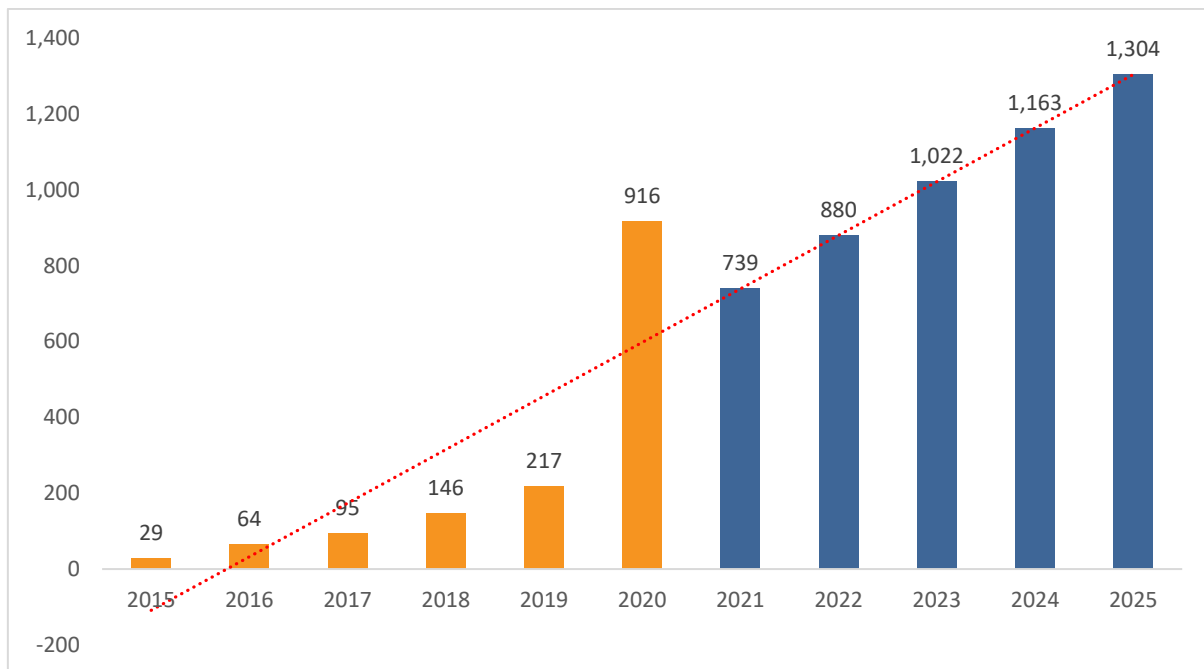


Figure 2: The Prediction of Production

. As the **Figure2** shows, the amount of grape seed oil production is increasing. The amount of imports to the country is based on the information of the Tehran Chamber of Commerce, Industries, Mine and Agriculture at <http://tccim.ir> is presented in Table 16

Table 16: The Amount of Imports

Year	Customs Tariff	Weight (Tons)	Major Countries
2015	15159090	12	Spain, Germany, France, Italy, UAE, China, Belgium, Turkey, NewZealand, India
2016	15159090	96	Spain, Thailand, Germany, France, Malaysia, Italy, UAE, China, Belgium, Netherland, Swiss, India
2017	15159090	114	Spain, Germany, France, Italy, Thailand, UAE, China, Belgium, Turkey, Sigapore, Banglafesh
2018	15159090	46	Spain, Germany, France, Italy, Thailnad, UAE, Belgium, Austria

The following chart shows the prediction of imports according to the Table 16 based on linear regression.

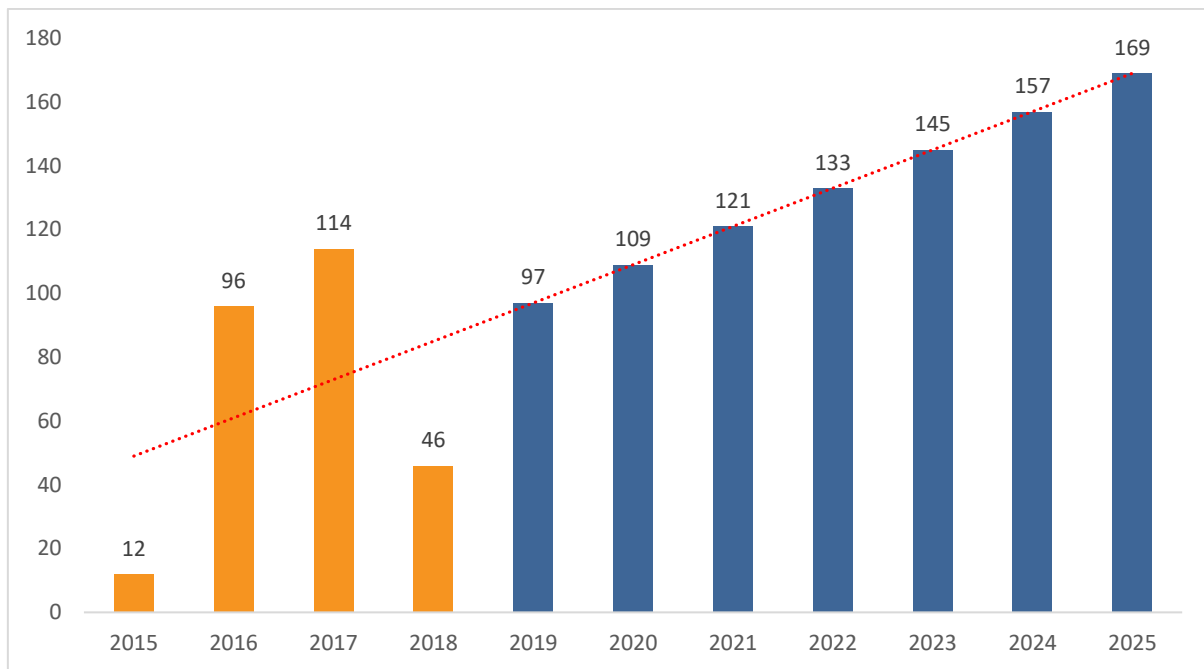


Figure 3: The Prediction of Imports

. As the Figure 3 shows, the amount of imports is decreasing

The amount of exports from the country is based on the information of the Tehran Chamber of Commerce, Industries, Mine and Agriculture at <http://tccim.ir> is presented in ..Table 17

Table 17: The Amount of Exports

Year	Customs Tariff	Weight (Tons)	Major Countries
2015	15159090	3	Afghanistan, Azerbaijan, Austria, Japan
2016	15159090	2	Afghanistan, Azerbaijan, Iraq
2017	15159090	10	Afghanistan, Pakistan, Iraq, UAE, Sweden, Canada
2018	15159090	40	Afghanistan, Pakistan, Turkey, Japan, Kuwait, Germany

Due to there are other oils in that customs tariff, so numbers are dividend by 10.

The following chart shows the prediction of exports according to the based on linear regression.

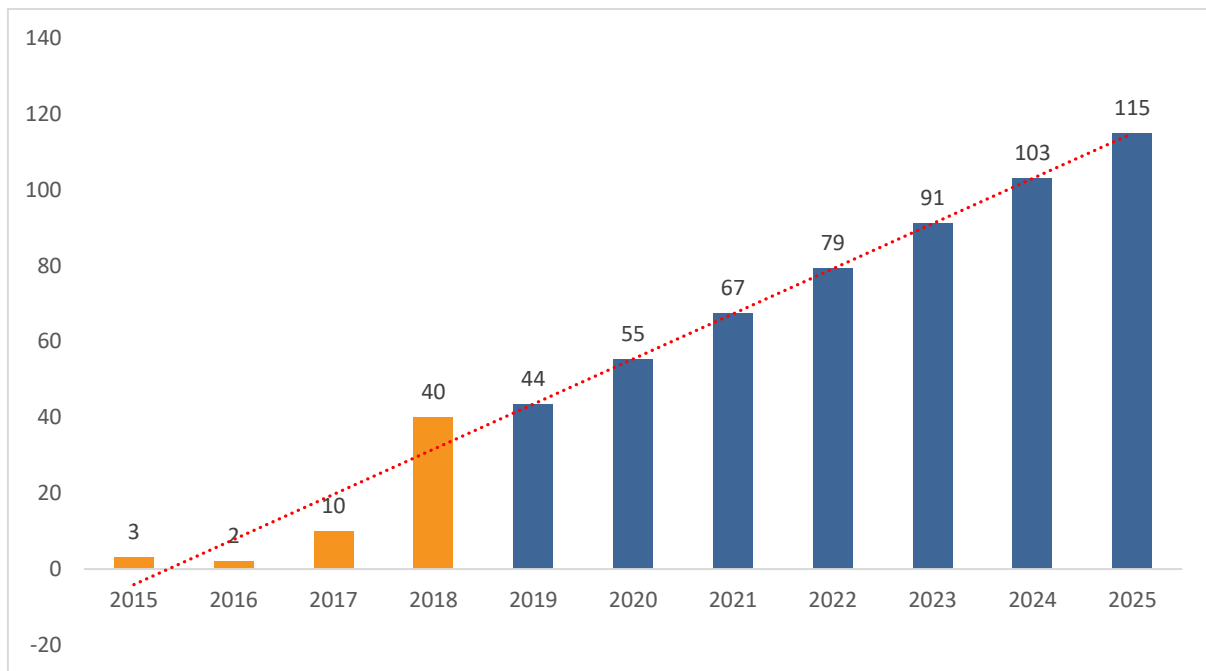


Figure 4: The Prediction of Exports

The amount of domestic demand, which is equal to the amount of domestic production plus the amount of imports minus the amount of exports, for the three products is given in the Table 18.

Table 18: The Amount of Domestic Demand

Year	The Amount of Domestic Demand of Canned Fruit, Vegetables and Pulses (Tons)
2015	38
2016	158
2017	199
2018	152

The following chart shows the prediction of domestic demand according to the Table 18 based on linear regression.

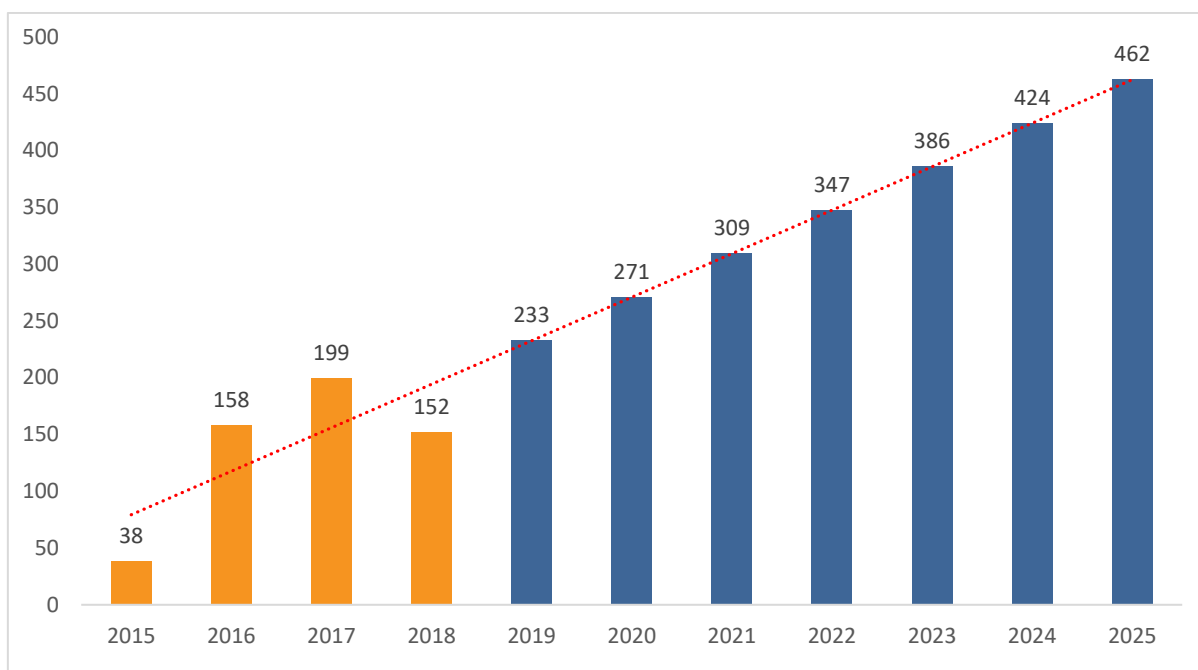


Figure 5: The Prediction of Domestic Demand

As the Figure 5 shows domestic demand of grape seed oil is increasing. So it can be claimed that the factory can be established without the concern of selling the product. In the Table 19, the information of the units that have obtained license is presented based on the amount of progress.

Table 19: The Information of The Units that have Obtained License

Progress Percent	Capacity (Tons)
0% - 25%	3,261
25% - 50%	2,500
50% - 75%	425
75% - 100%	0

5 Financial Projection

5.1 The Cost Estimate

Table 20: Total Investment (Million Rial)

No.	Subject	Cost
1	Fixed Capital	126,056
2	Working Capital	12,931
Total investment		138,987

Table 21: Fixed Capital (Million Rial)

Subject	Paid Cost	Cost Required				Total cost
		local Cost	Foreign Exchange Cost		Needed Fund	
			Rate	(€)		
Land purchase	0	8,400	240,000	0.03	8,400	8,400
Landscaping	0	8,312		0.03	8,312	8,312
Building	0	68,275		0.28	68,275	68,275
Equipment and machinery	0	9,530		0.04	9,530	9,530
Laboratory and workshop supplies and equipment	0	5,850		0.02	5,850	5,850
Facilities	0	9,525		0.04	9,525	9,525
Transportation	0	330		0	330	330
Office and services equipment	0	650		0	650	650
Pre-operation costs	0	3,724		0.15	3,724	3,724
Unforeseen (10% of the above items)	0	11,460		0.04	11,460	11,460
Total Fixed investment	0	126,056		0.52	126,056	126,056

Table 22: Working Capital (Million Rial)

Subject	Day	Total
Packaging material (2 months raw materials and packaging)	60	10,000
Salary (2months salary)	60	2,700
Imprest fund (15 days of water, electricity, fuel and repair costs)	15	231
Total		12,931

Table 23: Fixed and Variable Costs

No.	Production Cost	Fixed Cost		Variable Cost	
		%	Cost	%	Cost
1	Raw material	0	0	100	60,040
2	Energy & utility	20	391	80	1,565
3	Repair & Maintenance	20	716	80	2,865
4	Production salary	70	11,340	30	4,860
5	Depreciation	100	8,676	0	0
Total production costs			21,123		69,330

5.2 Break-Even Analysis

Table 24: Break-even Analysis

Period	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Break-even ratio (%)	13.31	12.82	12.36	11.95	11.52	11.16	10.86	10.58	10.34	10.11

5.3 Sensitivity Analysis of IRR

Table 25: Sensitivity Analysis of IRR

Variation (%)	Sales Revenue	Increase In Fixed Assets	Operating Costs
-20.00%	85.63%	149.89%	134.80%
-16.00%	92.88%	143.23%	132.21%
-12.00%	100.13%	137.16%	129.62%
-8.00%	107.37%	131.62%	127.02%
-4.00%	114.61%	126.53%	124.44%
0.00%	121.84%	121.84%	121.84%
4.00%	129.07%	117.51%	119.25%
8.00%	136.29%	113.49%	116.65%
12.00%	143.52%	109.76%	114.06%
16.00%	150.74%	106.28%	111.46%
20.00%	157.95%	103.02%	108.87%

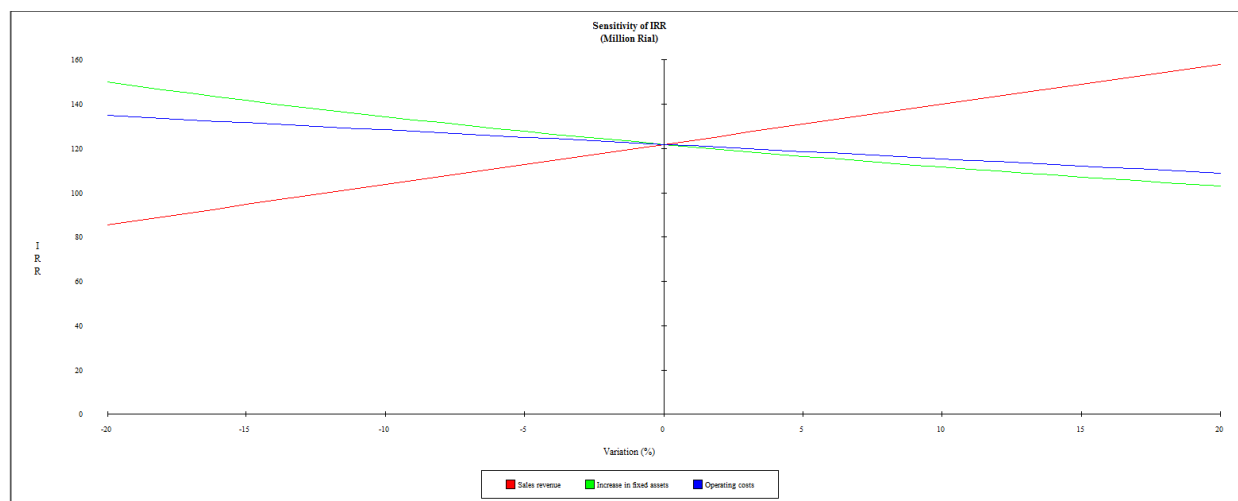


Figure 6: Sensitivity Analysis of IRR

6 Duration of Project Operation

The time of doing early stages and completing its process is about 16 months.

Table 26: Action Plan and Implementaion Schedule

Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Land Purchase																									
Constructing Buildings																									
Execution of Facilities																									
Order, Purchase of Machinery																									
Landscaping																									
Machinery Strat-up and Trial Production																									

7 Incentives, Features And Advantages of Project

North Khorasan Province is a province located in northeastern Iran. Bojnord is the capital of the province. This province contains many historical and natural attractions, such as mineral water springs, small lakes, recreational areas, caves and protected regions, and various hiking areas. Advantages of the agriculture of this province involves favorable and diverse climatic conditions and other parameters affecting growth.