



Islamic Republic of Iran

Ministry of Economic Affairs and Finance

General Department of Economic Affairs and Finance of North Khorasan



# The Dried Fruit In Shirvan Industrial Park

Center of Investment Services of North Khorasan

2021 April

# Summary of Technical-Economical Pre-Feasibility Study

The name: The Dried Fruit

Sector: Agricultural

Subsector: Alterant Industries

ISIC Code: 1513412363-1513412380-7495421409

The owner of:

Organization of Economic Affairs and Finance (North Khorasan)



The ADDRESS:

Iran, North Khorasan, Shirvan

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# 1 Abstract

## 1.1 Project Profile

Table 1: Summary Sheet

Project Introduction			
<b>Project Title</b>	The Dried Fruit		
<b>Sector</b>	Agricultural		
<b>Sub Sector</b>	Alterant Industries		
<b>Location</b>	Iran, North khorasan, Shirvan		
<b>The County</b>	Shirvan		
<b>Products / Services</b>	The Dried Fruit		
<b>Annual Nominal Capacity</b>	700	Ton's	
<b>The Raw Material</b>	The Kinds of Fruits		
<b>Employment</b>	17	Person	
<b>Land Area</b>	3,360	$m^2$	
<b>Floor Area</b>	1,080	$m^2$	
<b>Energy and Water Consumption</b>	Water Consumption	20,000	$m^3$ in year
	Electricity Consumption	240	KW
	Gas Consumption	2,500,000	$m^3$ in year
<b>Fixed Capital</b>	126,360	Million Rial	
<b>Working Capital (The First Year)</b>	202,551	Million Rial	
<b>Payback Period</b>	4.37	Year	
<b>Net Present Value (NPV)</b>	152,233	Million Rial	
<b>Internal Rate of Return (IRR)</b>	37	%	
<b>Modified Internal Rate of Return (MIRR)</b>	25	%	
<b>Break Even Point</b>	28	%	
<b>The Exchange Rate (Dolar)</b>	240,000	Rial	
<b>Description</b>	In this project, all the materials related to the study of the Dried Fruit market especially domestic and foreign supply and demand, 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	126,360	240,000	0.5265	0	0.5265
Working Capital	202,551		0.8439	0	0.8439
<b>Total Investment</b>	<b>328,911</b>	<b>240,000</b>	<b>1.370</b>	<b>0</b>	<b>1.370</b>

- Value of Foreign Equipment / Machinery: 0 Million Euro
- Value of Local Equipment / Machinery: 0.0422 Million Euro
- Net Present Value (NPV): 0.6343 Million Euro in 15 Years
- Internal Rate of Return (IRR): 37%
- Payback Period: 4.37 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: Shirvan

Shirvan is a city and capital of Shirvan County, North Khorasan Province, Iran. The history of Shirvan is more than 7000 years old, as archaeologists found some graves in Gelian an Khanlogh (Villages of Shirvan) which are related to Achaemenid Empire era. The city has been significant industrially with sugar beet factories. It is also significant historically (Nader hill), geographically (Honame), and anthropologically (caves around the city).

This project will be construct in part 267, 268 with coordinates (4134815,590893) in shirvan industrial park. Proposed location of project is shown in Figure 1.



Figure 1: Location of Proposed Land in Shirvan Industrial Park

### 2.3 The Project: The Dried Fruit

### 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	74	is provided
8	Amirabad Port (Behshahr)	491	is provided
9	Bandar Abbas Port	1,559	is provided
10	Rail way station of Joveyn	236	is provided
11	Rail way station of Jajarm	266	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
The Dried Fruit	1513412363 1513412380 7495421409	08135000	1

In this project, all the materials related to the study of the processed dried fruits market especially domestic and foreign supply and demand, are examined. The necessity of implementing this project can be examined from several aspects. The first aspect is the abundance of raw materials, ie fruits, at the project site and neighboring provinces (Razavi and South Khorasan). The high volume of fruit production in the orchards of Khorasan province and their sale in bulk and the very low price of bulk buyers is a big challenge that in these circumstances has increased the need for packaging of dried fruits. The second aspect is related to manpower. Although unemployment rates in North Khorasan Province are relatively favorable, but the presence of a large number of skilled workers and workers can be a very valuable opportunity to set up a production line and packaging of dried fruit that does not require much skilled labor. Taking advantage of this opportunity to prevent the migration of the province's labor force at this time is very necessary. According to studies on the production of processed dried fruits, it is predicted that between 2021 and 2025, the need for their construction will increase, which will reassure new investors. Also, the amount of demand will increase by about 60,000 tons from 2020 to 2023, which considering the capacity of factories with progress (above 75%), the country's need by 2023 is about 40,000 tons. It should be noted that the capacity of this factory is 700 tons, so from the perspective of the country's needs, there is no need to worry about the construction of this factory. From the provincial point of view, there are currently two factories with a capacity of 200 tons (Maneh & Samalghan 50 tons and Bojnourd 150 tons), so due to the existence of fruits in North Khorasan province, this capacity can be increased to at least 1,000 tons (on According to the information of the Jihad and Agriculture Organization of the province), therefore, North Khorasan province has a minimum production capacity of 800 tons more. Since the capacity of this factory is 700



tons, from the provincial point of view, the factory can be built without any worries by supplying raw materials.

### 3.2 Project's Requirements

Quality control related to this product will be done in two steps. In the first step, quality control is related to input materials. In the next step of quality control, it is related to the taste of processed dried fruits and in the last step, quality control is related to the quality of packaging.

Product standards: National Standard Organization of Iran for mixed dried fruits - Features and test methods with number 14342, types of processed dried fruits and dried fruits sampling method with number 1036, Dried fruits - Sulfur anhydride measurement method with standard number 569 defines that relevant standards must be met for each aspect of the work.

### 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 Maneh & Samalghan	3,360	0.6	0	0	2,016

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

Description	Working Capacity	Unit	Unit Price	Paid Cost	Needed Fund	Total
Excavation	3,360	cm	0.3	0	0	1,008
Wall Construction and door	270	Sm	9	0	0	2,430
street construction (5% of the amount of land)	290	Sm	7	0	0	2,030
Green space and Lighting (1% of the amount of land)	58	No	8	0	0	464
<b>Total</b>				<b>0</b>	<b>0</b>	<b>5,932</b>

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

Description	Area (m <sup>2</sup> )	Unit Price	Paid Cost	Needed Fund	Total
Production Hall	700	25	0	0	17,500
Raw Material & Product Warehouse	300	30	0	0	9,000
Office Building	50	45	0	0	2,250
Welfare and Guardroom	30	45	0	0	1,350
<b>Total</b>			<b>0</b>	<b>0</b>	<b>30,100</b>

Table 10: Infrastructures

No	Description	Unit	Annual Consumption	Unit Cost (Rial)	Total (Million Rial)
1	Water consumption	m <sup>3</sup>	20,000	7,000	140
2	Electricity consumption	Kw	1,200,000	1,100	1,320
3	Gas consumption	m <sup>3</sup>	2,500,000	1,200	4,800
4	Gasoline	Litr	6,200	30,000	186
<b>Total</b>					<b>6,446</b>

### 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)		
Fruit washing machine	1,570	1,570	240,000	0.00654	0	1,570
Blanching machine	800	800		0.00333	0	800
Steel workbench	70	70		0.00029	0	70
Decomposed steel strip	180	180		0.00075	0	180
Slicer and corer	920	920		0.003833	0	920
Tunnel dryer	3,150	3,150		0.0131	0	3,150
Lifting device z	1,300	1,300		0.00542	0	1,300
Pack of four weights	2,040	2,040		0.0085	0	2,040
Thermal labeling machine	100	100		0.00042	0	100
<b>Total Cost of Machinery</b>		<b>10,130</b>		<b>0.0422</b>	<b>0</b>	<b>10,130</b>

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	-	-	199,317
Salary	Rial	-	-	2,160
Energy costs (fuel, electricity and water)	L/KW/CM	-	-	6,445
Repair and maintenance	Rial	-	-	2,957
<b>Total</b>				<b>210,879</b>

### 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)	-	-	4	75	3,600
2	manpower (in Production sector)	-	-	13	60	9,360
<b>Total</b>				<b>17</b>		<b>12,960</b>

- Number of skilled personnel required: 13
- Number of non- skilled personnel required: 4
- Total number of personnel required: 17

## 4 Market Study and Competition

### 4.1 Examining Supply And Demand Trends

The amount of domestic supply or production of dried fruit based on production licenses (according to the information of the ministry of industry, Mine and Trade from 2015 to 2020) is as follows:

Table 14 : The Amount of Domestic Supply of Dried Fruit

Year	Nominal Capacity (Tons)
2015	26,046
2016	33,252
2017	62,845
2018	80,738
2019	116,463
2020	134,875

The following chart shows the estimation of production according to the Table 14 by 2025 based on linear regression.

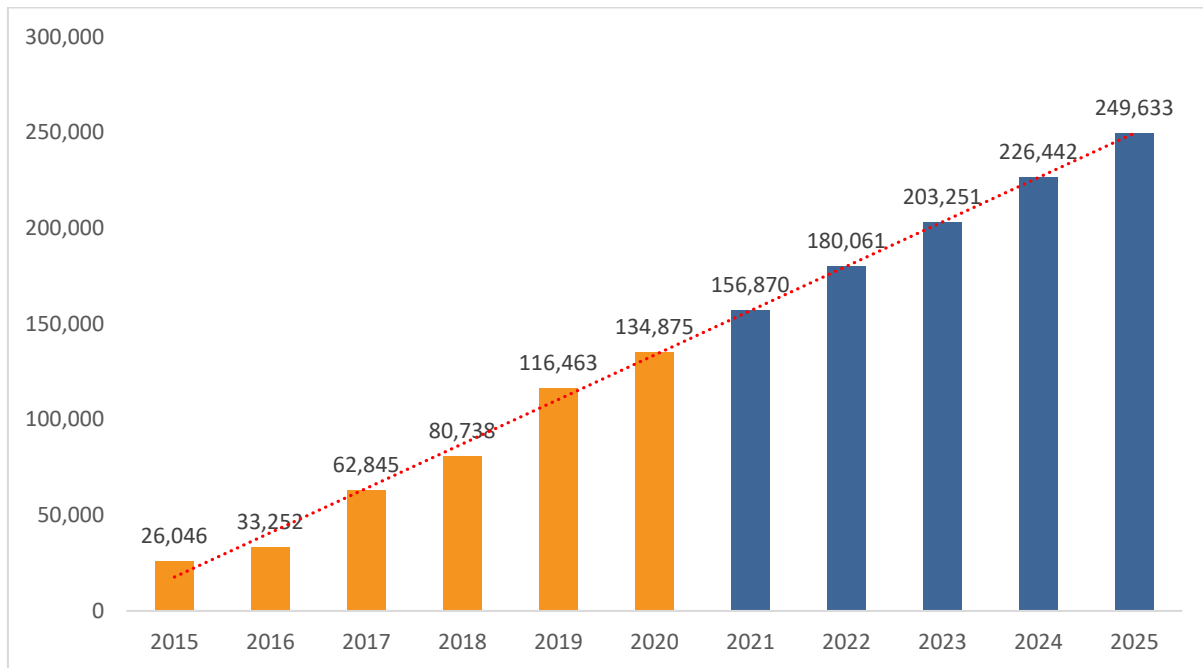


Figure 2: The Estimation of Production

The amount of imports to the country based on information from the Tehran Chamber of Commerce, Industries, Mines and Agriculture at <http://www.tccim.ir> and Customs Tariff Code 08135000 was around zero during the years 2015 to 2018.

The amount of exports from the country is based on the information of the Tehran Chamber of Commerce, Industries, Mines and Agriculture at <http://www.tccim.ir> is presented in Table 15 (There is no data for 2019 and 2020 so the information is considered as the initial data for the prediction of next years).

Table 15: The Amount of Export Between 2015 and 2018

Year	Customs Tariff	Export (Tons)	Countries
2015	8135000	769	India 23%, Canada 15%, Pakistan 10%
2016	8135000	1,802	Pakistan 62%, Bahrain 7%, England 6%
2017	8135000	1,042	Turkey 24%, England 14%, Pakistan 14%
2018	8135000	1,597	Turkey 40%, Canada 14%, England 9%

The following chart shows the prediction of exports according to the Table 15 up to 2025 basde on linear regression.

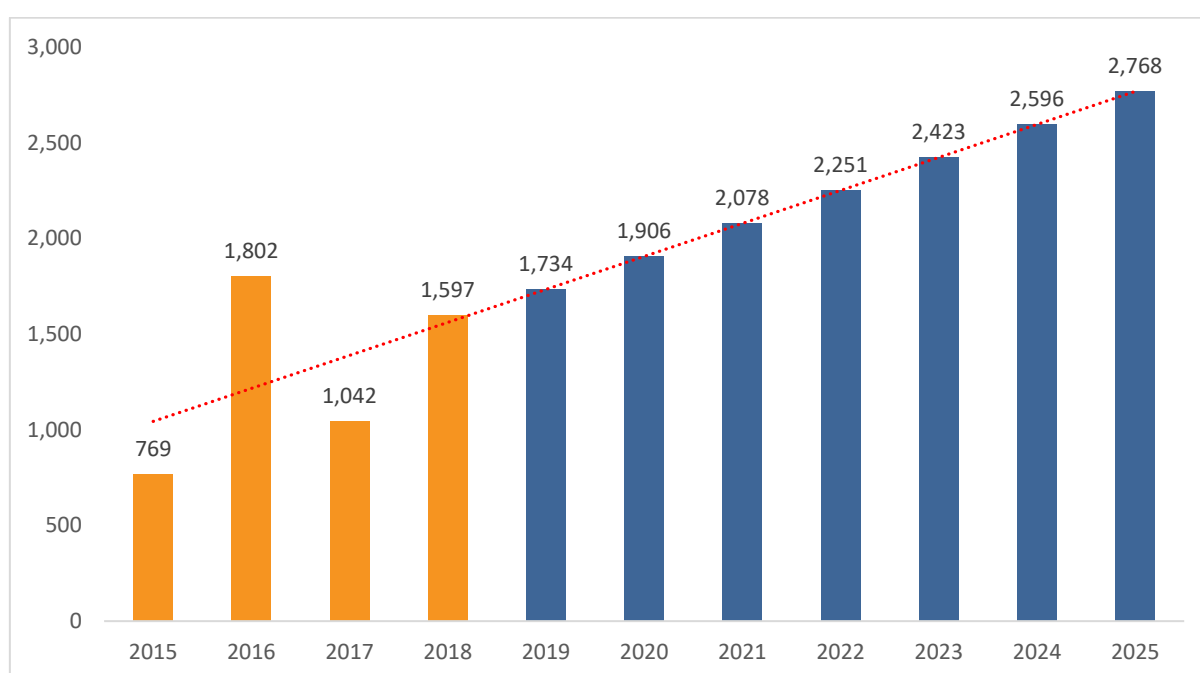


Figure 3: The Prediction of Exports

Export predictions from 2021 up to 2025 are presented in the Table 16

Table 16: The Prediction of Exports up to 2025

Year	The Prediction of Export
2021	2,078
2022	2,251
2023	2,423
2024	2,596
2025	2,768

As the Figure 3 and Table 16 shows, product exports are ascendant from 2021 up to 2025, so factories that are exploited at this time can invest in the foreign market or the same export.

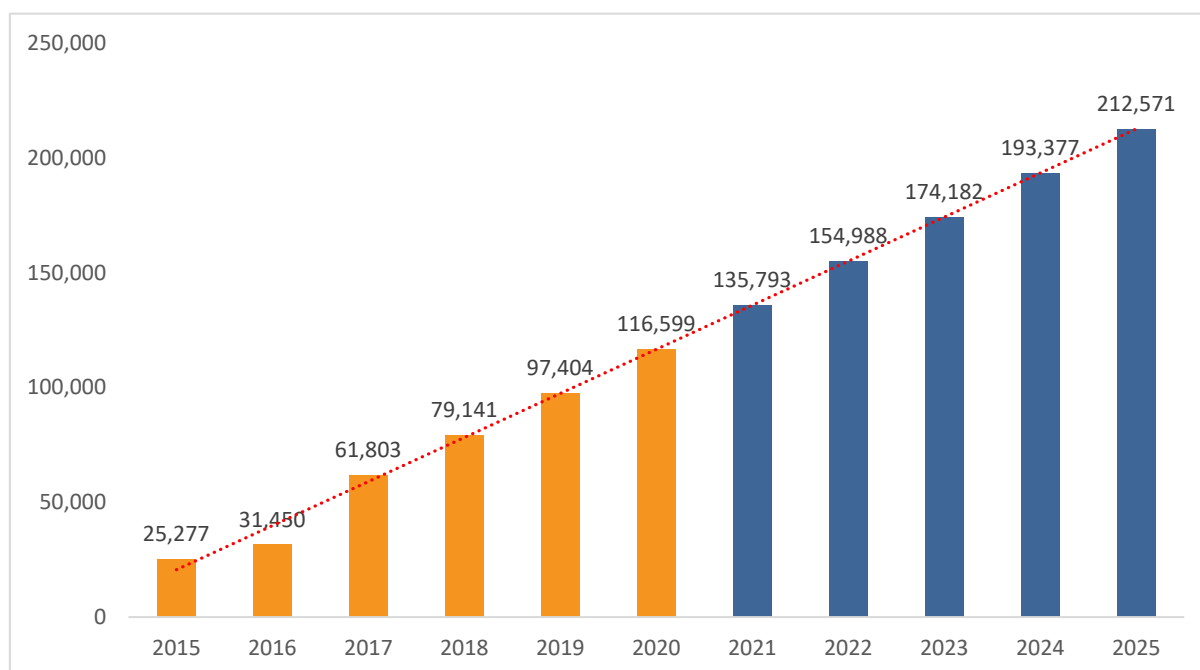
The amount of domestic demand that is equal to the amount of domestic production plus the amount of imports minus the amount of exports, is presented in Table 17.

*Table 17: The Domestic Demand from 2015 up to 2018*

Year	The Domestic Demand (tons)
2015	25,277
2016	31,450
2017	61,803
2018	79,141

Table 18 shows the amount of domestic demand according to the Table 17 by 2025 based on the linear regression.

*Table 18: The Domestic Demand from 2021 up to 2025*



As the Table 18 shows the domestic demand of the dried fruit is increased.

In Table 19, the information of the units that have obtained liscence is provided based on the amount of progress percent (according to the information of the Ministry of Industry, Mine and Trade).

Table 19: The Amount of Progress Percent that have Obtained Lisence

Progress Percent	Capacity (Tons)
0% - 25%	121,430
25% - 50%	2,850
50% - 75%	47,345
75% - 100%	17,040

As the Table 18 shows, demands are up until 2025. It is worth mentioning that the factory's capacity is 700 tons, so it can be claimed that the factory can be established without the concern of selling the product.

## 5 Financial Projection

### 5.1 The Cost Estimate

Table 20: Total Investment (Million Rial)

No.	Subject	Cost
1	Fixed Capital	126,360
2	Working Capital	202,551
<b>Total investment</b>		<b>328,911</b>

Table 21: Fixed Capital (Million Rial)

Subject	Paid Cost	Cost Required			Total cost	
		Local Cost	Foreign Exchange Cost			Needed Fund
			Rate	(€)		
land purchase	0	2,016	240,000	0.0084	0	2,016
Landscaping	0	5,932		0.0247	0	5,932
Building	0	30,100		0.1254	0	30,100
equipment and machinery	0	10,130		0.0422	0	10,130
Laboratory and workshop supplies and equipment	0	498		0.0021	0	498



Subject	Paid Cost	Cost Required			Total cost	
		Local Cost	Foreign Exchange Cost			Needed Fund
			Rate	(€)		
Facilities	0	11,850		0.04938	0	11,850
Transportation	0	2,700		0.01125	0	2,700
Office and services equipment	0	560		0.0023	0	560
Pre-operation costs	0	51,087		0.2129	0	51,087
Unforeseen (10% of the above items)	0	11,487		0.04786	0	11,487
<b>Total Fixed investment</b>	<b>0</b>	<b>126,360</b>	<b>240,000</b>	<b>0.5265</b>	<b>0</b>	<b>126,360</b>

Table 22: Working Capital (Million Rial)

Subject	Day	Total
Packaging material (2 months raw materials and packaging)	60	199,317
Salary (2 months salary)	60	2,160
Imprest fund (15 days of water, electricity, fuel and repair costs)	15	1,074
<b>Total</b>		<b>202,551</b>

Table 23: Fixed and Variable Costs

No.	Production Cost	Fixed Cost		Variable Cost	
		%	Cost	%	Cost
1	Raw material	0	0	100	1,195,900
2	Energy & utility	20	1,289	80	5,156
3	Repair & Maintenance	20	591	80	2,366
4	Production salary	70	9,072	30	3,888
5	Depreciation	100	11,048	0	0
	<b>Total production costs</b>		<b>22,000</b>		<b>1,207,310</b>

## 5.2 Break-Even Analysis

Table 24: Break-even Analysis

Period	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Break-even ratio (%)	28.24	26.96	25.78	24.72	23.64	22.38	21.62	20.94	20.31	19.74

## 5.3 Sensitivity analysis of IRR

Table 25: Sensitivity Analysis of IRR

Variation (%)	Sales Revenue	Increase in Fixed Assets	Operating Costs
-20.00%	-78.03%	41.78%	201.38%
-16.00%	-78.03%	40.61%	166.15%
-12.00%	-78.03%	39.51%	131.72%
-8.00%	-37.51%	38.48%	98.36%
-4.00%	6.96%	37.52%	66.47%
0.00%	36.61%	36.61%	36.61%
4.00%	68.17%	35.75%	8.54%
8.00%	101.97%	34.93%	-31.91%
12.00%	137.33%	34.16%	-70.29%
16.00%	173.83%	33.43%	-70.29%
20.00%	211.18%	32.73%	-70.29%

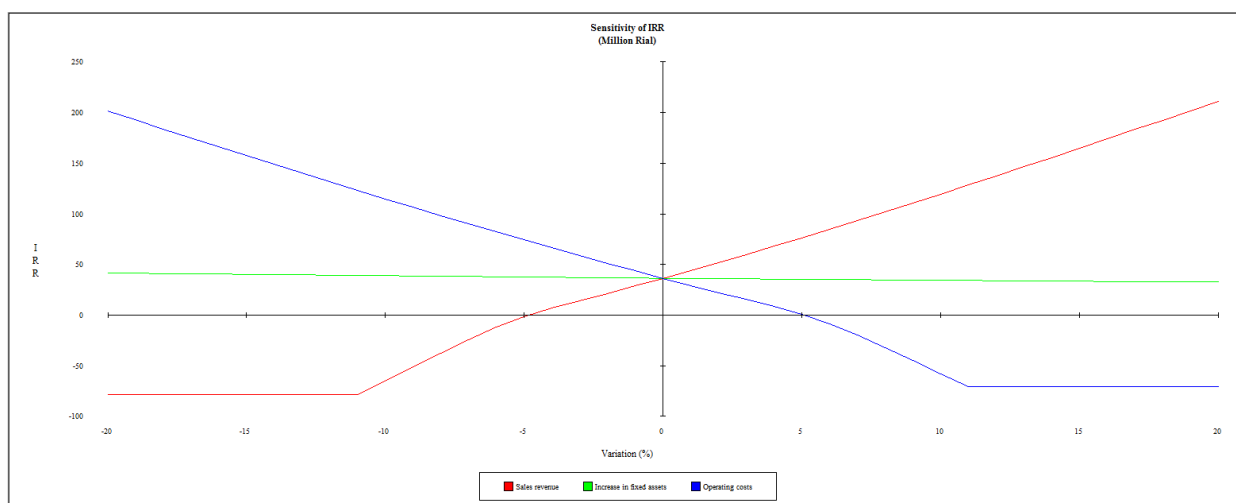


Figure 4: Sensitivity Analysis of IRR

## 6 Duration of Project Operation

The time of doing early stages and completing its process is about 14 months. Table 26 shows action plan and implementation schedule.

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.