

PROJECT PROFILE – SUMMARY SHEET

Project Introduction

1. Project title: Saffron production and processing

2. Sector: Manufacture of food products and beverages (15)

Sub sector: Manufacture of other food products n.e.c (1549)

3. Products/Services: dried saffron, saffron corm

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

5. Project description:

Today, saffron consumption in technology and industry is highly conventional. The saffron can provide new capacities and opportunities in agricultural development and plays an important role in employment such that each 2000 m² of saffron cultivation can provide a job based on the performance it provides. Among the unique advantages of this process is localization of this product as a priority. This process and cultivation doesn't need any costs to provide the technology and the devices required are not costly and all levels from cultivation, maintenance to harvesting are conducted by hand and there is no need to pay any other costs. Considering the fact that saffron doesn't need irrigation, rain fed cultivation can be of high efficiency in Lorestan.

6. Annual capacity: 1573kg dried saffron, 160t saffron corms and 175t saffron forage and residues

Project Status

7. Local / internal raw material access: 100 %

8 .Sale:

Internal Anticipated market: 70%

Anticipated export market: 30%

9. Construction Period: 24 months

Schedule

Beginning of activity: 3/2018

In-site beginning of activity: 3/2018

End of project: 2/2019

Commercial activity beginning: 3/2019

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 technology concluded? Yes No



Financial Structure

11. Finance

Description	Local Currency Required			Foreign Currency Required Million Dollar	Total Million Dollar
	Million Rials	Rate	Equivalent in Million Dollar		
Fix Capital	7986	37019	0.21	0	0.21
Working Capital	974	Rials	0.03	0	0.03
Total Investment	8960	for each Dollar	0.24	0	0.24

- Value of foreign equipment/machinery: 0 million dollar
 -Value of local equipment/machinery: 110 million dollars
 -Value of foreign technology: million dollar
 -Value of local technology: million dollar
 -Net Present Value (NPV): 10596 Million Rials for 10 Year
 -Internal Rate of Return (IRR): 37.25%
 -Payback Period (PP): 31.26%

General Information

12. Project Type: Establishment Expansion and completion

13. Company Profile:

- Name (legal /natural persons): consultant engineers group (Kamel Sanat Sam)
 -Company Name: engineering consultation
 -Address: floor 3, Milad Noor complex, before 30m, Vali Asr Blvd ., Khoram Abad, Lorestan
 -Tel: 06632203616 Fax: 06633203615
 -E-mail: Info@Scicogroup.com Web site: www.Scicogroup.com
 -Sector: 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)

**Ministry of Economic Affairs and Finance
Organization for Investment Economic and Technical Assistance of Iran
(OIETAI)**

Foreign Investment Center of Lorestan Province

Tel (Tehran): (021) 33967749-33967766-33967762-39902485-39902488-39902486

Tel (Khoramabad): (066) 33229577

Fax: 33967774

Website: www.investiniran.ir

eco_isc@yahoo.com

Management and Planning Organization of Lorestan Province

Plan summary

1. Product or services introduction

1.1. The goal of this plan

The main goal of this plan is to produce and process the saffron with annual capacity of 1753 kg dried saffron, 160 t saffron corm and 175 t saffron forage and residues in each period in Lorestan. The plan employment is for 5 persons constantly and 25 persons with daily wage.

1-2- The features and advantages of plan

Among the unique advantages of this plan is that its cultivation prioritizes its localization which doesn't need costs of technology and particular instruments in addition to the climate conditions suitability. Accordingly, the harvesting is manually done and there is no need for additional costs. According to the fact that saffron cultivation doesn't need irrigation, the rain fed cultivation can be of high gain in Lorestan and even in rain fed conditions, the weeds are also controlled and the future can be optimal. In cultivating saffron, the more is the sea level, the higher the quality would be and in Lorestan also based on the sea level, this product can be desirably produced such that its quality would be higher than the saffron produced in Mashhad. Saffron can provide new opportunities of employment in Lorestan in agricultural section and each 2000 m of saffron cultivation needs an occupational capacity based on its performance. In addition, this product can be helpful in producing forage in Lorestan. The mean forage production in 3 climates of Lorestan is 600-1500 kg/hectare and its corm performance is 20T after 7 years.

1-3- ISIC code

The produced product after the plan implementation will have an ICIC code in industry, mine and trading ministry system of the saffron products in subgroup of food and drinks with code of 1549 and its measurement scale would be to.

Scale	ISIC code	Title
t	0113412	Saffron (agricultural)
t	15492420	Saffron
No.	15492422	Saffron pellet
t	15492423	Saffron spray
t	15492424	Saffron powder
t	1549312384	Saffron products
t	1549312385	Saffron powder
t	154931236	Saffron pellet
t	1549312387	Saffron spray

5-1- Product's application

The food applications:

Today, the saffron is used in technology and industry as a conventional product and many food industries factories use saffron in sausages and margarine. The dairy factories use saffron in producing the butte, cheese and other products. In some factories, the saffron is used in different types of powders of cake and deserts. The saffron is used as a flavors and natural dye in some cold and hot drinks like saffron drink, saffron milk, jelly, ice cream, chocolate, sugar and candy, cake and cocky, frying powders ad etc.

The industrial saffron applications:

The saffron is used on textile industry for dying the silk and carpet string.

The saffron is used in perfume and deodorants industry

The saffron extract is used in many expensive perfumes formula and due to worldwide tendency to these natural deodorants; the saffron extract is highly applicable.

The medical applications:

1. Anti-tumor, collecting the free radicals (anti-cancer property) which is due to active components like crocin, cocetin and other carotenoids of saffron
2. Sexual tendency driver ad strengthening
3. Helping the natural food digestion due to bitter material (Tannen) and stomach strengthening and anti-bloating
4. Pain killer particularly in treatment of the gum and clogs
5. Breezy, treatment of neurological diseases, sedative, treatment of insomnia, memory strengthening, concentration reinforcement, anti-seizure, anti-depression, spasm and Alzheimer and Parkinson.
6. Hypertension treatment, cholesterol reduction, treatment of anemia due to lack of iron in girls, reduction of heart diseases, vascular obstruction and heart health enhancement (due to thiamin, riboflavin and minerals)
7. Increasing the blood stream in retina, yellow blot disorder of the retina due to aging, improvement of signs of ischemic retinopathy
8. Treatment of respiratory diseases like asthma, cold and cough
9. Treatment of bothering, rheumatism in external usage form
10. Treatment of diseases like diarrhea, measles, liver and spleen enlargement and urine system infections

Proposed places

Based on the agricultural organization of Lorestan, the saffron cultivation throughout the provinces particularly in Khoram Abad, Kouh Dasht, Pol Dokhtar, Changi, Chaghlvandi, Doroud, Borujerd and etc is compatible.

Raw, auxiliary and consuming materials

Annual costs (million rials)	Unit price (R)	Annual consumption	Scale	Raw materials and technical features
238	34000	Kg	7000	Nitrogen fertilizer
53	30000	Kg	1750	Phosphorus fertilizer
28	16000	Kg	1750	Potassium fertilizer
80	800000	t	100	Animal fertilizer
1000	25000	Kg	40000	Saffron corm
881	1000	No.	880880	Crystal packing
248	3500	No.	70785	Khatam can packing
2527	Total			

The nominal capacity in a period

The nominal capacity is 1573kg saffron; 160t saffron corm and 175t saffron residues.

Production procedure and technology used

The implementation land is 5 hectare. The land is deeply plowed and the soil processing and smoothening would be done. In order to make the land fertile, 200 kg of nitrogen fertilizer and 50 kg of phosphorous and 50 kg potassium fertilizers are used for each hectare. To prepare the land before the cultivation, this is irrigated and for each hectare, 6 hours of water from an 18 inch well should be bought whose cost depends on the season.

The stages and costs of saffron cultivation

To cultivate each hectare of saffron, 8T saffron corm is needed and its cultivation is done by gland cultivating machine. Depending on the cultivation time at the middle of Fall, the cultivated land should be re-irrigated and after the land surface irrigation, the soil surface would be smoothened by rotary cultivator so that the saffron would be

growing well and in first year, there would be no significant gain and it is usually 20 kg of flower in each hectare.

Annual maintenance costs

The saffron cultivation needs nitrogen, phosphorus and potassium fertilizers annually and since the corms would be extracted from the land in 8th year and there is no need to fertilizer, therefore the fertilization costs are only for first 7 years. During the cultivation, this is needed to fertilize the land for two times by animal fertilizers which are 10 T for each hectare. Annually, the weeds elimination costs are also calculated and during the 8 years, the last years doesn't need this process. In addition, each year the saffron needs 3 irrigations and considering that in final year this is only one time necessary irrigation, therefore at first years we will have only 2 irrigations and the land plowing is necessary. Accordingly, the irrigation costs are calculated for 7 years. Annually, after irrigation at the November, surface soil would be plowed and smoothened by rotary cultivator whose costs would be calculated.

Saffron harvesting costs

The main harvesting is started from second year because the crops are more in 2nd year and in 5th year the maximum level would be reached and then the harvesting would be reduced due to reduction of crops. At first year, each hectare would gain 20 kg of saffron flower.

Second years: 100kg/hectares

Third year: 300 kg/hectare

4th year: 500 kg/hectare

5th year: 500 kg/hectare

At fifth year, the maximum harvesting would be done and each hectare's gain would be 550 kg flowers whose harvesting and processing costs would be calculated.

6th year: 250 kg/hectare

7th year: 200 kg/hectare

Annually, we need to harvest the saffron forage too which is 5T on average from each hectare and its costs would be calculated, too. In 8th year, the land should be plowed and irrigated to extract the corm and they are collected to do which 10 workers are needed for each hectare with daily wages.

Each 60kg saffron flower gains 1kg dried saffron. In 8th year, we will have no harvesting of flower because the corms are going to be extracted and each hectare would give 32T of corms.

The plan investment costs

%	Total (MILLION RIALS)	Description
67	6000	Land
10.3	924	Building
1.2	110	Machineries
3.3	295	Installations
3.3	300	Vehicles
0.7	60	Service and administrative equipment
0.9	77	Unexpected and miscellaneous, 1%
86.7	7766	Total fixed assets
2.5	220	Pre-exploitation costs
89.1	7986	Total fixed plan investment costs
10.9	974	Working capital
100	8960	Total plan investment

Working capital

Amount (million rials)	Description	Title
627	A month for raw materials and a period for saffron corm	Raw materials
80	A month salary	Salary
180	One month of energy and repair costs	Revolving funds
41	Repair costs, 6 month	Revolving funds
46	5% of above costs	Debts and credits
974	Total	

Fixed costs and annual production variable

Variable and fixed costs	Variable costs (million rials)	Variable costs %	Fixed cost (million rials)	Fixed costs %	Production costs	No.
2527	2527	100	0	0	Consumed and raw materials	1
988.84	296.652	30	692.188	70	Salary and wage	2
362	289.6	80	72.4	20	Energy costs	3
16	0	0	16	100	Insurance (0.002 of fixed investment)	4
83.47	66.77	80	16.7	20	Repair and maintenance	5
961	769	80	192	20	Ads and marketing	6
161.45	0	0	161.45	100	Depreciation	7
148	118	80	30	20	Miscellaneous and unpredicted (3%)	8
5247.76	4067.022	Total	1180.738	Total	Total	

Economic indices

96104 million rials	Annual income	Economic indices
10596 million rials	NPV	
37.35%	IRP	
4.95years	PBP	