

Form1. Summary of vegetable and fruits freezing plan

1. Introduction to products or services

1.1. The goal of plan

The main goal of this plan is to establish an IQF for vegetable and fruits in Lorestan province. This plan will be exploited from 2018 with 55 personnel and 79% of practical capacity in 1 working shift and 300 day annually and would reach 100% of practical capacity by 2020.

1.2. Characteristics and advantages

In food production, processing, supply and consumption, there always have been wastes, but large amount of them are depending on the products processing particularly freezing, maintaining and supplying. Time limitations of the spoiling products consumption I a challenge eliminated using the IQF and the producing in all seasons in every amount is a new way the IQF brought. Freezing is one of the simplest and mostly accepted ways of the food preserving methods. Freezing doesn't cause microbes killing in food, but slows down microorganisms' action and this leads to chemical changes with impact on the food quality and prevent it from spoilage. IQF is the mostly identified methods for spoilable food preserving and is the last technology. The method in which the internal temperature of the product passes the critical point in 2 hours is called IQG. In this method, through passing the cold air within the freezing tunnel, the product is cooled and frozen. Putting the product in direct or indirect contact with cooling material is one of the main IQF methods. Making use of the IQF in food production process has different advantages as follow:

- Food durability enhance
- Maintaining the appearance after freezing
- Maintaining the quality after ices being melted
- Continuous production without consumption market challenges
- Exporting processed products due to high quality
- Food production profitability enhance
- Creating value added and return on investment
- Creating new markets due to high quality

1.3. Custom fees

Table1. Products' custom fees and tariffs

No.	Description	Tariff Code	Fees
1	Potato	07101000	55
2	Peas	07102100	55
3	Beans (Phaseolus and Vigna)	07102200	55
4	Other	07102900	55
5	Spinach, New Zealand spinach (Tetragon), roman spinach (Arroche)	07103000	55

Form1. Summary of vegetable and fruits freezing plan

6	Sweet corn	07103000	15
7	Other vegetables	07109000	55
8	Strawberry	07111000	55
9	Raspberry, blackberry, seedless and black grapes, red and white grapes	08112000	55
10	Other	08119000	55

1.4. ISIC code

After plan implementation, the produced products are frozen fruits and vegetables using IQF. The ISIC code related to this product is 1513 in the department of industry, mine and commerce systems in subgroup of processing and preserving the fruits and vegetables from spoilage and its measurement scale is ton .

Table2. Product ISIC code

No.	ISIC code	Description	Scale
1	1513512350	Frozen strawberry	Ton
2	1513512351	Frozen Cherry	Ton
3	1513512353	Frozen Green beans (not preprocessed), sliced or non-sliced	Ton
4	1513512354	Frozen green peas (not preprocessed), sliced or non-sliced	Ton
5	1513512355	Frozen crushed vegetable (not preprocessed), sliced or non-sliced)	Ton
6	1513512356	Frozen crushed vegetable (not preprocessed), sliced or non-sliced)	Ton
7	1513512357	Frozen crushed vegetable (not preprocessed), sliced or non-sliced)	Ton

Source: department of industry and mine

1.5. Introduction to products application

Majority of frozen foods in IQF method have low level of sodium and need conservators which are used with a low level of the citric acid for color control. These products can be preserved in freezer for 30 days. Using this technology, every vegetable and fruits can be used in all seasons with high quality alone or with other foods.

2. Suggested sites

Based on surveys, the cities such as Azna, Dorud and Selseleh are suitable sited for establishing this unit.

3. Raw, auxiliary materials and consumables

Form1. Summary of vegetable and fruits freezing plan

Raw materials are pomegranate, cherry, peach, beans, green peas, carrot, leafy vegetables, packing and printing materials.

4. sales plan and the target market (local and foreign)

The target market at first is to supply locally in sections and then for additional production, the export would be done to Iraq and eastern neighbor countries.

Table4. Products production and sales plan

Year	2018	2019	2020	2021	2022
Production capacity used percentage	70%	80%	90%	100%	100%
Production level (t)					
Frozen fruit	403	461	518	576	576
Frozen vegetable	941	1075	1210	1344	1344
Sales level (m.R)					
Frozen fruit	40320	46080	51840	57600	57600
Frozen vegetable	61152	69888	78624	87360	87360
Sales (m.R)	101472	115968	130646	144960	144960

5. Annual nominal and practical capacity

Nominal capacity

The Nominal capacity is the production in ideal situation. This capacity is registered by the machineries manufacturers and is based on the engineering and designing principles. Nominal production is 1000 kg per hour and 2400 tons per year in 300 working days

5.2. Practical capacity

The practical capacity is the maximum available capacity in typical situation which is considered as a percentage of the nominal one which is not 100% based on the machineries. Therefore

Based on the repair, maintenance, failure and so forth times, the machineries efficiency is 80%. Therefore, the practical production would be 1920 ton annually.

6. Production procedure and technology



7. Investment costs

7.1. Fixed investment

Form1. Summary of vegetable and fruits freezing plan

No.	Description	Costs			
		Euro	Rial	Rial	Rial
1	Land	0	0	2500	2500
2	Landscaping	0	0	1.938	1.938
3	Building construction			22545	22545
4	Machineries and equipment	0	0	19768	19768
5	Branches and installation	0	0	15917	15917
6	Vehicles	0	0	2300	2300
7	Service and official equipment	0	0	310	310
8	Other and unpredicted costs (5% of above costs)	0	0	3264	3264
9	Pre-exploiting costs	0	0	1100	1100
12	Total fixed investment costs	0	0	69641	69641
11	Working capital in 100% of capacity	0	0	36149	36149
12	Total investment costs	0	0	105790	105790

7.2. Working capital

Table7. Working capital

No.	Description	Day	1 st year	Base year
1	Raw and auxiliary materials	90	12835	18335
2	Current and produced products inventory	30	5846	8023
3	Debts	30	5846	8023
4	Cash	30	1460	1769
	Total		25987	36149

8. Production costs

Table8. Production costs

Description	Total costs (m.Rial)
Raw and packing material	73340
Energy	1705
Repair, maintenance and spare parts	3531
Personnel's salary	10763
Unpredicted (6%)	5360
Depreciation	5594
Insurance	122
Sales and official costs	1450
Total operational and non-operational production costs	101864

Form1. Summary of vegetable and fruits freezing plan

9. Economic indices

Description	Amount-measurement scale
NPV	408487 m Rial
IRR	32.67%
PBP	5.11 years equal to 2021

Plan and Budget Organization of Lorestan province

PROJECT PROFILE – SUMMARY SHEET

Project Introduction

1. Project title: establishment of the vegetable and fruits freezing factory

2. Sector: food and drinks producing

Sub sector: vegetable and fruits processing in order to prevent from spoilage

3. Products/Services: producing frozen fruit and vegetable in IQF method

4. Location: ... Free zone Economic special zone Industrial Estate Main Land

5. Project description:

The world population growth and tendency to the easily-applicable foods (foods used easily) are 2 driving factor of the food industries in future. Also, change in food eating habits in different cultures means emergence of new tastes and this would increase the demand for local and ethnical foods and new forms of foods such as microwave-cooked foods. During past 20 years, the food industries significantly changed thank to the advances of the technology and in line with demand increase. In comparison with past, the food industries faced more demands on the packed products in order to make sure of their freshness, healthiness and making easy use of the products. More demands for high-quality food is the driving force of the other industries and this causes the progress of the large and small shops. In this regard, the food producers are developing the specialized lines so that better compete with their competitors by diversifying their products. Frozen fruits and vegetables provide this possibility that in all seasons, the high-quality and fresh fruits and vegetables are available.

6. Annual capacity: 1344 t of frozen vegetable and 576 t of frozen fruits

Project Status

7. Local / internal raw material access 100 %

8. Sale: 80% locally

- Anticipated export market 20 %

9. Construction Period 2 Year

Beginning of activity: 03/2016

In-site beginning of activity: 03/2016

End of project: 02/2017

Commercial activity beginning: 03/2017

Project Status

10. Project Status:

- Feasibility study available? Yes No
- Required land provided? Yes No
- Legal permissions (establishment license, foreign currency quota, environment, etc) taken? Yes No
- Partnership agreement concluded with local/foreign investor? Yes No
- Financing agreement concluded? Yes No
- Agreement with local / foreign contractor(s) concluded? Yes No
- Infrastructural utilities (electricity, water supply, telecommunication, fuel, road, etc) procured? Yes No
- List of know-how, machinery, equipment, as well as seller / builder companies defined? Yes No
- Purchase agreement for machinery, equipments and know- how concluded? Yes No

Financial Structure

11. Financial Table

Description	Local Currency Required			Foreign Currency Required Million Dollar	Total Million Dollar
	Million Rials	Rate	Equivalent in Million Dollar		
Fix Capital	69641	34530	2.02	0	2.02
Working Capital	36149	34530	1.05	0	1.05
Total Investment	105790	34530	3.06	0	3.06

- Value of foreign equipment/machinery 5 million dollar
- Value of local equipment/machinery 0.57 million dollar
- Value of foreign technical know- how 0 million dollar
- Value of local technical knows- how 0 million dollar

- Net Present Value (NPV): 40847.8 million Rial for 12 Year
- Internal Rate of Return (IRR) 32.67%
- Payback Period (PP) 5.11 Year (2021)

General Information

12. Project Type : Establishment Expansion and completion

13. Company Profile:

- Name (legal /natural persons): Sepinud Shargh institute of strategic studies
- Company Name: engineering consultation
- Address: unit 5, No. 3, Boostan 3 St., Pasdaran, Tehran
- Tel: 02122584901 Fax: 02122580343
- E-mail: info@sepinud.com Web site: www.sepinud.com

- Local entrepreneur : private sector public sector other

Please attach follow documents if available

- Pre-feasibility study
- Feasibility study
- Legal permissions (establishment license, foreign currency quota, environment, etc)

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