

Islamic Republic of Iran
Organization for investment economic and technical assistance of Iran

"Summary of technical-economical prefeasible study"

The name:

**Establishment of a Modern Palm Orchard and Product Processing in Naftshahr Region
(Project 2)**

Sector: Agriculture

subsector: Horticulture

ISIC code:

The owner of:

Kermanshah Agricultural Jihad Organization

Counselor plan:

Razi University

The ADDRESS:

Date of P.F.S:

**Manager of Iran Investment Opportunities
SHAHRIG Engineering Company**

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Contents

Contents.....	1
1- Abstract.....	2
2- Project's location:	5
2-1- Province:.....	5
2-2- the County:	5
2-3- the project:.....	6
2-4-Access to the infrastructures:	8
3- Technical Specifications of plan:	9
3-1 –Product:.....	9
3-2-Project's requirements:	10
3-2-1-Space and infrastructure required:.....	10
3-2-2-Equipment and machinery:.....	10
3-2-3- Raw materials and intermediate components:.....	11
3-2-4-Management and human resources:.....	11
4- Ownership and legal permission:	12
4-1- Ownership of land:	12
4-2- Intellectual property and incentives:	12
4-3-Legal permission:	12
5- Market study and Competition:	12
5-1- Introduce target market:	14
6- Physical Progress of project:.....	15
7- Action plan and Implementation schedule:.....	15
8- Financial projection:	15
8-1- The cost estimate:.....	16
8-2- Estimated revenues:.....	18
8-3-Duration of project operation:	18
8-4-Break- even analysis:	18
8-5- Cost-benefit analysis:	19
8-6- Sensitivity analysis of IRR:.....	20
8-7- Summarize table:.....	22
8-8-Estimation of exchange rate changes during the project implementation:.....	22
9- Capital needs, the supply and guarantees method:	22
9-2- The Way of participation and finance method:.....	22
9-3- Payback period:	23
10- Incentives, features and advantages of project:	23

1- Abstract:

PROJECT PROFILE - SUMMARY SHEET

Project Introduction			
1- Project title: Establishment of a Modern Palm Orchard and Product Processing in Naftshahr Region (Project 2)			
2- Sector: Agriculture		Sub Sector: Horticulture	
3- Products / Services: Production of Medjool dates			
4- location (address): Naftshahr, Qasr-e Shirin county, Kermanshah Province, Iran			
Free Zone <input type="checkbox"/>	Economic Special Zone <input type="checkbox"/>	Industrial Estate <input type="checkbox"/>	Main Land <input checked="" type="checkbox"/>
5- Project description: <p>The proposed project encompasses 508 hectares of national land, which will be transferred to the investor with the assistance of Kermanshah's General Department of Natural Resources and the Agricultural Jihad Organization. Following soil improvements, approximately 300 hectares can be developed into a date palm orchard. The project also necessitates the construction of a 1,000 m² office building, a 350 m² quality control laboratory, and a 6,000 m² processing workshop, warehouse, cold storage, and packaging facility. Irrigation water will be sourced from the “Garmsiri irrigation network” passing near the project site. The Qasr-e Shirin-Somar Road provides convenient access to the project, and an electricity transmission line is already in place. However, natural gas and telecommunication infrastructure must be extended from Naftshahr city, located approximately 10 kilometers away.</p>			

Project Status
6- Local / internal raw material access: Domestic sources can supply 66% of primary inputs like agricultural consumables. The remaining 34% of inputs, including saplings, lab equipment, and machinery, are imported.
7- Sale: - Anticipated local market: - - Anticipated export market: 100%
8 – Project total time (from start of activities to start of commercial operation in years) : 4 years

Schedule	Start of activities: 2025
	Start of works at site: 2026
	End of Works: 2030
	Start of commercial operation: 2030

9- Project status:

- Feasibility study available? Yes No
- Required land provided? Yes No
- Legal permissions (establishment license, foreign currency quota, environment, etc) taken? Yes No
- Partnership agreement concluding with local /foreign investor? Yes No
- Financing agreement concluding? Yes No
- Agreement with local /foreign contractor(s) concluding? Yes No
- Infrastructural utilities (electricity water supply, telecommunication, fuel, road, etc) procured? Yes No
- List of know- how, machinery, equipment, as well as seller /builder companies defined? Yes No
- Purchases agreement machinery, equipment and know-how concluded? Yes No

Financial Table

10- Financial structure:

Descriptions	Local Currency Required			Foreign Currency Required Million Euro	Total Million Euro
	Million Rials	Rate (Euro to Rials)	Equivalent in Million Euro		
Fix Capital	4,454,366	670000	6.79	3.4	10.19
Current Capital	382,088	670000	0.57	-	0.57
Total Investment	4,927,454	670000	7.36	3.4	10.76

- Value of foreign equipment / machinery: 0.97 Million Euro
- Value of local equipment / machinery: Million Euro
- Value of foreign technical know-how: Million Euro
- Value of local technical know-how: Million Euro
- Net present value (NPV): 7.48 Million Euro
- Internal Rate of Return (IRR): 35.5 %
- Capital Rate of Return: 25 %
- Payback Period: 7 year

General Information

11 - Project type : Establishment ☒

Expansion and completion ☐

12- Company Profile

- Name (Legal/Natural persons): Agricultural Jihad Organization of Kermanshah

- Company's current activities

- Address: Keshavarz Blvd, Sepah Sqr, Kermanshah

- Tel: +988331520000

Fax: +988331521081

E-mail: Ece-kermanshah@agri_jahad.ir

Web Site: kermanshah.maj.ir

- Company's legal structure:

Government ☒

Non-Governmental ☐

Public non-governmental ☐

2- Project's location:

2-1- Province:

Kermanshah Province, covering an area of 24,640 square kilometers, is one of the western provinces of Iran, constituting 1.1% of the country's total area. Geographically, it is located between 33°36' and 35°15' north latitudes and 45°24' and 48°30' east longitudes (Figure 1). The province is bordered by Kurdistan Province to the north, Lorestan and Ilam Provinces to the south, Hamedan Province to the east, and Iraq (Diyala and Halabja Provinces) to the west. The province consists of 14 counties, 35 cities, 31 districts, and 84 rural districts.



Figure 1- Location of the Kermanshah Province in the Country

2-2- the County:

Qasr-e Shirin County is one of the counties of Kermanshah Province and is a free trade zone in western Iran. The center of this county is the city of Qasr-e Shirin, located 166 kilometers west of Kermanshah city and 400 meters above sea level. The location of Qasr-e Shirin County in Kermanshah Province is shown in Figure 2. Qasr-e Shirin County is

bordered by Iraq to the north and west, Ilam Province to the south, and the counties of Sar-e Pol-e Zahab and Gilan-e Gharb to the east. This county is located on the main Tehran-Baghdad route. The most famous historical sites are the four-arched structure and the mansion. Other historical buildings include the Shah Abbas caravanserai and the Jowamir Castle. Somar is another city in the county.

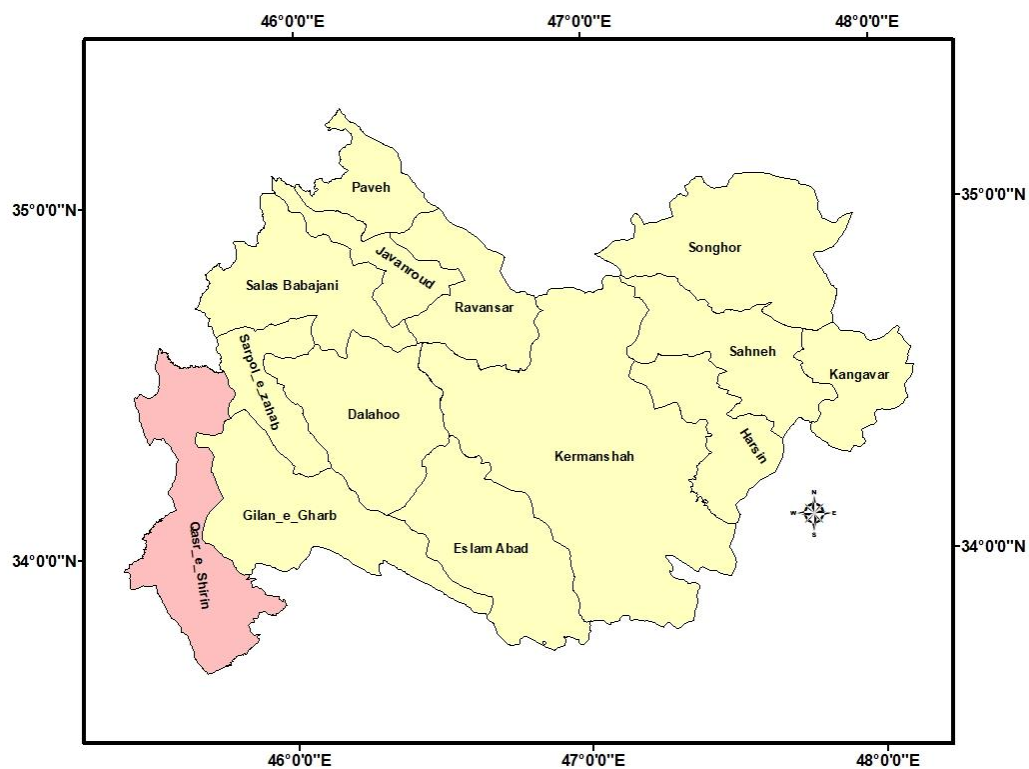


Figure 2- Location of Qasr-e Shirin County in Kermanshah Province

2-3- the project:

This project is located 17 kilometers from Naftshahr city, a district of Qasr-e Shirin County. The project site is adjacent to the main road from Qasr-e Shirin to Somar. The location of the project in Qasr-e Shirin County and the access routes are shown in Figures 3 and 4.

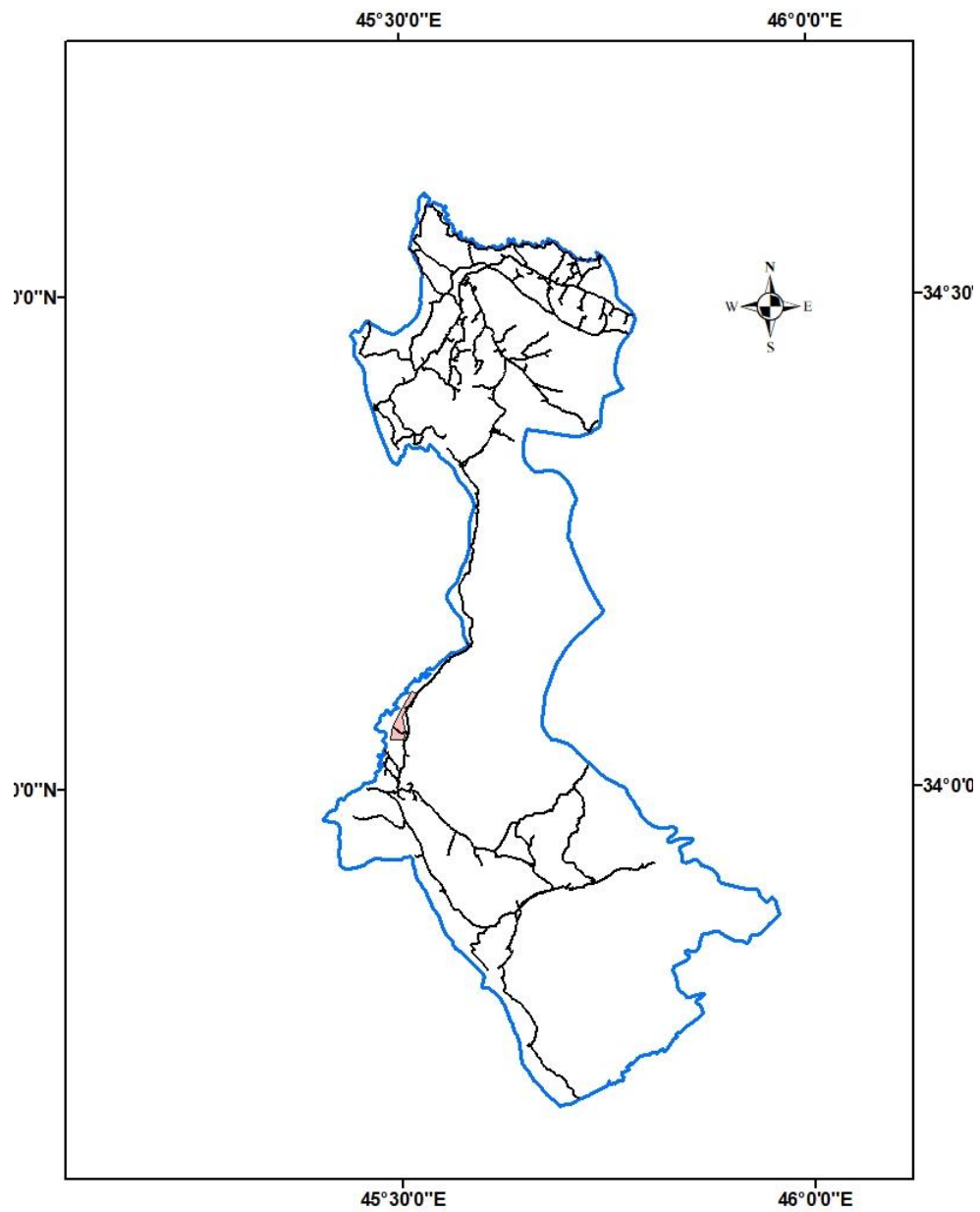


Figure 3- Location of County Roads Relative to the Project Site in Qasre-Shirin County

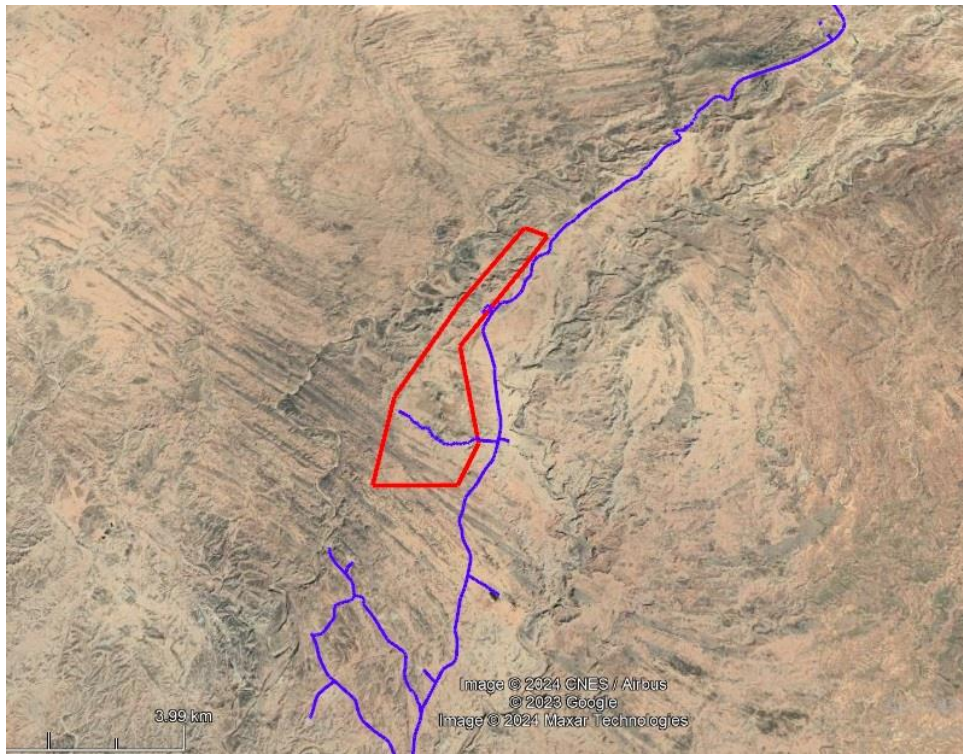


Figure 4- Google Earth View of the Main Road and Project Area

2-4-Access to the infrastructures:

Table 1- Access to the infrastructures

No.	Needed infrastructures	distance to the project	The supply infrastructures
1	Water	Supplied by the Kermanshah Regional Water Company from the Garmsīrī irrigation network	
2	Electricity	Qasr-e Shirin - Somar power transmission line passes through the project site. Supply will be coordinated with the electricity department.	
3	Gas	10 km from Naftshahr	
4	Telecommunications	10 km from Naftshahr	
5	High way	Passes directly adjacent to the project	
6	Sub way	N/A	
7	Airport	200 km from Kermanshah Airport 140 km from Ilam Airport	
8	Port	660 km from Mahshahr Port	
9	Rail way	70 km from Qasr-e Shirin (Currently no railway; future plans are in place)	

3- Technical Specifications of plan:

3-1 –Product:

Dates are one of Iran's most important and strategic agricultural products. Their cultivation has been a focus since ancient times, and they are considered a valuable commodity that plays a significant role in the country's gross domestic product, job creation, exports, and the establishment of various packaging and ancillary industries. Furthermore, they provide raw materials for numerous industries. Iran is the world's third-largest exporter of dates. According to the 2022 Ministry of Agriculture Jihad Statistics, with an annual production of approximately 1.6 million tons (accounting for 3.6% of the country's total horticultural production), dates rank fourth among horticultural products in the country. The cultivated area of bearing and non-bearing date palm groves in Kermanshah Province, all located in Qasr-e Shirin County, was approximately 500 hectares in 2022. Due to the planning and provision of water from the Garmsiri irrigation network, the conditions for the development of this valuable product have been created. According to plans, the largest date palm plantation in the country, spanning over 2000 hectares, is to be established by the Mahan Investment Holding in this county.



Figure 5- A view of a Medjool date palm tree



Figure 6- An image of Medjool dates

3-2-Project's requirements:

3-2-1-Space and infrastructure required:

This proposal outlines the development of a 300-hectare modern, mechanized date palm plantation on a 508-hectare parcel of natural land in Qasr-e Shirin County, located 10 kilometers from Naftshahr. The plantation will be equipped with a drip irrigation system, requiring an annual water supply of approximately three million cubic meters. This water will be sourced from the Garmsiri irrigation network of the western border regions.

The project necessitates the construction of various support facilities including administrative buildings, a laboratory, cold storage, packaging workshops, a warehouse, and a maintenance workshop. Essential utilities such as drinking water, electricity, gas, telephone, and high-speed fiber-optic internet must be provided for these facilities. The necessary permits from relevant government agencies will be obtained.

In collaboration with the Road Administration, a new access road will be constructed to connect the plantation to the main road.

3-2-2-Equipment and machinery:

To ensure optimal efficiency and accessibility to facilities, the project requires various types of machinery, including tractors, orchard tractors, discs, tractor-mounted hydraulic lifts, light-duty lifts and elevators, rotating lifts, mechanized pollinators, tractor-mounted palm leaf and

waste shredders, pickups, fire trucks, passenger cars, trucks, loaders, excavators, 2-ton electric forklifts, various types of sprayers (turbolainers, rechargeable backpack sprayers, etc.), irrigation equipment, pruning tools (electric saws, pneumatic and hydraulic shears, hand saws, long and short-handled shears), office equipment such as computers, printers, and scanners, office desks and chairs, meeting rooms, telephones, and more.

3-2-3- Raw materials and intermediate components:

The project will require raw materials for date palm cultivation, including various macro and micronutrients, growth stimulants, herbicides, pesticides, and packaging materials such as boxes, etc.

3-2-4-Management and human resources:

This project requires a skilled employees with diverse expertise, including management, accounting, commerce, agriculture, food science, chemistry, and more. The roles will involve managerial duties, field-level agronomic work, laboratory analysis, and marketing. Both full-time and part-time laborers will be needed for horticultural operations.

Table 2- Number and Average Base Salary of Personnel Based on Skill Level

No.	Skill level	number	Salaries (wages) (Million Rials)
1	expert	40	400
2	skilled	185	220
3	non-skilled	110	200

- Number of skilled personnel required: 185
- Number of non- skilled personnel required: 110
- Number of expert personnel required: 40

4- Ownership and legal permission:

4-1- Ownership of land:

Land ownership is held by the Natural Resources Department of Kermanshah Province and can be transferred to investors through the necessary administrative and legal procedures. These lands are currently grazed by nomadic herders. Provincial natural resources experts have confirmed that there are no military or environmental restrictions on transferring these lands.

4-2- Intellectual property and incentives:

No intellectual property rights are associated with this project. Recognizing the significance of employment generation in border areas, the provincial government supports this initiative, which is eligible for the special incentives offered to projects located in border regions.

4-3-Legal permission:

Due to the support of provincial and county governments for this type of project, the required legal licenses can be acquired upon completion of the necessary administrative processes.

5- Market study and Competition:

The global population is rapidly expanding, driving a parallel surge in food demand. Projections indicate that the world's population will reach 10 billion by 2050, necessitating a 78.5% increase in food production. To meet this growing demand, global food output must nearly double by 2050. In 2020, global food production stood at approximately 9.8 billion tons.

Product quality plays a crucial role in agricultural sales. Traditional horticultural methods, coupled with unsanitary packaging, transportation, and storage practices, and a dearth of advanced processing facilities, hinder production and exports. Iran's favorable climate

provides an opportunity to enhance exports by adopting best practices in production and post-harvest handling, including grading and packaging.

Today, the type of date produced has a significant impact on date exports, so varieties such as Majool and Deglet Noor have higher demand in the world. Therefore, by producing varieties that are popular in the world market and observing the necessary production principles and standards as well as appropriate grading and packaging, one can gain a position in the competitive market.

According to the Ministry of Agriculture's Tropical and Subtropical Fruits Office, tropical fruit exports from Iran increased in 2023, with date exports reaching 390,000 tons valued at \$345 million. This represents a 7% increase in volume and a 10% increase in value compared to the previous year. Iran's total date production in 2023 was 1,658,560 tons, indicating that only 23.5% of the produced dates were exported, with the remaining 76.5% consumed domestically.

Forecasts indicate that the global date industry will experience growth from 2020 to 2026, with its value increasing from \$13.06 billion to \$19.76 billion. A study utilizing concentration ratio and Herfindahl-Hirschman Index (HHI) indices examined the trade patterns and market structure of dates in Iran and globally during 2001-2019. Results showed that both the global and Iranian export market structures became more competitive over this period. Despite reduced advantages, Iranian dates remain competitive in the global market.

Given the increasing competitiveness of the date export market and the presence of numerous countries with export advantages, adopting diverse marketing and advertising strategies, improved packaging and processing, higher standards, and developing banking and e-commerce systems is essential to maintain existing market shares and explore new markets for Iranian dates. Currently, the type of date produced significantly impacts date exports, with varieties like Medjool and Deglet Noor being in higher global demand. Therefore, cultivating market-preferred varieties and adhering to production standards, as well as implementing proper grading and packaging, can secure a competitive position in the global market.

5-1- Introduce target market:

Based on the results of date export prioritization to target countries, the following were identified as the best export markets for Iranian date varieties:

- Zahedi dates: Pakistan, Afghanistan, Kazakhstan, Kyrgyzstan, and Turkey.
- Estamran dates: Australia, UAE, Canada, the United Kingdom, and Poland.
- Mazafati dates: India, UAE, Turkey, Pakistan, and Azerbaijan.
- Kabkab dates: Russia, Kazakhstan, Ukraine, UAE, and Iraq.
- Shahani dates: UAE and India.

In 2023, Iranian dates were exported to 82 countries. India emerged as the top destination, purchasing 90,237 tons valued at \$84.794 million. Following India, Pakistan imported 91,199 tons worth \$72,044,576, followed by Turkey with 39,048 tons valued at \$36,167,000, Kazakhstan with 24,143 tons valued at \$18,022,000, China with 10,321 tons valued at \$11,975,000, Iraq with 8,886 tons valued at \$9,440,000, and Russia with 10,103 tons valued at \$9,376,000. These countries collectively accounted for the second to seventh largest destinations for Iranian date exports in 2023.

Iranian Medjool dates are among the most popular and high-quality date varieties, well-known for their sweet and unique flavor. With a rich historical background, these dates have maintained their popularity worldwide. This date is a nutrient-dense food, rich in vitamins, minerals, and antioxidants. It provides a quick energy boost, strengthens the immune system, and supports overall health, including skin and hair. Iranian Medjool dates possess unique characteristics that set them apart from other date varieties. The price of Iranian Medjool dates in the domestic market ranges from 6000,000 to 7000,000 Iranian rials per kilogram (approximately 10 euros), while on Amazon, they can be found for more than 20 euros per kilogram. However, the primary target market for these dates is foreign countries, with an expected selling price of at least 6 euros per kilogram in global markets.

The Director-General of the Market Study, Monitoring, and Development Office of the Rural Cooperative Organization mentioned that Iranian dates are exported to 82 countries. These include Austria, Jordan, Argentina, Armenia, Uzbekistan, Spain, Australia, South Africa, Afghanistan, Albania, Germany, UAE, Indonesia, the United Kingdom, Ukraine, Uganda, Italy, Iceland, Bahrain, Brazil, Belarus, Belgium, Bulgaria, Bangladesh, Bosnia, Pakistan, Peru, Tajikistan, Tanzania, Thailand, Taiwan, Turkmenistan, Turkey, Trinidad and Tobago, Malta, Azerbaijan, Czech Republic, Moldova, Yugoslavia, China, Denmark, Romania, Japan, Sri Lanka, Singapore, Syria, Somalia, Switzerland, Sweden, Chile, Serbia,

Iraq, Oman, Russia, France, Finland, Philippines, Kyrgyzstan, Kazakhstan, Qatar, Canada, South Korea, Croatia, Colombia, Kenya, Kuwait, Georgia, Lebanon, Poland, Lithuania, Maldives, Malaysia, Hungary, Mongolia, Mexico, Mauritius, Norway, New Zealand, the Netherlands, India, Venezuela, and Greece.

6- Physical Progress of project:

yes ☐

No ☒

7- Action plan and Implementation schedule:

Table 3- Operational Plan and Timeline

Row No.	Description	Year 1	Year 2	Year 3	Year 4
1	Land Acquisition				
2	Land Preparation, Irrigation, and Planting				
3	Construction				
4	Utility Connections				
5	Facilities				
6	Machinery				
7	Saplings				
8	Laboratory and Quality Control Equipment				
9	Vehicles				
10	Office and General Equipment				

8- Financial projection:

In this study, all project costs and revenues have been estimated based on 2024 prices.

8-1- The cost estimate:

Table 4- Project Investment Costs

Row	Description	Foreign Currency Cost (Euro)	Foreign Currency Equivalen t (Million Rials)	Domestic Currency Cost (Million Rials)	Total Cost (Million Rials)	Total Cost (Euro)	% of Total
1	Land	0	0	0	0	0	0.0
2	Land Preparation, Irrigation, and Planting	0	0	1,835,774	1,835,774	2,739,961	25.5
3	Buildings	0	0	870,000	870,000	1,298,507	12.1
4	Utility Connections (Electricity)	0	0	30,000	30,000	44,776	0.4
5	Facilities	0	0	136,800	136,800	204,179	1.9
6	Machinery and Production Equipment	730,000	489,100	0	489,100	730,000	6.8
7	Saplings	2,340,000	1,567,800	0	1,567,800	2,340,000	21.7
8	Laboratory and Quality Control Equipment	240,000	160,800	0	160,800	240,000	2.2
9	Vehicles	0	0	690,500	690,500	1,030,597	9.6
10	Office and General Equipment	0	0	53,550	53,550	79,925	0.7
11	Miscellaneous and Contingencies (3%)	99,300	66,531	108,499	175,030	261,238	2.4
Total Fixed Assets		3,409,300	2,284,231	3,725,123	6,009,354	8,969,185	83.3
12	Pre-Operational Costs	0	0	820,243	820,243	1,224,243	11.4
Total Fixed Investment Costs		3,409,300	2,284,231	4,545,366	6,829,597	10,193,428	94.7
13	Working Capital	0	0	382,088	382,088	570,281	5.3
Total Investment Costs		3409300	2,284,231	4,927,454	7,211,685	10,763,708	100.0

Table 5- Annual Production Costs (Million Rials)

Row	Description	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6 - 30
	Capacity Utilization (%)	20	33	52	72	85	100
1	Raw Materials	57,000	94,050	148,200	205,200	242,250	285,000
2	Direct Labor Costs	499,365	992,217	1,007,276	1,024,777	1,035,359	1,210,992
3	Energy and Communications	95,130	190,260	190,260	190,260	190,260	190,260
4	Repair and Maintenance	50,060	82,599	130,156	180,216	212,755	250,300
5	Miscellaneous and Contingencies (5% of Operating Costs)	35,078	67,956	73,795	80,023	84,031	96,828
6	Administrative Salaries	97,055	194,109	194,109	194,109	194,109	194,109
7	Employee Benefits (Transportation, Meals, etc.)	56,230	112,454	112,467	112,482	112,490	112,500
8	Depreciation	445,747	445,747	445,747	445,747	445,747	445,747
9	Land Rent	6,477	12,954	12,954	12,954	12,954	12,954
10	Property Insurance (0.002 of Fixed Assets)	6,010	12,019	12,019	12,019	12,019	12,019
11	Marketing, Distribution, and Sales (1% of Sales)	16,884	27,859	43,898	60,782	71,757	84,420
12	Total Production Cost	1,365,055	2,232,257	2,370,933	2,518,641	2,613,817	2,895,129
13	Average Cost per Ton	3,250	3,221	2,171	1,666	1,464	1,379

8-2- Estimated revenues:

Table 6- Projected Revenue from first Year of Harvest Onwards

Row	Description	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6 - 30
1	Actual Capacity Utilization(%)	20	33	52	72	85	100
2	Yield per Hectare (Tonnes/Hectare)	1.4	2.31	3.64	5.04	5.95	7
3	Annual Production (Tonnes)	420	693	1092	1512	1785	2100
4	Total Sales or Revenue (Euro)	2,520,000	4,158,000	6,552,000	9,072,000	10,710,000	12,600,000
5	Total Sales or Revenue (Million Rials)	1,688,400	2,785,860	4,389,840	6,078,240	7,175,700	8,442,000

8-3-Duration of project operation:

A date palm orchard can be productive for approximately 50 to 100 years. In this proposal, the economic life of the orchard is considered to be 30 years, and the economic analysis is based on this assumption.

8-4-Break- even analysis:

The net present value (NPV) of the project's projected costs and revenues, discounted at a rate of 25%, is presented in Figure 7. It can be observed that in the seventh year after the orchard begins to bear fruit (the eleventh year from the start of orchard establishment), the cumulative revenue surpasses the cumulative costs, and this year is considered the project's financial break-even point.

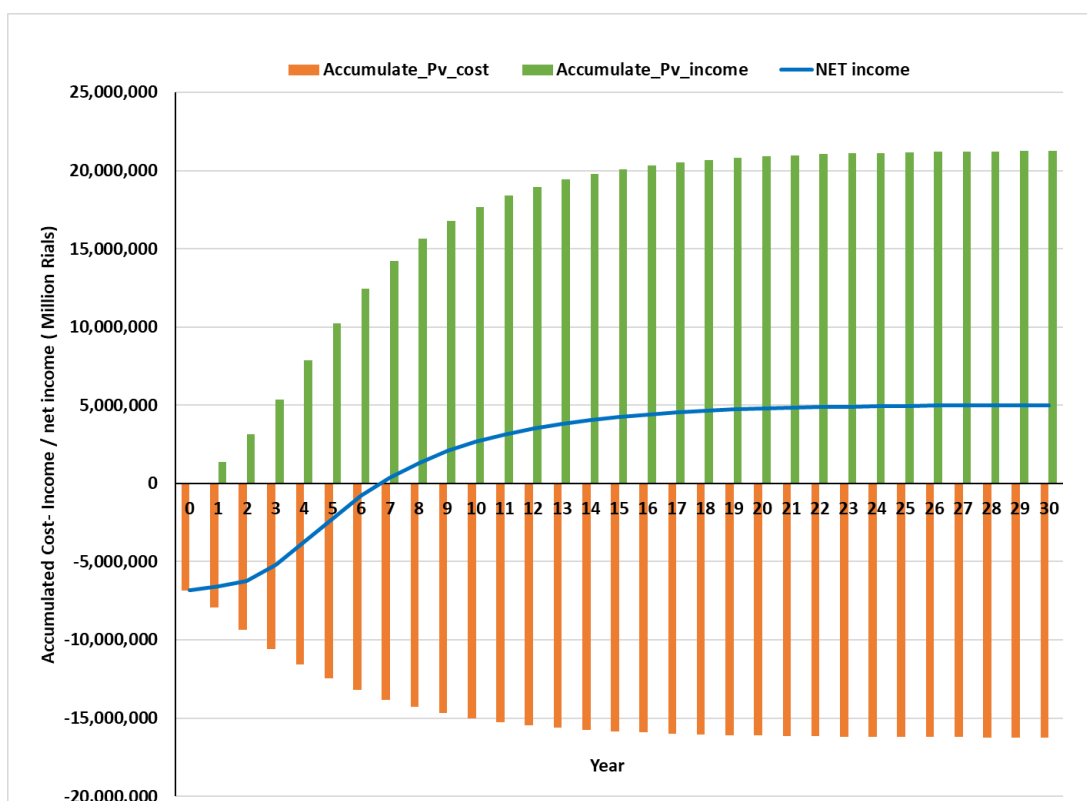


Figure 7: Cumulative costs, revenues, and net income at the end of each year (in millions of Rials) from the start of fruit bearing, for break-even analysis at a 25% discount rate

8-5- Cost-benefit analysis:

The minimum expected rate of return for agricultural and horticultural activities in the study area, which is economically attractive due to its climate and geographical location (border proximity), was considered to be 25%. The project's cash flow diagram is presented in Figure 8. The results related to the economic indicators of the proposed project are reported in Table 7, which indicates the economic viability of the project at a discount rate of 25%.



Figure 8: Project Cash Flow (Million Rials)

Table 7- Economic performance indicators of a project

Present Value of total costs during the construction and operation periods (Million Rials)	16,232,700
Present Value of total income during the construction and operation periods (Million Rials)	21,245,544
Net present value (NPV)	5,012,844
Benefit - Cost ratio (B/C)	1.31
Internal rate of return (IRR)	35.5

8-6- Sensitivity analysis of IRR:

Sensitivity analysis was conducted for a $\pm 20\%$ increase or decrease in both revenue and costs. The results are presented in Tables 8 and 9. It was observed that with a 20% increase in costs, the benefit-cost ratio would be 1.09 and the internal rate of return would be 28%, which is higher than the minimum acceptable rate of return of 25%. With a 20% decrease in revenue, the project's internal rate of return would decrease to 26.7% and the benefit-cost ratio would be 1.05, which is still higher than the minimum acceptable rate of return. Based on the analyses conducted, the project is considered to be economically viable.

Table 8- Sensitivity Analysis of Economic Indicators to Cost Variations within a ±20% Range

Change in Costs (%)	Benefit-Cost Ratio	Net Present Value (Million Rials)	Internal Rate of Return (%)
20	1.09	1,766,304	28.2
15	1.14	2,577,939	29.9
10	1.19	3,389,574	31.6
5	1.25	4,201,209	33.5
0	1.31	5,012,844	35.5
-5	1.38	5,824,479	37.7
-10	1.45	6,636,114	40
-15	1.54	7,447,749	42.6
-20	1.64	8,259,384	45.4

Table 9- Sensitivity Analysis of Economic Indicators to Revenue Variations within a ±20% Range

Change in Revenue (%)	Benefit-Cost Ratio	Net Present Value (Million Rials)	Internal Rate of Return (%)
20	1.57	9,261,953	43.5
15	1.51	8,199,676	41.5
10	1.44	7,137,399	39.6
5	1.37	6,075,121	37.5
0	1.31	5,012,844	35.5
-5	1.24	3,950,567	33.4
-10	1.18	2,888,290	31.2
-15	1.11	1,826,013	29
-20	1.05	763,735	26.7

8-7- Summarize table:

Table 10- Summary of the Project's Economic Aspects

Activity	International Standard Industrial Classification (ISIC Code)	product name	Nominal capacity (unit)
Horticulture	Establishment of a date palm grove and product processing	Medjool Dates	2100 (Ton)
Activity duration	Fix investment (million Rials)	Variable investment (million Rials)	Human resources
4 years	6,830,000	382,100	340
Internal rate of return (IRR)	Net present value (million Rials)	Owners share (million Rials)	Benefit-cost ratio *B/C
35.5	5,012,844	---	1.31

* Benefit-cost ratio calculated at a 25% discount rate

8-8-Estimation of exchange rate changes during the project implementation:

In this project, all costs and revenues have been calculated based on 2024 prices. It is assumed that any changes in prices (both in Rials and foreign currencies) will have an equal impact on the project's revenues and costs. Given the fluctuations in the exchange rate, all costs and revenues have also been converted into Euros.

9- Capital needs, the supply and guarantees method:

9-1- Required Foreign Currency:

Table 11- Required Foreign Currency (Euro)

No.	year	Exchange rate
1	first	2,340,000
2	second	-
3	third	400,000
4	fourth	570,000
5	fifth	3,310,000

9-2- The Way of participation and finance method:

The investor will fully fund all costs. Bank loans can be used to cover part of the required capital as long as it complies with regulations.

9-3- Payback period:

The total fixed investment cost is 6,829,597 million Rials. Additionally, we will incur 820,243 million Rials in annual operating costs during the first four years before the onset of fruit-bearing. Starting from the fifth year when the product begins to yield, we will start generating revenue. According to Table 12, the cumulative net income will exceed the total fixed investment cost in the ninth year. Therefore, the payback period for this project will be nine years after the commencement of the project.

Table 12- Annual Income and Expenses (Million Rials) in the Initial Years of the Project to Determine Payback Period

Year	Cost	Income	Net Income	Cumulative Net Income
1-4	820,243	0	-820,243	-820,243
5	1,365,055	1,688,400	323,345	-496,898
6	2,232,257	2,785,860	553,603	56,705
7	2,370,933	4,389,840	2,018,907	2,075,612
8	2,518,641	6,078,240	3,559,599	5,635,212
9	2,613,817	7,175,700	4,561,883	10,197,095
10	2,895,129	8,442,000	5,546,871	15,743,967

One of the drawbacks of the aforementioned method is that it does not account for the time value of costs and revenues. Another formula used to calculate the payback period is as follows:

$$\text{Payback Period} = \text{project's implementation period} + \frac{1}{IRR}$$

Considering an internal rate of return of 0.355, the project's 4-year implementation period will result in a payback period of 7 years. It is worth mentioning that in this project, the revenue is realized all at once each year, so a fractional payback period does not make sense.

10- Incentives, features and advantages of project:

The incentives for implementing this project include the allocation of land at a very low rental rate, the utilization of benefits under border region development plans, the availability

of water from the Garmsiri irrigation network, and the support of provincial administrators for investment projects in border regions.