



Islamic Republic of Iran

Ministry of Economic Affairs and Finance

General Department of Economic Affairs and Finance of North Khorasan



Saffron Packaging Faruj Industrial Park

Center of Investment Services of North Khorasan

April 2021

Summary of Technical-Economical Pre-Feasibility Study

The Name: Saffron Packaging

Sector: Agricultural

Subsector: Alterant Industries

ISIC Code: 7495312329

The owner of:

Organization of Economic Affairs and Finance (North Khorasan)



The ADDRESS:

Iran, North Khorasan, Faruj

Table of Contents

1	Abstract.....	4
1.1	Project Profile - Summary Sheet.....	4
2	Project Location.....	6
2.1	Province: North khorasan.....	6
2.2	The County: Faruj	6
2.3	The Project: Saffron Packaging	7
2.4	Access to the Infrastructures	7
3	Technical Specifications of Plan.....	8
3.1	Product	8
3.2	Project's Requirements	9
3.3	Space and Infrastructure Required.....	9
3.3.1	Equipment and Machinery	10
3.3.2	Raw material and Intermediate Components	11
3.3.3	Management and Human Resources	11
4	Market Study and Competition.....	12
4.1	Examining Supply And Demand Trends	12
5	Financial Projection	14
5.1	The Cost Estimate	14
5.2	Break-Even Analysis.....	16
5.3	Sensitivity analysis of IRR.....	16
6	Duration of Project Operation.....	17
7	Incentives, Features And Advantages of Project	17

1 Abstract

1.1 Project Profile - Summary Sheet

Table 1: Summary Sheet

Project Introduction			
Project Title	Saffron Packaging		
Sector	Agricultural		
Sub Sector	Alterant Industries		
Location	Iran, North khorasan, Faruj		
The County	Faruj		
Products / Services	Saffron		
Annual Nominal Capacity	3,000		kg
The Raw Material	Saffron and Packaging Equipment		
Employment	16		Person
Land Area	2,000		m ²
Floor Area	480		m ²
Energy and Water Consumption	Water Consumption	10,000	m ³ in year
	Electricity Consumption	100	KW
	Gas Consumption	200,000	m ³ in year
Fixed Capital	56,405		Million Rial
Working Capital (The First Year)	68,664		Million Rial
Payback Period	3.47		Year
Net Present Value (NPV)	112,059		Million Rial
Internal Rate of Return (IRR)	50		%
Modified Internal Rate of Return (MIRR)	29		%
Break Even Point	31		%
The Exchange Rate (Dolar)	240,000		Rial
Description	In this project, all the materials related to the study of the Saffron Packaging 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	56,405	240,000	0.2350	0	0.2350
Working Capital	68,664		0.2861	0	0.2861
Total Investment	125,069		0.5211	0	0.5211

- Value of Foreign Equipment / Machinery: 0 Million Euro
- Value of Local Equipment / Machinery: 0.0078 Million Euro
- Net Present Value (NPV): 0.4669 Million Euro in 15 Years
- Internal Rate of Return (IRR): 50%
- Payback Period: 3.47 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: Faruj

Faruj is a city and capital of Faruj County, in North Khorasan Province, Iran. At the 2016 census, its population was 18,061, in 2,639 families.

This project will be construct in part 103 with coordinates (4125438,602017) in Faruj industrial park. Proposed location of project is shown in Figure 1.

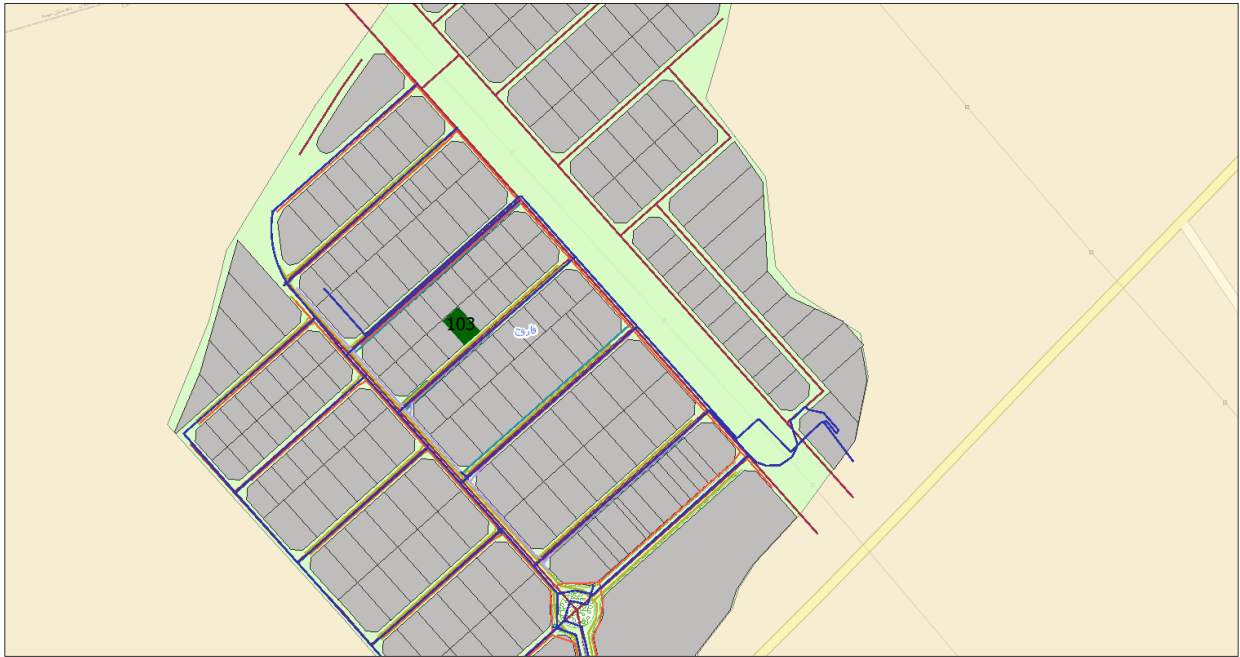


Figure 1: Location of Proposed Land in Faruj Industrial Park

2.3 The Project: Saffron Packaging

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	is provided
6	Sub way	0	is provided
7	Airport	91	is provided
8	Amirabad Port (Behshahr)	508	is provided
9	Bandar Abbas Port	1,576	is provided
10	Rail way station of Joveyn	253	is provided
11	Rail way station of Jajarm	283	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
Saffron Packaging	7495312329	09102010 09102030 09102090	1

In this project, all the materials related to the study of the Saffron Packaging market especially domestic and foreign supply and demand, are examined. This product is packaged in one-gram, two-gram and one-gram packages. The type of packaging in saffron is one gram and two grams of plastic, but in the weight of one ounce for sale and durability, it is better to use glass packaging. The necessity of implementing this project can be examined from several aspects. The first aspect is the abundance of raw material in the project site and neighboring provinces (Razavi and South Khorasan). The high volume of saffron exports produced in Khorasan province in bulk and the very low price through neighboring countries is a big challenge that in these circumstances has increased the need for saffron packaging. 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, and none-skilled workers can be a very valuable opportunity to set up a saffron packaging production line. Taking advantage of this opportunity to prevent the migration of the province's labor force at this time is very necessary.

A large amount of saffron produced and packaged in the world is produced in Iran. Unfortunately, Iranian saffron is exported in bulk to other countries of the world and is packaged and sold in the destination countries. Selling saffron in packaging has a very high profit for exporters and producers. Very high added value improves the economic, social, and even cultural conditions of Iranian producers, and exporters.

3.2 Project's Requirements

According to studies conducted on the production of saffron flower packaging, the need for their construction is expected to increase from 2021 to 2025, which reassures new investors. As the amount of this demand will increase by about 120 tons from 2020 to 2023, the country's need by 2023 is about 105 tons. It should be noted that the capacity of this factory is 3 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, considering that three factories with a capacity of 4.2 tons are currently active, but they have a workshop mode until they are modern factories, while about 20 tons of saffron flowers are produced per year (according to Agricultural Jihad Organization information), so about 15 more units in the province need to be packed, but the capacity of this factory is 3 tons, so from the provincial point of view, the factory can be built without any worries. According to the authors of the plan, the capacity of 3 tons can be increased with a guarantee of at least 15 tons.

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 Faruj	2,000	0.65	0	1,300	1,300

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

Description	Working Capacity	Unit	Unit Price	Paid Cost	Needed Fund	Total
Excavation	2,000	cm	0.3	0	600	600
Wall Construction and door	180	Sm	9	0	1,620	1,620
street construction (5% of the amount of land)	100	Sm	7	0	700	700
Green space and Lighting (1% of the amount of land)	20	No	8	0	160	160
Total				0	3,080	3,080

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

Description	Area (m ²)	Unit Price	Paid Cost	Needed Fund	Total
Production Hall	400	25	0	0	10,000
Office building	50	45	0	0	2,250
welfare and guardroom	30	45	0	0	1,350
Total			0	0	13,600

Table 10: Infrastructures

No	Description	Unit	Annual Consumption	Unit Cost (Rial)	Total (Million Rial)
1	Water consumption	m ³	10,000	7,000	70
2	Electricity consumption	Kw	500,000	1,100	550
3	Gas consumption	m ³	200,000	1,200	240
4	Gasoline	Litr	10,000	30,000	300
Total					1,380

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)		
Conveyor	170	170	240,000	0.00071	0	170
Light panel	12	12		0.00004	0	12
desk	10	10		0.000042	0	10
Scales	95	95		0.0003958	0	95
labeler machine	680	680		0.0028	0	680
Sheathing machine	500	500		0.0021	0	500
Printer	65	65		0.00027	0	65
Sharing Pack	330	330		0.0014	0	330
Total cost of machinery		1,862		0.00776	0	1,862

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	-	-	66,133
Salary	Rial	-	-	1,920
Energy costs (fuel, electricity and water)	L/KW/CM	-	-	1,380
Repair and maintenance	Rial	-	-	1,764
Total				71,197

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)	-	-	5	75	4,500
2	manpower (in Production sector)	-	-	11	53.18	7,020
Total				16		11,520

- Number of skilled personnel required: 5
- Number of non- skilled personnel required: 11
- Total number of personnel required: 16

4 Market Study and Competition

4.1 Examining Supply And Demand Trends

The amount of domestic supply or production of saffron and saffron packaging 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	72,265
2016	112,275
2017	156,683
2018	173,009
2019	261,678
2020	278,321

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	66
2016	103
2017	144
2018	159
2019	240
2020	255

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

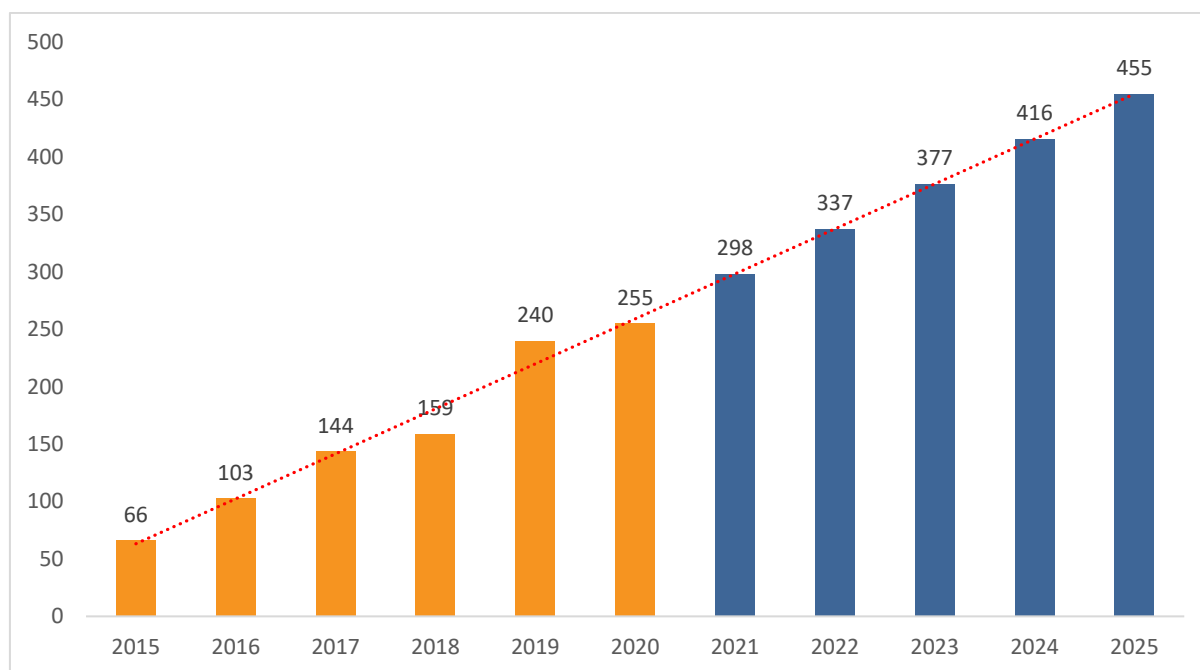


Figure 2: The Prediction of Production

As the Figure 2 shows, the amount of saffron production is increasing. Considering that Iran is one of the best producers of saffron, whether in quantity or quality terms, imports to the country are illogical, and according to the Iran's customs information, the amount of imports to the country during 2015 it's been zero up to 2020.

The amount of exports 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 Exports

Year	Weight (Tons)	Value (Million Rial)	Value (Million Dollar)	Number of Country	Major Countries
2015	0	0	0	0	-
2016	199	8,854,728	280	52	UAE 32%, Spain 26%, Hong Kong 21%
2017	236	11,302,932	325	59	Hong Kong 27%, UAE 26%, Spain 24%
2018	285	21,883,322	353	63	UAE 28%, Spain 20%, Hong Kong 17%
2020 (9 months)	289	36,221,863	172	65	Hong Kong 23%, Spain 19%, UAE 18%
Total	1,008	78,262,845	1,130	87	UAE 26%, Spain 22%, Hong Kong 22%

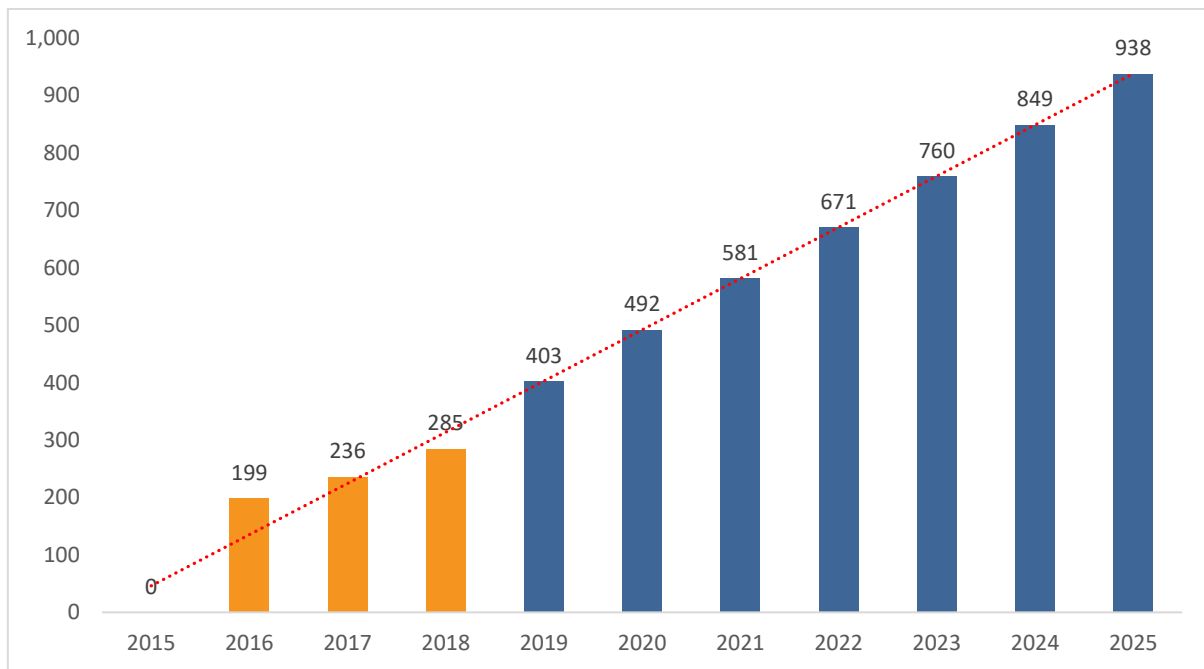


Figure 3: The Prediction of Export

As the Figure 3 shows the prediction of export is increasing. 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 17: Total Investment (Million Rial)

No.	Subject	Cost
1	Fixed Capital	56,405
2	Working Capital	68,664
Total investment		125,069

Table 18: Fixed Capital (Million Rial)

Subject	Paid Cost	Cost Required			Total cost	
		local Cost	Foreign Exchange Cost			Needed Fund
			Rate	(€)		
Land Purchase	0	1,300	240,000	0.0054	0	1,300
Landscaping	0	3,080		0.013	0	3,080
Building	0	13,600		0.057	0	13,600
Equipment and Machinery	0	2,362		0.0098	0	2,362
Laboratory & Workshop Supplies & Equipment	0	498		0.0021	0	498
Facilities	0	11,150		0.051	0	12,300
Transportation	0	0		0	0	0
Office and Services Equipment	0	560		0.0023	0	560
Pre-Operation Costs	0	17,586		0.073	0	17,586
Unforeseen (10% Of The above Items)	0	7,569		0.021	0	5,119
Total Fixed Investment	0	56,405		0.2350	0	56,405

Table 19: Working Capital (Million Rial)

Subject	Day	Total
Packaging material (2 months raw materials and packaging)	60	66,133
Salary (2months salary)	60	1,920
Imprest fund (15 days of water, electricity, fuel and repair costs)	15	611
Total		68,664

Table 20: Fixed and Variable Costs

No.	Production Cost	Fixed Cost		Variable Cost	
		%	Cost	%	Cost
1	Raw material	0	0	100	396,800
2	Energy & utility	20	733	80	2,933
3	Repair & Maintenance	20	353	80	1,411
4	Production salary	70	8,064	30	3,456
5	Depreciation	100	4,761	0	0
Total production costs			13,911		404,600

5.2 Break-Even Analysis

Table 21: Break-even Analysis

Period	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Break-even ratio (%)	30.64	29.69	28.82	28.03	27.13	26.49	25.92	25.39	24.92	24.48

5.3 Sensitivity analysis of IRR

Table 22: Sensitivity analysis of IRR

Variation (%)	Sales Revenue	Increase in Fixed Assets	Operating Costs
-20.00%	-66.98%	58.53%	180.52%
-16.00%	-66.98%	56.60%	153.35%
-12.00%	-53.36%	54.81%	126.60%
-8.00%	-2.89%	53.14%	100.36%
-4.00%	24.49%	51.60%	74.80%
0.00%	50.15%	50.15%	50.15%
4.00%	77.01%	48.80%	26.53%
8.00%	104.91%	47.53%	2.28%
12.00%	133.59%	46.33%	-40.21%
16.00%	162.83%	45.21%	-77.77%
20.00%	192.53%	44.14%	-77.77%

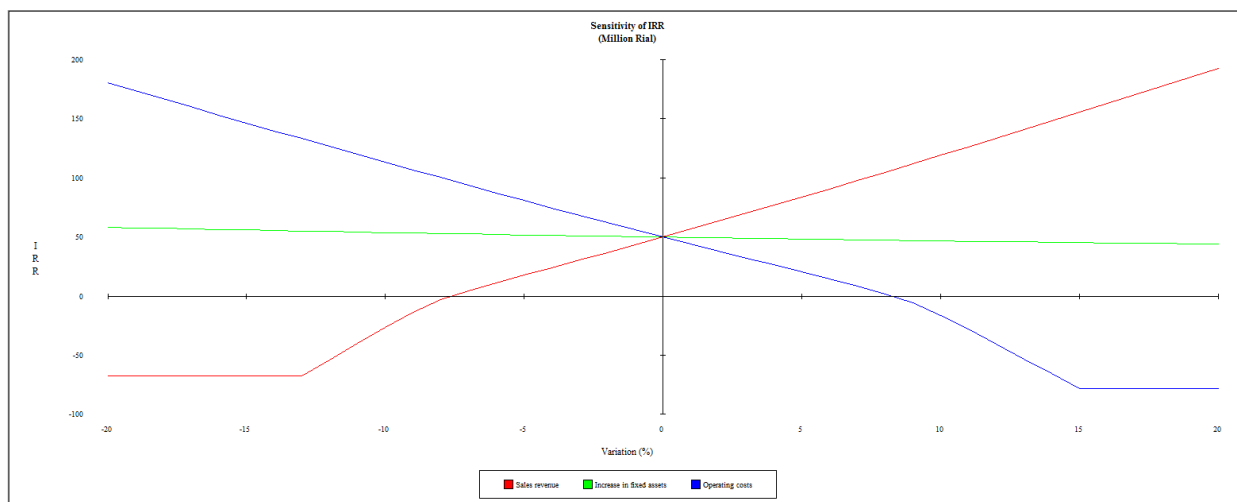


Figure 4: Sensitivity Analysis of IRR

6 Duration of Project Operation

Table 23: 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 & 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.