Agricultural Jihad Organization of Chahar Mahal and Bakhtiari province

Deputy of Planning and Economic Affairs

Proposed water transfer package to Chalgah lands and Khanmirza plain To attract investors through the province's investment service center

Introduction

Consulting company:

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Abstract

1-Investment table

All numbers are in million rials					Cost(Euro)
Row	Description	Price	Done	Required	
1	land	0	0	0	0
2	Landscaping	164,280	0	164,280	586,714
3	Building	56,400	0	56,400	201,429
4	Installations	465,643	0	465,643	1,663,009
5	Machinery	34,456		34,456	123,056
6	Costs before operation	7,208	0	7,208	25,742
7	Unforeseen costs	14,560	0	14,560	51,999
Total fixed investment costs		742,546	0	742,546	2,651,949
Capital in the first year's turnover		794,691	0	794,691	2,838,182
Total investment of the plan		1,537,237	0	1,537,237	5,490,130

All numbers are in million rials			
Description	Build time	Operation time	total
Total Financial source	742,546	794,691	1,537,237
Total Financial source(Euro)	2,651,949	2,838,182	5,490,130

a) Payback Period(PP): 4.42 year
b) Internal rate of return(IRR): 24.07 Percent
c) Net Present Value(NPV): 2533621 Miliion rials=9,048,645 (Euro)
d) Production point by point: 18 percent
e) Value of machinery and equipment: 34456 (Million Rials)=123056(Euro)
Currency calculation (Euro) this section uses the weighted average rate of currency purchase and sale based on transactions registered in the Senate Currency Monitoring System in March 2021. Accordingly, the exchange rate (Euro) of 280000 Rials has been used as the basis for currency calculations (Source: https://www.sanarate.ir/).

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Introduction

Studies of water transfer plan to the lands of Khanmirza plain, located in Chaharmahal and Bakhtiari province, have been carried out in order to find appropriate solutions from a technical-economic point of view to supply agricultural water to this plain. Khanmirza plain is one of the most fertile plains in Chaharmahal and Bakhtiari province, where a major part of the economy of the people of Khanmirza depends on agriculture in this plain. The area of Khanmirza plain is about 23,500 hectares, which includes 500 hectares of orchards, 9,000 hectares of rainfed lands, and 14,000 hectares of irrigated cultivation lands. The most important source of water supply in Khanmirza plain is agricultural wells, which are currently the main source of irrigation and potable water supply with more than 1000 deep and semi-deep wells. The upper part of the plain between the 1950 to 1850 sea-level lines involves the area of Moradan, Kalamoi, and Borjoui villages, which is currently covered by rainfed. Annually, the equivalent of 137 million cubic meters of groundwater drainage volume is used to irrigate agricultural lands.

The general objectives of this plan are as follows:

- ✓ supply and transferring water to rainfed lands in the upper part of Khanmirza plain with an area of 1050 hectares
- ✓ supplying the water needs of Chalgah lands along the transmission line in the amount of 300 hectares
- ✓ Groundwater recharge of the plain through agricultural return water and prevention of aquifer salinization due to the expansion of saline water adjacent to salt domes
- ✓ Convert rainfed lands to irrigated lands and increase production and income, as well as improve the living conditions of the region's villages and prevent migration to cities.

Chapter 1:

Specifications of the project

1-1-location

Project scope is located in Khanmirza city, in Chaharmahal va Bakhtiari province. The geographical coordinates of this location are as described in Table 1-1.

Table (1-1): Geographical coordinates of project implementation range

	Geographical Longitude			Geographical Latitude		
	Degree	Minute	Second	Degree	Minute	Second
1	51	00	00	31	25	00
2	51	10	00	31	40	00

Figure 1-1 shows the project execution site in Google Inheritance environment.



Figure (1-1): Location of Project

2-1- Access routes

The route shown in Table 1-2 can be used to access the project site from the provincial capital. Figure 1-2 also shows the following path.

Table (2-1): Access routes

Row	Beginning	Address	Destination	Distance(km)
1	Shahrekord	Brujen-Dorahan-Khanmirza	Project location	120

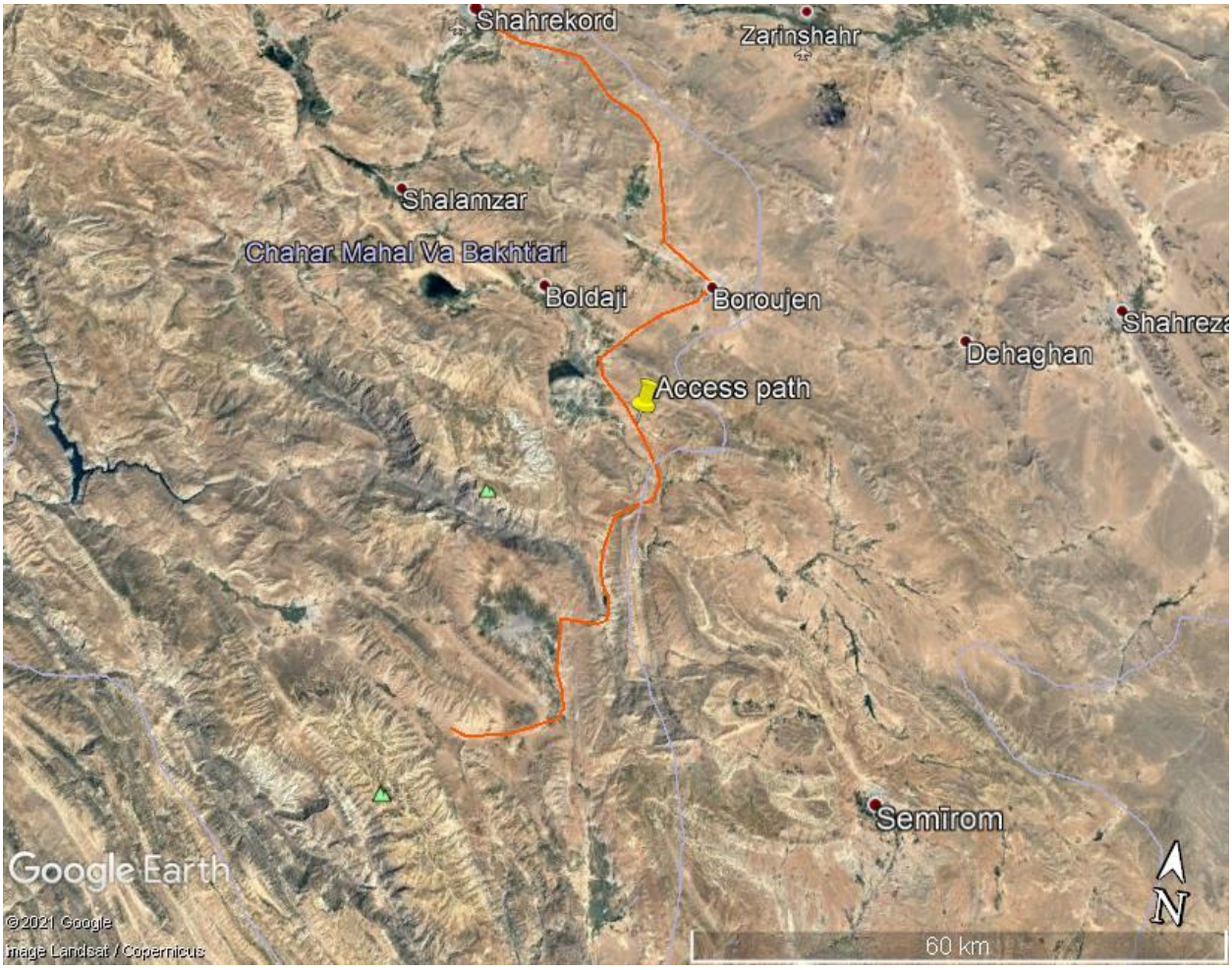


Figure (2-1): Access routes

3-1-Climate

According to the Köppen-Geiger classification the project area has a very warm semi-arid climate. In this climate and according to the statistics recorded at Lordegan Synoptic Station, the most important climatic factors are the project site as described in Table 3.1.

Table (3-1): Climatic Factor

Climatic Factor	Mean
Temperature(c)	8.2
Rain(mm)	475.8
Relative Humid (%)	45
The number of frosty days	113

4-1- The population of residential centers

The purpose of the residential population survey is to identify investors in the primary target markets for product sales as well as to provide the manpower and equipment needed to continue operating. Hence, the closest residential centers to the design and population range of each are presented below (Table 4-1).

Table (4-1): The population of residential centers

Row	residential centers	Population(1395)
1	Lordegan city	40528
2	Aluni city	5248
3	Goshaki village	417
4	Mordan village	2764
5	Kelamui village	919
6	Berjooi village	2146
7	Chalega village	839

5-1- Access to infrastructure facilities

Table 5-1 shows the status of each facility at the project site.

Table (5-1): Access to infrastructure facilities

Equipment	Yes	No	Descriptions
Asphalt access road	*		
Access to human resources	*		Worker and specialist workforce

Second chapter:

Specifications of the water transfer plan

1-2-Introduction

Khanmirza plain is one of the most fertile plains in Chaharmahal and Bakhtiari province, where a major part of the economy of the people of Khanmirza depends on agriculture in this plain. The area of Khanmirza plain is about 23,500 hectares, which includes 500 hectares of orchards, 9,000 hectares of rainfed lands, and 14,000 hectares of irrigated cultivation lands. The most important source of water supply in Khanmirza plain is agricultural wells, which are currently the main source of irrigation and potable water supply with more than 1000 deep and semi-deep wells. Annually, the equivalent of 137 million cubic meters of groundwater drainage volume is used to irrigate agricultural lands.

2-2- plan's purposes

- supply and transferring water to the lands of Khanmirza plain with an area of 2500 hectares
- Nutrition and balancing of plain's groundwater resources
- Increase production and income, as well as improve the living conditions of the region's villages and prevent migration to cities
- The shutdown of wells and lack of extraction from underground reserves
- Supplying of water needs of Chalgah lands along the transmission line in the amount of 300 hectares
- Feeding the groundwater of the plain through agricultural return water and preventing the aquifer from becoming saline due to the spread of saline salt domes

3-2- the plan's performing procedure

Water intake from Karebas river will be done from 800 meters above Karebas bridge and during one stage of pumping water will be transferred to the equilibrium reservoir (after the tunnel) and from there it will be transferred by gravity to the top of Kalamoi village.

The components of the plan are as follows:

1- Deviation dam and related facilities
2- The pumping station and accessories
3- Balance tank 5000 cubic meters
4- the transmission line with a length of 5.17 km

4-2- plan's specifications

Table 1-2 shows the plan’s specifications.

Table (1-2): plan’s specifications

Row	Title	Unit
1	Plan’s discharge	1.3 m^3per second
2	Transmission line length	17583 m
3	Pipe’s material	1000 steel meter-11800 GRP m-5393 Concrete meters
4	height difference	180m
5	Electricity required by the station	7 mw (megawatt)
6	Path length under pumping	3860m
7	Type of water transfer pipe	1000 Steel millimeters
8	Average water velocity inside the water transfer pipe	1.6ms (Meters per second)
9	Alignment of the diversion dam and its dewatering facilities	176.5m
10	The balance of the suction tank of pumps	1761.7 m
11	Installation of anti-impact facilities balance	1942 m
12	Balance tank level at the highest point of the track	1997

Chapter 3:

Investment and technical justification of the plan

1-3- Fixed costs

Table (1-3): The land

All numbers are in million rials								
Row	Description	Unit	Ownership type	Value	Unit price	Total price	The final cost	Cost to Euro
1	Land	Hectare	Personal	2500	0	0	0	0
Total							0	0

Table (2-3): Landscaping

	All numbers are in million rials							Cost(Euro)
Row	Description	Value	Unit	Unit price(Rials)	Total price	Done	Required	
1	Pumping station floor painting	-	-	-	5,280	0	5,280	18,857
2	Masonry of water transfer channel with a length of 180 meters in the amount of 350 cubic meters	-	-	-	2,000	0	2,000	7,143
3	Excavation of water transfer canal and end sedimentation pond 180 m long	-	-	-	2,000	0	2,000	7,143
4	Diversion dam and catchment facilities include sediment and water supply canal	-	-	-	150,000	0	150,000	535,714
5	Construction of service road and access to the project site	-	-	-	5,000	0	5,000	17,857
Total						0	164,280	586,714

Table (3-3): Building

	All numbers are in million rials							Cost (Euro)
Row	Description	Value	Technical Specifications	Unit price (Rials)	Total price	Done	Required	
1	Pumping station building with concrete columns	-	-	-	26,400	0	26,400	94,286
2	Execution of 5000 cubic meters of concrete storage tank	-	-	-	30,000	0	30,000	107,143
Total						0	56,400	201,429

Table (4-3): Installations

	All numbers are in million rials							Cost(Euro)
Row	Description	Value	Unit	Unit price(Rials)	Total price	Done	Required	
1	Low loss oil transformer 20 / 0.4KV, 2000KVA	4	Device	2605000000	10420	0	10420	37214
2	Low loss oil transformer 20 / 0.4KV, 1000KVA	1	Device	1570000000	1570	0	1570	5607
3	Medium ground pressure substation switchboard	5	Device	1930000000	9650	0	9650	34464
4	Low pressure switchboard inside the post	5	Device	30000000	150	0	150	536
5	Construction and commissioning of medium ground pressure substation according to the technical plan of the Electricity Distribution Company with dimensions of 8 x 6 meters with an area of 48 square meters	5	Device	2950000000	14750	0	14750	52679
6	The cost of construction and installation of electrical panels for electric pumps, along with the preparation and installation of all	1	Number	34100000000	34100	0	34100	121786

	cables and accessories related to related facilities.							
7	Cost of loading, unloading, installation and commissioning of all equipment	1	-	33000000000	33000	0	33000	117857
8	Cost of purchasing a power branch	7275	-	1100000	8002.5	0	8002.5	28580
9	Cost of purchasing equipment and installing medium air pressure power network to substation	10000	KW	2300000	23000	0	23000	82143
10	Preparation of 3860 m long steel transmission pipeline with a diameter of 1000 mm (40 inches) with coating	-	Meter	-	178,000	0	178,000	635714
11	Execution of 3860 meters transmission pipeline and connections, valves and ponds of the transmission route	-	-	-	150,000	0	150,000	535714
12	Installation and execution of a sectional valve on the sediment channel	-	-	-	3,000	0	3,000	10714
Total						0	465,643	1,663,009

Table (5-3): Pumping station equipment

All numbers are in million rials									Cost(Euro)
Row	Description	Unite	Unite	Technical Specifications	Unit price (Rials)	Total price	Done	Required	
1	High pressure pump model WKL150 / 6a	20	Device	-	310,000,000	6,200	0	6,200	22,143
2	315 kW electric motor 1450 rpm	20	Device	-	1,100,000,000	22,000	0	22,000	78,571
3	Chassis for connecting pump and motor	20	Device	-	40,000,000	800	0	800	2,857
4	8-inch PN25 valve	20	Device	-	50,000,000	1,000	0	1,000	3,571
5	8-inch welded knee	20	Number	-	2,000,000	40	0	40	143
6	8-inch pump control valve with working pressure 40atm	20	Device	-	60,000,000	1,200	0	1,200	4,286
7	Metal conversion 8 * 6	20	Number	-	1,000,000	20	0	20	71
8	40 atmospheric barometer with accessories and valve	20	Device	-	20,000,000	400	0	400	1,429
9	Shireva 2 inches	20	Device	-	4,200,000	84	0	84	300
10	Bolts 10 * 16	480	Number	-	20,000	10	0	10	34
11	6 inch metal pipe	120	Number	-	1,000,000	120	0	120	429
12	8-inch suction valve	20	Meter	-	3,800,000	76	0	76	271
13	8-inch rims and flanges with rubber washers for sealing	80	Number	-	500,000	40	0	40	143
14	2 inch tube nut	80	Number	-	120,000	10	0	10	34
15	60 inch metal pipe with a thickness of 8.8 mm	35	Number	-	50,000,000	1,750	0	1,750	6,250
16	40-inch one-way valve with a working	1	Meter	-	150,000,000	150	0	150	536

	pressure of 40 atmospheres								
17	40-inch impeller shut-off valve with a working pressure of 40 atmospheres	1	Device	-	150,000,000	150	0	150	536
18	2-inch bypass with valves	20	Device	-	20,000,000	400	0	400	1,429
19	Teflon tape	800	Device	-	5,000	4	0	4	14
20	Hemp	40	Number	-	50,000	2	0	2	7
21	Hemp paste	20	Kg	-	20,000	0.4	0	0.4	1.4
22	High pressure pump model WKL150 / 6a	20	Number	-	310,000,000	6,200	0	6,200	22,143
Total							0	34,456	123,056

Table (6-3): Costs before operation

All numbers are in million rials					
Row	Description	Total price	Done	Required	Cost(Euro)
1	2% fixed investment	7,208	0	7,208	25,742
Total			0	7,208	25,742

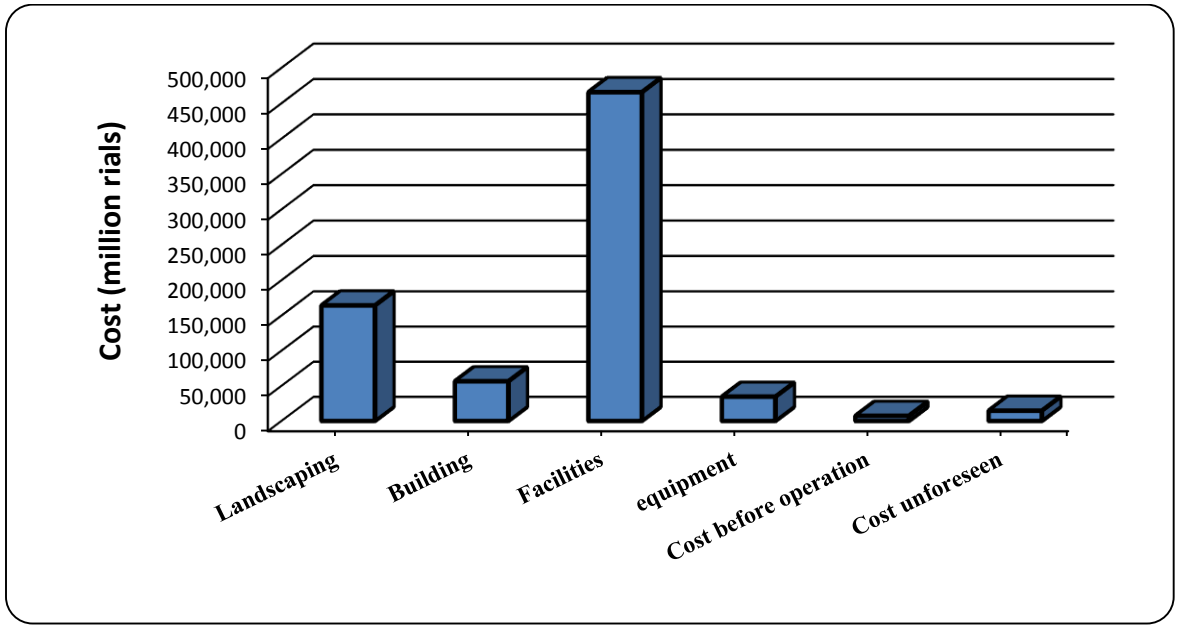


Figure (1-3): Project Investment Cost Ratio

2-3- Plan investment

Table (7-3): Working capital

All numbers are in million rials											
Year											
Description	Period	First year	Second year	Third year	Forth year	Fifth year	Sixth year	Seventh year	Eightieth year	Ninth year	Tenth year
Type of cultivation	Quotes	Cereals	Quotes	Cereals	Quotes	Cereals	Quotes	Cereals	Quotes	Cereals	Quotes
Fuel and energy	30	780,000	335,000	780,000	335,000	780,000	335,000	780,000	335,000	780,000	335,000
salary	30	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400
Repair and maintenance	30	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337	2,337
Depreciation	30	4,956	4,956	4,956	4,956	4,956	4,956	4,956	4,956	4,956	4,956
Sales costs	30	1,999	1,999	1,999	1,999	1,999	1,999	1,999	1,999	1,999	1,999
Total working capital required		794,691	349,691	794,691	349,691	794,691	349,691	794,691	349,691	794,691	349,691
Working capital (EURO)		2,838,182	1,248,896	2,838,182	1,248,896	2,838,182	1,248,896	2,838,182	1,248,896	2,838,182	1,248,896

Table (8-3): Summary investment plan

All numbers are in million rials					Cost(Euro)
Row	Description	Price	Done	Required	
1	land	0	0	0	0
2	Landscaping	164,280	0	164,280	586,714
3	Building	56,400	0	56,400	201,429
4	Installations	465,643	0	465,643	1,663,009
5	Machinery	34,456		34,456	123,056
6	Costs before operation	7,208	0	7,208	25,742
7	Unforeseen costs	14,560	0	14,560	51,999
Total fixed investment costs		742,546	0	742,546	2,651,949
Capital in the first year's turnover		794,691	0	794,691	2,838,182
Total investment of the plan		1,537,237	0	1,537,237	5,490,130

Table (9-3): How to get funding to complete the project

All numbers are in million rials			
Description	Build time	Operation time	total
Total Financial source	742,546	794,691	1,537,237
Total Financial source(Euro)	2,651,949	2,838,182	5,490,130

3-3- Plan variable costs

Table (10-3): Cost of raw materials

	All numbers are in million rials							Cost(Euro)
Row	Description	Annual consumption	Unit	Unit price(Rials)	Total price	Done	Required	
1	Quotes seeds	500,000	Kg	400,000	200,000	0	200,000	714,286
2	Cereal seeds	500,000	Kg	50,000	25,000	0	25,000	89,286
3	Fertilizer	500,000	Kh	1,000,000	500,000	0	500,000	1,785,714
4	Pesticides and herbicides	10,000	Liter	4,000,000	40,000	0	40,000	142,857
5	Cost of land preparation and cultivation	-	Hectare	15,000,000	37,500	0	37,500	133,929
Total						0	802,500	2,866,071

Table (11-3): Salary

All numbers are in million rials						
Row	Description	Number	Monthly salary for each person (thousand Rials)	Monthly salary(thousand Rials)	yearly salary	Cost(Euro)
1	the manager	1	60,000	60,000	720	2,571
2	Herbalist	10	25,000	250,000	3,000	10,714
3	Horticultural expert	10	25,000	250,000	3,000	10,714
4	worker	100	18,000	1,800,000	21,600	77,143
5	skilled worker	100	20,000	2,000,000	24,000	85,714
yearly salary					52,320	186,857
Employer share insurance equals 23% of annual salaries and benefits					12,034	42,977
Total salaries and benefits of production personnel					64,354	229,834
6	Guard	2	15,000	300,000	3,600	1,286
yearly salary					360	1,286
Employer share insurance equals 23% of annual salaries and benefits					83	296
Collection of annual salaries and benefits of administrative staff					443	1,581
Collection of annual salaries and benefits of all personnel					64,796	231,416

Table (12-3): maintenance cost

	All numbers are in million rials				
Row	Description	Asset value	Rate (%)	Cost	Cost(Euro)
1	Landscaping	164,280	0.02	3,286	11,734
2	Building	56,400	0.02	1,128	4,029
3	Installations	465,643	0.05	23,282	83,150
4	Machinery	34,456	0.01	345	1,231
Total		720,778	-	28,040	100,144

Table (13-3): Cost of depreciation

	All numbers are in million rials				
Row	Description	Asset value	Rate (%)	Cost	Cost(Euro)
1	Landscaping	164,280	0.01	1,643	5,867
2	Building	56,400	0.10	5,640	20,143
3	Installations	465,643	0.10	46,564	166,301
4	Machinery	34,456	0.10	3,446	12,306
5	Unforeseen costs	14,560	0.10	1,456	5,200
Cost of depreciation of fixed assets		735,338	-	58,749	209,816
Cost before operation		7,208	0.10	721	2,574
Total		742,546	-	59,469	212,391

Table (14-3): Administrative cost

All numbers are in million rials			Cost(Euro)
Row	Description	Total cost	
1	Product sales costs (1% sales)	15,000	53,571
2	Administrative and organizational costs (15% sales)	7,500	26,786
3	Fixed asset insurance (2 per thousand asset value)	1,485	5,304
Total		23,985	85,661

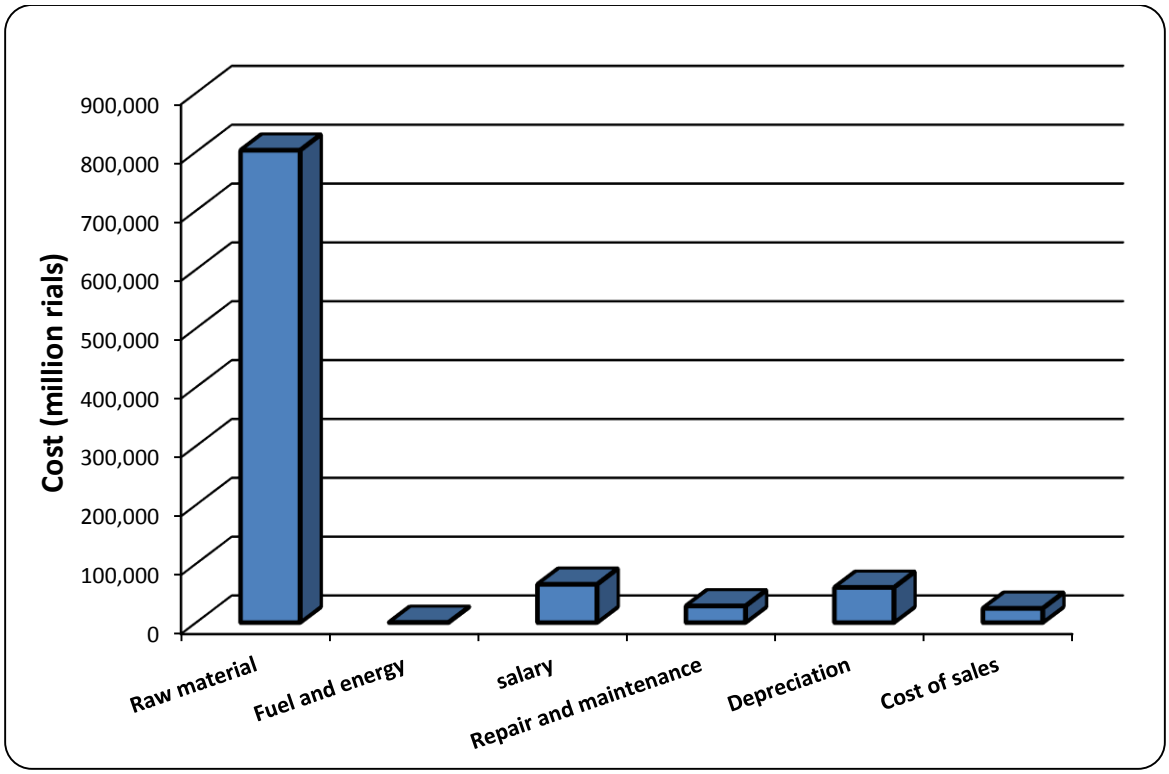


Figure (2-3): Project Production Cost Ratio

4-3- Total cost

Table (15-3): Product cost (direct costs)

All numbers are in million rials										
Year	First year	Second year	Third year	Fourth year	Fifth year	Sixth year	Seventh year	Eightieth year	Ninth year	Tenth year
Raw material	780,000	335,000	780,000	335,000	780,000	335,000	780,000	335,000	780,000	335,000
Production personnel salaries	63,227	63,227	63,227	63,227	63,227	63,227	63,227	63,227	63,227	63,227
Repair and maintenance	28,040	28,040	28,040	28,040	28,040	28,040	28,040	28,040	28,040	28,040
Fuel and energy	17,425	8,525	17,425	8,525	17,425	8,525	17,425	8,525	17,425	8,525
unexpected	58,749	58,749	58,749	58,749	58,749	58,749	58,749	58,749	58,749	58,749
Depreciation of fixed assets	947,442	493,542	947,442	493,542	947,442	493,542	947,442	493,542	947,442	493,542
Total cost of services	3,383,720	1,762,649	3,383,720	1,762,649	3,383,720	1,762,649	3,383,720	1,762,649	3,383,720	1,762,649
Total cost of services (Euro)	780,000	335,000	780,000	335,000	780,000	335,000	780,000	335,000	780,000	335,000

Table (16-3): Operating costs

All numbers are in million rials										
Year	First year	Second year	Third year	Fourth year	Fifth year	Sixth year	Seventh year	Eightieth year	Ninth year	Tenth year
The salary of the administrative staff	436	436	436	436	436	436	436	436	436	436
Sale and Distribution	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250
Administrative and organizational	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500
Depreciation of costs before operation	721	721	721	721	721	721	721	721	721	721
Total Operating Costs	22,907	22,907	22,907	22,907	22,907	22,907	22,907	22,907	22,907	22,907
Total Operating Costs (Euro)	81,810	81,810	81,810	81,810	81,810	81,810	81,810	81,810	81,810	81,810

Table (17-3): Non-operating costs

All numbers are in million rials										
Year	First year	Second year	Third year	Fourth year	Fifth year	Sixth year	Seventh year	Eightieth year	Ninth year	Tenth year
Fixed asset insurance (0.02% fixed asset)	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485
Total non-operational costs	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485	1,485
Total non-operational costs(Euro)	5,304	5,304	5,304	5,304	5,304	5,304	5,304	5,304	5,304	5,304

5-3- Sale Plan

Table (18-3): Sale plan

All numbers are in million rials										
Description	First year	Second year	Third year	Fourth year	Fifth year	Sixth year	Seventh year	Eightieth year	Ninth year	Tenth year
Annual sales capacity	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
Type of cultivation	Quotes	Cereals	Quotes	Cereals	Quotes	Cereals	Quotes	Cereals	Quotes	Cereals
Production of products per unit area (hectares)	3,000	8,000	3,000	8,000	3,000	8,000	3,000	8,000	3,000	8,000
Project area (hectares)	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Total production	7,500,000	20,000,000	7,500,000	20,000,000	7,500,000	20,000,000	7,500,000	20,000,000	7,500,000	20,000,000
Unit price (Rials)	200,000	40,000	200,000	40,000	200,000	40,000	200,000	40,000	200,000	40,000
Income	1,500,000	800,000	1,500,000	800,000	1,500,000	800,000	1,500,000	800,000	1,500,000	800,000
Income based on annual capacity	1,425,000	760,000	1,425,000	760,000	1,425,000	760,000	1,425,000	760,000	1,425,000	760,000
Income (Euro)	5,089,286	2,714,286	5,089,286	2,714,286	5,089,286	2,714,286	5,089,286	2,714,286	5,089,286	2,714,286

6-3- Economic Schedule

Table (19-3): Prediction of profit and loss account

All numbers are in million rials										
Description	First year	Second year	Third year	Fourth year	Fifth year	Sixth year	Seventh year	Eightieth year	Ninth year	Tenth year
net sales	1,425,000	760,000	1,425,000	760,000	1,425,000	760,000	1,425,000	760,000	1,425,000	760,000
Deducted: the cost of the sold goods	-947,442	-493,542	-947,442	-493,542	-947,442	-493,542	-947,442	-493,542	-947,442	-493,542
Gross profit	477,558	266,458	477,558	266,458	477,558	266,458	477,558	266,458	477,558	266,458
Deductions: Operating Costs	-22,907	-22,907	-22,907	-22,907	-22,907	-22,907	-22,907	-22,907	-22,907	-22,907
Operating profit	454,651	243,551	454,651	243,551	454,651	243,551	454,651	243,551	454,651	243,551
Deductible non-operating costs	-1,485	-1,485	-1,485	-1,485	-1,485	-1,485	-1,485	-1,485	-1,485	-1,485
Special interest before tax deduction	453,166	242,066	453,166	242,066	453,166	242,066	453,166	242,066	453,166	242,066
Deductible tax	-45317	-24207	-45317	-24207	-45317	-24207	-45317	-24207	-45317	-24207
Net profit	407,850	217,860	407,850	217,860	407,850	217,860	407,850	217,860	407,850	217,860
Accumulated profit	407,850	625,709	1,033,559	1,251,419	1,659,269	1,877,128	2,284,978	2,502,838	2,910,687	3,128,547
Net profit (Euro)	1,456,606	778,070	1,456,606	778,070	1,456,606	778,070	1,456,606	778,070	1,456,606	778,070

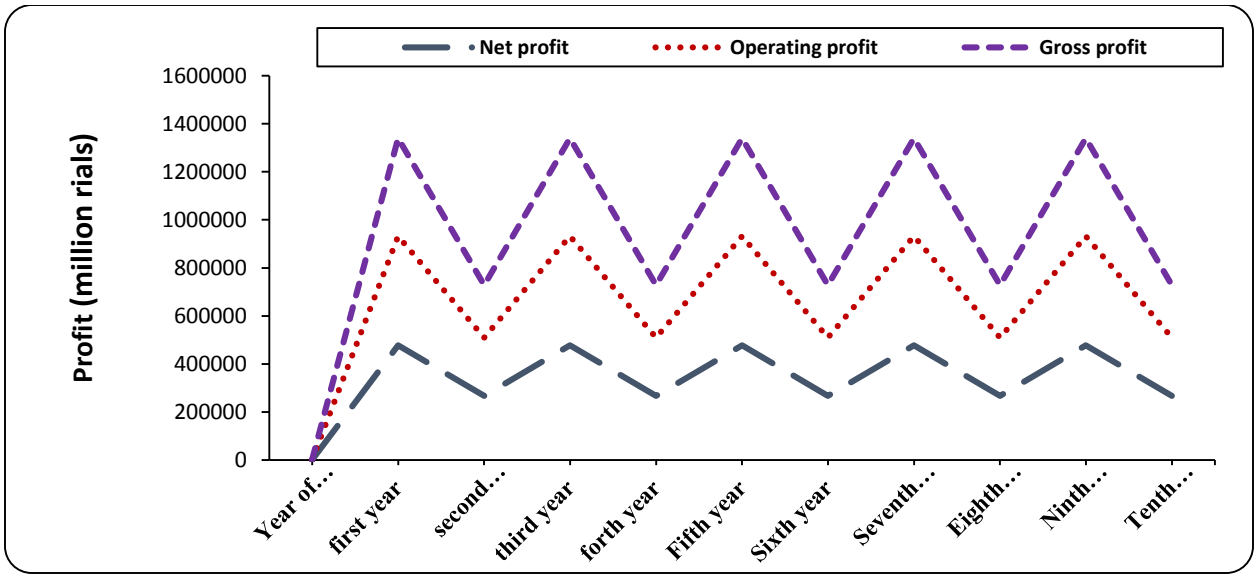


Figure (3-3): Project Profit and Loss Forecast

Table (20-3): Prediction of projected revenue

All numbers are in million rials										
Description	First year	Second year	Third year	Fourth year	Fifth year	Sixth year	Seventh year	Eightieth year	Ninth year	Tenth year
Special interest before tax deduction	453,166	242,066	453,166	242,066	453,166	242,066	453,166	242,066	453,166	242,066
non-movable assets depreciation	58,749	58,749	58,749	58,749	58,749	58,749	58,749	58,749	58,749	58,749
Depreciation of costs before operation	721	721	721	721	721	721	721	721	721	721
Total cash flow plans	512,636	301,536	512,636	301,536	512,636	301,536	512,636	301,536	512,636	301,536
Fixed investment project	742,546			2,651,949 (Euro)						
Capital in Circulation Scheme	794,691			2,838,182 (Euro)						
Total investment plan	1,537,237			5,490,130 (Euro)						
Project return rate(IRR)	24/07 %									
Return of capital	4/42 year									

Table (21-3): Net Present Value (NPV)

All numbers are in million rials			Net Value(Euro)
Row	Rate (%)	Net Value	
1	0	2,533,621	9,048,645
2	5	2,426,436	8,665,844
3	10	995,013	3,553,617
4	15	686,551	2,451,969
5	20	209,688	748,884
6	25	-41,862	-149,506
7	30	-236,153	-843,402
8	35	-389,300	-1,390,358
9	40	-512,248	-1,829,456
10	50	-695,696	-2,484,629
11	60	-824,704	-2,945,372

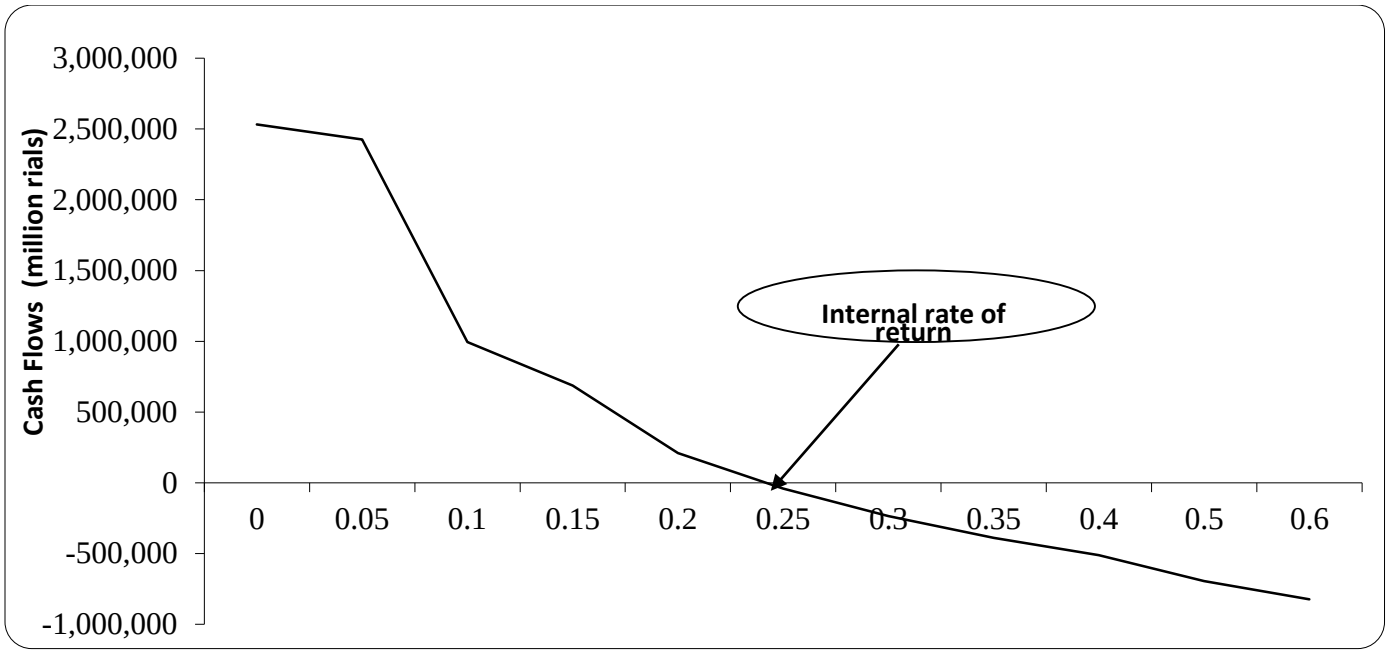


Figure (4-3): Net present value of cash flows

Table (22-3): Head-to-head point analysis

Row	Descriptions	Value
1	Fixed production costs (M.Rial)	147,579
2	Variable production costs (M.Rial)	849,104
3	Total fixed and variable production costs (M.Rial)	996,682
4	Total amount of production (tons)	13,750,000
5	Prices for each ton (M.Rial)	120,000
6	Total sales (MR)	1,650,000
7	Variable cost per ton (M Rials)	0.062
8	Total sales margin (total variable cost - total sales)	800,896
9	Sales margin of one ton-million rials (variable cost of one ton - selling price of one ton)	120,000
10	Marginal sales ratio (sales / sales margin)	0.485
11	Production amount per head-to-head point = (sales margin of one ton / fixed costs)	1,229,824
12	Head-to-head sales point-to-real = (sales margin ratio / fixed cost)	304,041
13	Safety margin (total sales / (head sales - total sales))	0.816
14	Production capacity at the head-to-head point (safety margin - 1)	0.184
15	Head-to-head point * 100 (sales margin / fixed costs)	18 percent

Table (23-3): Value description

All cultivars are worth millions of rials			
Row	Descriptions	Total cost	Total cost (euro)
1	GDP gross value added (cash production - sales costs)	806,773	2,881,331
2	Net Domestic Value (Depreciation Cost of Fixed Assets - Net Domestic Value)	748,024	2,671,514
3	Net gross value added to the value of the stands	49%	
4	Net domestic value added to the value of the stands	45%	

Chapter 4:
Schedule

Table (1-4): Schedule

	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
The process of familiarizing with the location of the project and identifying opportunities and challenges												
Follow the administrative steps to start the activity												
Equipping the ingot workshop												
Start of production activity												

Chapter 5:

Appendix

Appendix (1)

Images of the project site

