

In the name of Allah

Pre-feasibility studies

Project Name:

Production of Tomato Paste and Bottled Drinking Waters

Project Owner:

Taze Chin Mandegar Food Industry Company

Advisor of the project:

Zahra Badoei

Project address: Khuzestan, Shush Industrial Estate

Date of P.F.S: February , 2021

Summary of pre-feasibility plan

| | |
|----------------------------------|--|
| General Specification | |
| Name of The Project | Production of tomato paste & bottled drinking water |
| Project Capacity | tomato paste: 12,000 tons , bottled drinking water: 9,000 m ³ |
| Personnel Number | 20 persons |
| Working Days | 250 days |
| Product Usage | Food (as a seasoning) and Beverage |
| Marketing | |
| Product Global Price | tomato paste 850 EUR/ton, bottled drinking water: 540 EUR/m ³ |
| Domestic Demand | tomato paste 883,164.0 tons, drinking water 57,158,168 m ³ |
| Domestic Production | tomato paste 987,512.0 tons, drinking water 57,161,351 m ³ |
| Import | - |
| Export | tomato paste:104,348.0 tons, drinking water: 2,733.0 m ³ |
| Technical Study | |
| Land Area | 3000 m ² |
| Building Area | 1822 m ² |
| Main Raw Materials | Tomato, water, cans, pet |
| Supplying Place of Raw Materials | Domestic |
| Power Requirement | 250 KW |
| Water Requirement | 20000 m ³ |
| Fuel Requirement | 200,000 m ³ gas |
| Economical & Financial Study | |
| Fixed Investment Cost | 195,539.00 million Rails \cong 0.725 million Euro |
| Working Capital | 275,534.63 million Rails \cong 1.005 million Euro |
| Total Investment Cost | 474,073.63 million Rails \cong 1.730 million Euro |
| Annual Sale | 1,992,000.0 million Rails \cong 7.27 million Euro |
| Net Present Value(NPV) | 721,465.53 million Rails \cong 2.63 million Euro |
| Break Even Point(BEP) | 20.02% |
| Internal Rate of Return(IRR) | 78% |
| Investment Return Period | 3 years |
| <u>Investment Sources Ratio:</u> | |
| Equity:30% | 143,350.87 million Rails \cong 0.523 million Euro |
| Finance: 70% | 330,722.00 million Rails \cong 1.207 million Euro |

| Index | Page No. |
|--|----------|
| Introduction: | 4 |
| 1.Product introduction | 7 |
| 1.1. Product name and ISIC code | 7 |
| 1.2. Customs tariff code | 8 |
| 1.3. Import and export products conditions | 8 |
| 1.4. Review and presentation of standard (national or international) | 9 |
| 1.5. Review and provide information about domestic production prices and global price of the product | 9 |
| 1.6. Explaining the usage and application of the product in the domestic and foreign markets | 10 |
| 1.7. Evaluation of alternative products, competitors and analysis and its effects on consumption of the product | 10 |
| 1.8. The strategic importance of the product in Iran and foreign markets | 10 |
| 1.9. The major producing countries and product consumer | 11 |
| 2. Situation of supply and demand in Iran and foreign markets | 11 |
| 2.1. Study of utilization capacity and production process since the beginning of the Sixth 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 | 11 |
| 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 | 14 |
| 2.3. The trend of imports of the product in the last five years | 15 |
| 2.4.The trend of consumption in the last five years | 17 |
| 2.5. The trend of export product in the last five years and the possibility of its development | 17 |
| 2.6. Reviewing of products needs based on export priority | 22 |
| 3- Overview of technology and production methods and product supply in the country and compare it with other countries | 23 |
| 4. Determine the strengths and weaknesses of known technologies (in outline) in the production process | 27 |

| Index | Page No. |
|---|----------|
| 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.) | 28 |
| 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 | 36 |
| 7. The risk analysis of the project | 37 |
| 8. Human resources and employment status | 39 |
| 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 | 39 |
| 10. Economic and trade support for plan | 40 |
| 10.1. Supporting of Customs tariff (products and machines) with global tariff | 40 |
| 10.2. financial support (existing units and projects) banks - investment firms | 40 |
| 11.Analyzes And providing summary and final offer | 41 |
| 12- Summary of pre-feasibility plan | 43 |

Introduction:

In determining post-World War II economic development strategies, most countries chose the strategy of industrialization, citing the added value of the sector as a reason. That is, technological development based on knowledge and industrialization is responsible for modern economic development in countries, not traditional industries. Despite all the technological developments, the most advanced industrialized countries (USA, Japan and EU) consider the development of the agricultural sector not only as a complement to the industrial sector and the application of industry to agriculture as a result of increasing productivity in the sector but also consider the importance of food production in relation to their national security.

Because of using agricultural products as raw materials, processing industries can be a good case in making better use of these products. Many agricultural products are not produced or consumed at the same time. their Production or harvesting is usually done in a specific short time, but their consumption happens later on (for a long time). processing industries can preserve products in a way that they can be consumed throughout the year.

Creating and expanding processing industries has some economic effects, such as creating added value, employment, foreign exchange income as well as greater use of agricultural products. Thereby, this will prevent product loss. Tomato paste and juice are among the products processing industries that have considerable industrial history in Iran especially from the 60's and 70's onward. Companies such as Marghab Dasht (1&1) and Mahram are among the pioneers of this industry in the late 60s.

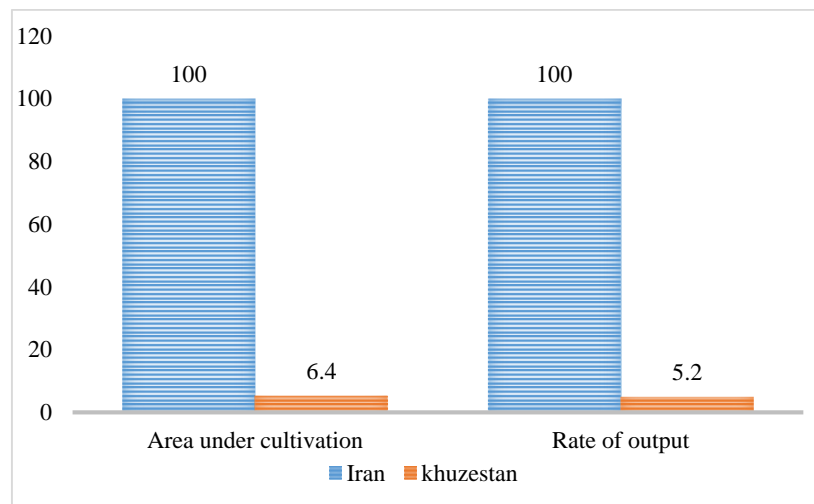
Khuzestan province has the following features in terms of cultivation and production of tomato and horticultural crops. They are specified in the following table and graph .

the Area under cultivation and Khuzestan capacity and rank in production of tomato (2019)

| <i>title</i> | <i>The Area under cultivation (thousand hectare)</i> | <i>The amount of production (thousand tons)</i> | <i>The Area under cultivation relative to the country (percentage)</i> | <i>The Amount of production relative to the country (percentage)</i> |
|---|--|---|--|--|
| <i>Country</i> | 148.4 | 6934 | | |
| <i>Khuzestan province</i> | 9.5 | 363 | 6.4 | 5.2 |
| <i>the Rank of Khuzestan in the country</i> | 6 | 8 | | |

References: Agricultural Statistics Bulletin, Volume I and III, Ministry of Jihad Agriculture, 2020

Percentage of the area under cultivation and the percentage of Khuzestan production of tomato crop (2019)



Therefore, according to the statistics, figures, and the above table, it can be said that Khuzestan province is one of the first provinces in the country in terms of tomato production and the under cultivation area of tomato, and it stands in middle among other provinces in terms of horticultural crops.

Taze Chin Mandegar food industry company is currently active in producing jams (300 ton capacity) and pickles (1000 ton) and saline (500 ton). These products are produced under the “Haasmic” brand. In fact, the production of tomato paste and bottled drinking water is considered as an expansion of the company. The project is highly favorable in terms of access to raw materials, communication infrastructure and access to domestic and foreign markets. It should be noted that if the investor wishes to import and supply machinery with up-to-date technology, it will be welcomed.

It should be noted that if the investor wishes to import and supply up-to-date machineries with advanced technology, it will be welcomed.





1.Product introduction:

The purpose of the present project is to produce tomato paste with a capacity of 12,000 tons and bottled drinking water with a capacity of 9,000 cubic meters per year.

Tomato paste is a convertible (processing) food product that has a lot of beneficial food nutrition so it is used as a seasoning (flavoring and coloring) in most of the foods.

At the tomato paste factory, the product after being entered it is sent for separation and washing to remove the bad and unhealthy tomatoes. After crushing, the high-quality product is undercooked by the steam and then entered in to the main cooking stage. Then, to determine the final concentration according to the standard conditions, the adjusted product enters the tank balance by special pumps, then the tomato paste is transported for packaging and then to the market.

Drinking water comes from natural springs or artificially created wells. In this way, after the purification process, the spring or well water is put into pet containers and then labeled and packaged for the consumption market. Bottled water replaces traditional carbonated drinks for those consumers looking for healthy water. Media attention to rising obesity problems has linked high consumption of carbonated beverages by children which has attracted consumers and increased consumption of packaged water.



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. ISIC code for tomato paste and bottled drinking water are given in the table below.

| Product name | ISIC Code | Unit |
|-------------------------|------------|------|
| tomato paste | 1513512419 | ton |
| Bottled drinking waters | 1554412379 | ton |

Source: organization of Industry, mine and trade

1.2. Customs tariff code

Based on the export and import regulation of Islamic republic of Iran the custom tariff for tomato paste and bottled drinking water are as follows:

| Heading subheading No. | Description |
|---------------------------|---|
| 2002 | Tomatoes prepared or preserved otherwise than by vinegar or acetic acid |
| 20029010 | Tomato paste |
| 2201 | Waters, including natural or artificial mineral waters and aerated waters, not containing added sugar or other sweetening matter nor flavored; ice and snow. |
| 22011000 | mineral waters and aerated waters |
| 22019000 | 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 the tomato paste and bottled drinking water are as follows:

| Heading Subheading No. | Description | SUQ | Import duty |
|------------------------------|---|-----|-------------|
| 2002 | Tomatoes prepared or preserved otherwise than by vinegar or acetic acid | | - |
| 20029010 | Tomato paste | kg | 55 |
| 2201 | Waters, including natural or artificial mineral waters and aerated waters, not containing added sugar or other sweetening matter nor flavored; ice and snow. | | |
| 22011000 | mineral waters and aerated waters | L | 55 |
| 22019000 | Other | L | 55 |

Source : export-import regulations (2020)

Import terms:

1. - The entry is subject to the observance of Article 16 of the Law on Foodstuffs and Beverages approved in 1967.
2. Currently, the import of these products is prohibited.

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

- national Standard

| <i>Number</i> | <i>Title</i> | <i>Country</i> |
|---------------|--|----------------|
| 5489 | Guidline for the production of canned tomato paste | Iran |
| 5766 | Tomato paste- bulk quantities guidline for storage in refrigerating plants | Iran |
| 6760 | Canned- guidline for establishing the HACCP system in canned tomato paste production | Iran |
| 761 | Canned tomato paste Specifications and Test Methods | Iran |
| 1053 | Drinking water - Physical and chemical specifications | Iran |

Source: Institute of Standards and Industrial Research of Iran,2020

International Standard

| No. | Topic of standard | Organization that assigned the abbreviation | Number of standard |
|------------|---|--|---------------------------|
| 1 | Tomato concentrated processed | CAC | 57-1981 |
| 2 | World Health Organization, 2008, "Guidelines for Drinking-Water Quality", second addendum. Vol. 1, Recommendations. | WHO | ISBN 978 92 4 154760 4 |
| 3 | GENERAL STANDARD FOR BOTTLED/ PACKAGED DRINKING WATERS (Other than Natural Mineral Waters) | CAC | 227-2001 |
| 4 | CODEX STANDARD FOR NATURAL MINERAL WATERS | CAC | 108-1981 |

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

The global prices of tomato paste in Italy and California were respectively \$ 875 and \$ 824 per ton. In Iran, this price was variable and was about 154 million Rials per ton.

The price of 1.5 liters of bottled water in Manama Bahrain is 69 cents, in Baghdad 67 cents, in Dubai 59 cents, in Sharjah 55 cents, in Astana of Kazakhstan 51 cents, in Doha 51 cents and in Riyadh 59 cents. Currently, every 1.5 bottles of mineral water in Tehran market costs about 2500 tomans (currency of Iran).

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

Tomato paste is a processed (convertible) food product that contains a large amount of tomato nutrition and is used as a condiment in most of the foods. it is also used as an additive in many of food products.

Tomato paste contains much higher level of vitamin E and carotenoids, such as lycopene. While one slice of raw tomato contains 515 micrograms of lycopene. Half a cup of paste puree contains 192.27 micrograms of lycopene. lycopene is important because it reduces the risk of diseases such as stroke, prostate cancer, lung cancer, and gastric cancer. In fact, the most important national and international use of tomato paste is in cooking and as a seasoning.

Much of the common use of water is as a beverage; the effect of this substance on the metabolism of the body is to such an extent that it is impossible to live without it.

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

Due to the high consumption of tomato paste as a seasoning in various foods and also as an additive to other foods, it seems unlikely that there will be any substitute for this product.

In the case of drinking water, the matter is quite different because it has no substitute, and its lack or absence can seriously endanger the lives of communities.

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

Given the important characteristics of modern and industrial life, which are speed and consequently lack of time, it seems that the use of packaged condiments and juices that can be consumed in a short amount of time; are important in the daily lives of different societies, especially transitional societies in the Middle East, where statistics on women's employment in most countries show a growing trend and hence the of lack of time in families to use traditional products instead is increasingly obvious.

according to FAO statistics, Eastern Europe countries , Russia, the Middle East and Iraq will be the world's largest consumers of tomato paste in the next 7 years. Whereas, Iran is one of the largest tomato paste producers in the world. In other words, if Iran can make good use of the existing markets in the region, the production of tomato paste in Iran will be guaranteed.

The scarcity of sweet water resources, especially in a dry country like Iran, arouses necessitates to sufficient attention to the supply and consumption of a strategic product such as drinking water. As such, it seems unlikely that the cheap and affordable supply of this product can continue for years. Therefore, planning on how to manage the supply and demand of drinking water in the near future seems necessary and this indicates the strategic importance of the product.

1.9. The major producing countries and product consumer

The largest producers of tomato paste in the world in 2017 are the US, China, Italy, Spain, Portugal, Turkey and Iran.

The United States, China, Mexico, and Italy are currently at the top of the list of manufacturers and consumers. In the next five years, it is expected that the highest growth will be in India, Pakistan, New Zealand, Bolivia, Russia and the Czech Republic. Mineral water sales in the Asian and Australian regions have nearly doubled in the last five years. In terms of consumption, these regions are in second place after Western Europe and displayed the highest growth.



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

The process of tomato paste production in recent years has been influenced by the export status of this product, especially to the two countries of Iraq and Afghanistan, and the capacity of the major producers of this product has been more aligned with the mentioned countries. At present, the exploitation capacity is between 1.2 million tons and 1.5 million tons. Also, most of the machineries for this product is supplied by Italy and China.

In Iran, after nearly 40 years, the mineral water companies have expanded from two companies to 80 companies, although these companies are not operating at their full capacities. The production of this product has increased from 10 million bottles in 1990 to about 4 billion liters in recent years. Although this is a significant improvement, it has not yet reached a desirable

position compared towards European countries. The smallest mineral water plant in Europe sells 100 million bottles annually, but the largest potable water plant in Iran has this capacity. Experts see this discrepancy as the technology of production. Therefore, it can be said that there is significant production capacity and potential in Iran for this product if technology upgrades. Currently, most of the machinery for this product is supplied by Italy, France and Japan.

Based on data obtained from the Organization of Industry, mine and Trade, the tomato paste and bottled drinking water units and their amount (capacity) of production are presented in the following table.

Of licensed operation unit in the field of tomato paste

| No. | Province | Number of units | Capacity (ton) | investment | |
|---------------------------------|-----------------------------|-----------------|------------------|-------------------|---------------|
| | | | | million Rials | million Euro |
| 1 | Ardabil | 5 | 8,170 | 48,635 | |
| 2 | Isfahan | 7 | 36,450 | 439,167 | - |
| 3 | Alborz | 33 | 62,862 | 1,364,400 | 0.8 |
| 4 | Ilam | 1 | 4,000 | 12,021 | 2.278 |
| 5 | Azerbaijan, East | 14 | 34,800 | 2,179,983 | - |
| 6 | Azerbaijan, West | 28 | 58,750 | 1,874,381 | 6.183 |
| 7 | Bushehr | 1 | 2,000 | 76,500 | - |
| 8 | Tehran | 52 | 86,429 | 1,151,488 | - |
| 9 | Chahar Mahaal and Bakhtiari | 1 | 1,500 | 3,100 | - |
| 10 | Khorasan, North | 1 | 2,000 | 382 | - |
| 11 | Khorasan, Razavi | 57 | 248,018 | 1,761, | - |
| 12 | Khuzestan | 8 | 64,300 | 93,614 | - |
| 13 | Zanjan | 5 | 17,300 | 108,634 | - |
| 14 | Semnan | 3 | 8,000 | 76,224 | - |
| 15 | Fars | 39 | 223,610 | 967,104 | - |
| 16 | Qazvin | 9 | 57,343 | 431,847 | - |
| 17 | Qom | 3 | 6,000 | 104,134 | - |
| 18 | Kurdistan | 2 | 550 | 103,290 | - |
| 19 | Kermanshah | 3 | 46,500 | 677,253 | - |
| 20 | Golestan | 12 | 179,100 | 397,112 | 1.640 |
| 21 | Gilan | 3 | 2,500 | 78,473 | 0.035 |
| 22 | Lorestan | 5 | 11,300 | 457,046 | - |
| 23 | Mazandaran | 10 | 37,600 | 162,025 | - |
| 24 | Hamadan | 7 | 28,900 | 492,334 | - |
| 25 | Yazd | 2 | 1,150 | 20,125 | 0.035 |
| Total nominal capacity | | 311 | 1,297,877 | 13,826,617 | 10.971 |
| Practical capacity (80%) | | 248 | 1,038,301 | | |

Source: organization of Industry, Mine and Trade

Of licensed operation unit in the field of bottled drinking water

| NO. | Province | Number of units | Capacity (m ³) | investment | |
|---------------------------------|-----------------------------|-----------------|----------------------------|-------------------|----------------|
| | | | | million rials | million Euro |
| 1 | Ardabil | 1 | 6,000 | 76,459 | 0 |
| 2 | Isfahan | 5 | 89,500 | 186,090 | 0 |
| 3 | Alborz | 8 | 7,075 | 291,386 | 0.15 |
| 4 | Ilam | 1 | 0 | 14,484 | 0 |
| 5 | Azerbaijan, East | 14 | 10,264,200 | 651,684 | 1.445 |
| 6 | Azerbaijan, West | 8 | 78,200 | 273,247 | 0 |
| 7 | Bushehr | 4 | 4,655,000 | 112,491 | 0 |
| 8 | Tehran | 21 | 497,796 | 2,727,432 | 6.107 |
| 9 | Chahar Mahaal and Bakhtiari | 2 | 15,000 | 16,550 | 0 |
| 10 | Khorasan, South | 3 | 17,600 | 117,633 | 0.067 |
| 11 | Khorasan, Razavi | 18 | 193,590 | 1,027,669 | 0.474 |
| 12 | Khorasan, North | 1 | 100 | 200,100 | 0 |
| 13 | Khuzestan | 26 | 46,817,200 | 5,972,447 | 0 |
| 14 | Zanjan | 2 | 142,500 | 77,000 | 0 |
| 15 | Semnan | 1 | 2,000 | 21,468 | 0 |
| 16 | Sistan and Baluchestan | 5 | 10,030,200 | 532,160 | 6.5 |
| 17 | Fars | 4 | 40,700 | 631,951 | 4.8 |
| 18 | Qazvin | 10 | 165,750 | 471,741 | 0 |
| 19 | Qom | 5 | 1,415,540 | 67,470 | 0 |
| 20 | Kurdistan | 2 | 45,000 | 24,800 | 0 |
| 21 | Kerman | 6 | 39,750 | 71,795 | 0 |
| 22 | Kermanshah | 11 | 144,750 | 714,993 | 0 |
| 23 | Kohgiluyeh and Boyer-Ahmad | 4 | 57,000 | 27,509 | 0 |
| 24 | Golestan | 5 | 65,000 | 192,385 | 0 |
| 25 | Gilan | 1 | 123,600 | 128,000 | 0 |
| 26 | Mazandaran | 11 | 231,952 | 2,769,410 | 258 |
| 27 | Markazi | 4 | 39,000 | 52,920 | 0 |
| 28 | Hormozgān | 19 | 6,397,038 | 10,001,593 | 0 |
| 29 | Hamadan | 6 | 95,100 | 157,500 | 0 |
| Total nominal capacity | | 208 | 81,676,141 | 27,610,368 | 277.543 |
| Practical capacity (70%) | | 146 | 57,173,299 | | |

Source: organization of Industry, Mine and Trade

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 data obtained from the Organization of Industry, Mine and Trade, the units under construction of tomato paste and juice and their volume of production are presented in the following table.

Under Construction Units of tomato paste with 20-99% of physical progress

| No | Province | Number of units | Capacity (ton) | investment | |
|--|-----------------------------|-----------------|----------------|---------------|--------------|
| | | | | million Rials | million Euro |
| Units under construction of tomato paste with physical development 60%-99% | | | | | |
| 1 | Isfahan | 2 | 13,500 | 122,577 | 0.158 |
| 2 | Alborz | 2 | 11,500 | 1,015,734 | 22.631 |
| 3 | Azerbaijan, East | 3 | 6,500 | 84,210 | - |
| 4 | Azerbaijan, West | 3 | 8,000 | 233,357 | 0.762 |
| 5 | Tehran | 4 | 4,500 | 66,220 | |
| 6 | Kerman | 10 | 85,800 | 4,247,140 | 71.051 |
| 7 | Chahar Mahaal and Bakhtiari | 1 | 100 | 4,429 | - |
| 8 | Khorasan, Razavi | 2 | 7,500 | 207,200 | - |
| 9 | Khuzestan | 4 | 118,200 | 1,461,304 | - |
| 10 | Zanjan | 1 | 150 | 28,500 | - |
| 11 | Fars | 5 | 42,900 | 337,000 | - |
| 12 | Qazvin | 4 | 8,300 | 193,170 | - |
| 13 | Kurdistan | 1 | 7,500 | 10,450 | - |
| 14 | Kohgiluyeh and Boyer-Ahmad | 1 | 4,500 | 73,636 | - |
| 15 | Golestan | 1 | 1,500 | 20,000 | - |
| 16 | Mazandaran | 1 | 1,200 | 22,017 | - |
| 17 | Markazi | 1 | 2,500 | 36,227 | - |
| 18 | Hamadan | 1 | 2,000 | 70,000 | - |
| Total Sum | | 47 | 326,150 | 8,233,171 | 114.588 |
| Units under construction of tomato paste with physical development 20%-59% | | | | | |
| 1 | Isfahan | 1 | 3,000 | 4,800 | - |
| 2 | Alborz | 1 | 300 | 187,648 | 1.667 |
| 3 | Azerbaijan, East | 2 | 4,000 | 91,406 | - |
| 4 | Azerbaijan, West | 2 | 21,000 | 250,029 | 6.54 |
| 5 | Tehran | 8 | 11,400 | 87,732 | - |
| 6 | Kerman | 1 | 15,000 | 26,380 | - |
| 7 | Zanjan | 1 | 25,000 | 57,130 | - |
| 8 | Kerman | 1 | 500 | 105,959 | - |
| 9 | Fars | 1 | 6,000 | 40,000 | - |
| 10 | Qazvin | 4 | 4,700 | 79,709 | - |
| 11 | Qom | 1 | 100 | 24,206 | 0.02 |
| 12 | Kurdistan | 1 | 30,000 | 150,000 | - |
| 13 | Golestan | 1 | 6,000 | 65,100 | - |
| 14 | Gilan | 2 | 700 | 32,300 | - |
| 15 | Lorestan | 1 | 8,000 | 42,782 | - |
| 16 | Mazandaran | 1 | 500 | 5,503 | - |
| 17 | Markazi | 3 | 10,500 | 751,249 | 3.58 |
| 18 | Yazd | 2 | 6,000 | 155,000 | - |
| Total Sum | | 34 | 152,700 | 2,156,933 | 11.807 |

Under Construction Units of bottled drinking water with 20-99% of physical progress

| NO. | Province | Number of units | Capacity (m³) | investment | |
|--|------------------|-----------------|---------------|---------------|--------------|
| | | | | million Rials | million Euro |
| Units under construction of bottled drinking water with physical development 60%-99% | | | | | |
| 1 | Isfahan | 2 | 29,000 | 120,000 | 0.1 |
| 2 | Azerbaijan, East | 2 | 62,000 | 623,200 | 15.6 |
| 3 | Bushehr | 2 | 365,000 | 29,000 | 0 |
| 4 | Khorasan, Razavi | 1 | 5,000 | 24,828 | 0 |
| 5 | Zanjan | 1 | 30,000 | 12,500 | 0 |
| 6 | Semnan | 1 | 45,000 | 20,000 | 0 |
| 7 | Kerman | 1 | 21,000 | 154,040 | 0 |
| 8 | Kermanshah | 1 | 25,000 | 40,210 | 0 |
| 9 | Golestan | 1 | 3,000 | 6,200 | 0 |
| 10 | Gilan | 1 | 52,000 | 108,850 | 0 |
| 11 | Mazandaran | 3 | 51,000 | 305,054 | 0 |
| 12 | Hormozgān | 4 | 393,600 | 18,834 | 0 |
| Total Sum | | 20 | 1,081,600 | 1,462,716 | 15.7 |
| Units under construction of bottled drinking water with physical development 20%-59% | | | | | |
| 1 | Azerbaijan, East | 2 | 12,500 | 17,500 | 0 |
| 2 | Bushehr | 1 | 1,752,000 | 2,554,708 | 0 |
| 3 | Khorasan, South | 1 | 1,500 | 4,500 | 0 |
| 4 | Khuzestan | 4 | 146,200 | 83,159 | 0 |
| 5 | Zanjan | 1 | 50,000 | 20,000 | 0 |
| 6 | Fars | 1 | 25,000 | 100,000 | 0 |
| 7 | Kermanshah | 2 | 20,500 | 16,000 | 0 |
| 8 | Hormozgān | 2 | 49,200 | 26,206 | 0 |
| Total Sum | | 14 | 2,056,900 | 2,822,073 | 0 |

Source: organization of Industry, Mine and Trade

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

Due to the remarkable domestic potential in the production of tomato and consequently tomato paste and the type of tomato paste market that has competitive prices, over the last 5 years (2014-2019), this product has not been imported so far.

But regarding drinking water imports, according to the customs statistics of Iran during the last 5 years, only in two years (2018 and 2017) has been imported. The statistics also show that the greatest imports were from France.

The below table show the amount of drinking water imports during the last 5 years.

Imports of drinking water in the last 5 years

| year | Weight (ton) | Rails value | Dollar value | Description |
|---------|--------------|---------------|--------------|----------------------|
| 2018-19 | 0 | 0 | 0 | - |
| 2017-18 | 223 | 6,331,035,049 | 187,081 | France:46%_ UAE: 34% |
| 2016-17 | 136 | 2,610,201,560 | 80,719 | France:100% |
| 2015-16 | 0 | 0 | 0 | - |
| 2014-15 | 0 | 0 | 0 | - |

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

Imports of drinking water divided by country in 2018-2019

| NO. | Country | Weight (kg) | Value (Rials) | Value (Dollar) | Weight percent% |
|------------|---------|----------------|----------------------|----------------|-----------------|
| 1 | France | 103,760 | 3,259,473,325 | 93,732 | 46 |
| 2 | UAE | 75,062 | 2,738,500,380 | 84,420 | 34 |
| 3 | Turkey | 44,600 | 333,061,344 | 8,929 | 20 |
| Sum | | 223,422 | 6,331,035,049 | 187,081 | 100 |

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

Imports of drinking water divided by country in 2017-2018

| NO. | Country | Weight (kg) | Value (Rials) | Value (Dollar) | Weight percent% |
|------------|---------|----------------|----------------------|----------------|-----------------|
| 1 | France | 136,826 | 2,610,201,560 | 80,719 | 100 |
| Sum | | 136,826 | 2,610,201,560 | 80,719 | 100 |

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

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.

As can be seen from the following tables, the apparent consumption of tomato paste and bottled water in 2019-2020 was estimated to be 883 thousand tons and 57 million cubic meters, respectively.

Estimating apparent consumption of tomato paste 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) | 389,664 | 504,798 | 687,845 | 806,436 | 883,224 | 987,512 |
| Imports (tons) | 0 | 0 | 0 | 0 | 0 | 0 |
| Export (tons) | 128,172 | 114,764 | 149,767 | 134,450 | 104,348 | 104,348 |
| The apparent consumption | 261,492 | 390,034 | 538,078 | 671,986 | 778,876 | 883,164 |

Estimating apparent consumption of drinking water in the country over the past 5 years (2014-2019)

| | 2014-2015 | 2015-2016 | 2016-2017 | 2014-2015 | 2015-2016 | 2019-2020 |
|--|------------|------------|------------|------------|------------|------------|
| Domestic production (m ³) | 36,908,929 | 45,065,698 | 50,920,250 | 56,668,426 | 57,123,695 | 57,161,351 |
| Imports (m ³) | 0 | 0 | 136 | 223 | 0 | 0 |
| Export (m ³) | 7,060 | 1,851 | 1,874 | 2,955 | 2,733 | 2,733 |
| The apparent consumption (m ³) | 36,901,869 | 45,063,847 | 50,918,512 | 56,665,694 | 57,120,962 | 57,158,618 |

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

Iran is considered as one of the six leading countries in exporting tomato paste. In 2019, despite significant inflationary and governmental pressure to control prices, one of the most significant effects of the ban on export of goods such as tomato paste was crystallized in those months of the year. We saw 105,000 tons of this product being exported to various countries, most notably Iraq and Afghanistan; although the weight and currency of export in 2019 was the lowest in the last five years. According to the significant potential of the industry and the export trend before 2019, make us to hope that the export trend will continue to rise in the coming years. The table below shows the export of tomato paste over the last 5 years.

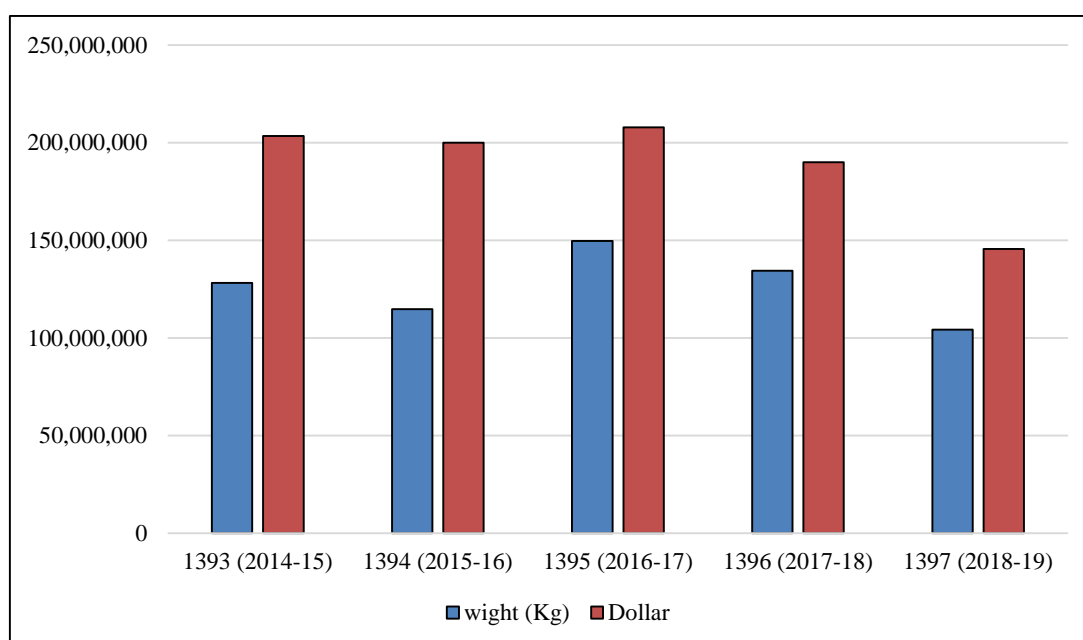
Drinking water exports have almost declined over the past five years, however, with the largest amount of exports took place in 2014-2015. The main part of drinking water exports have been to Pakistan and Afghanistan in recent years.

Exports of tomato paste in the last 5 years

| year | Weight (ton) | Rails value | Dollar value | Description |
|---------|--------------|-------------------|--------------|---------------------------|
| 2018-19 | 104,348 | 8,127,368,451,203 | 145,668,900 | Iraq61% - Afghanistan 34% |
| 2017-18 | 134,450 | 6,518,611,861,131 | 190,024,644 | Iraq60% - Afghanistan31% |
| 2016-17 | 149,767 | 6,537,209,516,815 | 207,970,703 | Iraq62% - Afghanistan 27% |
| 2015-16 | 114,764 | 5,907,271,124,979 | 200,100,723 | |
| 2014-15 | 128,172 | 5,391,933,747,011 | 203,539,737 | |

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

The amount and value of tomato paste exports in the last 5 years



Exports of tomato paste divided by country in 2018-2019

| No. | Country | Weight (kg) | Value (Rials) | Value(Dollar) | Weight % |
|------------|--------------------|--------------------|--------------------------|--------------------|--------------|
| 1 | Iraq | 62,406,780 | 4,852,897,408,779 | 87,027,798 | 61.61 |
| 2 | Afghanistan | 34,344,902 | 2,774,401,087,699 | 48,561,578 | 33.91 |
| 3 | Federation Russian | 1,270,107 | 79,243,579,113 | 1,778,293 | 1.25 |
| 4 | Pakistan | 943,131 | 67,343,967,890 | 1,161,625 | 0.93 |
| 5 | Kuwait | 513,596 | 35,203,244,860 | 690,706 | 0.51 |
| 6 | Kazakhstan | 305,307 | 18,371,347,260 | 393,990 | 0.30 |
| 7 | Australia | 239,408 | 13,321,016,583 | 286,798 | 0.24 |
| 8 | Bahrain | 245,549 | 13,483,155,706 | 284,798 | 0.23 |
| 9 | Turkey | 153,162 | 9,663,089,912 | 162,119 | 0.15 |
| 10 | Qatar | 116,754 | 8,681,420,580 | 174,526 | 0.12 |
| 11 | Other countries | 783,616 | 54,759,132,821 | 1,120,054 | 0.74 |
| Sum | | 101,322,312 | 7,927,368,451,203 | 141,642,286 | 100 |

Exports of tomato paste divided by country in 2017-2018

| No. | Country | Weight (kg) | Value (Rials) | Value (Dollar) | Weight % |
|------------|--------------------|--------------------|--------------------------|--------------------|--------------|
| 1 | Iraq | 81,164,820 | 3,989,159,286,919 | 116,364,230 | 60.37 |
| 2 | Afghanistan | 42,106,843 | 2,100,046,964,603 | 60,924,062 | 31.32 |
| 3 | Federation Russian | 3,417,383 | 121,758,220,119 | 3,624,474 | 2.54 |
| 4 | UAE | 3,159,740 | 102,811,490,668 | 3,130,924 | 2.35 |
| 5 | Pakistan | 932,255 | 40,115,003,123 | 1,164,264 | 0.69 |
| 6 | Kuwait | 749,710 | 35,630,668,939 | 1,029,147 | 0.56 |
| 7 | Kazakhstan | 555,105 | 24,484,954,067 | 725,977 | 0.41 |
| 8 | Turkmenistan | 432,613 | 20,392,099,025 | 592,326 | 0.32 |
| 9 | Qatar | 239,615 | 11,846,889,354 | 345,360 | 0.18 |
| 10 | Turkey | 186,079 | 5,152,516,373 | 158,276 | 0.14 |
| 11 | Other countries | 1,506,754 | 67,213,767,941 | 1,965,604 | 1.12 |
| Sum | | 134,450,917 | 6,518,611,861,131 | 190,024,644 | 100 |

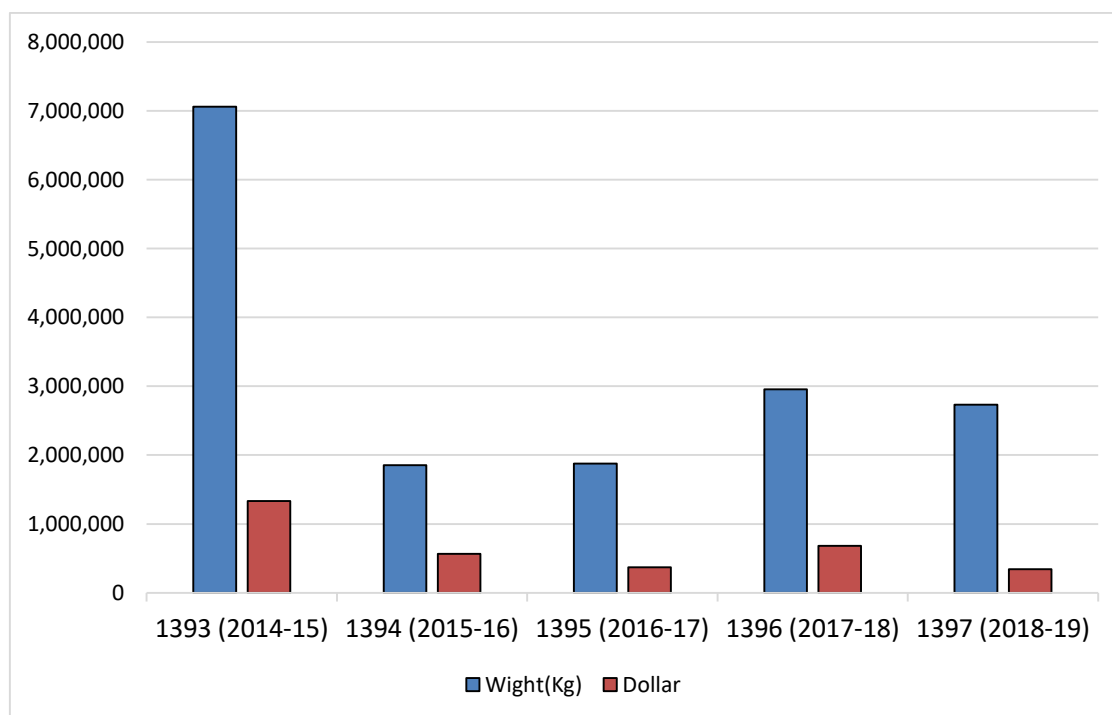
Source :The Islamic Republic of Iran Customs Administration (2020)

Exports of drinking water in the last 5 years

| year | Weight (ton) | Rails value | Dollar value | Description |
|---------|--------------|----------------|--------------|--------------------------------|
| 2018-19 | 2,733 | 17,102,691,923 | 342,408 | Pakistan 51% - Afghanistan 19% |
| 2017-18 | 2,955 | 23,077,591,580 | 683,066 | Pakistan 43% - Afghanistan 16% |
| 2016-17 | 1,874 | 11,634,579,517 | 371,944 | |
| 2015-16 | 1,851 | 16,580,540,923 | 563,527 | |
| 2014-15 | 7,060 | 34,859,911,059 | 1,332,876 | |

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

The amount and value of drinking water exports in the last 5 years



Exports of drinking water divided by country in 2018-2019

| NO. | Country | Weight (kg) | Value (Rials) | Value (Dollar) | Weight percent% |
|------------|-------------|------------------|-----------------------|----------------|-----------------|
| 1 | Pakistan | 1,420,133 | 10,310,098,848 | 203,372 | 51.95 |
| 2 | Afghanistan | 529,967 | 1,776,512,877 | 35,717 | 19.39 |
| 3 | Oman | 392,398 | 2,118,973,342 | 42,410 | 14.35 |
| 4 | Kuwait | 159,769 | 952,627,131 | 15,835 | 5.84 |
| 5 | Iraq | 72,065 | 746,049,051 | 17,463 | 2.64 |
| 6 | Azerbaijan | 47,509 | 178,002,138 | 4,208 | 1.74 |
| 7 | Qatar | 47,308 | 771,705,300 | 18,369 | 1.73 |
| 8 | Malaysia | 44,538 | 73,265,220 | 1,744 | 1.63 |
| Sum | | 2,713,687 | 16,927,233,907 | 339,118 | 100 |

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

Exports of drinking water divided by country in 2017-2018

| NO. | Country | Weight (kg) | Value (Rials) | Value (Dollar) | Weight percent% |
|------------|--------------|------------------|-----------------------|----------------|-----------------|
| 1 | Pakistan | 1,282,772 | 5,860,582,818 | 173,549 | 43.40 |
| 2 | Afghanistan | 467,879 | 2,282,353,430 | 68,167 | 15.83 |
| 3 | Qatar | 284,574 | 5,904,074,977 | 176,695 | 9.63 |
| 4 | Oman | 258,298 | 1,003,217,626 | 28,859 | 8.74 |
| 5 | Bahrain | 203,858 | 1,308,625,497 | 38,381 | 6.90 |
| 6 | UAE | 183,736 | 664,887,385 | 20,498 | 6.22 |
| 7 | Kuwait | 178,882 | 5,746,947,371 | 168,031 | 6.05 |
| 8 | Turkmenistan | 48,885 | 178,349,713 | 5,377 | 1.65 |
| 9 | Azerbaijan | 44,352 | 114,731,971 | 3,105 | 1.50 |
| 10 | Iraq | 1,000 | 6,649,380 | 204 | 0.03 |
| 11 | Georgia | 964 | 5,247,610 | 142 | 0.03 |
| 12 | Armenia | 165 | 1,923,802 | 58 | 0.01 |
| Sum | | 2,955,365 | 23,077,591,580 | 683,066 | 100 |

2.6. Reviewing of products needs based on export priority

Given the growth trend of tomato paste consumption over the past 5 years, which represents an average of 27% growth annually, it is most cautious to consider half of the above growth (13%) as consumption growth in the years 2020 to 2025. also considering the issue of economy resistance, oil sanctions and the need to pay attention to the development of profitable non-oil products exports, the export growth is also estimated at about 10% given the past five-year average and Based on this, the amount or surplus of the tomato product is calculated for the next 5 years. As can be inferred from the following table, by the year of 2025 Iran will face approximately 460 thousand tons of shortage regarding the production of tomato paste. Therefore, in order to alleviate this shortage we either need to expand the existing units or to build new units or to export this product.

Estimating the required amount of tomato paste over the next 5 years

| Production | 2020-2021 | 2021-2022 | 2022-2023 | 2023-2024 | 2024-2025 |
|--|------------------|------------------|------------------|------------------|------------------|
| The domestic consumption (tons) | 997,975 | 1,127,711 | 1,274,314 | 1,439,975 | 1,627,172 |
| Export (tons) | 114,783 | 126,261 | 138,887 | 152,776 | 168,053 |
| Total demand (tons) | 1,112,758 | 1,253,973 | 1,413,201 | 1,592,751 | 1,795,225 |
| Output of current units (tons) | 987,512 | 987,512 | 987,512 | 987,512 | 987,512 |
| Production of new operational units (tons) | 73,058 | 218,734 | 286,972 | 322,226 | 347,043 |
| Total supply (tons) | 1,060,569 | 1,206,246 | 1,274,483 | 1,309,737 | 1,334,554 |
| (Shortage) / surplus | (52,188) | (47,727) | (138,718) | (283,014) | (460,671) |

Given the growth trend of drinking water consumption over the last 5 years, which represents an average of 12% growth annually, it is most cautious to consider half of the above growth (6%) as consumption growth of 2020 to 2025 years. also considering the need for, the development of non-oil product exports, the export growth should be considered to be about 3% over the past five-year average and Based on this, the shortage or surplus of the drinking water product of the next 5 years is estimated.

As can be inferred from the table below, by the year of 2025 Iran will face a shortage of about 17 million cubic meters of drinking water, Therefore, in order to alleviate this shortage we either need to expand the existing units or to build new units or to export this product.

Estimating the required amount of bottled drinking water over the next 5 years

| Production | 2020-2021 | 2021-2022 | 2022-2023 | 2023-2024 | 2024-2025 |
|---|--------------------|--------------------|--------------------|---------------------|---------------------|
| The domestic consumption (m ³) | 60,588,135 | 64,223,423 | 68,076,829 | 72,161,438 | 76,491,125 |
| Export (m ³) | 2,815 | 2,899 | 2,986 | 3,076 | 3,168 |
| Total demand (m³) | 60,590,950 | 64,226,323 | 68,079,815 | 72,164,514 | 76,494,293 |
| Output of current units (m ³) | 57,161,351 | 57,161,351 | 57,161,351 | 57,161,351 | 57,161,351 |
| Production of new operational units (m ³) | 181,709 | 768,196 | 1,306,179 | 1,473,920 | 1,615,703 |
| Total supply (m³) | 57,343,060 | 57,929,548 | 58,467,531 | 58,635,272 | 58,777,054 |
| (Shortage) / surplus | (3,247,890) | (6,296,775) | (9,612,285) | (13,529,243) | (17,717,239) |

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

1-3-Technology and a description of tomato paste production line

This section describes the production process and the equipment of the production line used in most Iranian tomato paste factories.

A. receiving the tomato

The tomatoes are brought into the factory in a basket or plastic boxes of approximately 25kg or in bulk by truck and after weighing they are placed on the loading platform of the factory.



B. the Receipt line and wash basin

These wash basins are made of stainless steel or fully galvanized metal tanks to prevent the product from being blackened by exposure to iron and corrosion.



C. Inspecting & Sorting

Sorting operations include cleaning, grading and segregation of bad products (moldy, rotten, premature, damaged, crushed tomatoes, as well as impurities such as leaves and tomatoes sepal, etc).

After washing, the tomatoes are entered into the Sorting belt. The belt is 60-90 cm wide and 6-12 cm long and is made of aluminum or metal tole. and it is constructed in such a way that while a transitive move, it rotates and moves from under geysers. The construction of gutters or nozzles is such that it raises the water pressure, which in turn causes the tomato to be thoroughly washed and all the external materials attached to it are removed and it also Washes inside the possible cracks that exist in the tomatoes. The capacity of the surge line is usually five times more than the capacity of the condensing boilers.



D. the Crusher

After sorting, the crushing is performed on the product. In crushing, the size of the product is reduced by a small crusher.

E. Crushing hopper

The tank is located under the crusher with a volume of about one cubic meter or a thousand liters. It is equipped with a control valve that is proportional to the sorting capacity. This control valve or sensor is such that it does not allow the hopper to overflow with the crushed tomato and it adjusts the hopper capacity.

F. Pre-heater

The Sliced tomatoes in the crushing hopper are then entered into the preheater. The heater is made up of a 12 to 14 inch thick tube. Inside this tube there are steel tubes with 20 to 30 mm diameter. Behind these tubes there are also boiling water or steam pipes that heat the chopped tomatoes. The chopped tomatoes should be heated at least 85 to 90 degrees Celsius. It is important to note that the tomato juice passes through the gravel pass before entering the filter and then enters the filter.

G. Turbo filter

It is a cylindrical machine with a torso-steel body and a central axis of steel-metal blades. when it rotates under the pressure of the blade and the centrifugal force, the product sticks between the blade and the filter and then the tomato juice is extracted and collected in the tank and the skin and seeds are pushed out from the other side.

The quality control laboratory should regularly take samples from the tomato juice that passed the filter, and if any additional particles are found, the filter should be inspected and washed if necessary. At the end, the nets should be taken out from the compartment and thoroughly wash the filter with warm water.

H. Tomato juice storage tank

After separating the tomato juice, the juice is directed to the condensing tank, which is used to charge the condenser. since tomato juice may not be immediately used, so it must be stored in the tank. Tomato juice storage tanks are made of stainless steel and it is better to have a stirrer to prevent water deposition (creation of two phases).

I. Concentrators (Batch, Continues)

After being sieved, the tomato juice is directed into the condensing apparatus. At this stage, by evaporation, the amount of solids increases in tomato juice until it reaches the desired concentration. this process reduces shipping, transportation and storing costs, in addition to

increasing the shelf life of the product. The condensation process may be performed using vacuum heat treatment or membrane-based processes such as Ultra Filtration.

Typically the standard concentrations for paste are 28 to 30% (double concentrate) or 36 to 40% (triple concentrate).

J. pasteurizer

For the purpose of sterilization and to increase the shelf life of tomato paste, after condensation the tomato paste is entered into the pasteurizer machine and heated and concentrated at a temperature of 85 to 90 ° C. Inside the pasteurizer there is a heat exchanger and reciprocating tubes. Inside these tubes there is the tomato paste and around these tubes hot water flows. the paste regularly circulates inside these tubes until it reaches the desired temperature. The paste then enters the pasteurizer tank and from there through pipes it enters the filler tank.

It should be noted that hot water in the pasteurizer is used for stabilizing the color of the paste, because if steam is used for this purpose, when the vapor stops, the paste will stuck in the pipe and it will be destroyed (burnt).

K. Filler

The machine used in this method is a fixed and rotary piston type. In this condition the paste enters the packaging containers by a piston at the temperature of 90 ° C and does not require airing or extrusion before sealing, but if this happens after initial pasteurization and prior to filling the containers which are stored in storage tanks that cools them down the cans which are previously sterilized by water vapor must be ventilated or exhaled after filling..

L. capping

The cans are capped by a "simmer" machine. Food cans should be immediately capped after filling and evacuation.

M. The Second pasteurizer (main)

After capping, the main pasteurization process is performed on the cans. This is done by moving the cans into the baking tunnel by means of a conveyor. In this tunnel which is flooded with hot water, the cans are heated for 30-35 minutes at a temperature of 95-100 ° C, and then they are placed under cold water. At this moment, the product receives a heat shock and therefore if there is any microbial contamination it is removed by this shock. The product is placed under the shower for 15 minutes.



N. coding

At this stage, codes of the (production, expiration date, product price and the production time) are printed by jet printer on the can or on the label.

O. labeling

Labels are installed by the worker on the can .

R. Packaging

The packing is done by the sharing pack machine, in a way that after labelling, 12 cans are placed by workers in the box and then wrapped with sharing pack machine by plastic. or 24 cans are placed in a carton and then by a worker they are placed on a palt and then transported to the warehouse by a forklift.

S. storing the product

The packaged product stays in the warehouse for 7 to 10 days so that if there is a problem with the product the loading will be avoided.

3-2- Technology and Description of Drinking Water Production Line

Generally, the stages of production of drinking water are:

- a. Water transfer from water sources
- b. Water storage tanks
- c. Water refinery: including water transparency, water filtration, flavor adjustment, water color and odor, final water filtration stage, water sterilization stage
- d. Bottle alignment stage
- e. Bottle washing, filling and capping
- f. Labeling stage
- g. The stage of printing production specifications
- h. Shrink Wrap Nylon



The water sterilization stage is one of the most important stages of bottled water production. At this stage, a system of ozone production and injection is used to eliminate any possible microbial

contamination in the water and to sanitize it. During the water ozonation process, any microbial contamination is eliminated and water is 100% sterile and ready to be filled. In the last decade, the demand for ozone has increased in the bottled water and beverage industries. Most drinking water producer companies tend to use ozone to increase the quality of produced water and consumers' demand for water quality.

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

■ Tomato paste

One of the weaknesses of the tomato paste industry is the problem of tomato transportation. Recently, tomatoes are unloaded with water. This is a recommended method. The benefits of this method are the protective role of water in transportation, longer washing time, prevention of mold growth by adding fungicides to water and the reduction of labor costs.

Another way to improve the tomato processing process is to acidify it before processing, which prevents the survival of flat sour spores. Also one of the major factors affecting the cost of production is the thermal energy waste. But re-steaming compression technology can be used instead. through this system the steam can be ready to be reused.

Fluctuations in the price of raw materials for bottles are the major problem for drinking water producers. And the main reason for this is the inflation of the dollar, which is affecting the price of petrochemicals.

■ Bottled water

The environmental impact and high prices of pet bottles can be a major drawback of the existing technology. In the process of water production due to the use of large amounts of energy for its extraction, processing, packaging and transportation, it has significant environmental impacts and dramatically increases the price of the product. Of course, these effects also have to be added to the waste generated by empty bottles in landfills around the world. Easy access to production technology is the most important strength of the product.

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 market need especially that of Khuzestan and the neighboring provinces as well as the project export objectives, and also taking into account the economic capacity, the annual capacity of the project is estimated to be as 12,000 tons of tomato paste and 9,000,000 liters of bottled drinking water. This will be achieved in 250 working days and one shift per day if the cash needed to purchase the machineries is provided.

The estimated time required to supply equipment and raw materials is 6 months.

Plan production and sales over the next 4 years

| Years of operation | | first year 6 months | second year | third year | forth year |
|--|----------------------|------------------------|------------------|------------------|------------------|
| Percentage of capacity | | 70% | 80% | 90% | 100% |
| Tomato paste (ton) | | 4,200 | 9,600 | 10,800 | 12,000 |
| Bottled drinking water (m ³) | | 3,150 | 7,200 | 8,100 | 9,000 |
| The outcome of selling | | | | | |
| Tomato paste* | | 512,400 | 1,171,200 | 1,317,600 | 1,464,000 |
| Bottled drinking water* | | 646,800 | 1,478,400 | 1,663,200 | 1,848,000 |
| Total sales | million Rials | 697,232 | 1,593,600 | 1,792,800 | 1,992,000 |
| | Million Euro | 2.54 | 5.82 | 6.54 | 7.27 |

- Sale price of :**

Tomato paste*: 154 million Rial/ton

Bottled drinking water*: 16 million Rial/m³

Exchange rate:

1 Euro \cong 274,000 Rials

1 US\$ \cong 228,000 Rials

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 | 6,000.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6,000.0 | 0.022 |
| landscaping | 5,424.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5,424.0 | 0.020 |
| Construction | 45,050.0 | 0.0 | 0.0 | 3,000.0 | 3,000.0 | 48,050.0 | 0.175 |
| utilities | 4,200.0 | 0.0 | 0.0 | 500.0 | 500.0 | 4,700.0 | 0.017 |
| Equipment& Machinery | 0.0 | 0.0 | 0.0 | 120,000.0 | 120,000.0 | 120,000.0 | 0.438 |
| laboratory equipment | 1000.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1000.0 | 0.004 |
| transportation | 0.0 | 0.0 | 0.0 | 5,500.0 | 5,500.0 | 5,500.0 | 0.02 |
| Office Equipment & Supplies | 565.0 | 0.0 | 0.0 | 0.0 | 0.0 | 565.0 | 0.002 |
| Other and unpredicted | 0.0 | 0.0 | 0.0 | 6,000.0 | 6,000.0 | 6,000.0 | 0.022 |
| total | 62,239.0 | 0.0 | 0.0 | 135,000.0 | 135,000.0 | 197,239.0 | 0.720 |
| Pre-exploitation cost | 300.0 | 0.0 | 0.0 | 1000.0 | 1000.0 | 1300.0 | 0.005 |
| Total of fixed Capital | 62,539.0 | 0.00 | 0.00 | 136,000.00 | 136,000.00 | 198,539.00 | 0.725 |
| Working capital | 0.00 | 0.00 | 0.00 | 275,534.63 | 275,534.63 | 275,534.63 | 1.005 |
| Total Investment | 62,539.0 | 0.00 | 0.00 | 411,534.63 | 411,534.63 | 474,073.63 | 1.73 |

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 | 6,000 | 0,0 | 6,000 | 0,0 | 6,000 | 21,898.0 |

landscaping price as follows as:

| Description | Area | | Cost (million Rails) | | | Equivalent in Euro |
|----------------------------|----------------------|----------|----------------------|----------|----------------|--------------------|
| | done | required | done | required | Total | |
| Landfilling and leveling | 3,000 m ³ | 0 | 600 | 0 | 600 | 2,189.8 |
| Wall (2.5 meters high) | 220 m | 0 | 2,860 | 0 | 2,860.0 | 10,438.0 |
| Concrete yard and sidewalk | 1,580 m ² | 0 | 1,264 | 0 | 1,264.0 | 4,613.1 |
| Green space and lighting | 350 m ² | 0 | 700 | 0 | 700.0 | 2,554.7 |
| total | | | 5,424 | 0 | 5,424.0 | 19,795.6 |



Construction items Information:

| Description | Building Type | Square meters area | | Total cost (million Rails) | | | Equivalent in Euro |
|---|---|--------------------|------------|----------------------------|--------------|-----------------|--------------------|
| | | Done | Required | Done | Required | Total | |
| Production and storage salon | Industrial shed – two floor, Wall tiled and ceramic floor | 1,250 | 0 | 37,500 | 0 | 37,500 | 136,861.3 |
| awning | To install machinery out of production salon | 0 | 300 | 0 | 3,000 | 3,000 | 10,948.9 |
| Administrative buildings and welfare building | Exterior design of brick, Inside stone and painted, ceramic floor | 250 | 0 | 7,000 | 0 | 7,000 | 25,547.4 |
| electronic room | Made of bricks | 12 | 0 | 300 | 0 | 300 | 1,094.9 |
| Gate guard | Made of bricks | 10 | 0 | 250 | 0 | 250 | 912.4 |
| Total infrastructure and costs | | 1,522 | 300 | 45,050 | 3,000 | 48,050.0 | 175,365.0 |



Utilities:

| Description | Technical Specifications | Required costs (million Rail's) | | | Equivalent in Euro |
|-------------------|----------------------------------|------------------------------------|------------|--------------|-----------------------|
| | | Done | Required | Total | |
| Electrification | Electric supply and power 250 KW | 3,000 | 0 | 3,000 | 10,948.9 |
| Water | Split 1 "and water supply | 500 | 0 | 500 | 1,824.8 |
| Gas | Split and piping | 500 | 0 | 500 | 1,824.8 |
| Heating & Cooling | Air conditioning | 200 | 500 | 700 | 2,554.7 |
| Total | | 4,200 | 500 | 4,700 | 17,153.3 |

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 | | |
| | | | | | | | | | |
| Equipment of tomato paste production | | | | | | | | | |
| Reception and the initial washing | 0 | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 110,000 | 110,000.0 | 401,460.0 |
| Elevator | 0 | 1 | | | | | | | |
| Reception and the secondary washing | 0 | 1 | | | | | | | |
| Washing and sorting | 0 | 1 | | | | | | | |
| Mono pump | 0 | 1 | | | | | | | |
| Crusher | 0 | 1 | | | | | | | |
| Pre-heater | 0 | 1 | | | | | | | |
| Turbo filter | 0 | 1 | | | | | | | |
| Physical filter | 0 | 1 | | | | | | | |
| Pasteurizer | 0 | 1 | | | | | | | |
| pasteurizer tank | 0 | 1 | | | | | | | |
| Filler | 0 | 1 | | | | | | | |
| Capping | 0 | 1 | | | | | | | |
| Cooking tunnel | 0 | 1 | | | | | | | |
| Shrink pack | 0 | 1 | | | | | | | |
| Continuous | 0 | 1 | | | | | | | |
| Cooling tower | 0 | 1 | | | | | | | |
| Drinking water packaging machines | | | | | | | | | |
| Tri-block- with 16 nozzles (bottle stand, cap filler) | 0 | 1 | 0 | 0 | 0 | 0 | 10,000 | 10,000 | 36,496.0 |
| Heat Shrink Labels- Gas or electric | | | | | | | | | |
| Best Jet Printer Taiwan Best Mark Brand | 0 | 1 | | | | | | | |
| Shrink Pack: capacity 600 shell in 3 line | 0 | 1 | | | | | | | |
| Conveyor :10 m | 0 | 1 | | | | | | | |
| filtration system Completely : including purifier, UV, Ozone machine | 0 | 1 | | | | | | | |
| PE tank: 10000 lit | 0 | 1 | | | | | | | |
| conveyor belt: 8 m | 0 | 1 | | | | | | | |
| Startup costs | 0 | - | | | | | | | |
| Total | | | 0 | 0 | 0 | 0 | 120,000 | 120,000.0 | 437,956.0 |

Supplier and production of the Machineries: Namjoo machine manufacturing Co & Tavan Sanat Co.

Execution Period: 5 months

- Services:
- Basic and comprehensive design
- Construction, supplement of the equipment and Utilities (national and foreign)
- Control system and precise tools
- Instalment of equipment
- Personnel training, pre-commissioning, commissioning, capacity test

laboratory equipment

| 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 | | |
| Incubators, furnaces, scales and other equipment | 1 | 0 | 0 | 0 | 0 | 1000.0 | 0.0 | 1000.0 | 3,650.0 |
| Total | 1 | 0 | 0 | 0 | 0 | 1000.0 | 0.0 | 1000.0 | 3,650.0 |

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 | | |
| Lift truck | 0 | 1 | 0 | 0 | 0 | 0 | 5500 | 5500 | 20,073.0 |
| Total | 0 | 1 | 0 | 0 | 0 | 0 | 5500 | 5500.0 | 20,073.0 |

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 and equipment | 1 | 0 | 0 | 0 | 0 | 565.0 | 0.0 | 565.0 | 2062.0 |
| Total | | | 0 | 0 | 0 | 565.0 | 0.0 | 565.0 | 2062.0 |

Working capital:

| Description | duration | The foreign currency | | Local Currency | Total (Million Rials) | Equivalent in Million Euro |
|--|----------|----------------------|-------------------------------------|-------------------|--------------------------|----------------------------------|
| | | Million Euro | Equivalent Rials (Million Rials) | Million Rials | | |
| Supplementary Raw Material and Packaging | 1 Month | 0 | 0 | 128,571.68 | 128,571.68 | 0.469 |
| Fuel and energy | 1 Month | 0 | 0 | 82.5 | 82.5 | 0.0003 |
| Cash in hand | 1 Month | 0 | 0 | 8,283.13 | 8,283.13 | 0.030 |
| Account receivable | 1 Month | 0 | 0 | 138,597.31 | 138,597.31 | 0.505 |
| total | | 0 | 0 | 275,534.63 | 275,534.63 | 1.005 |

Production costs:

| Description | Amount (Million Rials) | Equivalent in (Million Euro) |
|---|----------------------------|---------------------------------|
| Costs of materials | 1,542,860.19 | 5.631 |
| Cost of production personnel salary | 9,052.80 | 0.033 |
| Cost of utilities (fuel and electricity, water ...) | 990.00 | 0.004 |
| Cost of repair and maintenance | 8,560.98 | 0.031 |
| cost of unforeseen production(5%) | 78,073.00 | 0.285 |
| Depreciation expense | 15,476.85 | 0.056 |
| Administrative personnel salary | 3,312.80 | 0.012 |
| Costs of administrative and sales | 19,920.00 | 0.073 |
| Factory insurance | 398.00 | 0.001 |
| Total sum | 1,678,644.62 | 6.126 |

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

Tomatoes and water and PET bottles as the main raw material of the process are all available from Khuzestan province. Cans for tomato paste are supplied from other provinces.

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 | | | | |
| Tomato paste | | | | | | | | | | | |
| 1 | tomato | 5 | ton | 60,000 | 6.5 | 0 | 0 | 390,000 | Khuzestan | 390,000 | 1.42 |
| 2 | Cans (open easy) | 1250 | pcs | 15,000,000 | 0.067 | 0 | 0 | 1,005,000 | Tbriz | 1,005,000 | 3.67 |
| 3 | salt | 0.015 | ton | 180 | 9 | 0 | 0 | 1,620 | Khuzestan | 1,620 | 0.01 |
| 4 | carton | 104 | pcs | 1,248,000 | 0.01 | 0 | 0 | 12,480 | Khuzestan | 12,480 | 0.05 |
| 5 | Shrink Wrap Nylon | 0.005 | ton | 60 | 400 | 0 | 0 | 24,000 | Khuzestan | 24,000 | 0.09 |
| sum | | | | | | 0 | 0 | 1,433,100 | | 1,433,100 | 5.23 |
| Bottled drinking water | | | | | | | | | | | |
| 1 | water | 1 | m³ | 10,000 | 0.015 | 0 | 0 | 150 | Khuzestan | 150 | 0.001 |
| 2 | PET 500ml | 700 | pcs | 6,300,000 | 0.0115 | 0 | 0 | 72,450.0 | Khuzestan | 72,450.0 | 0.264 |
| 3 | PET 1.5ml | 432.9 | pcs | 3,896,100 | 0.0019 | 0 | 0 | 7,402.6 | Khuzestan | 7,402.6 | 0.027 |
| 4 | Shrink Wrap Nylon | 0.006 | ton | 54 | 400 | 0 | 0 | 21,600.0 | Khuzestan | 21,600.0 | 0.079 |
| 5 | label | 1133 | pcs | 10,197,000 | 0.0008 | 0 | 0 | 8,157.6 | Khuzestan | 8,157.6 | 0.030 |
| Sum | | | | | | 0 | 0 | 109,760.2 | | 109,760.2 | 0.401 |
| Total sum | | | | | | | | | | 1,542,860.2 | 5.631 |

7. The risk analysis of the project

Strengths:

- Using the latest technology
- The possibility of mass production
- High internal rate of return
- Located in Khuzestan province, which is one of the poles of agriculture and conversion industries in Iran.
- Appropriate communication infrastructures such as transit roads, railways, and waterways are available to access domestic and foreign markets, especially Iraq and countries around the Persian Gulf.
- Close to important commercial ports such as Imam Khomeini Port and Khorramshahr for export

Weaknesses:

- Lack of liquidity to supply machinery
- Reduction of underground water resources
- Significant environmental impacts
- Full competition in the food and beverage industry

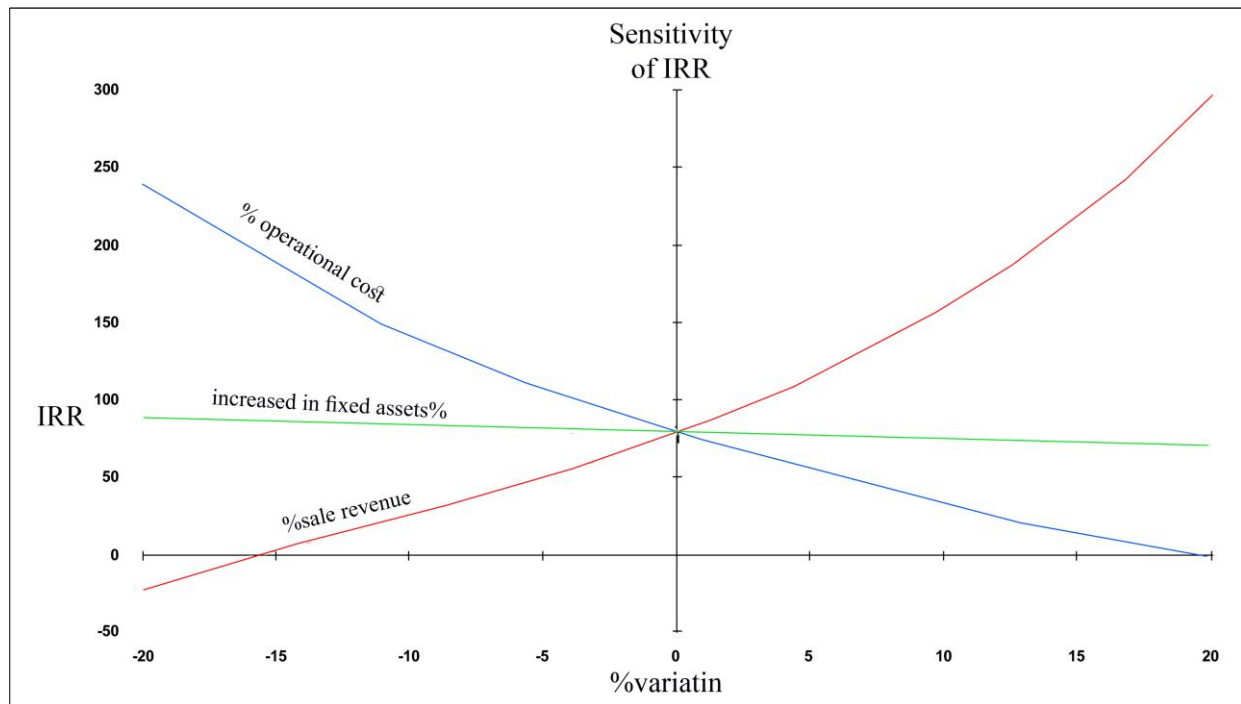
Opportunities:

- Supporting domestic production
- Supporting for attracting foreign investors
- Existence of a very large consumption market in the Khuzestan province and the project area
- Access to major roads and infrastructure such as freeway, south-north railroad and access to open water for export

Threads:

- US sanctions
- Political instability in the Middle East
- Variable inflation and rising production prices

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



8. Human resources and employment status

The project employs 20 people, 15 of whom will be working in production section and 5 in the official departments. Due to the existence of prestigious universities in the province and technical and engineering graduates, access to specialist human resources is provided.

| 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 | 2,993 |
| Finance director, sales, administrative | | ✓ | 1 | 1 | 1 | 45 | 45 | 738 | 2,693 |
| Financial personnel, sales office | ✓ | ✓ | 1 | 1 | 1 | 42 | 42 | 689 | 2,514 |
| warehouse keeper | | ✓ | 1 | 1 | 1 | 35 | 35 | 574 | 2,095 |
| Process engineer | | ✓ | 1 | 1 | 1 | 45 | 45 | 738 | 2,693 |
| Line Supervisor | | ✓ | 1 | 1 | 1 | 42 | 42 | 689 | 2,514 |
| Skilled worker | ✓ | ✓ | 2 | 1 | 2 | 40 | 80 | 1,312 | 4,788 |
| Worker | ✓ | ✓ | 10 | 1 | 10 | 35 | 350 | 5,740 | 20,949 |
| Secretary | ✓ | | 1 | 1 | 1 | 30 | 30 | 492 | 1,796 |
| Guard | | ✓ | 1 | 1 | 1 | 35 | 35 | 574 | 2,095 |
| Total | | | 20 | 1 | 20 | | 754 | 12,366.0 | 45,130.0 |

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

Shush Industrial estate has the basic infrastructures .water, electricity and gas and telecommunication facilities are also available in the site. The distance from Shush to Ahvaz (capital of the province) is 100 kilometers and 235 kilometers to Imam Khomeini Port. The distance to airport and railway station is about 55 km and 10 km Respectively.

| Description | unit | Annual consumption | Price per unit (Rails) | Total price (million Rails) | Equivalent in Euro |
|--------------|----------------|--------------------|------------------------|-----------------------------|--------------------|
| Electricity | KW | 150,000 | 1,300 | 210 | 766 |
| water | m ³ | 10,000 | 20,000 | 200 | 730 |
| Gas | m ³ | 200,000 | 1,400 | 280 | 1,022 |
| Other | | | 0 | 300 | 1,095 |
| total | | | | 990 | 3,613.0 |

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 duty to the project are relatively low at around 10%. In order to support domestic production, the input duty of the products are very high, about 55%. This prevents the import of similar products to the country.

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 subsidy 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

According to the growth trend of tomato paste consumption over the past 5 years, which averages 27% annually; therefore, in the most cautious case, half of the above growth (13%) was considered as consumption growth for the year 2020 to 2024. Also considering the resistance economy, oil sanctions and the need to focus on the development of export of non-oil dollar gaining products, export growth was also about 10% based on the past 5-year average. Based on this, the amount or surplus of the tomato product may be calculated for the next 5 years.

As can be seen from the table below, by the year 2024 countries will have over 460,000 tons of shortage; therefore, new units are needed to be built to alleviate this or import should be attempted.

For drinking water, it has been noted that, given the growth trend of its consumption over the past 5 years, it averages 12% annually. Therefore, in the most cautious case, half of the above growth (6%) was considered as consumption growth for the year 2020 to 2024. Also considering the

resistance economy, oil sanctions and the need to focus on the development of export of non-oil dollar gaining products, export growth was also about 3% based on the past 5-year average. Based on that, the amount of packaged drinking water is estimated to be 17 million cubic meters for the next 5 years.

Therefore, given the aforementioned, both tomato paste and packaged drinking water, there is a shortage of production and supply by 2024. Due to general systemic and mitigation policies the detrimental effects of external sanctions must certainly be addressed through domestic production. In this regard, helping to continue the exporting process of two tomato paste and bottled water products, especially, and using the created opportunity in the Iraqi export market and also in the near future in Syria, as well as reducing dependence on single-product oil exports, new units such as “Taze Chin Mandegar Food Industry Company” seem necessary.

| | |
|---|--|
| Cost of (ton) | Tomato paste (ton): 127.13 million Rials \cong 463.98 Euro |
| | bottled drinking water (m3): 13.5 million Rials \cong 49.27 Euro |
| Sale price of (ton) | Tomato paste (ton): 154 million Rials \cong 562.04 Euro |
| | bottled drinking water (m3): 16 million Rials \cong 58.39 Euro |
| total Sales (in 100% capacity) | 1,992,000.0 million Rials \cong 7.27 million Euro |
| Present sales in break-even point | 20.02% |
| Profit (in 100% capacity) | 282,019.84 million Rials \cong 1.029million Euro |
| Gross value added | 439,588.8 million Rials \cong 1.6 million Euro |
| Net value added (million Rail's) | 424,112.0 million Rials \cong 1.55 million Euro |
| The Gross value added to total Sales | 22.07% |
| The Net value added to total Sales | 21.29 % |
| The Gross value added to Investment | 92% |
| Investment Return Period | 3 years |

Exchange rate:

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

12- Summary of pre-feasibility plan

| | |
|----------------------------------|--|
| General Specification | |
| Name of The Project | Production of tomato paste & bottled drinking water |
| Project Capacity | tomato paste: 12,000 tons , bottled drinking water: 9,000 m ³ |
| Personnel Number | 20 persons |
| Working Days | 250 days |
| Product Usage | Food (as a seasoning) and Beverage |
| Marketing | |
| Product Global Price | tomato paste 850 EUR/ton, bottled drinking water: 540 EUR/m ³ |
| Domestic Demand | tomato paste 883,164.0 tons, drinking water 57,158,168 m ³ |
| Domestic Production | tomato paste 987,512.0 tons, drinking water 57,161,351 m ³ |
| Import | - |
| Export | tomato paste:104,348.0 tons, drinking water: 2,733.0 m ³ |
| Technical Study | |
| Land Area | 3000 m ² |
| Building Area | 1822 m ² |
| Main Raw Materials | Tomato, water, cans, pet |
| Supplying Place of Raw Materials | Domestic |
| Power Requirement | 250 KW |
| Water Requirement | 20000 m ³ |
| Fuel Requirement | 200,000 m ³ gas |
| Economical & Financial Study | |
| Fixed Investment Cost | 198,539.00 million Rails \cong 0.725 million Euro |
| Working Capital | 275,534.63 million Rails \cong 1.005 million Euro |
| Total Investment Cost | 474,073.63 million Rails \cong 1.730 million Euro |
| Annual Sale | 1,992,000.0 million Rails \cong 7.27 million Euro |
| Net Present Value(NPV) | 721,465.53 million Rails \cong 2.63 million Euro |
| Break Even Point(BEP) | 20.02% |
| Internal Rate of Return(IRR) | 78% |
| Investment Return Period | 3 years |
| <u>Investment Sources Ratio:</u> | |
| Equity:30% | 143,350.87 million Rails \cong 0.523 million Euro |
| Finance: 70% | 330,722.00 million Rails \cong 1.207 million Euro |