

In the name of Allah

Pre-feasibility studies

Project Name:

Production of Plastic Containers for Packaging Dates

Project owner :

Arjan Plast Ronak Company

Advisor of the project:

Zahra Badoei

Project address: Khuzestan, Behbahan Industrial Estate

Date of P.F.S: March , 2021

Summary of pre-feasibility plan

| | |
|---|---|
| General Specification | |
| Name of The Project | Production of Injection Plastic Containers for Packaging Dates |
| Project Capacity | 1500 tons |
| Personnel Number | 30 persons |
| Working Days | 300 days |
| Product Usage | for packing dates, dairy products, dried fruits, nuts, fruit chips, pastels, pickles, honey, jams, spices, grains |
| Marketing | |
| Product Global Price | 2 Euro/kg |
| Domestic Demand | 329,402 tons |
| Domestic Production | 290,220 tons |
| Import | 1,095 tons |
| Export | 12,895 tons |
| Technical Study | |
| Land Area | 3283 m ² |
| Building Area | 1294 m ² |
| Main Raw Materials | Food grade of polypropylene (pp) and injection heavy polyethylene (HDPE) |
| Supplying Place of Raw Materials | domestic |
| Power Requirement | 100 KW/hr |
| Water Requirement | 1000 m ³ |
| Fuel Requirement | - |
| Economical & Financial Study | |
| Fixed Investment Cost | 153,846.00 million Rails \cong 0.561 million Euro |
| Working Capital | 108,728.98 million Rail's \cong 0.397 million Euro |
| Total Investment Cost | 262,574.98 million Rail's \cong 0.958 million Euro |
| Annual Sale | 705,000.0 million Rail's \cong 2.57 million Euro |
| Net Present Value(NPV) | 347,631.01 million Rail's \cong 1.27 million Euro |
| Break Even Point(BEP) | 25.88 % |
| Internal Rate of Return(IRR) | 53.07 % |
| Investment Return Period | 3.32 years |
| Investment Sources Ratio: Equity:34% Finance: 66% | 89,018.98 million Rails \cong 0.633 million Euro 173,556.0 million Rails \cong 0.325 million Euro |

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Introduction:

Arjan Plast Ronak Company which is located in Behbahan industrial estate started its activity in producing drip irrigation tapes in 2018. Due to the seasonal market of irrigation tapes, the company has decided to expand its activities in order to make optimum use of the factory and the opportunities in the market. Therefore, after doing extensive studying, the company decided to produce plastic containers for packing dates and dairy products (yogurt container). The permission of making plastic containers was obtained from Khuzestan Industry, Mine and Trade Organization .

Khuzestan province, with 190,000 tons of date production, has gained the thirds rank of date production in the country. Dates has an important place in Khuzestan agricultural productions. And currently 34% of total date exports of the country are related to Khuzestan province. This amount of exportation has brought about \$ 85 million exchange currency for the country last year. Since Iran and especially Khuzestan are one of the major producers and exporters of dates, so date packaging industry is essential and increases the value of this industry. Packaging dates is an economical, technical function that aims to minimize the distribution costs attract sales, and safe distribution to the end consumer. Therefore, access to containers and packaging equipment is of particular importance.

In Khuzestan province there are many workshops working in the field of date packaging which provide their plastic packaging containers from other provinces. In Khuzestan despite of the existence of petrochemical companies and access to the raw materials for making these containers, there is no producer to produce these containers. Production of such date packing containers near the date production site in Khuzestan will greatly help to supply these containers for the province and the neighboring provinces.

It should be noted that Behbahan province itself is a major center for the production of Kabkab dates and dairy products in Khuzestan.

It is worth mentioning that with the use of advanced and up-to-date machines with high production speed and low energy consumption, economic and competitive production is possible.

In the present project, production of date containers for attracting investors to finance part of the required funds has been investigated. It should be noted that in this project, due to resource constraints, the amount and variety of production is somewhat limited, so it is possible to diversify these products If the investor wants to increase the volume of investment.



1.Product introduction:

The purpose of the current project is to produce plastic food packaging containers especially for dates. These products include a variety of different injection plastic containers such as bins and rectangular and around shape containers of different colors and designs. Furthermore, these containers, in addition to dates can be utilized for dried fruits, nuts, fruit chips, pastels, pickles, honey, jams, spices, grains and dairy products.

packaging Plastic containers are produced in a variety of different shapes and sizes, and they are mainly made of polypropylene (pp) and polyethylene (PE) .

Some specifications of PE packaging Plastic containers are given in the following table.

| | |
|-----------------------|--|
| Washability | ✓ |
| Tolerable temperature | 30-120 ° C |
| sealable | ✓ |
| microwaveable | ✓ |
| Machine washable | ✓ |
| refrigeratable | ✓ |
| Material body | PP |
| (Food Grade) | ✓ |
| color | Transparent |
| BPA-free | ✓ |
| Resistance | Resistance against impact and fracture |

Polyethylene is widely used in the production of all kinds of plastic kitchen wares and food industries. The Heavy Polyethylene (HDPE) is used in the manufacturing of milk containers, liquids and in all types of plastic utensils.

Some specifications of the containers which are made of HDPE are as:

- capability in making precise details
- High resistance against impact
- Low strength
- Lack of transparency and protection against light penetration

1.1. Product name and ISIC code

ISIC is the most common classification and categorization of economic activities. ISIC classification is defined as: classification and categorization of the international standard industrial classification of all economic activities. This classification is allocated to one of the 2, 4, and 10 digit codes based on the type of industry and product.

These type of containers named plastic jars fall into the category of different plastic products and parts and are used for product transportation or packaging. The ISIC code associated with plastic jars for packaging is provided in the following table.

| Product name | ISIC Code | Unit |
|--------------|-----------|------|
| Plastic jars | 252041244 | ton |

Source: Industry, mine and trade organization



1.2. Customs tariff code

A review of the Customs and Export Regulations of the Islamic Republic of Iran revealed that the customs tariffs for plastic packaging containers of dates is as follows:

| Heading subheading No. | Description |
|------------------------|--|
| 3923 | Articles for the conveyance or packing of goods, of plastics |
| 39239090 | other |

Source : export-import regulations (2020)

1.3. Import and export products conditions

Given the conditions for product import and export in Islamic republic of Iran, conditions and tariffs for import and export of plastic packaging containers of dates and dairy are as follows:

| Heading Subheading No. | Description | SUQ | Import duty |
|------------------------|--|-----|-------------|
| 3923 | Articles for the conveyance or packing of goods, of plastics | | |
| 39239090 | other | kg | 20 |

Source : export-import regulations (2020)

1.4. Review and presentation of standard (national or international)

- national Standard

| Number | Title | Country |
|--------|---|---------|
| 11228 | Packaging – Laminates for single –person food packaging – Specifications and Test Methods | Iran |
| 911 | Plastics- Determination of water absorption | Iran |
| 6621 | Plastics – Determination of tensile properties | Iran |

Source: Institute of Standards and Industrial Research of Iran

-International Standard

| No. | Topic of standard |
|-----|--|
| 1 | ASTM D3892 Standard Practice of Packaging Packing of Plastics |
| 2 | EN 1186-12 Materials and articles in contact with foodstuffs. Plastics . Test methods for overall migration at low temperatures. |
| 3 | ISO 62: 2008, Plastics - Determination of water absorption |

1.5. Review and provide information about domestic production prices and global price of the product

The domestic price of plastic injectable containers is around 470000 Rials per kilogram and the global price is around 2 Euros per kilogram.

1.6. Explaining the usage and application of the product in the domestic and foreign markets

The most important purpose of food packaging is to extend the shelf life of the product. Packaging material increases shelf life by adjusting the space inside the package with regard to product storage characteristics. Today, without the use of packaging, it is not possible to provide the product for wholesale or retail.

Transparent packaging containers are one of the best packaging materials by which the consumer can see dates before consuming and buying the best ones. These containers are of good quality, shockproof, light and easy to carry and are suitable for retail and exports.

They are also used for packing pickles, grains, fruit chips, nuts, cookies, etc. Buckets are widely used for packaging yogurt, dates and pickles. The larger containers, such as 5kg buckets, are widely used to packing yogurt, dates and pickles.

1.7. Evaluation of alternative products, competitors and analysis and its effects on consumption of the product

Alternatives to plastic containers for packing dates are cartons, cardboard boxes, pallets, and flexible laminated wrappers.

Cartons and cardboard boxes are capable of printing templates and protecting food products and delaying effective spoilage, but are sensitive to moisture and must be protected. Therefore, Polyethylene films are used in the boxes. The disadvantages of this packaging are the following.

1. Paper does not have good resistance to moisture penetration.
2. Possible penetration of gas or oil and sap from paper.
3. poor sewability of paper
4. Paper has high inflammation potential and burns easily and spreads the fire.
5. In order to wrap dates and to prevent date syrup from penetrating, must be used costly film.

Wooden boxes are also a substitute for plastic containers that are luxurious and expensive and limited in use.

New packaging for dates has recently been released by a company based in Sharjah (UAE). This package is made of flexible multilayer covers with two polyethylene layers, and a polyester layer with approximately 120 micron thickness and a stand adult tote with zipper for 450 grams dates.

Advantages of this packaging method are: Enjoying only a fully automatic continuous horizontal packaging machine (Pocket maker and filler), extremely low packaging costs, the possibility of printing attractive designs on the packaging film and the transparent part on the envelope to see the product inside, performing all the packaging process automatically and without touching the product with hand, no need to use other containers when it is consumed and this is due to the

envelope being standing and the zipper on top of the envelope to preserve the contents, proper resistance for packaging against any Environmental and physical factors and ultimately providing a whole new packaging for a valuable product. This technology does not exist in Iran.



Stand adult tote with zipper

The most common material in packaging is plastic due to following reasons:

- It is light
- They can be easily molded into any shape.
- Plastic can be used to make durable or flexible containers.
- It can be immediately decorated or labeled.
- Plastic packaging can be wrapped and sealed by heat

Light weight plastics such as disposable containers are used in retail but are not impact-resistant and are fragile. In contrast, Propylene plastic containers are resistant to impact and not fragile and are also recyclable, washable and reusable and suitable for most domestic and foreign sales markets.

Lightweight thermoforming containers (disposable containers) have a weight-bearing restriction and are used for one or less than one kilogram, but polypropylene and polyethylene plastic buckets and flasks are used to pack and store products which weight more than one kilogram and is affordable for families and has many customers.

1.8. The strategic importance of the product in Iran and foreign markets

Dates and dairy products are strategic products in terms of food security, employment, income, environmental protection and sustainable agricultural development, so their packaging is also very important. Manufacturers today are well aware of the importance and impact of superior packaging for customers choosing their products. In addition to protecting the product, packages are easy to transport, they are beautiful, and have a variety of designs and colors, and they provide competitive price and high added value.

Plastic packaging is one of many types of packaging materials. The use of plastics in the packaging industry is increasingly popular due to its lightness, strength and low price. On the other hand, due to the visibility of dates in transparent plastic containers, this type of packaging is welcomed in Iran and other countries. In the European countries, due to environmental considerations, the use of plastic has been restricted and people are turning to renewable green packaging; however, the use of plastic containers is still common in Asia and Africa.

1.9. The major producing countries and product consumer

China is one of the largest producer of plastic in the world and accounts for about a quarter of global plastic production.

Turkey is one of the pioneering countries in the packaging industry, and also in the production of plastic containers for dates and dairy products. The country's export potential also grows in parallel with improved quality and variety of packaging. One of the most important characteristics of plastic containers produced in this country is the high resistance at high and very low temperatures. Production of packaging plastics accounts for about 30% of Turkey's plastic production.

In addition to China, major date-producing countries such as Egypt, Iraq and Pakistan are the largest consumers of these products.

2. Situation of supply and demand in Iran and foreign markets

2.1. Study of utilization capacity and production process since the beginning of the Sixth Five Year Economic Development Plan, unit location, the number and level of technology of available units, nominal capacity, practical capacity, lack of full capacity utilization reasons, the name of country and manufacturer of machinery used in production

According to the information obtained from the Organization of Industry, Mining and Trade, the number of units and the amount of production of the plastic jars are as follows.

In Khuzestan the two production units of this type of containers are in Abadan and Dezful, but their products are not used for packing dates and only used for packing pickles and dairy products.

Some of the obstacles of the present producer units are; the low quality, weary machinery and the high price of raw materials. Most of manufacture units also don't have printing and labeling sections.

Of licensed operation in the field of plastic containers for packing dates and dairy products

| No. | Province | Number of units | Capacity (tons) | Investment | |
|---------------------------------|------------------------------------|-----------------|-----------------|-----------------------------|--------------|
| | | | | Million Rials | Million Euro |
| 1 | Esfahan | 14 | 11,412 | 342,565 | 0 |
| 2 | Alborz | 20 | 19,526 | 1,363,097 | 1.916 |
| 3 | Ilam | 3 | 3,891 | 14,269 | 0 |
| 4 | Eest Azerbaijan | 18 | 7,462 | 1,023,574 | 7.51 |
| 5 | West Azerbaijan | 8 | 6,547 | 700,244 | 0.5 |
| 6 | Bushehr | 1 | 1,120 | 16,200 | 0 |
| 7 | Tehran | 40 | 28,707 | 4,115,215 | 1.179 |
| 8 | <u>Chahar Mahaal and Bakhtiari</u> | 2 | 400 | 36,108 | 0 |
| 9 | Khorasan, South | 2 | 1,080 | 30,520 | 0 |
| 10 | Khorasan, Razavi | 34 | 39,774 | 806,881 | 1.702 |
| 11 | Khorasan, North | 3 | 3,242 | 19,770 | 0 |
| 12 | Khuzestan | 2 | 1,648 | 103,748 | 0 |
| 13 | Zanjan | 1 | 104 | 9,000 | 0 |
| 14 | Semnan | 4 | 5,312 | 201,132 | 0 |
| 15 | Sistan and Baluchestan | 16 | 17,073 | 258,878 | 0 |
| 16 | Fars | 19 | 22,615 | 478,876 | 0 |
| 17 | Qazvin | 9 | 28,095 | 682,379 | 0 |
| 18 | Qom | 21 | 23,966 | 409,241 | 0.132 |
| 19 | Kurdistan | 3 | 1,824 | 40,450 | 0 |
| 20 | Kerman | 3 | 4,201 | 27,218 | 0 |
| 21 | Kermanshah | 3 | 2,488 | 34,964 | 0 |
| 22 | Kohgiluyeh and Boyer-Ahmad | 1 | 1,280 | 18,487 | 0 |
| 23 | Golestan | 1 | 1,280 | 773,272 | 2.245 |
| 24 | Gilan | 8 | 3,193 | 238,084 | 0 |
| 25 | Lorestan | 8 | 15,968 | 123,651 | 1.29 |
| 26 | Mazandaran | 6 | 9,439 | 1,579,750 | 0.36 |
| 27 | Markazi | 2 | 816 | 27,280 | 0 |
| 28 | Hormozgān | 2 | 4,208 | 50,613 | 0 |
| 29 | Hamadan | 4 | 1,246 | 48,824 | 0 |
| 30 | Yazd | 8 | 5,561 | 115,293 | 0 |
| <i>nominal Total capacity</i> | | 266 | 273,478 | <i>124.62 million Euros</i> | |
| <i>Practical capacity (80%)</i> | | 213 | 218,782 | | |

Source: Industry, Mine and Trade organization

2.2. Study of the status of new projects and under construction development projects (In terms of number, capacity, operation place, the physical progress rate and the level of their technology and investments by both foreign exchange and other required) and semi-finished projects

Based on information obtained from the Organization of Industry, Mining and Trade, the units under construction of plastic jars in Iran and their amount of production are presented in the following table. in Khuzestan province There are 2 units under construction with the following specifications:

| | | | |
|--|------------------|-----------|-----------------------|
| Mahtab sanaat Arvand Co. | Arvand free zone | 1,500 ton | physical progress 90% |
| Asia Sanaat Shush Plastic Products corporative Co. | Shush | 200 ton | physical progress 61% |

It should be noted that about 15% of units purchased foreign machinery.

Under Construction Units of plastic containers for packing dates with 60-99% of physical progress

| No. | Province | Number of units | Capacity (tons) | Investment | |
|-------------------------------|-----------------------------|-----------------|-----------------|---------------------------|--------------|
| | | | | Million Rials | Million Euro |
| 1 | Esfahan | 4 | 1,800 | 12,400 | 0.39 |
| 2 | Alborz | 9 | 13,600 | 127,800 | 8 |
| 3 | Eest Azerbaijan | 7 | 5,202 | 94,168 | 0.034 |
| 4 | West Azerbaijan | 2 | 731 | 5,680 | |
| 5 | Chahar Mahaal and Bakhtiari | 3 | 1,550 | 34,920 | 0.65 |
| 6 | Khorasan, Razavi | 2 | 1,550 | 59,736 | 0 |
| 7 | Khuzestan | 2 | 1,700 | 23,020 | 0 |
| 8 | Semnan | 1 | 250 | 17,690 | 0 |
| 9 | Fars | 3 | 12,800 | 173,000 | 0 |
| 10 | Qazvin | 5 | 12,475 | 52,790 | 3.04 |
| 11 | Qom | 4 | 4,000 | 33,808 | 0.184 |
| 12 | Kurdistan | 2 | 400 | 10,460 | 0 |
| 13 | Kerman | 2 | 500 | 10,100 | 0 |
| 14 | Kohgiluyeh and Boyer-Ahmad | 5 | 3,460 | 54,621 | 0 |
| 15 | Golestan | 1 | 500 | 43,100 | 0 |
| 16 | Gilan | 2 | 3,200 | 73,000 | 0 |
| 17 | Lorestan | 3 | 1,600 | 68,182 | 0 |
| 18 | Mazandaran | 6 | 2,800 | 144,115 | 0 |
| 19 | Hamadan | 1 | 500 | 14,000 | 0 |
| <i>nominal Total capacity</i> | | 64 | 68,618 | <i>20.6 million Euros</i> | |

Source: organization of Industry, Mine and Trade

Under Construction Units of plastic containers for packing dates with 20-59% of physical progress

| No. | Province | Number of units | Capacity (tons) | Investment | |
|-------------------------------|------------------------------------|-----------------|-----------------|---------------------------|--------------|
| | | | | Million Rials | Million Euro |
| 1 | Esfahan | 4 | 2,400 | 181,851 | 0.67 |
| 2 | Alborz | 1 | 1,500 | 51,927 | 0 |
| 3 | Eest Azerbaijan | 1 | 300 | 20,000 | 0 |
| 4 | West Azerbaijan | 1 | 700 | 28,570 | 0 |
| 5 | <u>Chahar Mahaal and Bakhtiari</u> | 2 | 350 | 17,542 | 0 |
| 6 | Khorasan, Razavi | 2 | 2,200 | 19,933 | 0 |
| 7 | Khorasan, North | 1 | 300 | 8,065 | 0 |
| 8 | Sistan and Baluchestan | 1 | 10 | 8,000 | 0 |
| 9 | Fars | 2 | 1,700 | 54,000 | 0 |
| 10 | Qazvin | 2 | 2,200 | 86,230 | 1 |
| 11 | Qom | 1 | 2,500 | 44,410 | 0 |
| 12 | Kohgiluyeh and Boyer-Ahmad | 1 | 620 | 11,217 | 0 |
| 13 | Golestan | 1 | 150 | 6,100 | 0 |
| 14 | Gilan | 2 | 4,000 | 90,290 | 0 |
| 15 | Lorestan | 1 | 1,200 | 7,200 | 0 |
| 16 | Mazandaran | 1 | 400 | 16,408 | 0 |
| 17 | Yazd | 1 | 150 | 9,400 | 0 |
| <i>nominal Total capacity</i> | | 25 | 20,680 | <i>6.87 million Euros</i> | |

Source: organization of Industry, Mine and Trade

2.3. The trend of imports of the product in the last five years

Imports of food plastic containers from 1,095 tons in 2014 increased to 1,613 tons in 2018, however, due to international sanctions and rising exchange rates, imports decreases to 734 tons in 2019.

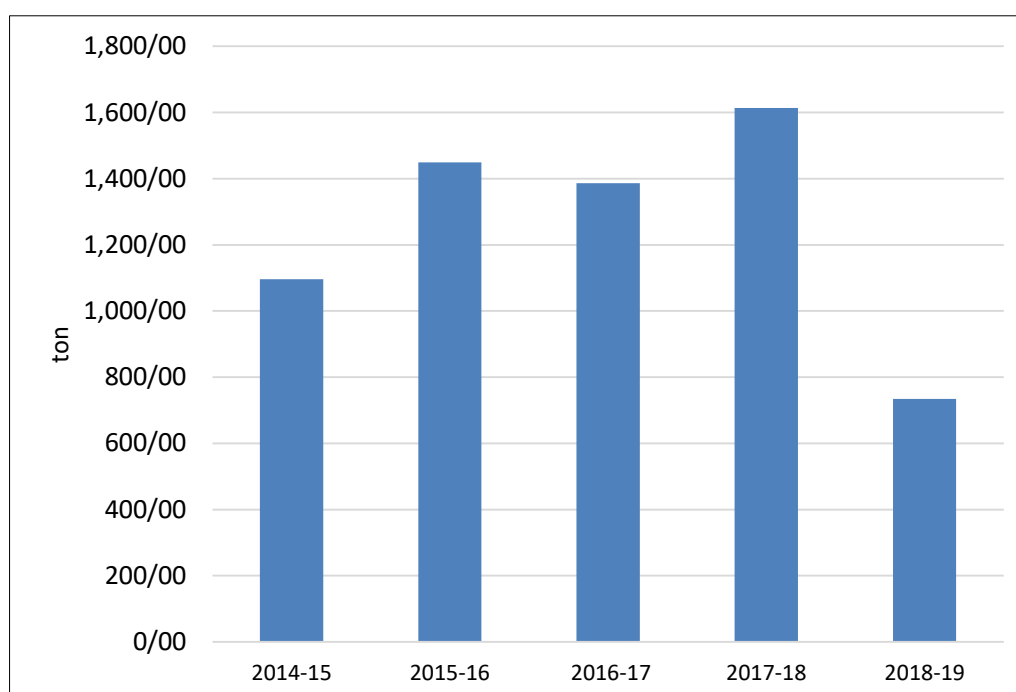
The main exporters of these products to the country, are China and Turkey with 63% and 15% respectively. The following table and diagram show the amount of imports of these containers over the past 5 years.

Imports of food plastic containers in the last 5 years

| year | Weight (ton) | Rail's value | Dollar value | Description |
|---------|--------------|-----------------|--------------|----------------------------|
| 2018-19 | 734.6 | 190,272,471,351 | 4,544,414 | 63.16% China-15.53% Turkey |
| 2017-18 | 1,613.4 | 234,913,740,744 | 6,813,342 | 66.43% China-17.01% Turkey |
| 2016-17 | 1,385.9 | 157,494,940,157 | 5,009,080 | |
| 2015-16 | 1,449.2 | 156,479,236,541 | 5,275,782 | |
| 2014-15 | 1,095.9 | 113,304,807,141 | 4,255,251 | |

Source :The Islamic Republic of Iran Customs Administration

The chart of imported food plastic containers in the last 5 years



Imports of food plastic containers divided by country in 2018-2019

| counterparty country | Weight (ton) | Rail's value | Dollar value | Weight ratio (Wt%) |
|----------------------|----------------|------------------------|------------------|--------------------|
| Austria | 204 | 716,019,768 | 17,047 | 0.03 |
| Spain | 12,833 | 1,460,497,824 | 34,774 | 1.75 |
| United Arab Emirates | 23,180 | 7,093,901,291 | 170,126 | 3.16 |
| England | 2,368 | 996,431,421 | 23,703 | 0.32 |
| Italy | 81,112 | 52,342,729,061 | 1,241,605 | 11.04 |
| Germany | 2,645 | 2,295,824,885 | 54,656 | 0.36 |
| Taiwan | 12,720 | 11,503,776,157 | 273,863 | 1.73 |
| Turkey | 114,102 | 30,971,654,298 | 743,001 | 15.53 |
| Czech Republic | 114 | 4,174,605 | 99 | 0.02 |
| Republic of Korea | 3,840 | 403,200,000 | 9,600 | 0.52 |
| China | 463,917 | 65,878,752,611 | 1,580,006 | 63.16 |
| Denmark | 24 | 48,620,828 | 1,158 | 0.00 |
| Romania | 246 | 20,064,757 | 465 | 0.03 |
| Japan | 4,908 | 1,654,746,964 | 39,460 | 0.67 |
| France | 4,055 | 5,280,627,762 | 125,958 | 0.55 |
| Finland | 65 | 86,772,994 | 2,326 | 0.01 |
| Kuwait | 11 | 6,786,426 | 161 | 0.00 |
| Poland | 1,454 | 678,627,227 | 16,158 | 0.20 |
| Malaysia | 86 | 37,800,000 | 900 | 0.01 |
| Egypt | 160 | 18,153,600 | 480 | 0.02 |
| Netherlands | 4,228 | 8,334,220,483 | 198,434 | 0.58 |
| India | 758 | 249,050,181 | 5,924 | 0.10 |
| Hong Kong | 1,537 | 190,038,208 | 4,510 | 0.21 |
| total | 734,567 | 190,272,471,351 | 4,544,414 | 100.00 |

Source: Islamic Republic of Iran Customs Administration (2020)

Imports of food plastic containers divided by country in 2017-2018

| counterparty country | Weight (kg) | Rails value | Dollar value | Weight ratio (Wt%) |
|---------------------------------|------------------------|------------------------|---------------------|-------------------------------|
| Austria | 1,162 | 1,290,436,131 | 36,973 | 0.07 |
| Spain | 100 | 11,283,276 | 348 | 0.01 |
| Slovenia | 700 | 88,270,300 | 2,651 | 0.04 |
| United Arab Emirates | 32,049 | 4,902,101,973 | 139,888 | 1.99 |
| England | 377 | 750,240,029 | 20,232 | 0.02 |
| United States of America | 5,004 | 686,908,552 | 19,538 | 0.31 |
| Italy | 105,905 | 55,255,609,303 | 1,624,383 | 6.56 |
| Ireland | 2,346 | 262,151,087 | 8,082 | 0.15 |
| Argentina | 94 | 12,157,208 | 329 | 0.01 |
| Germany | 23,259 | 7,371,946,377 | 215,014 | 1.44 |
| Belgium | 25 | 13,128,800 | 400 | 0.00 |
| Bulgaria | 770 | 302,913,600 | 8,800 | 0.05 |
| Paraguay | 8 | 3,394,200 | 100 | 0.00 |
| Thailand | 1,193 | 279,875,030 | 7,685 | 0.07 |
| Taiwan | 38,380 | 6,350,866,908 | 181,577 | 2.38 |
| Turkey | 274,587 | 43,293,471,350 | 1,246,339 | 17.01 |
| Czech Republic | 4,104 | 378,849,840 | 11,543 | 0.25 |
| Republic of Korea | 8,152 | 1,763,892,608 | 49,142 | 0.51 |
| China | 1,072,182 | 96,871,434,699 | 2,811,953 | 66.43 |
| Denmark | 56 | 4,272,301 | 124 | 0.00 |
| Japan | 12,587 | 3,794,937,237 | 113,030 | 0.78 |
| Sweden | 2,332 | 223,679,392 | 6,626 | 0.14 |
| France | 12,160 | 8,668,445,169 | 239,031 | 0.75 |
| Canada | 2,750 | 557,797,363 | 16,755 | 0.17 |
| Poland | 387 | 345,668,698 | 9,923 | 0.02 |
| Malaysia | 833 | 77,427,119 | 2,387 | 0.05 |
| Netherlands | 4,221 | 410,343,973 | 12,237 | 0.26 |
| India | 7,737 | 849,228,866 | 25,746 | 0.48 |
| Hong Kong | 366 | 91,139,200 | 2,453 | 0.02 |
| Greece | 150 | 1,870,155 | 53 | 0.01 |
| total | 1,613,976 | 234,913,740,744 | 6,813,342 | 100.00 |

2.4. The trend of consumption in the last five years

One of the common methods of calculating the amount of internal consumption is to estimate the amount of apparent consumption, which is calculated in the following table. considering and inspecting the apparent consumption over the past few years, we can assert that the consumption of these containers has grown 335% over the past five years.

Estimating apparent consumption of plastic containers for packing dates and diary in the country over the past 5 years (2014-2019)

| | 2014-2015 | 2015-2016 | 2016-2017 | 2014-2015 | 2015-2016 | 2019-2020 |
|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Domestic production (tons) | 63,770 | 71,525 | 80,016 | 119,881 | 167,833 | 218,782 |
| Imports (tons) | 734.6 | 1,613.40 | 1,385.90 | 1,449.20 | 1,095.90 | 1,095.90 |
| Export (tons) | 3,460.60 | 2,471.01 | 3,421.40 | 10,830.30 | 12,895.01 | 15,345.00 |
| The apparent consumption | 61,044 | 70,667 | 77,981 | 110,500 | 156,034 | 204,533 |

2.5. The trend of export product in the last five years and the possibility of its development

A survey of the Customs Administration of the Islamic Republic of Iran on the export of food packaging plastic containers revealed that from 2014 to 2019 the exportation increased significantly. The exportation of these containers increased from 3460 tons in 2014 to 12895 tons by the value about 31.5 million \$.

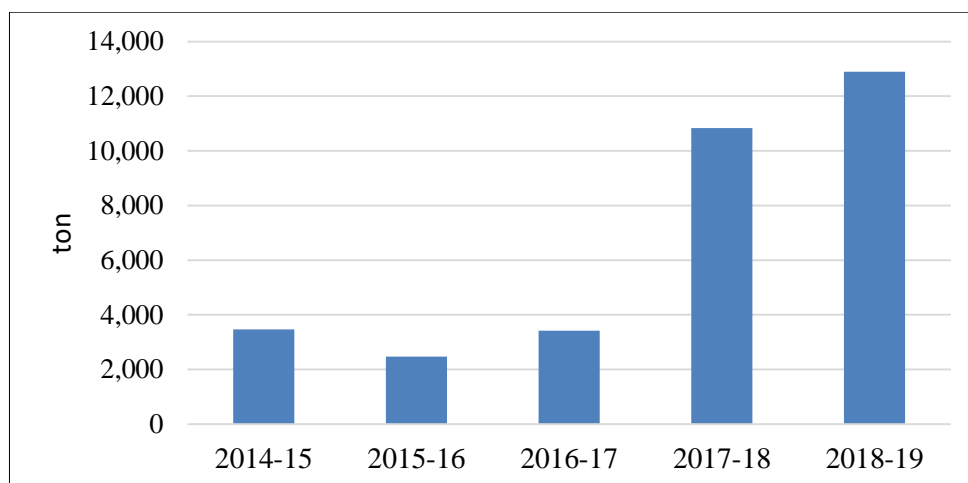
The major export markets for these products are Iraq and Afghanistan, with a share of about 60 and 20 percent, respectively. Iraq is the most important trading partner and targeting market of the country. therefore, because of Khuzestan proximity to Iraq and having common border and access to land and sea routes, this province can expand exportation to this country (Iraq). Exports of plastic containers to Iraq have risen from about \$ 3.9 million in 2013 to \$ 20 million in 2019, and this amount of exports can be increased. In terms of weight, during the same period, it also increased from 1346 to 7744 tons.

Exports of food plastic containers in the last 5 years

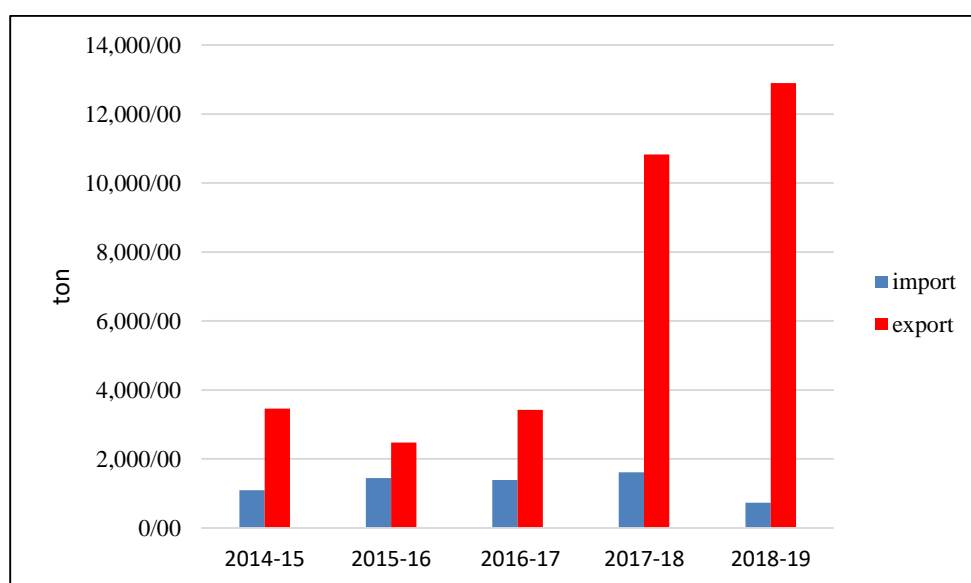
| year | Weight (ton) | Rail's value | Dollar value | Description |
|---------|--------------|-------------------|--------------|---------------------------|
| 2018-19 | 12,895.0 | 1,776,307,486,020 | 31,547,208 | 60% Iraq- 20% Afghanistan |
| 2017-18 | 10,830.2 | 1,004,219,418,459 | 29,630,640 | 67% Iraq- 12% Afghanistan |
| 2016-17 | 3,421.4 | 301,945,491,477 | 9,424,272 | |
| 2015-16 | 2,471.0 | 197,091,486,098 | 6,718,377 | |
| 2014-15 | 3,460.6 | 268,113,250,342 | 10,081,459 | |

Source :The Islamic Republic of Iran Customs Administration (2020)

The chart of exported food plastic containers in the last 5 years



Comparison of import and export of plastic food packaging containers in last 5 years



Exports of food plastic containers divided by country in 2018-2019

| counterparty country | Weight (ton) | Rails value | Dollar value | Weight ratio (Wt%) |
|-------------------------|--------------|-------------------|--------------|-----------------------|
| Armenia | 62,133 | 5,533,824,527 | 108,829 | 0.48 |
| Spain | 64,070 | 4,057,596,170 | 95,797 | 0.50 |
| Afghanistan | 2,659,677 | 403,503,218,607 | 7,000,936 | 20.63 |
| Ukraine | 22,190 | 1,389,100,080 | 33,459 | 0.17 |
| United Arab Emirates | 278,433 | 31,478,133,576 | 448,621 | 2.16 |
| England | 782 | 56,449,992 | 1,311 | 0.01 |
| Italy | 99,377 | 10,560,604,535 | 148,970 | 0.77 |
| Azerbaijan | 18,945 | 2,094,075,698 | 42,028 | 0.15 |
| Germany | 126,511 | 12,769,963,730 | 190,579 | 0.98 |
| Bahrain | 71 | 9,109,560 | 213 | 0.00 |
| Belgium | 608,147 | 50,852,547,348 | 921,817 | 4.72 |
| Pakistan | 112,126 | 14,771,839,620 | 246,620 | 0.87 |
| Turkmenistan | 525,116 | 67,098,752,679 | 1,254,254 | 4.07 |
| Turkey | 31,280 | 3,614,959,200 | 69,045 | 0.24 |
| Tanzania | 3,000 | 198,405,000 | 4,500 | 0.02 |
| Romania | 8,410 | 1,213,686,000 | 18,315 | 0.07 |
| Iraq | 7,744,385 | 1,116,219,240,139 | 20,087,422 | 60.06 |
| Oman | 70,910 | 5,944,480,420 | 114,322 | 0.55 |
| Russian Federation | 118,530 | 11,249,464,294 | 178,001 | 0.92 |
| Kazakhstan | 36,237 | 5,079,502,544 | 56,434 | 0.28 |
| Qatar | 151,120 | 17,320,428,875 | 280,331 | 1.17 |
| Canada | 77 | 9,683,408 | 112 | 0.00 |
| Kuwait | 37,502 | 3,018,587,130 | 70,497 | 0.29 |
| Georgia | 17,312 | 2,016,870,992 | 35,396 | 0.13 |
| Poland | 98,671 | 6,246,961,896 | 139,399 | 0.77 |
| total | 12,895,012 | 1,776,307,486,020 | 31,547,208 | 100 |

Source: Islamic Republic of Iran Customs Administration (2020)

Exports of food plastic containers divided by country in 2017-2018

| counterparty country | Weight (ton) | Rails value | Dollar value | Weight ratio (Wt%) |
|-------------------------|--------------|-------------------|--------------|-----------------------|
| Armenia | 25,728 | 1,527,001,580 | 46,720 | 0.24 |
| Spain | 79,857 | 4,590,761,728 | 134,108 | 0.74 |
| Afghanistan | 1,300,573 | 128,397,815,881 | 3,836,060 | 12.01 |
| United Arab Emirates | 355,025 | 19,214,627,553 | 564,388 | 3.28 |
| England | 240 | 12,325,338 | 342 | 0.00 |
| Ukraine | 32,607 | 1,873,232,412 | 54,300 | 0.30 |
| Italy | 34,024 | 2,018,184,331 | 59,280 | 0.31 |
| Azerbaijan | 108,677 | 8,603,093,533 | 255,263 | 1.00 |
| Germany | 72,878 | 3,872,369,288 | 109,524 | 0.67 |
| Belgium | 316,152 | 16,440,381,119 | 467,843 | 2.92 |
| Pakistan | 251,690 | 19,381,989,085 | 561,824 | 2.32 |
| Tajikistan | 24,179 | 2,356,776,510 | 72,539 | 0.22 |
| Thailand | 650 | 269,508,500 | 7,900 | 0.01 |
| Turkmenistan | 457,627 | 35,117,736,361 | 999,781 | 4.23 |
| Turkey | 60,702 | 3,707,234,439 | 109,439 | 0.56 |
| China | 8,670 | 484,166,385 | 13,185 | 0.08 |
| Romania | 29,520 | 1,697,512,500 | 49,200 | 0.27 |
| Iraq | 7,273,815 | 732,597,288,377 | 21,644,856 | 67.16 |
| Oman | 54,635 | 2,949,063,365 | 84,656 | 0.50 |
| Russian Federation | 157,860 | 7,829,763,306 | 235,042 | 1.46 |
| Kazakhstan | 11,447 | 872,342,817 | 24,627 | 0.11 |
| Qatar | 41,525 | 2,187,754,050 | 62,528 | 0.38 |
| Canada | 625 | 63,965,625 | 1,875 | 0.01 |
| Kuwait | 2,730 | 163,845,864 | 4,641 | 0.03 |
| Georgia | 9,675 | 941,332,640 | 28,880 | 0.09 |
| Lebanon | 4,760 | 155,798,400 | 4,800 | 0.04 |
| Poland | 90,262 | 4,963,347,740 | 143,695 | 0.83 |
| Hungary | 23,390 | 1,864,687,112 | 51,514 | 0.22 |
| Nigeria | 50 | 3,729,900 | 100 | 0.00 |
| New Zealand | 60 | 6,354,720 | 180 | 0.00 |
| Poland | 620 | 55,428,000 | 1,550 | 0.01 |
| total | 10,830,253 | 1,004,219,418,459 | 29,630,640 | 100.00 |

Source: Islamic Republic of Iran Customs Administration (2020)

2.6. Reviewing of products needs based on export priority

As noted in the previous sections, the consumption of these containers has grown by 3.35 times over the past five years. Therefore, given the growth of the consumers of these plastic containers, and taking into account the manual increase of at least 10% of such product consumption and the 10% of exportation, we will indeed face a shortage of 72000 tons of this product over the next five years.

Khuzestan province, by producing 190,000 tons of dates ranked third in the country, and it has more than 53 dates packaging units with a capacity of 83,000 tons per year. half of this amount of dates is packaged in plastic containers, Therefore, approximately 3320 tons of plastic containers are needed. Also, taking into account the quantity of containers needed for the dairy product, production units with a consumption capacity of 22000 tones, the needed quantity of this containers will increase to 4420 tones. Furthermore, considering the under construction packaging units of dates, dairy and other foodstuff, the needed quantity of these containers for the province will reach to 8000 tones. Currently more than 80% of these containers are provided from other distant provinces such as Tehran, Esfahan, Bushehr with high transportation costs.

It should be noted that Khuzestan province enjoys a very suitable position for exporting this products due to its common land and water border with the Persian Gulf countries as well as cultural similarity, with Iraq.

Assessing the need for plastic containers for packing dates and dairy over 5 years

| Products | 2020-2021 | 2021-2022 | 2022-2023 | 2023-2024 | 2024-2025 |
|--|----------------|----------------|----------------|----------------|----------------|
| The domestic consumption (tons) | 224,986 | 247,485 | 272,233 | 299,457 | 329,402 |
| Export (tons) | 22,499 | 24,748 | 27,223 | 29,946 | 32,940 |
| Total demand (tons) | 247,485 | 272,233 | 299,456 | 329,403 | 362,342 |
| Output of current units (tons) | 218,782 | 218,782 | 218,782 | 218,782 | 218,782 |
| Production of new operational units (tons) | 24,274 | 58,572 | 65,716 | 70,115 | 71,438 |
| Total supply (tons) | 243,056 | 277,354 | 284,498 | 288,897 | 290,220 |
| (Shortage) / surplus | (4,429) | 5,121 | (14,958) | (40,506) | (72,122) |

3- Overview of technology and production methods and product supply in the country and compare it with other countries

The most common method for making the desired products is injection molding. This method is widely used in forming thermoplastic resins. This process begins by softening the raw material in a heated cylinder then it continues by injecting the under pressure fluid material into the relatively cold mold. Due to the contact of the fluid material with the mold wall, the material becomes hard and the desired container is formed. The following equipment are needed to equip the production line for dates packaging containers and other similar products:

1. Plastic injection machine for producing body, lid and handle
2. Required molds
3. Three-phase material sucker machine
4. Label printing machine

The use of the latest and most advanced plastic injection machines has made it possible to produce different types of injectable containers such as buckets and round rectangular containers of different colors and designs. The unit will be equipped with an advanced printing machine to complete the production line and provide a better service to customers.

It should be noted that the most advanced production lines are made in Europe and mainly in Germany.

4. Determine the strengths and weaknesses of known technologies (in outline) in the production process

Advantages:

- high production accuracy
- production of high quality parts
- digital control of devices
- energy saving capabilities
- Very low noise pollution
- high injection speed
- fast startup
- reduction of material wastage
- Low energy consumption and reduced production costs

Disadvantages

- The high cost of equipment and machinery
- High cost of replacement parts

5. Determine the minimum economic capacity includes the estimated volume of fixed investment estimated volume with the separation of Rials and foreign exchange (Using information of available and under construction units, UNIDO, internet, the global data banks, technology selling companies and equipment, etc.)

Considering the domestic market needs especially Khuzestan province and considering exports, economic capacity, as well as annual capacity of the project, a capacity of 1500 tons plastic injection containers for dates and other similar products are estimated. This will be achieved in 300 working days and three shifts per day if necessary cash is provided to buy the needed machinery and equipment.

Construction period is 1 year and effective life time for the project execution is 12 years.

Plan production and sales over the next 5 years

| Years of operation | | first year | second year | third year | forth year | fifth |
|---|----------------------|-------------------|--------------------|-------------------|-------------------|--------------|
| Percentage of capacity | | 70 | 80 | 90 | 100 | 100 |
| plastic injection containers for dates (tons) | | 1,050.0 | 1,200.0 | 1,350.0 | 1,500.0 | 1,500.0 |
| Total production | | 1,050.0 | 1,200.0 | 1,350.0 | 1,500.0 | 1,500.0 |
| The outcome of selling | | | | | | |
| plastic injection containers for dates (470million Rials) | | 493,500.0 | 564,000.0 | 634,500.0 | 705,000.0 | 705,000.0 |
| Total sales | million Rials | 493,500.0 | 564,000.0 | 634,500.0 | 705,000.0 | 705,000.0 |
| | Million Euro | 1.83 | 2.06 | 2.32 | 2.57 | 2.57 |

Table of Project Investment

| Description | incurred Costs (million Rails) | required Costs | | | | Total | |
|------------------------------|-----------------------------------|----------------------|-------------------------------------|----------------|--------------------------|---------------|----------------------------|
| | | The Foreign currency | | Local Currency | Total (Million Rails) | Million Rails | Equivalent in Million Euro |
| | | Million Euro | Equivalent Rails (Million Rails) | Million Rails | | | |
| land | 6,566.0 | 0.00 | 0.00 | 0.0 | 0.0 | 6,566.0 | 0.024 |
| landscaping | 6,740.0 | 0.00 | 0.00 | 0.0 | 0.0 | 6,740.0 | 0.025 |
| Construction | 14,820.0 | 0.00 | 0.00 | 24,000.0 | 24,000.0 | 38,820.0 | 0.142 |
| utilities | 2,300.0 | 0.00 | 0.00 | 1,000.0 | 1,000.0 | 3,300.0 | 0.012 |
| Equipment& Machinery | 26,000.0 | 0.00 | 0.00 | 64,000.0 | 64,000.0 | 90,000.0 | 0.328 |
| transportation | 0.0 | 0.00 | 0.00 | 200.0 | 200.0 | 200.0 | 0.001 |
| Office Equipment & Supplies | 310.0 | 0.00 | 0.00 | 510.0 | 510.0 | 820.0 | 0.003 |
| Other and unpredicted | 0.0 | 0.00 | 0.00 | 6,000.0 | 6,000.0 | 6,000.0 | 0.022 |
| total | 56,736.0 | 0.00 | 0.00 | 95,710.0 | 95,710.0 | 152,446.0 | 0.556 |
| Pre-exploitation cost | 400.0 | 0.00 | 0.00 | 1,000.0 | 1,000.0 | 1,400.0 | 0.005 |
| Fixed Investment Cost | 57,136.0 | 0.00 | 0.00 | 96,710.0 | 96,710.0 | 153,846.0 | 0.561 |
| Working Capital | 0.0 | 0.00 | 0.00 | 108,728.98 | 108,728.98 | 108,728.98 | 0.397 |
| Total Investment Cost | 57,136.0 | 0.00 | 0.00 | 205,439.0 | 205,439.0 | 262,574.98 | 0.958 |

Exchange rate:

1 Euro \cong 274,000 Rails

1 US\$ \cong 228,000 Rails

land specification of project as follows as:

| Description | Area(m ²) | | Cost (million Rails) | | | Equivalent in Euro |
|-------------|-----------------------|----------|----------------------|----------|---------|--------------------|
| | done | required | done | required | Total | |
| land | 3283 | 0.0 | 6,566.0 | 0.0 | 6,566.0 | 23,963.5 |

landscaping price as follows as:

| Description | Area(m ²) | | Cost (million Rails) | | | Equivalent in Euro |
|----------------------------------|-----------------------|----------|----------------------|----------|---------|--------------------|
| | done | required | done | required | Total | |
| Wall of bricks (2.5 meters high) | 230 m | 0.0 | 2760 | 0.0 | 2760 | 10,073.0 |
| Concrete the landscape | 2000 m2 | 0.0 | 3000 | 0.0 | 3000 | 10,948.9 |
| Green space and lighting | 490m2 | 0.0 | 980 | 0.0 | 980 | 3,576.6 |
| total | | | 6,740.0 | 0.0 | 6,740.0 | 24,598.5 |





Construction items Information:

| Description | Building Type | Square meters area | | Total cost (million Rails) | | | Equivalent in Euro |
|---------------------------------------|--|--------------------|------------|----------------------------|-----------------|-----------------|--------------------|
| | | Done | Required | Done | Required | Total | |
| production | Industrial Shed | 400 | 600 | 12,000.0 | 18,000.0 | 30,000.0 | 109,489.05 |
| storage salon | Industrial Shed | 0 | 200 | 0.0 | 6,000.0 | 6,000.0 | 21,879.81 |
| Administrative buildings and services | made of bricks, painting interior space, floors made of mosaic | 70 | 0 | 2,100.0 | 0.0 | 2,100.0 | 7,664.23 |
| electronic room | Made of bricks | 12 | 0 | 360.0 | 0.0 | 360.0 | 1,313.87 |
| Gate guard | Made of bricks, | 12 | 0 | 360.0 | 0.0 | 360.0 | 1,313.87 |
| Total infrastructure and costs | | 494 | 800 | 14,820.0 | 24,000.0 | 38,820.0 | 141,678.83 |

the view of the factory





Utilities:

| Description | Technical Specifications | Required costs (million Rail's) | | | Equivalent in Euro |
|-------------------|----------------------------------|---------------------------------|---------------|----------------|--------------------|
| | | Done | Required | Total | |
| Electrification | Electric supply and power 100 KW | 1500 | 1000 | 2,500 | 9,124.1 |
| Water | Split 3/4 "and water supply | 500 | 0 | 500 | 1,824.8 |
| Heating & Cooling | Air conditioning 4 unit | 300 | 0 | 300 | 1,094.9 |
| Total | | 2,300.0 | 1000.0 | 3,300.0 | 12,043.8 |

Equipment& Machinery product line:

| Description | Qty | | The foreign currency (EUR) | | Equivalent Rails (million Rails) | Local Currency (million Rails) | | Total costs (million Rails) | Equivalent in Euro |
|--|----------|-----------|----------------------------|----------|----------------------------------|--------------------------------|-----------------|-----------------------------|--------------------|
| | Done | Required | Done | Required | | Done | Required | | |
| Plastic injection machine: capacity 180 ton | 1 | 0 | 0 | 0 | 0 | 8,000.0 | 0 | 8,000.0 | 29,197.1 |
| Plastic injection machine: capacity 320 ton | 1 | 0 | 0 | 0 | 0 | 15,000.0 | 0 | 15,000.0 | 54,744.5 |
| Plastic injection machine: capacity 280 ton- Leadway-china | 0 | 3 | 0 | 0 | 0 | 0 | 36,000.0 | 36,000.0 | 131,386.9 |
| Large three-phase material sucker machine | 0 | 5 | 0 | 0 | 0 | 0 | 1,000.0 | 1,000.0 | 3,649.6 |
| Plastic material mill :Inlet width 60cm- Leadway-china | 0 | 1 | 0 | 0 | 0 | 0 | 3,000.0 | 3,000.0 | 10,948.9 |
| molds | 2 | 8 | 0 | 0 | 0 | 3,000 | 12,000.0 | 15,000.0 | 54,744.5 |
| Label and printing machine | 0 | 1 | 0 | 0 | 0 | 0 | 12,000.0 | 12,000.0 | 43,795.6 |
| Total | 4 | 18 | 0 | 0 | 0 | 26,000 | 64,000.0 | 90,000.0 | 328,467.2 |

Transportation

| Description | Qty | | The foreign currency (EUR) | | Equivalent Rails (million Rails) | Local Currency (million Rails) | | Total costs (million Rails) | Equivalent in Euro |
|--|----------|----------|----------------------------|----------|----------------------------------|--------------------------------|--------------|-----------------------------|--------------------|
| | | | | | | | | | |
| | Done | Required | Done | Required | | Done | Required | | |
| Crane for moving mold (manually): 1ton | 0 | 1 | 0 | 0 | 0 | 0 | 200.0 | 200.0 | 729.9 |
| Total | 0 | 1 | 0 | 0 | 0 | 0 | 200.0 | 200.0 | 729.9 |

Office Equipment & Supplies and Services:

| Description | Qty | | The foreign currency (EUR) | | Equivalent Rails (million Rails) | Local Currency (million Rails) | | Total costs (million Rails) | Equivalent in Euro |
|-----------------------|------|----------|----------------------------|----------|----------------------------------|--------------------------------|------------|-----------------------------|--------------------|
| | | | | | | | | | |
| | Done | Required | Done | Required | | Done | Required | | |
| Office furniture | 1 | 1 | 0 | 0 | 0 | 30 | 100 | 130 | 474.5 |
| Tables and chairs | 8 | 10 | 0 | 0 | 0 | 100 | 150 | 250 | 912.4 |
| Fax | 1 | 0 | 0 | 0 | 0 | 20 | 0 | 20 | 73.0 |
| Phone / Modem | 1 | 0 | 0 | 0 | 0 | 20 | 0 | 20 | 73.0 |
| Computers and Laptops | 1 | 1 | 0 | 0 | 0 | 50 | 100 | 150 | 547.4 |
| Printer | 1 | 1 | 0 | 0 | 0 | 40 | 80 | 120 | 438.0 |
| Refrigerator | 1 | 1 | 0 | 0 | 0 | 50 | 80 | 130 | 474.5 |
| Total | | | 0 | 0 | 0 | 310 | 510 | 820.0 | 2,992.7 |

Working capital:

| Description | duration | The foreign currency | | Local Currency | Total (Million Rails) | Equivalent in Million Euro |
|--|----------|----------------------|----------------------------------|-------------------|-----------------------|----------------------------|
| | | Million Euro | Equivalent Rails (Million Rails) | Million Rails | | |
| Supplementary Raw Material and Packaging | 1 Month | 0 | 0 | 41,858.33 | 41,858.33 | 0.153 |
| Semi-produced products | 10 days | 0 | 0 | 15,331.45 | 15,331.45 | 0.056 |
| Revolving fund | 1 Month | 0 | 0 | 4,491.35 | 4,491.35 | 0.016 |
| Account receivable | 1 Month | 0 | 0 | 47,047.85 | 47,047.85 | 0.172 |
| total | | 0 | 0 | 108,728.98 | 108,728.98 | 0.397 |

Production costs:

| Description | Amount (Million Rials) | Equivalent in (Million Euro) |
|---|-------------------------|------------------------------|
| Costs of materials | 502,300.00 | 1.833 |
| Cost of production personnel salary | 15,744.00 | 0.057 |
| Cost of utilities (fuel and electricity, water ...) | 1,328.00 | 0.005 |
| Cost of repair and maintenance | 6,278.20 | 0.023 |
| cost of unforeseen production(5%) | 26,282.00 | 0.096 |
| Depreciation expense | 11,972.88 | 0.044 |
| Administrative personnel salary | 5,067.60 | 0.018 |
| Costs of administrative and sales | 7,050.00 | 0.026 |
| Factory insurance | 525.00 | 0.002 |
| Total sum | 576,547.68 | 2.104 |

6-The annual major required raw materials and annual and to supply outside or inside the country, domestic and foreign exchange and checking the major developments in the supply of essential required items in the past and future

The production process uses high-grade and pure polypropylene and polyethylene materials that have the highest compatibility with food and sanitary ware and are supplied from within the country. The required polymer materials are supplied by domestic petrochemical companies and purchased through stock exchange

Injection polyethylene is available from petrochemical companies such as Bandar Emam Khomeini in Khuzestan, Jam Petrochemical Company in Bushehr and Lorestan Petrochemical Company. Its price is 248000 to 250000 Rials.

Rajal, Maroon and Navid Zar Chimi Petrochemical companies in Mahshahr Petrochemical Special Economic Zone are the required polypropylene producers that are 130 km away from the project site.

Required Raw materials:

| NO. | Description | Consumption per product unit | Unit Consumption | The amount required for all capacity | Price of unit million) (Rails | Currency prices | | Cost (million Rails) | Supplying Place | Total cost (million Rail's) | Equivalent in Million Euro |
|--------------|--------------------------|------------------------------|------------------|--------------------------------------|--------------------------------|-------------------------------|-----------------------------------|----------------------|-----------------|-----------------------------|----------------------------|
| | | | | | | The currency (million dollar) | Equivalent Rails million) (Rails | | | | |
| 1 | PP Food grade | 1 | ton | 750 | 400 | 0 | 0 | 300,000.0 | Domestic | 300,000.0 | 1.095 |
| 2 | HDPE Food grade | 1 | ton | 750 | 250 | 0 | 0 | 187,500.0 | Domestic | 187,500.0 | 0.684 |
| 3 | Carton | 60 | pcs | 90000 | 0.12 | 0 | 0 | 10,800.0 | Domestic | 10,800.0 | 0.039 |
| 4 | Color and paper of label | - | - | - | | 0 | 0 | 4,000.0 | Domestic | 4,000.0 | 0.015 |
| total | | | | | | 0 | 0 | 502,300.0 | Domestic | 502,300.0 | 1.833 |

7. The risk analysis of the project

Strengths:

- Using update technology
- The possibility of mass production
- High internal rate of return
- Diversity in production with high potential for development
- Ease of access to food grade raw materials with high quality
- Providing printing services along with producing packaging containers

Weakness:

- lack of credit resources to supply machinery
- The high price of raw materials and the need for credit resource to working capital

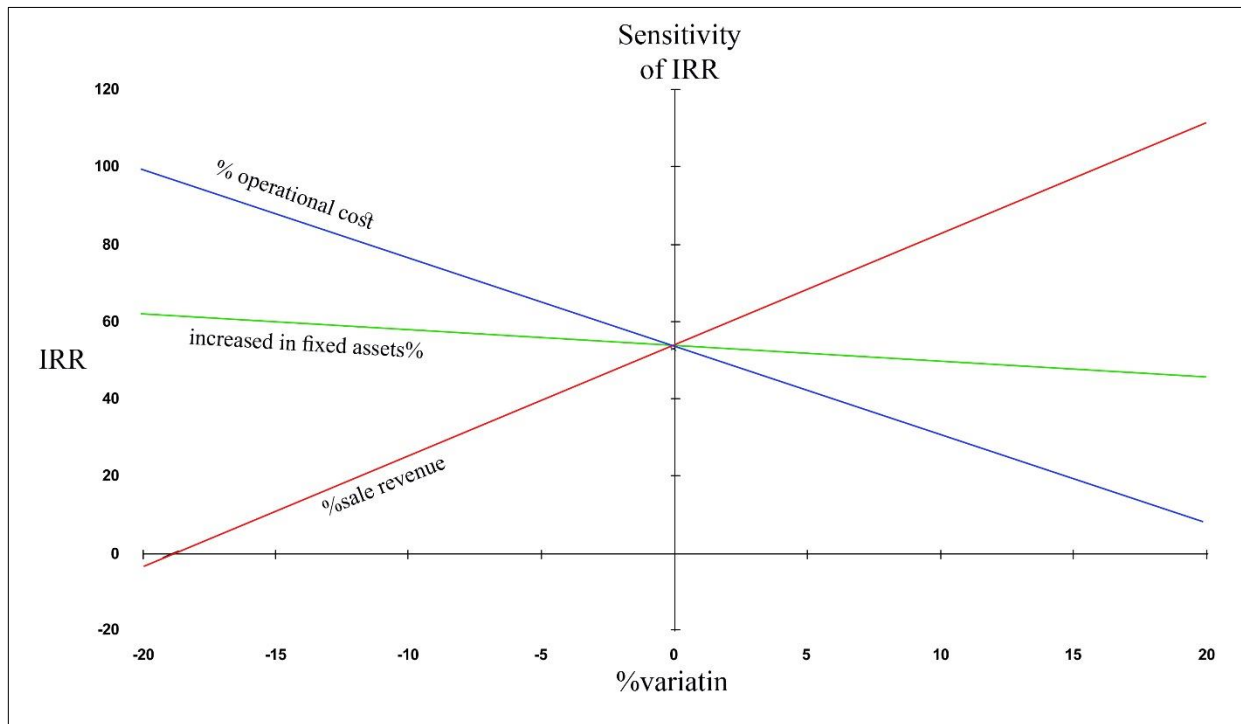
Opportunities:

- the Existence of a very large consumption market within the project and province area (located in Khuzestan province, which ranks third in the country by producing 190,000 tons of dates and is one of the most widely consumer of plastic containers markets. Behbahan is the production center of Kabkab dates and dairy products in Khuzestan
- There are 53 dates packing units in Khuzestan that three of them located in Behbahan
- Widespread use of the product in packaging dates and dairy and other products such as nuts, fruit chips, pickles, etc.
- Absence of competitors in the province
- Supports the attraction of foreign investors
- Access to essential communication roads and infrastructures such as land, south-north rail, access to open water for export, especially Iraq, which is the world's seventh-largest producer of dates with 650,000 tons.

Threats:

- Lack of funding and financial support
- Political and regional changes in the Middle East
- Increasing inflation and rising production prices

**Sensitivity analysis of IRR based on the changes in sale revenue, increased in fixed assets
and operational cost**



8. Human resources and employment status

The employment plan is 30 people who is 4 persons in office and 26 people will be working in the production department. Due to the existence of prestigious universities and technical and vocational centers in Khuzestan province and Behbahan, access to specialist human resources is accessible.

| Job Title | Sex | | Required | | | Monthly salaries per person (million Rails) | Salaries (million Rails) | Annual salaries (million Rails) | Equivalent in Euro |
|---|-----|---|----------|-------|-----|---|--------------------------|---------------------------------|--------------------|
| | F | M | Qty | Shift | Sum | | | | |
| CEO | | ✓ | 1 | 1 | 1 | 50 | 50 | 820.0 | 2,992.7 |
| Finance director, sales, administrative | ✓ | ✓ | 1 | 1 | 1 | 42 | 42 | 688.8 | 2,513.9 |
| Financial personnel, sales office | ✓ | ✓ | 1 | 1 | 1 | 42 | 42 | 688.8 | 2,513.9 |
| warehouse keeper | | ✓ | 1 | 1 | 1 | 42 | 42 | 688.8 | 2,513.9 |
| Processes engineer | ✓ | ✓ | 1 | 3 | 3 | 50 | 150 | 2,460.0 | 8,978.1 |
| Line Supervisor | ✓ | ✓ | 1 | 3 | 3 | 42 | 126 | 2,066.4 | 7,541.6 |
| Skilled worker | | ✓ | 2 | 3 | 6 | 44 | 264 | 4,329.6 | 15,801.5 |
| Worker | ✓ | ✓ | 3 | 3 | 9 | 42 | 378 | 6,199.2 | 22,624.8 |
| Service worker | | ✓ | 1 | 1 | 1 | 35 | 35 | 574.0 | 2,094.9 |
| Secretary | ✓ | | 1 | 1 | 1 | 35 | 35 | 574.0 | 2,094.9 |
| Guard | | ✓ | 1 | 3 | 3 | 35 | 105 | 1,722.0 | 6,284.7 |
| Total | | | | | 30 | | 1,269 | 20,811.6 | 75,954.7 |

9. Determine the amount of water, electricity, gas, telecommunications and communication facilities (road - rail - Airport - Port ...) and how to provide them in the appropriate area to implementation

Behbahan Industrial estate has the basic infrastructure. water, electricity, fuel and telecommunication facilities are available in the site. The distance from Behbahan to Ahvaz (central province) is 207kilometers and to Emam Khomeini port is 130 kilometers, thus there is access to all airport, rail and transit facilities, and this facilitate trading.

| Description | unit | Annual consumption | Price per unit (Rails) | Total price (million Rails) | Equivalent in Euro |
|---------------|----------------|--------------------|------------------------|-----------------------------|--------------------|
| Electricity | KW | 720,000 | 1,400 | 1,008 | 3,679 |
| water | m ³ | 1,000 | 20,000 | 20 | 73 |
| Other(petrol) | - | - | - | 300 | 1,095 |
| total | | | | 1328.0 | 4,847 |

10. Economic and trade support for plan

To stimulate the industrial section and related to the resistance to economy, several projects are implemented and the following are mentioned

- In order to study, exchange of views and coordination to resolve the problems and obstacles faced by manufacturing units, "the Working Group of facilitate and remove of production obstacles " is formed in all provinces and with membership of the governor (chairman), head of the provincial Ministry of Industry, Mine and Trade (Secretary), management and planning organization chairman, President of the Chamber of commerce, Industries, mines and Agriculture of province and chairman of the house of industry, mine and trade. The main tasks of this working group can be mentioned as follows:
 - Helping to expedite the completion and commissioning of the production of semi-finished projects and develop
 - Support and contribute to the export development of provincial products.
 - Investigating slowdown causes or production units suspension and problem solving coordination.
- **Working Group on Economy of Resistance (boom):** Regarding to the economy resistive of Ministry of Industries and Business in Act 12868 dated 2016.21.4, the funding are considered in order to completing industrial plans with a physical progress more than 60% and also improving the competitiveness of small and medium production units to increase exports.
- **Investment Guarantee Fund of Small Industries:** The credit guarantees issuance is guaranteed to facilitate financing was through small business facilities and securitized principal and interest and credit facilities granted by banks and financial institutions to small firms. This credit guaranties have been issued for applicants after expert review and validation, obtaining fees with the required securities and warranty credit.

10.1. Supporting of Customs tariff (products and machines) with global tariff

In order to support domestic production and ease of technology supply, the machines' input rights to the project are relatively low at around 10%.

10.2. financial support (existing units and projects) banks - investment firms

The most important sources of financial credit from banks, can be cited as follows.

1. **Foreign exchange reserves:** The surplus proceeds from the sale of crude oil facility will be provided support and finance of part of the foreign exchange needs of producers and exporters of private and cooperative sectors. In the framework of contracts and Islamic banking laws and regulations enacted by the opening credits are awarded based on the provisions of the import and export of goods and services.

2. **Economy of Resistance Committee (boom):** Now, funding is considered for the completion of a physical progress with 60% and industrial production units as well as enhance the competitiveness of small and medium enterprises to increase exports.

3. **Foreign Investment Promotion and support Act:**

Since 1955, the legal framework for foreign investment in Iran has been the Attraction and support of Foreign Investments law. In line with reforms in the economic structure of the country, the Iranian parliament has offered the foreign investment plan as a Foreign Investment Promotion and Support Act which legislated finally in 1381. This will lead to the development of the legal framework and operational environment for foreign investors in Iran. Some of the new developments in the field of foreign investments include:

- Islamic Republic of Iran is welcome of foreign investments by foreign persons, whether natural or legal persons in all areas of economic activity.

- Recognition of new investment methods in addition to foreign direct investment
- Short and quick process and approval application and foreign investment approval.
- Creating an unique organization called the Center for Foreign Investment Service Organization for Investment, Economic and Technical Assistance of Iran in order to focused and effective support of the activities of foreign investors in Iran
- Further liberalization of foreign exchange mechanisms for more use by foreign investors

In case of absorbing foreign investor, the government considers some bonus, such as:

1. Tax exemption for the products of foreign investing companies
2. Presenting insurance coverage for the investors
3. Presenting customs exemptions for importing equipments required by foreign investing companies
4. Granting subside for training local manpower
5. Preparing free zones for investment
6. Granting infrastructure facilities and less expensive public services such as water and power
7. Guaranteeing return on profit and the main capital and prevention from their confiscation and nationalization

11.Analyzes And providing summary and final offer

Iran by producing 1 million and 185 thousand tons of dates is the second largest date producing country in the world. Khuzestan by producing 190 thousand tons of dates ranks third in the country. Therefore, packaging this valuable product is very important. One of the main dates packaging containers in Iran are the injection plastic containers.

Khuzestan has more than 53 dates packaging units with 83000 tons capacity per year and 10 large industrial dairy producing units with 22000 tons capacity, therefor the requirements for injection plastic containers will reach up to 8000 tones. currently more than 80 percent of these containers come from other distant provinces, such as Tehran, Isfahan and Bushehr with high transporting costs.

Therefore, given the growth of the consumer industry of injection plastic containers and exports, we will face a shortfall of 72,000 tons over the next five years. so for overcoming to this need should expand existing units or new units constructed or to import the product.

It should be noted that Khuzestan province due to its land and water border with Persian Gulf countries and cultural similarity with Iraq, it enjoys a favorable position to export this product. Indeed, Iraq is the seventh largest producer of dates in the world, But now it is facing a shortage of packaging equipment.

Therefore, since Arjan Plast Ronak Company has established a factory for the production of plastic products for packing dates and other similar products, it is anticipated that the manufactured products will be welcomed not only in Khuzestan but also in country and abroad, especially in Iraq, and it will also have favorable profit, if the facilities needed to purchase up-to-date high-tech machinery and raw materials are provided. High return rate (53.07%) and short investment return period, are major advantages of this project.

| | | |
|---|---|-----------------------------------|
| Cost of | plastic injection containers for packing dates, dairy products and etc. (kg): | 384,370.0 Rails \cong 1.40 Euro |
| Sale price of | plastic injection containers for packing dates, dairy products and etc. (kg): | 470,000.0 Rails \cong 1.72 Euro |
| total Sales | 705,000.0 million Rails \cong 2.57 million Euro | |
| Present sales in break-even point | 25.88% | |
| Profit (in 100% Capacity) | 135,952.92 million Rails \cong 0.496 million Euro | |
| Gross value added | 195,093.8 million Rails \cong 0.712 million Euro | |
| Net value added (million Rail's) | 183,120.9 million Rails \cong 0.668 million Euro | |
| The Gross value added to total Sales | 32% | |
| The Net value added to total Sales | 28% | |
| The Gross value added to Investment | 26% | |
| Investment Return Period | 3.32 years | |

Exchange rate:

1 Euro \cong 274,000 Rails 1 US\$ \cong 228,000 Rails

12- Summary of pre-feasibility plan

| | |
|---|---|
| General Specification | |
| Name of The Project | Production of Injection Plastic Containers for Packaging Dates |
| Project Capacity | 1500 tons |
| Personnel Number | 30 persons |
| Working Days | 300 days |
| Product Usage | for packing dates, dairy products, dried fruits, nuts, fruit chips, pastels, pickles, honey, jams, spices, grains |
| Marketing | |
| Product Global Price | 2 Euro /kg |
| Domestic Demand | 329,402 tons |
| Domestic Production | 290,220 tons |
| Import | 1,095 tons |
| Export | 12,895 tons |
| Technical Study | |
| Land Area | 3283 m ² |
| Building Area | 1294 m ² |
| Main Raw Materials | Food grade of polypropylene (pp) and injection heavy polyethylene (HDPE) |
| Supplying Place of Raw Materials | domestic |
| Power Requirement | 100 KW/hr |
| Water Requirement | 1000 m ³ |
| Fuel Requirement | - |
| Economical & Financial Study | |
| Fixed Investment Cost | 153,846.00 million Rails \cong 0.561 million Euro |
| Working Capital | 108,728.98 million Rail's \cong 0.397 million Euro |
| Total Investment Cost | 262,574.98 million Rail's \cong 0.958 million Euro |
| Annual Sale | 705,000.0 million Rail's \cong 2.57 million Euro |
| Net Present Value(NPV) | 347,634.01 million Rail's \cong 1.27 million Euro |
| Break Even Point(BEP) | 25.88 % |
| Internal Rate of Return(IRR) | 53.07 % |
| Investment Return Period | 3.32 years |
| Investment Sources Ratio: Equity:34% Finance: 66% | 89,018.98 million Rails \cong 0.633 million Euro 173,556.0 million Rails \cong 0.325 million Euro |