General Department of
Economic and Financial Affairs of Khuzestan

Preparation and Compilation of Investment Opportunities in The Province

Investment Opportunity Studies Report

2300hectare complex plan of Abadan city

(Attachment Number 1)

Date: 2023/04/06

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In the name of God

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Tables and Figures

1) Location of the project

1-1- Province

Khuzestan province is located in the southwest of Iran (in 47° 42′ to 50° 39′ east of the Greenwich meridian and 29° 58′ to 32° 58′ north of the equator). The area of Khuzestan province is 63,238square kilometers. With a population of 4,994 thousand people in 1400SH, it is the fifth most populous province in Iran (after Tehran, Khorasan Razavi, Isfahan and Fars provinces). **Ahvaz** is the capital of Khuzestan province and is located in the 880km of Tehran. This province is bordered by ILAM province from the northwest, Lorestan province from the north, CHAHARMAHAL and BAKHTIARI, KOHGILUYEH and BOYERAHMAD provinces from the northeast and east, the Persian Gulf (330km long) from the south and Iraq (330km long) from the west. The location of Khuzestan is in the west of Zagros mountains. Due to the vastness of its plains, the border with Iraq and the Persian Gulf, and the distance from other provincial centers have placed this province in a strategic position.

Figure (1): The Province location in Iran


Figure (2): Location map of Abadan in Khuzestan

Figure (3): Political divisions of Khuzestan province

1-2- County

According to the latest national divisions of 1401 of the Ministry of Interior, this province has 29 counties, 70 districts, 145 villages, 90 cities and 3 special governorates. The latest political divisions of the province are described in figure (3).

Abadan city is one of the cities of Khuzestan province of Iran. The center of this city is Abadan and it is located 53 km from the Persian Gulf. Abadan city was established in 1321 Shamsi. This city has been one of the most important cities of Iran since World War II due to its oil and petrochemical refinery, strategic location and border with Iraq. One of the largest oil refineries in the world (Abadan Oil Refinery) is located in this city.

The geographical location of this city is 48 degrees 17 minutes long and 30 degrees 20 minutes latitude, with a height of 3 meters above sea level and a width of 2,796 square kilometers. Abadan is bounded by Shadgan from the north, the Persian Gulf from the east and south, the country from the southwest and west, and Khorramshahr from the northwest.

The population of Abadan is around 300 thousand people. Abadan plays an important role in the oil and petrochemical industry, and one of the largest oil refineries in the world, Abadan Oil Refinery, is located in this city. Also, in recent years, this city has made remarkable progress in the export of fisheries, dates and agricultural products, especially in Free Zone.

Exports to neighboring countries, especially Iraq, are carried out through export bases such as SHALAMCHEH base.

On the other hand, barge-making, handicrafts and shrimp farming industries have also grown significantly in Abadan in recent years.

2) Project Status

This plan will be implemented in a land of 2300 hectares, 30 km away from Abadan at the following coordinates.

latitude	Longitude	Points
Y=3339457	X=261504	a
Y=3340327	X=259486	b
Y=3337367	X=258912	c
Y=3333797	X=257412	d
Y=3332539	X=260837	e
Y=3331688	X=260873	f
Y=3331008	X=263485	g
Y=3332705	X=263297	h
Y=3333667	X=260597	i

Figure (4): Project location map

Proximity to the international border, the absence of obstacles and villages in the area, the presence of electricity and roads are among the advantages of the plan.

Access to infrastructures

Currently, there is electricity infrastructure in MAJARUT, Ahvaz main road, Khorramshahr. The nearest port to this area is DILAM Port in Bushehr province at a distance of 30 km, the nearest railway station (Imam Port Railway) at a distance of 122 km and the nearest airport (Mahshahr Airport) at a distance of 112 km.

Table (1): access to infrastructures

No.	Required Infrastructure	Distance From Project Status(km)	Location Of Infrastructure Provision
1	Water	0	BAHMANSHIR water resources + Tare BAKHAKH canal + 1000 HECTARES OF FRESH WATER
2	Electricity	5	electricity network
3	Gas	-	It is not predicted
4	Telecommunication	-	It is not predicted
5	Main road	37	Ahvaz-Abadan highway
6	Side road	5	CHOEBDE Road
7	Airport	42	Abadan Airport
8	Port	130	Khorramshahr Port - Imam Port 126 km
9	Railway Station	56	Khorramshahr Railway

Figure (5): Access routes to the project

3) Technical specifications of the project

3-1- Product

Shrimp: Shrimps are ten-legged crustaceans that have an elongated body and specialized appendages for swimming in water. Shrimps are found in many parts of the world and usually live on the bottom of oceans, seas, lakes and rivers. Most species live in oceans and in salt water. Some of them prefer river estuaries and brackish water. In total, about a quarter of shrimp species live in fresh water. Oceanic species live from near the coast to depths of 5000 meters.

Title	Shrimp
Types of shrimps	Indian white, pink, tiger, marine breeding and...
The number of legs	The number of legs of these sea creatures is 10.
habitat	They live in the depths of the seas and oceans.
Edible shrimps	Pink, brown, white, stone, tiger, spotted

Figure (6): A picture of shrimp

Archaeological evidence shows that humans have been feeding on shrimp since prehistoric times. Although thousands of species of shrimps have been identified so far, only twenty of them are used for food.

In the 1970s, industrial shrimp farming was started and noticed, especially in China. Over time, with the increase in society's acceptance and need for shrimp, its production has also increased, and in 2007, the amount of farmed shrimp production surpassed the amount of shrimp caught from the seas. The largest production of farmed shrimp is done in China, followed by Thailand, Indonesia, and Vietnam. The largest imports also belong to the United States of America, the European Union and Japan.

Shrimp is usually sold frozen and has a high nutritional value. This food contains a lot of omega-3 fatty acids, calcium, iodine and good cholesterol, and has a low level of mercury compared to other seafood.

Figure (7): An image of a seabass fish

Seabass fish: barramundi fish or Asian seabass is a species of migratory fish from the large perch family and group. The species of this fish are widely distributed in the Indo-Pacific region, from South Asia to Papua New Guinea and northern Australia. Bass fish is one of the important species of farmed fish that can adapt to both saltwater and freshwater environments. This fish is considered one of the best types of farmed fish due to its fast growth, easy reproduction, high salt tolerance and ability to accept ready-made food. It reaches 500 to 600 grams within 5 months. This fish can be raised both in earthen pools and in sea cages.

Figure (8): An image of a seabass fish

Common carp: or European carp (Cyprinus Carpio) is the name of a species of carp family that is distributed in wide parts and regions of Europe and Asia. This fish is found in all kinds of fresh water sources including rivers, lakes, dams, reservoirs and wetlands. The wild populations of this fish are decreasing and are in danger, but in many areas, the artificial reproduction of this fish is carried out in high volume, and in some parts of the world, it has entered new habitats unnaturally and has become an invasive species, causing Native species have been damaged in those areas.

Common carp is distributed in the basins of the Black Sea, the Aral Sea, the Caspian Sea, many rivers in Europe and Asia, and the watersheds of Iran. The maximum length of this fish is 120 and usually 40 to 80 cm. The weight of this fish is usually between 2 and 14 kg, but it can grow up to more than 40 kg. This fish is omnivorous and eats plants, small creatures of the water bed, worms, crustaceans, baby insects, animal carcasses, fish eggs and even their own babies.

3-2- Project Requirement

3-2-1- Land And Required Infrastructure

For the cultivation of shrimp and fish in the current plan with a capacity of 6440 tons per year, a land area of 2300 hectares is considered. The specifications of the land, earthworks, concrete and other spaces required for the project are as described in the table below.

Table (2): Amount of investment in land, landscaping and building

No.	Requirements	Description	Investment Required		Total Cost (Million Rials)
			Required Area	Unit Price of Purchase/Construction	
1	Land in the desired location	Khuzestan, Abadan city	23,000,000	0	0
2	Site preparation and development(Excavation and preparation of pools and channels)	The entire excavation operation for the construction of earthen pools, inlet and outlet channels, access roads, etc.	15,904,320	80,000	1,272,346
		Concrete tools and earthworks related to the water inlet of the entire complex + sand filtration system	4	187,660,000,000	750,640
		Street construction/paving main roads	30,000	3,000,000	90,000
		Other landscaping and pool preparation operations, fencing, access roads, etc	23,000,000	23,631	543,514
3	Construction	Aquatic feed warehouses	6,500	80,000,000	520,000
		Administrative and management buildings	1,200	80,000,000	96,000
		Labor and support buildings	800	80,000,000	64,000
		Equipment warehouse buildings	800	80,000,000	64,000
		Guard and janitor compound	248	80,000,000	19,840
		Concreting operation of inlet and outlet openings of pools (cubic meters)	13,000	20,000,000	260,000
		Platform and canopy for unloading and loading catch	6,000	9,000,000	54,000
Total			-	-	3,734,340

3-2-2-

3-2-3- Plant Machinery and Equipment

Based on the conditions of the place for shrimp and fish farming, the required equipment is as follows. All equipment can be supplied in the country.

Table (3): Plant Machinery and Equipment

No.	Equipment/Machinery	Required investment			Total cost (Million Rials)
		Amount	Purchase Price	Currency	
1	Catwalk structures	1,600	150	(Million Rials)	240,000
2	Inlet and outlet water pumps (20 inches)	100	2,500	(Million Rials)	250,000
3	Aeration equipment	3,200	500	(Million Rials)	1,600,000
4	Feeding system equipment	1,600	100	(Million Rials)	160,000
5	work boat (service)	5	1,200	(Million Rials)	6,000
6	Security system (camera), remote monitoring and control system and subsurface monitoring system	100	3,000	(Million Rials)	300,000
7	Environmental data receiving system	100	2,000	(Million Rials)	200,000
8	All types of pumps and screeds	100	80	(Million Rials)	8,000
9	Diesel emergency power generator	100	5,000	(Million Rials)	500,000
10	Other main equipment - inside	1	66,000	(Million Rials)	66,000
Total		-	-	-	3,330,000

Table (4): Auxiliary and service plant Equipment

No.	Equipment/Machinery	Unit of measurement	Type of equipment	Required investment		Total cost (Million Rials)
				Amount	Unit Price (Million Rials)	
1	Distribution Of Electricity / Demand Price	Kw	Facility	100	180	18,000
2	Electrical Equipment	Kw	Facility	5,000	10	50,000
3	Several Electrical Cables	M	Facility	48,500	4	194,000
4	Electrical equipment of the lighting system	Amount	Facility	100	800	80,000
5	The Cost of Panel Boards and Related Electrical Equipment	Amount	Facility	100	320	32,000
6	Water purifier	M	Facility	100	100	10,000
7	Drinking water piping	M	Facility	15,000	5	75,000
8	Drinking water pump and pumping equipment	Machine	Facility	100	150	15,000
9	Water tank (10000 liters)	Amount	Facility	100	400	40,000
10	fuel tank	M	Facility	100	150	15,000
11	Human sewage transfer route	M	Facility	100	150	15,000
12	Human sewage disposal well	M	Facility	100	150	15,000
13	Firefighting, Safety and Health Equipment, etc.	Capsule	Facility	100	30	3,000
14	Air Conditioner	Set	Facility	200	850	170,000
15	(pickup truck) Nissan Cargo	Machine	Vehicle	100	7,000	700,000
16	ambulance	Machine	Vehicle	1	20,000	20,000
17	car	Machine	Vehicle	100	7,000	700,000
18	Operation & laboratory Equipment	Machine	Equipment	100	5,000	500,000
19	safety equipment and CCTV System	Set	Facility	100	600	60,000
20	Office Equipment	Set	Office Equipment	180	500	90,000
21	Medical Equipment	Set	Office Equipment	100	80	8,000
22	Other Facilities	-	Facility	1	15,000	15,000
Total				-	-	2,825,000

3-2-4- Raw Materials

In the present plan, the main raw materials include carp fry, sea bass fry, shrimp larvae, various types of aquatic feed, etc. The price of each shrimp larva is equal to 1700 rials. The amount of feed to reach the ideal weight is considered with a feed conversion ratio (FCR) equal to 1.3. The average price of each kilo of feed is about 400,000 to 455,000 rials. It is worth noting; It is easily possible to supply these materials in the domestic market.

Table (5): Costs of Raw Material for Production

No.	Title	the product	Average price of unit (Rials)	consumption/conversion coefficient	Amount of consumption in nominal capacity	The cost of materials at the nominal capacity (Million Rials)
1	carp baby fish 50 grams	Types of carp (normal 25%, herbivorous 15%, silver carp 55% and bighead)	350,000	7,667	2,453,333	858,667
2	Types of aquatic feed (starting, growth and fattening) of carp fish	Types of carp (normal 25%, herbivorous 15%, silver carp 55% and bighead)	400,000	2.0	2,560,000	1,024,000
3	Other carp feed (fodder, oats, etc.)	Types of carp (normal 25%, herbivorous 15%, silver carp 55% and bighead)	65,000	2.0	480,000	31,200
4	Seabass baby fish	Seabass fish	350,000	7,667	2,453,333	858,667
5	Types of aquatic feed (starting, growth and fattening) of seabass fish	Seabass fish	450,000	1.5	2,400,000	1,080,000
6	shrimp larvae	shrimp	1,700	204,276	196,105,263	333,379
7	Types of aquatic feed (starting, growing and fattening) of shrimp	shrimp	455,000	1.3	4,212,000	1,916,460
8	medicine	All products	60,000,000	-	1,600	96,000
9	Transportation	All products	5,000,000	-	2,621	13,103
10	The cost of annual rehabilitation of swimming pools	All products	150,000,000	-	1,600	240,000
11	Other cases	All products	-	-	-	0
Total			-	-	-	6,451,475

3-2-5- Management and human resource

To produce tissue paper, 2050 human resources will be required in the production, management and support department as described in table (6).

Table (6): Management and Human Resource

No	Level of skill	Number of staff	Average basic salary
1	Senior	320	256,412,615
2	Mid-level	100	100,000,000
3	Junior	1,630	105,000,000

Number Of Direct Mid-Level Staff Required	100	Person
Number Of Direct Junior Staff Required	1630	Person
Number Of Direct Senior Staff Required	320	Person
Total	2050	person

4) Ownership and legal permissions

4-1- land ownership

The implementation of this project is considered in a land of 2300 hectares. The specifications and location of selected zone 4 are specified in paragraph 2. In order to build earthen pools and use them, documents under the title of establishment license and operating license (in accordance with the terms and conditions mentioned in paragraph 3-4) will be provided to the investors. These documents do not mean that the investors own the assigned lands. Based on the mentioned licenses, only the right to use the land is given to the operators until the time of continuous activity.

4-2- Intellectual Property and Concessions

Growing shrimp and fish according to the standards and regulations requires the necessary knowledge and experience in this field. Shrimp cultivation in earthen ponds should have the least environmental impact and should not reduce the water quality of the area. Some rules and standards for shrimp and fish breeding in earthen ponds have been compiled by "Iran Fisheries Organization". The standards and criteria include the criteria for the construction site of the pool, environmental standards, management and breeding methods and the selection of suitable species for breeding.

4-3- Legal permissions

At present, the Iranian Fisheries Organization has conducted the necessary studies regarding shrimp farming in the Abadan, and the approval of this organization is considered as an agreement in principle for natural and legal persons. In order to design, build and use an earthen pool, these people need an establishment permit from the Agricultural Engineering System Organization and the Natural Resources Organization of Khuzestan province. The license for the use of earthen pools is a document that is issued by the Agricultural Engineering System Organization and the Natural Resources Organization of Khuzestan province after their use and the completion of construction. Health permit is another license that is issued by the General Department of Veterinary Medicine of Khuzestan province after the start-up and completion of construction and according to the regulations of the Medical Sciences Organization of the country.

In addition to the mentioned cases, the construction of an earthen pool in Abadan requires inquiries and approval from the following organizations:

- General Department of Environmental Protection of Khuzestan province or General Department of Environmental Protection of Abadan city.
- General Department of Natural Resources and Water Resources of Khuzestan Province (or Abadan City)
- Management of land affairs in Khuzestan province (or Abadan city)

According to the regulations of health executive regulations, it is mandatory to employ and hire at least one veterinarian doctor as a technical officer, as well as employ an expert or technician in the number and conditions announced by the country's fisheries organization. It is worth noting; The organization of the agricultural engineering system and natural resources of the province and the whole country is responsible for issuing the establishment license and operating license; Act according to the guidelines of the Supreme Supervision notified by the Iranian Fisheries Organization.

5) market research and competition

5-1- Target market introduction

The global fisheries and aquaculture industry, with a total global production volume of 171 million tons and an industrial value of 362 billion dollars, constitutes a major part of the global food industry. Meanwhile, shrimp production is equivalent to 7% of the production volume of the global fisheries and aquaculture industry. This product is classified as one of the high value species with a large global trade volume.

The demand for shrimp in the world is increasing. The growth of shrimp demand in the world in the years 2006 to 2011 was equal to 5.2 percent, in the years 2012 to 2014, it was equal to 7.7 percent, and during the years 2015 to 2014, it was 4.2 percent. Shrimp consumption in many countries of the world such as India, Ecuador and Mexico is increasing rapidly.

Global shrimp production has increased with an average growth rate of 3.2% during the period 2011-2017. The top 8 producers from Asia are China, Thailand, India, Indonesia, Vietnam and the Philippines and Bangladesh with the production of 3.42 million tons, more than 80%, and the countries of Ecuador, Mexico, Brazil, Venezuela, Honduras, Nicaragua, Guatemala, Belize, Panama and Peru also with the production of 756 tons is about 17.7% of the total global shrimp production. The largest shrimp exporters in the world are India (23%), Indonesia (7%), China (6%) and Thailand (2%). The largest shrimp importers in the world are Europe (31%), America (25%), China (14%) and Japan (7%).

After 1990, shrimp farming flourished in many countries that have suitable climate characteristics and a wide coastal belt with the ocean. Of course, high domestic consumption in these countries has prevented exports to other parts of the world. However, despite the high consumption, countries like Hunted have been able to export more than 80% of their production.

At present, in Iran, a large part of the country's need for aquatics is provided by fishing from the seas. Considering the limitations of marine reserves and the country's need for such products, it is expected; To expand the breeding capacities both on the coast and in the sea to meet the needs. Statistics show; A part of the shrimp consumed in the country is supplied through fishing in the southern seas and a part from the breeding farms. The average amount of shrimp caught from the sea in the past years was about 10 thousand tons, and about 41% of this amount was in Khuzestan province. The table below shows the status of aquatic production in farms and the amount of shrimp caught in the southern waters of the country.

Table (7): The status of shrimp production and fishing in the country and Khuzestan province

Year	Khuzestan				whole country			
	Catch in the South Sea (tons)	production (tons)	area (hectares)	Number of farms	Catch in the South Sea (tons)	production (tons)	area (hectares)	Number of farms
1398	4,671	528	187	17	9,937	46,114	12,389	865
1399	6,278	227	161	16	12,174	48,855	12,146	827
1400	3,483	802	406	27	8,621	57,799	14,034	899

Currently, a major part (about 43%) of the shrimp produced and caught in the country is exported to other countries. According to the amount of shrimp export and production, the country's per capita consumption in the last three years has been estimated between 0.35 and 0.5 kg. Meanwhile, the per capita consumption of shrimp in America in 2020 was 5 kg.

Table (8): Comparison of shrimp production and consumption in the country

Year	Per capita consumption of shrimp (kg/person)	Export - tons	Total consumption (domestic demand) of aquatic - tons	The total production and fishing of shrimp in the country
1398	0.35	26,902	29,149	56,051
1399	0.50	19,160	41,869	61,029
1400	0.39	33,812	32,608	66,420

The volume of shrimp production and consumption in the country is very low compared to other countries in the world. With the production of shrimp paste in the country while covering the domestic demand, it can be exported to other countries of the world, especially European countries.

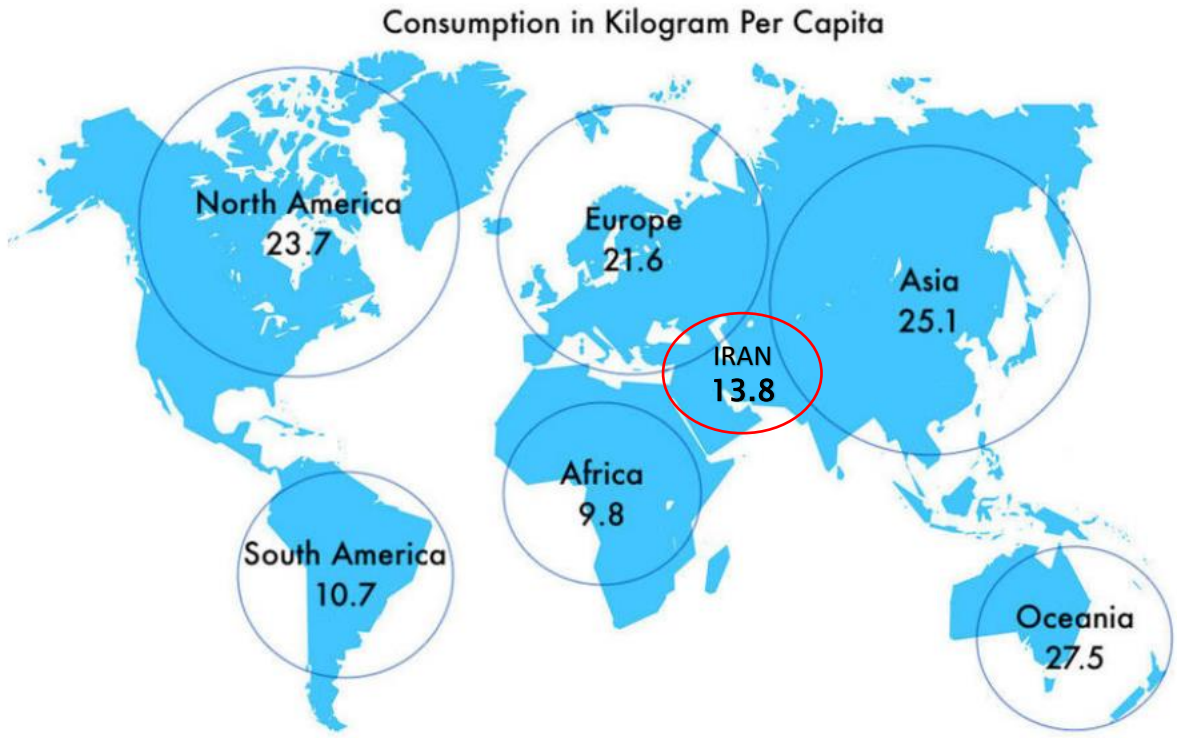
Currently, a large part of the aquatic consumption in the world is provided through fishing, and due to the limitations of marine reserves, it is expected that the breeding capacities both on the coast and in the sea will be used more appropriately to meet the needs. Fish farming in cages is one of the best methods for aquatic production in the world.

In the year 1400, the total amount of fishing and aquaculture products of the country was equal to 1,258,460 tons. Of this figure, 558 thousand tons were related to the products of the country's aquaculture sector. Of the total aquaculture products of the country, 84.9 thousand tons (equivalent to 15%) belong to Khuzestan province.

Compared to aquaculture, fish farming in cages has not yet expanded and the amount of production from this method has reached only 9 thousand tons (less than 2%) per year. It is worth noting; Despite the high potential of Khuzestan province in aquaculture, this province has not had a share in production in cages.

In the demand section, the statistics show; The country's per capita consumption in 1395 was equal to 10.8 kg, this figure reached 13.8 kg in 1400. Although the trend of consumption of aquatic products in the country has been increasing slightly, its amount is much lower than the average consumption of the world and neighboring countries. It is worth noting; A major part of the low share was related to the increase in the price of protein-containing products in the country.

Despite the growing domestic demand for all types of warm blue and cold blue fish, as well as the existence of export potentials, the country has not yet reached an acceptable position in cage fish farming, whether in inland waters or in the sea. Based on this, if the products of the current design are offered, it will meet with sufficient demand and will not have any problems regarding sales.



World map showing estimated fish consumption per capita worldwide in 2019

6) Physical progress of the project

This is an establishment project and has been defined to cover the Khuzestan province demands. It has no progress so far.

7) Operational plan and implementation scheduling

■ No ☐ Yes

The implementation of the project stages until its operation is planned for 24 months, and the operation of the project is expected from the beginning of 1405. The schedule of the project is presented in Table (9).

Table (9): Project Scheduling

year	1402				1403				1404				1405				1406				1407			
Operations/Season	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Pre investment studies																								
Investor acceptance and start																								
Coordination and legal approval and efforts to finance																								
Additional studies and provision of engineering services																								
Land delivery of the operational area																								
Choosing the project manager (contractors)																								
Equipping site																								
Construction of main input and output																								
Construction of concrete pools																								
Construction of earthen pools																								
Concrete operation																								
Construction of access roads																								
Mechanical and electronic installations																								
Delivery of earthen pools to investors																								
Preparation of earthen pools																								
additional operations																								
Start of operation																								

8) Financial Plan

8-1- Cost Estimation

Generally, there are two ways to fundraise for this project, fixed capital and initial working capital. The required investment before utilization is provided through fixed capital. Initial working capital will be used during utilization. Fixed capital includes, purchasing land, construction and landscaping, machinery and equipment, facilities, office stuff and pre-production costs. These types of costs are incurred at the beginning and before operation and are consumed during the life of the project according to their service life. Working capital includes the capital required during the operation of the project. The working capital of a production unit is the set of facilities, inventories and work in progress, as well as the liquidity required for the exploitation of fixed capital in order to maintain the operation.

Determining the basic amount for inventories, work in progress and claims depends on the supply, production and sales capacity and business environment. In this section, the evaluation and estimation of the required investment (based on the price of the base year 1402 SH) is proposed.

Table (10): Cost Estimations

No.	Subject	Amount (Million Rials)
1	Total Fixed Investment Costs	8,881,500
2	Total Net Working Capital Requirements	4,007,223
3	Total Production Costs (Annual)	9,390,759
4	Depreciation	1,048,244
5	Total Investment	12,888,723
6	Unit Cost (By Product Type)	-
7	Types of carp (normal 25%, herbivore 15%, silver 55% and bighead) (Rials/kg)	1,698,634
8	Seabass fish (riyals/kg)	1,724,655
9	Shrimp (riyals/kg)	1,056,954

Table (11): Fixed Capital Estimations (Capital Costs)

No.	Subject		Cost (Million Rials)
1	Purchasing land		0
2	Landscaping and land improvement		1,272,346
3	Civil operations and construction of buildings		817,840
4	Production machinery and equipment		3,330,000
5	Service equipment		2,825,000
6	Protection and environmental equipment		0
7	Overhead costs		0
8	Pre-Production Expenditure (As described in Table (13))	Pre-investment studies	12,990
		Project management and organization	199,546
		Technology education	11,464
9	Unexpected costs		412,314
Total			**8,881,500**

The primary items included in working capital are:

- Raw materials (local and foreign): To prevent any interruptions in production process, production capacity, source and method of supplying materials, length of time during ordering and receiving materials, time of delivery and transportation, the amount of required raw materials, auxiliary materials and packaging are determined as one of the working capital items for one period. In this project, the material inventory coverage period is equal to 180 days.
- Finished product and work in progress: Considering the steps and methods of production, the required time for production and storage has been determined and the related costs are considered as working capital. In this plan, the coverage period for finished product and work in progress is not included.
- Claims of expected funds from sold products that are collected in a short period of time. The duration for expected funds must be determined. According to the economic condition of Iran, cash is preferred.
- Revolving fund to finance the company's current expenses is considered as cash balance or revolving fund for a period of time in working capital based on production costs (without considering the cost of raw material production and depreciation). 180 days is considered in this plan.

Table (12): Total Net Working Capital Requirements (Production Costs)

No.	Subject	Amount (Million Rials)
1	Raw Materials Inventory	3,225,738
2	Work In Progress	0
3	Finished Product	0
4	Accounts Receivable	0
5	Cash-In-Hand	781,491
6	(Commercial Accounts Payable)	0
Total Net Working Capital Requirements		4,007,229

Table (13): Pre-Production Expenditure

No.	Subject		Description	Total (million Rials)
1	Incorporation		-	100
2	Obtaining Licenses / Production License		-	120
3	Studying, Consulting, Research and Development, Traveling, Visiting and Participating in Local Exhibitions, etc.		1.5 thousandth of the investment costs of the project	12,990
4	Property Insurance		2 thousandth of depreciable fixed assets	17,320
5	Survey Fee, Financing, Contract and So On		Survey fee 0.5 thousandth, other 2.5 thousandth	20,780
6	Cartography, Supervising		2 thousandth of contract expenses	10,840
7	Other's	Staff Training	Equivalent to 1 days of Staff salary	624
		Wages And Salaries During the Construction	Equivalent to the salary of 30 personnel in 36 months	156,650
		Other Expenses	٪2.1	4,576
Total			-	224,000

8-2- Sales Revenue

Based on the investigations and according to the production plan, the total sales amount of the project in 1405 at the fixed prices of 1402 is estimated to be equal to 2,880 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 13,696 billion Rials.

Table (14): Project Revenue in The First 5 Years of Production Phase (Billion Rials)

No.	Subject	Q_1	Q_2	Q_3	Q_4	Total 1st Year	Total 2nd Year	Total 3rd Year	Total4 Th Year	Total 5th Year
1	Types of carp (normal 25%, herbivorous 15%, silver carp 55%)	720	720	720	720	2,880	2,880	2,880	2,880	2,880
2	Thirty bass fish	0	0	0	0	0	3,040	3,040	3,040	3,040
3	shrimp	0	0	0	0	0	0	7,776	7,776	7,776
Total		720	720	720	720	2,880	5,920	13,696	13,696	13,696

8-3- Length of Production Phase

The construction period of the plan is 24 months and it is considered to start from 1402. The duration of the project is considered to be 7 years.

Table (15): Planning Horizon

Title	Month	-	year
Project identification	1	/	1402
Beginning of construction phase	1	/	1403
Beginning of production phase	1	/	1405
End of production phase	12	/	1411

Length of construction phase (months)	Start of phase (months)	Length of production phase (years)
24	12	7

8-4- Break-Even Analysis

From an economic point of view, break-even point analysis is an important technique that is used to study the relationship between costs, income and profit. The break-even point is the point at which total cost and total revenue are equal. In other words, it is used to analyze the effect of product volume change on the profit. The break-even point is calculated for 100% of practical capacity (year 1406 SH onwards) below.

$$\text{Break-even sales value (Rials)} = \frac{\text{Total fixed costs}}{1 - \frac{\text{Total variable costs}}{\text{Sales value}}}$$

$$\text{The number of sales at the break-even point} = \frac{F_C}{S - V_C}$$

FC = Total Costs VC= Average Variable Costs Q = Quantity of Sales S = Unit Price

$$\text{Break-even sales value} = \frac{1{,}613{,}622}{1 - \frac{7{,}288{,}172}{13{,}696{,}000}} = 3{,}448{,}932 \text{ (Million Rials)}$$

$$\text{The number of sales at the break-even point} = \frac{1{,}613{,}621{,}579{,}760}{4{,}280{,}000{,}000 - 2{,}277{,}553{,}743} \approx 806$$

$$\text{Break-even ratio (\%)} = \frac{3{,}448{,}932}{13{,}696{,}000} = 25\%$$

Table (16: Project break-even point estimation (Million Rials)

Title	Production 1405	Production 1406	Production 1407	Production 1408	Production 1409	Production 1410	Production 1411
Sales revenue	2,880,000	5,920,000	13,696,000	13,696,000	13,696,000	13,696,000	13,696,000
Variable costs	2,284,101	4,538,431	7,288,172	7,832,971	7,832,971	7,832,971	7,832,971
Variable margin	595,899	1,381,569	6,407,828	5,863,029	5,863,029	5,863,029	5,863,029
Variable margin ratio (%)	21	23	47	43	43	43	43
Fixed costs	902,129	1,355,897	1,613,622	1,698,810	1,476,010	1,466,210	1,466,210
Break-even sales value	4,360,020	5,809,994	3,448,932	3,968,410	3,447,951	3,425,058	3,425,058
Break-even ratio (%)	151	98	25	29	25	25	25

- According to COMFAR Results

Based on the calculations of COMFAR software, the break-even point including operating and non-operating costs, is 3.448 thousand billion Rials and it will be achieved in the ٪ 25 of the practical capacity.

In the mentioned formula, the break-even point is determined by the relationship between fixed costs and the difference between unit sales price and unit variable costs. Therefore, three practical results are obtained from it:

- The higher the fixed costs, the higher the break-even point.
- The greater the difference between unit sales price and variable operating costs, the lower the break-even point. In this case, fixed costs are absorbed faster through the difference between unit sales price and unit variable costs.
- One of the break-even points is disproportionate. Since it makes the company vulnerable to changes in production (sales) levels.

8-5- Cost-Benefit Analysis

In project analysis, one of the most common methods is the **Benefit-Cost Ratio**. In this method, the ratio of the current value of possible benefits to the current value of costs is obtained. If this ratio is greater than one, the plan has economic justification for implementation. In terms of this index, the plan has favorable conditions.

Net Present Value is one of the other evaluation methods which is calculated according to the following relationship:

NPV= The Present Value of The Total Cost of The Period of Construction Phase and Production Phase - The Present Value of The Total Income of Construction Phase and Production Phase

NPV= The Present Value of The Fixed Assets Depreciation + Initial Investment - The Present Value of The Future Cash Flows

The **net current value** of the project at a discount rate of 20% is over 2.256billion Rials, which shows that the project is economically feasible.

One of the other methods of evaluating investment plans **internal rate of return**. In fact, the internal rate of return is the interest rate or the discount rate in which the current value of all the plan benefits is equal to the current value of its expenses.

According to the calculations, the internal rate of return of the project is estimated at 26.5% and compared to the Minimum Attractive Rate of Return, it is favorable.

Table (17): Project Return Index

Index	Amount	Unit of measurement
The Present Value of The Total Cost of The Period of Construction Phase and Production Phase	26,507,342	Million Rials
The Present Value of The Total Income of Construction Phase and Production Phase	28,763,956	Million Rials
NET PRESENT VALUE (NPV)	2,256,614	Million Rials
Cost-benefit RATIO (B/C)	1.09	-
INTERNAL RATE OF RETURN (IRR)	26.5%	Percent
NPV RATIO (PI)	0.24	Rial per Rial of investment
NORMAL PAYBACK	2.09	Year

Profitability Index (PI) indicates how much economic profit will be obtained for each unit of money invested during the lifetime of the project.

Project Investment payback is the period of time required to recover the project investment from net income, measured in years. In other words, it shows the length of time taken for the initial investment to be returned. This index shows the speed of investment return and the amount of project risk coverage. The ROR (simple) of the plan is estimated to be 2.09 years (equal to the year 1409) according to the calculations.

8-6- Sensitive Analysis

In the sensitivity analysis of the plans, the percentage of changes in the internal rate of return (IRR) is measured in relation to the change in some basic parameters and variables. In this plan, the analysis has been carried out by major variables such as sales, fixed and operating costs. Table (18) shows the results of the sensitivity analysis regarding the variables of sales income, fixed assets and operating costs.

8-7-1- Sales Revenue

Changes in sales revenue are mainly caused by alteration in two variables: planned sales amount and product sales price. The results of the sensitivity analysis regarding sales income show; 20% increase in sales revenue of the plan, the internal rate of return will increase from 26.5% to 41%. On the contrary, in the case of a 20% decrease in sales revenue, the internal rate of return of the project will decrease to 9%.

Table (18): Sensitivity Analysis (Percentage of IRR changes caused by sales revenue, fixed assets and operating costs alteration)

Variation (%)	Sales revenue	Increase in fixed assets	Operating costs
-20%	9%	32%	37%
-4%	23%	27%	29%
0%	26.5%	26.5%	26.5%
4%	30%	26%	24%
20%	41%	22%	15%

8-7-2- Fixed Assets

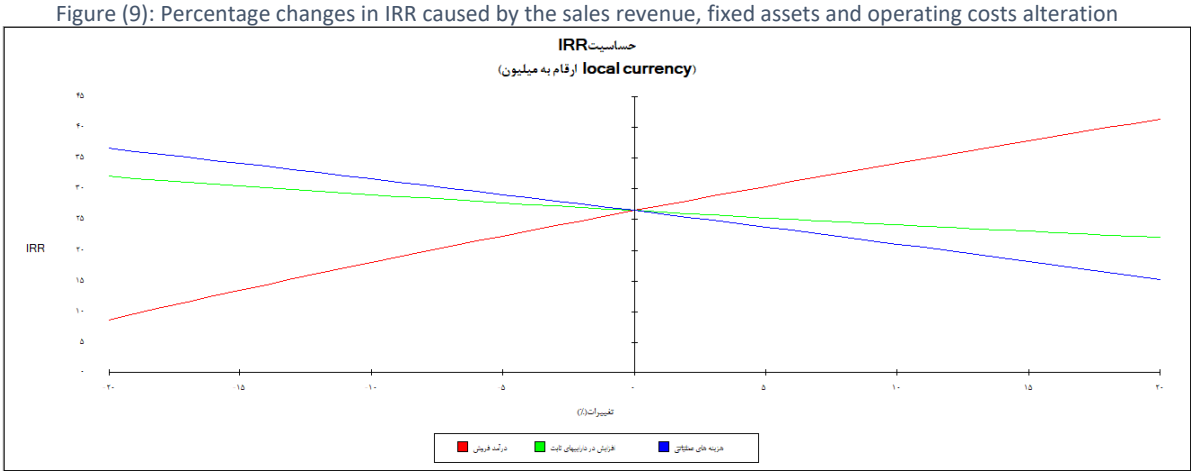
The change in the fixed assets is due to the fixed costs of the initial investment alterations. The results of the sensitivity analysis according to the fixed costs of the plan have been done and it shows that in case of an unexpected 20% increase in the fixed capital costs of the project, the internal rate of return will decrease from 26.5% to 22%. Conversely, if there is a 20% reduction in the fixed capital costs, the internal rate of return will increase and reach 32%.

8-7-3- Operating Costs

The operating costs of the plan is one of the crucial items in terms of sensitivity analysis regarding its changes. Therefore, unexpected and possible changes should be investigated.

The change in project operating costs is mainly caused by changes in raw material, supply, human resource and finally changes in other overhead costs of projects. If these parameters change, it can be as a result of the change in the technical coefficients of product production or the change in their purchase price. The sensitivity analysis indicates that in case of a 20% increase in the operating costs, the efficiency rate of the plan will decrease to 15%. On the contrary, if the total operating costs of the project are reduced by 20%, the internal rate of return will increase to 37%. Finally, the results of the sensitivity analysis show that the current project has a very high sensitivity to changes in sales revenue (changes in sales amount or sales price) and more considerations should be taken in this regard.

Figure (9): Percentage changes in IRR caused by the sales revenue, fixed assets and operating costs alteration



As you can see, the slope of the IRR change curve is higher relative to the changes in sales revenue compared to other items while the slope of the IRR change curve is lower relative to the changes in fixed assets, which indicates the greater sensitivity of the plan's internal rate of return to sales revenue and its lower sensitivity relative to operating costs and fixed assets.

8-7- Conclusion

The project is planned to be implemented in a land area of 2300 hectares. The total investment in land and building is estimated at 2,090billion Rials and the total investment in main and auxiliary equipment is estimated at 6,567 billion Rials. The total pre-operational costs are estimated at 224 billion Rials, including the total required fixed capital of 8,881 billion Rials and the total working capital required for the project is 4,007 billion Rials. The total investment of the project is expected to come from the resources of the company's shareholders.

The project is expected to be sold in 1405 at fixed prices equal to 2,880 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 13,696 billion Rials. The net profit of the plan has been positive in all years. The profit figure in 1406 is equal to 25,673 billion. The profit will increase in the following years and will reach a maximum of 4,396 billion Rials. The average annual profit of the plan is 3,694 billion Rials and the average profit margin is expected to be 28.3%. The internal rate of return (IRR) of the plan is estimated at 26.5% and the payback period (PBP) is estimated at a maximum of 2.09 years. Also, the net present value of the project's cash flows (NPV) is positive and, taking into account the expected interest rate of 20%, is equal to 2,256 billion Rials.

The liquidity status of the plan and the payment of dividends to the shareholders from the company's funds are also suitable. Therefore, if the assumptions and predictions are fulfilled, the plan under consideration has favorable profitability and according to the financial results obtained, its implementation is recommended. The economic discussions of the plan are summarized as follows.

Table (19): Summary of Economic Features

Nominal Capacity and Unit of Measurement	Product Name	Title Of the Project with ISIC Code	Title Of the Project
6,440 tons	All kinds of fish and shrimp	Types of fish and shrimp (501512313) and (500312301)	2300hectare complex in Abadan city
Required Human Resource (Person)	Equity Shares (Million Rials)	Total Fixed Capital (Million Rials)	Project Duration
2,050	5,346,712	8,881,500	24
B/C	Applicant Available Cash (Million Rials)	Net Present Value (NPV) (Million Rials)	IRR (%)
1.1	14,228,212	2,256,614	26.5%
ROI (%)	NPV Ratio / Profitability Index (Rial per Rial invested)	Dynamic Payback Period (Year)	Normal Payback Period (Year)
24	0.24	4.49	2.09
Average Assets Turnover Ratio	Average Net Profit Margin (%)	Average Annual Profit (Million Rials)	Maximum Annual Sales (Million Rials)
0.84	28.3%	3,122,646	13,696,000

8-8- Estimation of currency rate fluctuation during the project implementation

The currency rate at the time of evaluation is included as described in Table (20). The purchase and sale prices are determined with the energy exchange transactions and are adjusted to a large extent under the influence of the currency rate increase.

Therefore, currency rate fluctuations regarding the purchase of foreign equipment will be compensated to some extent by the income from sales which will have a little effect on the evaluation results. So, in the construction and implementation phase, if the financing of the project provided through foreign currency sources, the amount of required investment will not change much.

Table (20): Currencies exchange Rate

Unit of Measurement	Unit Price	Currency
Rials	413,204	USD
Rials	451,531	EURO

Exchange rate of Central Bank, Exchange Trading System (ETS) dated 05/25/1402

9) Investment Required, method of fundraising and guarantees

9-2- Foreign Currency Required

The plan does not need currency and the total fixed capital of the plan is Rial.

Table (21): Foreign (Fixed) Currency Required

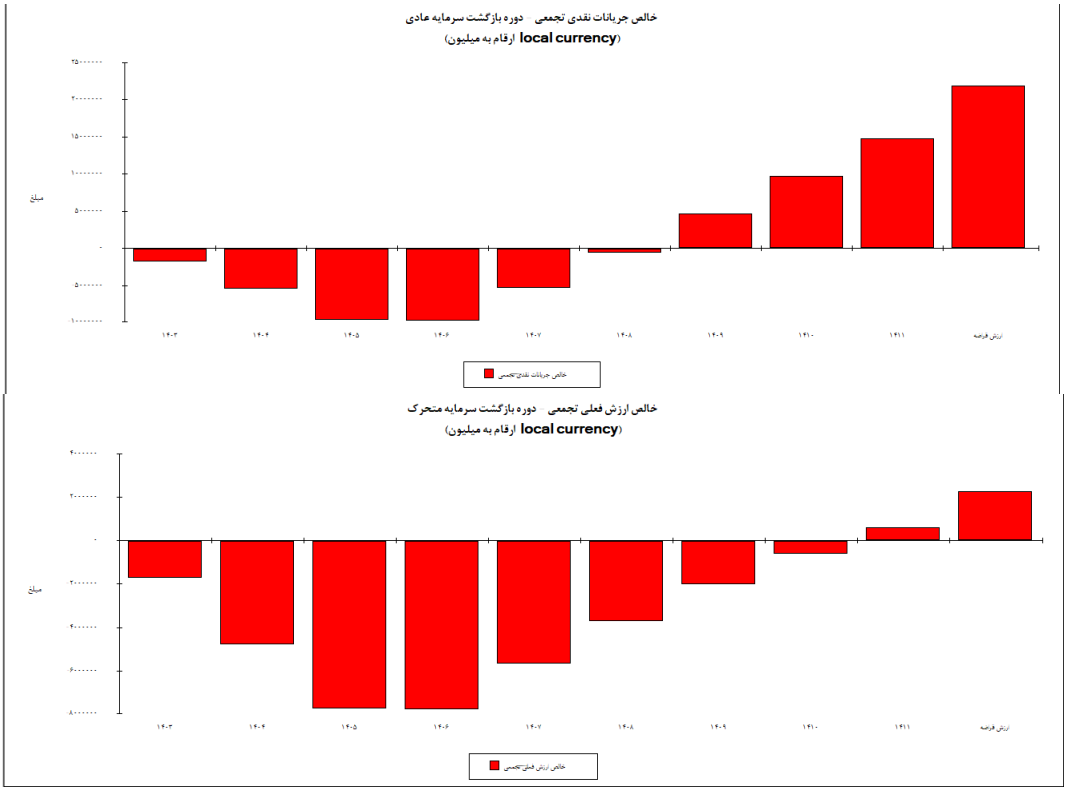
No.	Year	Required Investment
1	Year 1	0
2	Year 2	0
3	Year 3	0
4	Year 4	0
5	Year 5	0

9-3- Model Of Partnership and Fundraising

Participation in the present project and its fundraising process is predicted to be in the form of establishing a company inside Iran. The total required investment is predicted through the investor's contribution. Financing through local banks has not been included in the fundraising process.

9-4- Payback Period

The payback period is the period of time when the initial investment of the plan is compensated from the annual cash funds. The payback period (simple) of the plan is estimated to be 2.09 years (equal to 1409) according to the calculations of CAMFAR. Dynamic Payback Period of the plan is also estimated at 4.49 years



10) Incentives, features and benefits of the plan

Some of the financial supports for production companies are loans and bank facilities and tax exemptions which can facilitate the project implementation and provide the favorable condition for investment. In the following, some of these supports will be discussed.

One of the important bank facilities for production units is the long-time repayment period loans up to 70% of fixed capital by the Iran's state banks. This amount can be increased up to 90% for deprived areas if foreign machinery is used. The interest rate of long-term facilities in the industry sector is 23%, which in case of financial prudence, only a part of the interest can be repaid. The repayment period of long-term bank facilities is up to 8 years according to the production plan, the type of technology and the possibility of product exportation.

In the tax department: according to Article 81 of the country's tax law, the income from all activities of agriculture, animal husbandry, fish and bee breeding and poultry breeding, fishing and fishing, sheep farming, restoration of pastures and forests, gardens and trees from any Kinds and Date trees are exempt from paying taxes.

(Attachment Number 2)

Summery Sheet

Project introduction
1. Project Title: 2300hectare community in Abadan city
2. Sector: Agriculture sub-sector: Fish farming
3. Products/services: All kinds of fish and shrimp
4. Location: Khuzestan, Abadan city
5. Project description: The project is planned to be implemented in a land area of 2300 hectares. The total investment in land and building is estimated at 2,090 billion Rials and the total investment in main and auxiliary equipment is estimated at 6,567 billion Rials. The total pre-operational costs are estimated at 224 billion Rials, including the total required fixed capital of 8,881 billion Rials and the total working capital required for the project is 4,007 billion Rials. The total investment of the project is expected to come from the resources of the company's shareholders. The project is expected to be sold in 1405 at fixed prices equal to 2,880 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 13,696 billion Rials. The net profit of the plan has been positive in all years. The profit figure in 1406 is equal to 25,673 billion. The profit will increase in the following years and will reach a maximum of 4,396 billion Rials. The average annual profit of the plan is 3,694 billion Rials and the average profit margin is expected to be 28.3%. The internal rate of return (IRR) of the plan is estimated at 26.5% and the payback period (PBP) is estimated at a maximum of 2.09 years. Also, the net present value of the project's cash flows (NPV) is positive and, taking into account the expected interest rate of 20%, is equal to 2,256 billion Rials.
6. Annual Capacity: 6,440 ton

Project Status
7. Local/internal raw material access: 100%
8. Sales: 13,696 billion Rials **Anticipated local market:** 80% **Anticipated export market:** 20%
9. construction period: 24 months
10. project status: - Feasibility study available? Yes. The feasibility of the project has been evaluated from different aspects and the results of the feasibility study are favorable in terms of market, engineering, financial and economic indicators. - Required land provided? Yes - approval and permission for construction and operation in Abadan industrial town has been done. Based on this, the operator can use this water area according to the relevant regulations. - Legal permission (establishment license, foreign currency quota, environment) taken? Yes - Partnership agreement concluded with local/foreign investor? No - So far, no partnership agreement has been prepared for the implementation of the plan. This plan has the necessary features to attract shareholders' financial resources. - Agreement with local/foreign contractor(s) concluded? No - Infrastructural utilities procured? Yes - List of know-how, machinery and equipment concluded? Yes - the desired equipment according to the conducted studies including catwalk structures, water pumping equipment, aeration equipment, feeding equipment and other intelligent management systems in operation (including subsurface monitoring system, environmental data system, etc.) - Financing agreement for machinery, equipment and know-how concluded? No

Financial structure

11. Financial table:

Description	Local Currency Required			Foreign Currency Required	Total Euro
	Million Rial	Exchange Rate	Euro		
Total Fixed Investment Costs	8,881,500	451,531	19,669,746	0	19,669,746
Total Net Working Capital Requirements	4,007,223	451,531	8,874,746	0	8,874,746
Total Investment	12,888,723	-	28,544,492	0	28,544,492

- Value Of Foreign Equipment/Machinery: 0 Euro
- Value Of Local Equipment/Machinery: 6,402,661 Euro
- Value Of Foreign Technical Know-How: 0 Euro
- Value Of Local Technical Know-How: 54,158 Euro
- Net Present Value (NPV): 4,997,695 Euro — Net present values discounted to: 1403
- Internal Rate of Return (IRR): 26.5% ٪
- Normal Payback: 2.09 year
- Minimum Attractive Rate of Return: 20% ٪

General information

12.Project Type: new Project ☑ Explanation / Rehabilitation project ☐

Name / Company name:-

Address: Khuzestan, Abadan city

Tel: 0098 916 6120585 Fax:

Email: meisam.bavarsad@gmail.com Website:

Local entrepreneur: Private Sector ☑ government /public sector ☐