

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

"Summary of technical-economical prefeasible study"

Name:

**Animal Husbandry Complex
(Lamb Breeding)**

Sector : Agriculture, hunting and service activities Sub sector: Sheep breeding
isic code: 0121312301

The owner of:

Agricultural Jihad Organization

Counselor plan:

Razi University

The Address:

Kermanshah, Iran.

Date of P.F.S:

2024/10/22

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

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Contents

1- Abstract	2
2- Project's location	Error! Bookmark not defined.
2-1- Province.....	Error! Bookmark not defined.
2-2-	the County
... Error! Bookmark not defined.	
2-3-	the project
... Error! Bookmark not defined.	
2-4-	access to the infrastructures
... Error! Bookmark not defined.	
3-Technical Specifications of plan.....	Error! Bookmark not defined.
3-1-	product
... Error! Bookmark not defined.	
3-2-	project's requirements
... Error! Bookmark not defined.	
3-2-1-Space	and infrastructure required
... Error! Bookmark not defined.	
3-2-2-Equipment	and machinery
... Error! Bookmark not defined.	
3-2-3-	Raw materials and intermediate components
... Error! Bookmark not defined.	
3-2-4-management	and human resources
... Error! Bookmark not defined.	
4- Ownership and legal permission.....	Error! Bookmark not defined.
4-1-	ownership of land
... Error! Bookmark not defined.	
4-2- Intellectual	property and incentives
... Error! Bookmark not defined.	
4-3-	legal permission
... Error! Bookmark not defined.	
5- Market study and Competition.....	Error! Bookmark not defined.
5-1-	Introduce target market
... Error! Bookmark not defined.	
6- Physical Progress of project	Error! Bookmark not defined.
7- Action plan and Implementation schedule	Error! Bookmark not defined.
8- Financial projection	Error! Bookmark not defined.
8-1-	The cost estimate
... Error! Bookmark not defined.	
The	cost estimate
... Error! Bookmark not defined.	

8-2- Estimated revenues
 ...Error! Bookmark not defined.
 8-3-Duration of project operation
 ...Error! Bookmark not defined.
 8-4-Break-even analysis
 ...Error! Bookmark not defined.
 8-5- Cost-benefit analysis
 ...Error! Bookmark not defined.
 8-6- Sensitivity analysis of IRR
 ...Error! Bookmark not defined.
 8-7- Summarize table
 ...Error! Bookmark not defined.
 8-8-Estimation of exchange rate changes during the project implementation
 ...Error! Bookmark not defined.
 9- Capital needs, the supply and guarantees methodError! Bookmark not defined.
 9-1- Foreign currency needed
 ...Error! Bookmark not defined.
 9-2- The Way of participation and finance method
 ...Error! Bookmark not defined.
 9-3- Payback period
 ...Error! Bookmark not defined.
 10- Incentives, features and advantages of projectError! Bookmark not defined.

1- Abstract:

PROJECT PROFILE - SUMMARY SHEET

Project Introduction
1- Project title: Animal Husbandry Complex (Lamb Breeding)
2- Sector: Agriculture, hunting and service activities Sub Sector: Sheep breeding
2- Products / Services: The target product of the plan is from the group of agriculture, hunting and related service activities (01) from the sub-group of raising and keeping cattle, sheep, horses, donkeys, mules, etc., raw milk production (0121), livestock breeding except for camels. (0121312301) has sheep (0121412305) and sheep breedin (0121512307). The target products of the project are imported and exported under tariff subchapters (0104) of Iran's customs regulations under the title "live animals of sheep and goats" under tariff (01041000). The examined product is live livestock, red meat and manure.

4- Location (address): Chamchamal plain, Shaneh County, Kermanshah Province**Free Zone** ☐**Economic Special Zone** ☐**Industrial Estate** ☒**Main Land** ☐**5- Project description:**

This project is designed based on the capacity of 300 fattening lambs per cycle, which will commence construction after obtaining the necessary permits and receiving an operating license, and then will begin its activities. Therefore, from its annual income, which includes the sale of fattened lambs and animal manure, it will be able to cover its expenses and generate annual revenue. According to existing standards in the field of industrial animal husbandry, establishing a 300-head sheep breeding unit requires 3,388 square meters of land, of which 828 square meters is covered space, 828 square meters is uncovered space, and the remainder is needed for the open area of the livestock farm. To establish a 300-head fattening lamb unit, 1,852 square meters of land is required, with 476 square meters of covered space, 315 square meters of uncovered space, and the rest for the open area of the livestock farm. The total area allocated for implementing these projects is 5,000 square meters, with any excess land designated for livestock breeding facilities, green space, and open areas.

The necessary equipment and machinery include a mini livestock trailer with a shovel and equipment, a motorized backpack sprayer, a pneumatic wheelbarrow, a steel shovel with a handle, a four-pronged fork, a gas heater, a cleaning shovel, a fire extinguisher, a gas water heater, a 10,000-liter three-layer plastic water tank, and a one-ton scale (weighbridge) model Mahak. The required raw materials and intermediate parts include a corn silo, barley, dried alfalfa, cottonseed meal, and mineral supplements (concentrates). A total of 1 skilled worker, 2 unskilled workers, and 2 specialists are directly needed.

Project Status**6- Local / internal raw material access : 100%****7- Sale : 50 %****- Anticipated local market : 50 %****- Anticipated export market : 50 %****8 – Project total time (from start of activities to start of commercial operation in years):****10 months and 15 years for implementation and operation****Schedule****Start of activities:****Start of works at site****End of Works:****Start of commercial operation:**

9- Project status :

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

Financial Table**10- Financial structure :**

Descriptions	Local Currency Required			Foreign Currency Required Million Euro	Total Million Euro
	Million Rials	Rate	Equivalent in Million Euro		
Fix Capital	44820	600	0.075	-	0.075
Current Capital	2350	600	0.04	-	0.04
Total Investment	68320	600	0.115	-	0.115

- Value of foreign equipment / machinery 0 Million Euro
- Value of local equipment / machinery 0.0125 Million Euro
- Value of foreign technical know-how 0 Million Euro
- Value of local technical know-how 0 Million Euro
- Net present value (NPV): 0.003 Million Euro
- Internal Rate of Return (IRR): 24%
- Capital Rate of Return: 25.5 %
- Payback Period 4 year and 10 months

General Information**11 - Project type : Establishment ☒****Expansion and completion ☐****12- Company Profile**

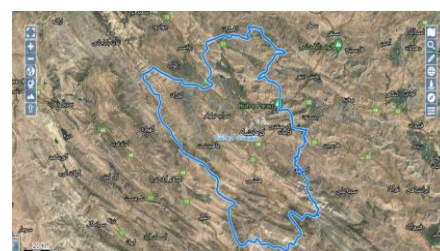
- Name (Legal/Natural persons): 1. Dr. Ehsan Khosravi 2. Dr. Bijan Rezaee
- Company's current activities: Razi University
- Address: Razi University, Taq-e Bostan, Kermanshah, Iran.
- Tel: +988334277605-6 Fax: +988334277605-6
- E-mail: info@razi.ac.ir Web Site: <https://en.razi.ac.ir>
- Company's legal structure :
- Government ☒ Non-Governmental ☐ Public non-governmental ☐

2- Plan Location:

2-1. Province:

Kermanshah Province, with an area of 25,009 square kilometers and the city of Kermanshah as its capital, ranks as the 17th largest province in Iran. Geographically, it is located in the middle of the western part of the country, between latitudes $33^{\circ}40'$ to $35^{\circ}18'$ N and longitudes $45^{\circ}24'$ to $48^{\circ}7'$ E. It is bordered to the north by Kurdistan Province, to the south by Lorestan and Ilam Provinces, to the east by Hamedan Province, and to the west by a 371-kilometer shared border with Iraq. Its average elevation above sea level is approximately 1,200 meters. Kermanshah Province accounts for 1.5% of Iran's total area. According to the current administrative divisions, Kermanshah Province comprises 14 counties, 31 cities, 86 rural districts, and 2,793 inhabited villages. Based on the latest population and housing census by the Iranian Statistical Center in 2016, the province's population was 1,952,434, spread across an area of 25,009 square kilometers,

Map of Province
Location Within the Country



resulting in a population density of 78 people per square kilometer. The most populous city is Kermanshah, the provincial capital, with a population of 946,651. In terms of total road length (excluding rural roads), Kermanshah ranks 11th in the country. For the ratio of highway and freeway length per 1,000 kilometers of roads, it is ranked 17th, and in terms of the length of main roads, it stands 18th nationwide. The highest share of the province's roadways, consistent with its large area, belongs to Kermanshah County. With its extensive network of intercity and rural roads, the province is well-positioned to upgrade many routes to highways through current road development plans. Kermanshah Province, due to its six border markets and an official border crossing (Khosravi, Parvizkhan, Soumar, Shushemi, Sheikh-Selah, and Tileh-Kouh), as well as its tourism potential, can significantly contribute to foreign exchange and revenue generation for the country. One strategy to achieve this is through the development of roads and transportation fleets. Currently, Kermanshah International Airport is considered one of the leading airports in the country in terms of flight frequency, and the railway plan is planned to connect to the Khosravi international border and Iraq. Kermanshah Province is predominantly mountainous and elevated, with 70.8% of its area consisting of mountainous regions. The remainder

includes 22.1% plains and 7.1% foothills. In terms of altitude classification, 76.5% of the province falls within the 1,000–2,200 meter range, with the 1,400–1,800 meter range being the most prevalent. If the province is divided into two major altitude categories—below 1,400 meters and above 1,400 meters—approximately 58.2% of its area lies in the 1,400 meters and above category, with the remaining 41.8% below 1,400 meters. Thus, Kermanshah Province is not only considered mountainous but also features significant elevations. The climate of Kermanshah Province is characterized as temperate mountainous.

2-2. County:

Sahneh County, located in Kermanshah Province, lies 55 kilometers from the city of Kermanshah on the Kermanshah-to-Hamedan highway. The geographical coordinates of the city are **47.68.72° E longitude and 34.48.44° N latitude**. This county consists of two districts: the Central District and Dinavar. The county's center is the city of Sahneh. Sahneh County is bordered to the north by Songhor and Koliai County and Kurdistan Province, to the east by Kangavar, to the west by Kermanshah and Harsin Counties, and to the south by Delfan County. The Sarab Sahneh area is one of the county's notable attractions, featuring a

Map of County Within the Province



waterfall, wild trees, fruit orchards, and tall mountains, as well as the historical site of the Sahneh Rock Tomb. The county is renowned for its numerous fruit orchards. The primary water source for this city is the Sarab Sahneh (also known as Darband Sahneh). This area, with its rivers and springs, is a well-watered and fertile land with a temperate climate. According to the 2016 census, Sahneh County had a population of 70,757. This county consists of two districts: Central District, with its center in the city of Sahneh, includes the rural districts of Khodabandelu, Hejr, Gamasiab, and Sahneh. Dinavar District, centered in the city of Miyan Rahan, includes the rural districts of Har, Kondoleh, and Dinavar. The etymology and history of the city of Sahneh are not well-documented. However, in Naser al-Din Shah's travelogues, it is referred to as a fertile village called "Qaryeh Sahneh." Historical relics in the city, such as the Abbasi Caravanserais on Shabasi Street and the Medean Rock Tombs, known as Shirin and Farhad (in the Darband Sahneh mountains), indicate that the area has long been located along important travel routes. The people of Sahneh County speak the Kalhuri and Laki Kurdish dialects. The county's orchard produce is of high quality, and Sahneh apples are particularly famous for their delightful flavor and aroma,

attributed to the skill of the local farmers and the region's climate. In the agricultural year 2022, approximately 670 hectares of apple orchards were cultivated in Sahneh County, yielding over 15,000 tons of apples. Depending on the variety, the apple harvesting season in Sahneh lasts from late June to December. Common apple varieties in the county include Golab apples, red and yellow Lebanese apples, and Galal apples. The red and yellow apples from the villages of Sartaxt and Sarbarzeh are well-known in markets across Iran and even internationally. The primary water source for the city is Sarab Sahneh, which, with its many rivers and springs, has made the region a well-watered and fertile land with a moderate climate. According to the 2016 census conducted by the Iranian Statistical Center, the population of Sahneh city was 35,508, while the population of Kermanshah Province was 1,952,434.

2-3. Project Location:

The selected area for establishing a livestock farming complex (lamb fattening) is located adjacent to Imamzadeh Baba Vali al-Din in the Sefid Cheqa lands of Hejr Rural District in the Central District of Sahneh County. This area is situated in the fertile plain known as Chamchamal. The designated site for the livestock farming complex (lamb fattening) is administratively part of Hejr Rural District in the

Project Location Map



Central District of Sahneh County. Geographically, it is located in the northern part of the Chamchamal plain, also referred to as Northern Chamchamal. The area under study, due to its location on an alluvial fan deposit in fan-shaped stony debris lands, is suitable for the construction of buildings and livestock facilities. This is because, based on soil grading, it is classified above Grade 3, meaning that lands with high agricultural potential and capability are not being utilized. Therefore, from a land-use planning perspective, this selection is an appropriate choice for establishing a livestock farming complex. Additionally, since the land for this complex is adjacent to fertile agricultural lands in the Chamchamal plain, the availability of fodder for feeding livestock will be highly accessible and convenient. Thus, regarding the suitability of the studied area for establishing a livestock farming complex, it must be stated that the choice of this location is highly compatible with the intended activity.

2-4. Infrastructure Accessibility:

Row	Required infrastructure	Distance to the Project	Infrastructure Supply Source
1	Water	0	Water supply well at the plan location
2	Electricity	1km	Sefid Chegha Village
3	Gas	1km	Sefid Chegha Village
4	Telecommunications	1km	Sefid Chegha Village
5	Main Road	10km	-
6	Secondary Road	5km	-

7	Airport	40km	-
8	Port	620km	-
9	Railway Station	45km	-

1- Plan Technical Specifications:

3-1. Product:

Meat is one of the main and essential components of the human diet. To produce red meat, lambs and calves are fattened to help meet part of the country's red meat requirements. Lamb fattening involves increasing the animal's weight over a specific and relatively short period, requiring the purchase of livestock and the provision of favorable environmental conditions.

The target product of the plan falls under the agriculture, hunting, and related service activities group (01), specifically within the subgroups of raising and keeping cattle, sheep, horses, donkeys, mules, etc., raw milk production (0121), livestock farming excluding camelids (0121312301), breeding sheep (0121412305), and fattening sheep (0121512307). The products of this project fall under the Iranian customs tariff sub-chapter (0104) titled "Live animals of the sheep and goat species", with sub-tariff (01041000) for "other live sheep except for breeding sheep of specific breeds" under tariff (01041090) for both import and export.

Product/Sample Image



3-2. Plan Requirements:

3-2-1. Required Space and Infrastructure:

This project is designed to accommodate a capacity of 300 fattening lambs per cycle. After obtaining the necessary permits, construction will commence, followed by acquiring the operational license and initiating activities. The project is expected to cover its expenses and generate annual income from the sale of fattened lambs and livestock manure. According to existing standards in the field of industrial livestock farming, establishing a 300-head breeding sheep unit requires 3,388 square meters of land, of which 828 square meters are for covered space, 828 square meters for uncovered space, and the remainder for the open livestock area. For a 300-head lamb fattening unit, 1,852 square meters of land is needed, of which 476 square meters are allocated for covered space, 315 square meters for uncovered space, and the remainder for the open livestock area. The total land allocated for these plans are 5,000 square meters, with any excess space designated for green areas and open spaces for the livestock facilities.

3-2-2. Equipment and Machinery:

- Mini loader with bucket and equipment – trailer
- Mini loader with bucket and equipment – trailer
- Motorized backpack sprayer
- Pneumatic wheelbarrow
- Steel shovel with handle
- Four-pronged pitchfork
- Gas heater
- Cleaning paddle
- Fire extinguisher cylinder
- Gas water heater
- 10,000-liter three-layer standing plastic water tank

- 1-ton digital scale (Baskoul) – Mahak model

3-2-3. Raw Materials and Intermediate Components:

- Corn silage
- Barley
- Dried alfalfa
- Cottonseed meal
- Mineral supplement (concentrate)

3-2-4. Management and Human Resources:

Row	Skill Level	Quantity	Base Salary (Thousand IRR)
1	Specialists	1	175,000
2	Skilled	2	150,000
3	Non-Skilled	2	125,000

- Number of skilled direct workers required: 1
- Number of unskilled direct workers required: 2
- Number of direct specialists required: 2

4- Ownership and Legal Permits:

4-1. Land Ownership:

The prepared site, located near the shrine of Imamzadeh Baba Vali al-Din in the village of Sefid Cheqa, was initially studied and prepared for the construction of a greenhouse complex. However, it seems that certain limitations, such as the lack of sufficient water resources, led the relevant authorities to change the designated usage of the established complex to a livestock farming facility (lamb fattening).

Ownership documents for 50 hectares of national land in the Sefid Cheqa Chamchamal plot have been issued by the Land Affairs Division of the General Directorate of Agricultural Jihad in accordance with Article 2 .

4-2. Intelliectional Property and Incentives:

The following advantages can be highlighted for this plan:

- Possibility of allocating national lands to agricultural projects at minimal rent or even free of charge.
- Issuance of necessary permits for agricultural activities and land-use change within the shortest possible time.
- Providing free consultancy to investors for selecting the type of activity, plan location, and obtaining activity permits.
- Financial support for plans and introduction to relevant authorities for obtaining loans at interest rates lower than conventional bank rates, including resources from the National Development Fund, technical credit assistance allocations, and more.
- 100% income tax exemption for all activities related to agriculture, livestock farming, fish farming, poultry farming, beekeeping, fishing, silkworm farming, rangeland and forest rehabilitation, orchards of all types, and palm groves.
- Exemption of agricultural and agriculture-related industries from paying the employer's share of insurance premiums.
- Customs exemption for importing necessities and machinery required for agricultural plans.
- Possibility of issuing ownership deeds for lands allocated to plans by the Agricultural Industrial Towns Company under lease-to-own contracts after the plan implementation and operation.

4-3. Legal Licenses:

Type of Livestock: In the field of lamb fattening, improved breeds or superior breeds can be utilized for higher efficiency, which can be mentioned in the feasibility plan for lamb fattening.

Capacity: The capacity of a lamb fattening unit for one fattening cycle is determined as follows:

- The capacity of a lamb fattening unit in one fattening cycle must not be less than 200 head.
- Lamb fattening units with a capacity of 200 to 3,000 head per cycle are permitted for all eligible applicants.
- Lamb fattening units with a capacity of more than 3,000 head per cycle are designated for eligible cooperative production companies and agro-industrial enterprises.
- Note: The issuance of licenses for the establishment of lamb fattening units with a capacity exceeding 3,000 head per cycle is subject to final approval by the Central Commission.
- The issuance of establishment permits for lamb fattening units is supervised by the Provincial Permit Issuance Commission in accordance with regulatory guidelines.

Land: The minimum land required for the establishment of lamb fattening units is specified based on the details included in the maps annexed to the "System."

- Lands provided for forage crop cultivation must be irrigated and allocated at the rate of one hectare per 5 fattened lambs. The remaining feed requirements are supplied by the farmer through concentrated feed resources.
- Note: The total amount of required feed is equivalent to 100 balanced forage units per fattened lamb over a 100-day fattening cycle. For a

minimum of two fattening cycles, the feed requirement will be twice as much.

Design and Facilities: For keeping fattened lambs, standard designs have been prepared for capacities ranging from 200 to 250 head for cold, hot, and temperate climates, as outlined in the annexed designs. The spatial requirements for each lamb, as indicated by the design calculations, are approximately 93.0 square meters of covered area and 98.1 square meters of uncovered area, as described below:

- Note 1: The construction of worker rooms, offices, manure collection areas, etc., depends on the farmer's needs and resources.
- Note 2: In areas where land availability is not limited, open yards may be increased to 4.2 m².
- Note 3: Considering weather conditions and climatic factors in various regions of the country, the Provincial Permit Issuance Commission may allow the use of a forage warehouse (covered) instead of an open forage platform.

Distances: Adhering to distance regulations regarding the establishment of lamb fattening facilities is mandatory, as outlined in the distance table annexed to the "System."

3- Market Analysis and Competition:

The human need for protein has led to the domestication and raising of livestock by humans, fulfilling a significant portion of their dietary requirements. Although substitutes for red meat have been introduced in recent years, the taste and flavor of meat continue to make it an unrivaled product. The price of red meat is constantly rising, and the market demand for red meat increases annually. One of the best options to fill this market gap is fattened lamb, which is among the most economically viable plans that can meet the domestic demand for red meat. The primary reason for raising sheep is to supply the meat

needed by society. Secondary reasons include meeting other needs such as milk and dairy products, and subsequently, providing resources like wool and leather to fulfill clothing needs. As a result, livestock farming is a valuable economic activity for human societies, not only providing food but also playing a significant role in clothing production. Sheep farming and the textile industry have progressed alongside human civilization. The per capita consumption of animal fibers has significantly increased over the past decades. After the domestication of sheep and increased understanding of their wool, as well as the development of various sheep breeds, certain breeds were selected specifically for wool production. Meanwhile, our country, with its diverse and rich sheep breeds, is one of the nations in West Asia with substantial genetic resources in this area. These resources not only meet the domestic demand for meat but also produce unique dairy products, high-quality wool, and leather. These are derived from the rich and diverse vegetation of the country's pastures, offering a competitive advantage compared to many countries in South and Southwest Asia. This advantage has created favorable markets both domestically and internationally. The product—sheep and lamb—enjoys an attractive domestic market as well as numerous export destinations. The most significant competitive advantage of this product is the high quality and excellent taste of its meat. This quality and market appeal, especially for Persian gulf countries, are attributed to the rich vegetation of Iranian pastures, particularly in the Zagros region, and the organic farming methods used for this livestock. This has gained considerable popularity in neighboring countries, especially among Arab nations. Kermanshah Province is one of the five provinces bordering Iraq, with approximately 360 kilometers of shared borders. The active border markets of Parvizkhan in Qasr-e Shirin, Sheikh Saleh in Salas-e Babajani, Shushem in Paveh, and Sumar in Gilan-e Gharb, as well as three official customs offices in Parvizkhan, Khosravi, and Kermanshah, and two major export terminals in Khosravi and Parvizkhan, are among the regional advantages. These factors

contribute to the province's 40% share of the country's trade with Iraq. This advantage, along with its proximity to southern regions, facilitates the export of livestock as live animals to these countries. Proximity to Iraq has facilitated the exchange of goods and services, the movement of passengers including tourists and religious or medical visitors, the transfer of technical knowledge, and more for this province and the country. However, the implementation of certain restrictive policies in foreign trade at specific times has led to a decline in exchanges, particularly in the export of live animals. This has inflicted irreparable losses on producers and exporters and diminished the country's, and consequently the province's, role in trade exchanges. Nevertheless, shared ethnic and religious ties, as well as the longstanding relationships among countries in the region, have always played an influential role in fostering mutual interactions. Consequently, the role and contribution of this province in trade exchanges with regional countries have been maintained and continued. There are many countries interested in fresh Iranian lamb meat. Neighboring countries such as Iraq, Afghanistan, Pakistan, Turkey, Armenia, Azerbaijan (Baku), and some European countries are among them. Kermanshah Province, due to its unique climatic conditions, fertile agricultural soil, abundant water resources, vast plains, and long, fertile valleys, is considered one of the agricultural and livestock farming hubs of the country. It possesses great potential for the development of agriculture and livestock farming. These factors have made this province one of the largest producers of grains and legumes in the country. On a broader scale, Kermanshah Province has both cold and warm climatic zones. The cold regions of the province are suitable for cultivating grains, legumes, fodder, sugar beets, oilseeds, and vegetables. The warm regions, on the other hand, are capable of producing grains, melons, summer crops, citrus fruits, and date palms. More importantly, they are ideal for the early cultivation of various vegetables and summer crops. The presence of fertile soil and cold, warm, and temperate climates in Kermanshah Province

allows for the cultivation of most agricultural products and creates favorable conditions for livestock farming. This has positioned the province among the major producers of agricultural and livestock products in the country.

Key Indicators in Agriculture (Farming and Horticulture), Livestock, Poultry, and Aquatic Products of Kermanshah Province

Activity Title	Cultivated Area (Hectares)				Production Volume (Tons)
	Rainfed	Irrigated	Fallow	Total	
Agricultural Products	527,037	172,334	187,787	887,114	2466970
Horticultural Products	4276	43,610	-	47886	346611
Total Agricultural and Horticultural Lands	531,313	215,944	187,787	935,000	2813581
Livestock Products	Red and white meat, milk, eggs, and honey				680,550
Aquatic Products	Warmwater and coldwater fish, fishing, shrimp, etc.				23605
Total Agricultural, Horticultural, Livestock, Poultry, and Aquatic Products					3517736

Sources: Statistical Yearbooks of the Agricultural Jihad Organization of Kermanshah Province - Economic Office of Kermanshah Governorship

In terms of soil potential, it is noteworthy that out of a total of 626,518 hectares of plain lands in the province, which have been studied and classified in soil surveys, approximately 71% fall into classes I, II, and III, which are considered suitable for irrigated agriculture. Therefore, with four distinct climates, Kermanshah Province is capable of cultivating all types of agricultural products except for bananas and coconuts. In Kermanshah Province, there are 16 units producing various dairy and livestock products with a total capacity of 460,000 tons, and part of the milk and livestock products are sent to processing factories outside the province. Other strengths of the province include the presence of 7 livestock and poultry slaughterhouses with a daily capacity of 340 tons and 19 feed production units for livestock and poultry with an annual capacity of 1 million tons. Additional capabilities in the livestock and poultry sector include:

- The presence of diverse climates and extensive rangelands covering 1,192,587 hectares.

- The potential to export livestock products to Iraq.
- High capacity for processing locally produced goods and related agro-industrial activities.
- The presence of two unique and valuable breeds: Sanjabi sheep and Kurdish horse, both of which have exceptional and exclusive qualities.

Number of Industrial Livestock and Poultry Units and Feed Production in Kermanshah Province

Description	Number	Production Capacity (tons)
Production of various dairy and livestock products	16	460,000
Livestock and poultry slaughterhouses	7	100,000
Production of livestock and poultry feed	19	1,000,000
Number of agricultural sector operators (individuals)	125,000	--

Source: Livestock Affairs Department, Agricultural Jihad Organization of Kermanshah Province

Number of Industrial Livestock Farming Units in Kermanshah Province

Product Name	Units
Industrial broiler poultry farms	700
Dairy cattle farms	176
Calf fattening units	181
Lamb fattening units	129
Layer poultry farms	25
Industrial turkey farms	13
Parent broiler poultry farms	9
Hatcheries	4
Ornamental bird centers	2
Ostrich farms	5
Total number of industrial livestock farming units	1,333

Source: Livestock Affairs Department, Agricultural Jihad Organization of Kermanshah Province

5-1. Target Market Analysis:

The production output of the plan consists of light livestock, specifically sheep and lambs. Given the strong consumer preference for freshly slaughtered red meat from domestic slaughterhouses across the country and the low interest in imported meat, the market for this type of production is particularly favorable,

especially in the Zagros region and other parts of the country. This is influenced by the historical nomadic lifestyle in these areas and events such as Eid al-Adha, during which a significant number of fattened small livestock are brought to market. Additionally, markets in the Persian Gulf, Oman Sea, and Iraq regions show a high demand for live Iranian fattened livestock. One of the export strategies in the red meat trade is the export of frozen meat to prevent raw material exports and create added value. However, this approach is not well-received in target export markets, predominantly Arab neighboring countries. Consequently, a large portion of exports to these countries involves live livestock. Historically, exporting live animals has been one of the ways to increase the income of livestock farmers and boost the national economy. The export of live animals is one of the largest export sectors globally, with numerous countries such as Somalia, Spain, Australia, France, and Iran engaging in this trade. In the global ranking for live animal exports, Iran is recognized as the eighth-largest exporter, exporting light livestock like sheep and goats to countries in the Persian Gulf region such as Qatar, Kuwait, Iraq, Oman, UAE, Yemen, Saudi Arabia, as well as Afghanistan and Turkey. Annually, a significant number of livestock are raised in Iran, with official exports valued at over 88 million dollars. Thus, the export of live livestock is one of the most profitable sectors for western provinces of Iran, particularly Kurdistan, Kermanshah, and Ilam. The produced goods, specifically sheep and lamb, not only cater to an attractive domestic market but also have significant target markets beyond Iran's borders. The primary competitive advantage of these products lies in the high quality and excellent taste of the meat. This quality, which appeals especially to Persian gulf countries, is attributed to the rich vegetation in Iranian rangelands, particularly in the Zagros growth region, and the organic rearing of these animals. This has garnered considerable interest in neighboring countries, especially among Arab consumers. Proximity to Iraq facilitates the exchange of goods and services, including tourism (religious and

medical), the transfer of technical knowledge, and other interactions. However, certain restrictive policies implemented in specific periods have led to a decline in trade, particularly in live animal exports, resulting in irreparable losses for producers and exporters. These policies have also diminished the role of the country—and by extension, the province—in trade exchanges. Nevertheless, ethnic, religious, and historical ties with neighboring countries have consistently influenced the development of bilateral interactions, helping to maintain and sustain the province's role in trade with the region. Many countries seek to use fresh lamb meat from Iran. Neighboring countries, including Iraq, Afghanistan, Pakistan, Turkey, Armenia, Azerbaijan (Baku), and some European countries, are among the main markets for Iranian lamb. The targeted products of this plan fall under tariff subheading (0104) of Iran's customs regulations, titled "Other live animals of the sheep type, excluding specific breeding sheep", with sub-tariff code (01041090). Their import and export require authorization from the Ministry of Industry, Mines, and Trade and the Ministry of Agriculture Jihad, along with the payment of 5% entry duties in 2023 (4% customs duties and 1% commercial profit). According to Iran Customs statistics, the value of live animal exports, primarily fattened light livestock, amounted to 480,700 kilograms, with a total value of 1,008,982 USD in 2023.

6- Plan Physical Prograss Timeline:

Yes ☐

No ☒

7- Operational Program and Plan Implementation Schedule:

Plan Implementation Schedule

		Mth. 1	Mth. 2	Mth. 3	Mth. 4	Mth. 5	Mth. 6	Mth. 7	Mth. 8	Mth. 9	ماه 10
Plan for Establishing a Livestock Farming	Plan Study										
	Permits										
	Construction										
	Equipment										
	Training										
	Operation										

7- Project Financial Plan:

8-1. Cost Estimates:

Cost Estimates

Row	Item	Cost (Million IRR)
1	Fixed Capital Investment	44820
2	Operating Costs (Working Capital)	23500
3	Financing Costs	68320

Fixed Capital Investment Breakdown

Row	Item		Cost (Million IRR)
1	Land Purchase		1250
2	Landscaping and Site Improvement		1700
3	Construction and Civil Works		29260
4	Production Machinery & Equipment		6290
5	Support and Auxiliary Equipment		1250
6	Environmental & Safety Equipment		310
7	Overhead Costs		1460
8	Pre-Production Expenses	Feasibility Study	1020
		Project Management and Organization	200
		Technology Acquisition	0
9	Contingencies		2080
Total			44820

Working Capital Estimates (Production Costs)

Row	Item		Cost (Million IRR)
Ongoing Operating Costs			40200
1	Raw Materials		26020
2	Human Resources		9990
3	Marketing (excluding Human Resources)		880
4	Other Ongoing Expenses	Fuel and Energy	920
		Repair and Maintenance	520
		Unforeseen Expenses	1870
Fixed Costs			6800
5	Raw Materials		0
6	Human Resources		2500
7	Marketing (excluding Human Resources)		0
8	Depreciation		3680
9	Other Fixed Expenses	Fuel and Energy	240
		Maintenance	140
		Unforeseen Expenses	150
		Insurance	90
Total			47000

8-2. Revenue Estimates:

Revenue Estimates for the First 5 Years

Row	Product Item	Q1	Q2	Q3	Q4	Year 1	Year 2	Year 3	Year 4	Year 5
1	Livestock (48 kg per head)	0	23040	0	23040	46080	48960	51840	54720	57600
2	Red meat slaughter losses	0	288	0	288	576	612	648	684	720
3	Fertilizer	0	296	0	296	594	630	667	704	740
4	Total	0	23624	0	23624	47250	50202	53155	56108	59060

8-3. Project Operation Period:

In general, production plans encompass three types of project lifecycles:

Project Lifecycle or Construction Phase:

- Operational or Production Lifecycle (Production Phase)
- Product Lifecycle
- Project Lifecycle (Construction Phase):

The project lifecycle corresponds to the construction phase of the project. In this phase, significant costs are typically incurred. A successful project is one that completes this phase within the set time and budget constraints. To achieve this,

project management techniques must be implemented along with accurate and timely controls. Any issues identified in this phase should be resolved during the planning stage. **Operational Lifecycle (Production Phase):** The operational lifecycle corresponds to the production phase, which includes the useful lifespan of operations or production. In lamb fattening or sheep rearing plans, this phase is usually designed for 15 years. During the operational process, revenues and expenses are generated from product sales. However, revenues must generally exceed expenses; otherwise, the project lacks economic viability. In the operational lifecycle, project management techniques should no longer be applied. Instead, production planning methods and operational process techniques are more appropriate for planning. In livestock farming projects, proper management of maintenance and repairs must be carried out effectively throughout the operational period.

8-4. Break-Even Analysis:

Fixed Capital Investment= Fixed Costs – Pre-operation Costs

Fixed Capital Investment= 43600 + 1220= 44820

A. Cost Price of Product (IRR):

Cost Price = Total Annual Production Costs / Total Production Volume

Cost Price = 46030 / 28800 = 159263 (IRR)

B. Annual Break-Even Percentage:

Annual Break-Even Percentage= Fixed Costs (TFC) / Total Sales (P) – Variable Costs (V)

Annual Break-Even Percentage= 6800 / 59060 - 40200= %36

The value of (P-V) holds particular significance and is referred to as the unit contribution margin. This represents the profit per unit or, in other words, the portion of each sale that contributes to covering fixed costs. As a result, the

breakeven point occurs when the total contribution margin from all units equals the total fixed costs. In this case, sales exceed the breakeven point by more than 36% of the fixed costs. The relationship between total sales revenue and total costs indicates that this plan achieves a 36% margin above the annual breakeven point and generates profit for the company during two production cycles, creating a safety margin for production activities. In breakeven analysis, the safety margin reflects the extent to which actual or projected sales exceed the sales required to reach the breakeven point, surpassing it by more than 36%.

D. Gross Value Added (Million IRR)

Gross Value Added = Total Sales – (Maintenance + Fuel and Energy + Raw Materials and Packaging)

$$\text{Gross Value Added} = 59060 - (26020 + 1160 + 660) = 31220$$

E. Net Value Added (Million IRR)

Net Value Added = Gross Value Added – (Pre-Operational Depreciation + Depreciation)

$$\text{Net Value Added} = 31220 - (3680 + 244) = 27296$$

F. Gross and Net Profit (Million IRR)

1- Gross Profit (Million IRR)= Sales Revenue – Cost of Goods Sold

2- Net Profit (Million IRR)= Gross Profit – (Administrative, Sales, Advertising, and Other Costs)

$$\text{Gross Profit} = 59060 - 46030 = 13030$$

$$\text{Net Profit} = 13030 - (970) = 12060$$

G. Fixed Capital Per Capita (Million IRR)

Fixed Capital Per Capita = Fixed Investment / Number of Personnel

$$\text{Fixed Capital Per Capita} = 44820 / 5 = 8964$$

H. Total Investment Per Capita (Million IRR)

Total Investment Per Capita = Total Investment / Number of Personnel

Total Investment Per Capita = 68320 / 5 = 13664

I. Annual Rate of Return

Rate of Return = (Total Revenue – Total Costs) / Total Investment

Rate of Return = 59060 - 47000 / 68320 = %18

J. Annual Payback Period

$$\text{Payback Period} = \frac{1}{\text{IRR}} + \text{The duration of the construction period}$$

Payback Period = 4 years and 10 months

8-5. Cost-Benefit Analysis:

Table: Project Profitability Indicators

Present Value of Total Costs During Execution and Operation	47000
Present Value of Total Revenues During Execution and Operation	59060
Net Present Value (NPV)	1737
Benefit-Cost Ratio (B/C)	1.25
Internal Rate of Return (IRR)	24%

8-6. Project Sensitivity Analysis:

Table: Sensitivity Analysis:

Discount Rate (%)	Net Present Value (NPV) (Million IRR)
10	38094
20	6092
30	-6993
40	-12932
50	-15762
60	-17086
70	-17623
80	-17728
90	-17586
100	-17303

8-7. Summary:

Project Economic Analysis Summary

Activity Type	Detailed Activity Description with Code(ISIC)	Product Name	Nominal Capacity (Unit)
Livestock Farming	0121312301	Live Animals/Red Meat/Manure	300 Heads
Execution Period	Total Fixed Investment (Million Rials)	Annual Working Capital (Million Rials)	Required Workforce
10 month	44,820	23,500	5
Internal Rate of Return (IRR)	Net Present Value (NPV) (Million Rials)	Applicant's Contribution (Million Rials)	Benefit-Cost Ratio (B/C)
%24	1,737	13,660	1.25

8-8. Estimated Exchange Rate Fluctuations During the Project Implementation:

Regarding the procurement of machinery and equipment for the project, since all required equipment is produced and supplied in the domestic market, fluctuations in exchange rates will have no impact on the initial investment costs for plan implementation.

Regarding the procurement of raw materials needed for plan implementation, since all required raw materials are produced and supplied in the domestic market, fluctuations in exchange rates will have no effect on the cost price of the finished product ready for sale.

Regarding product sales, since part of the plan's revenue from sales is calculated for export to other countries, an increase in exchange rates will lead to higher revenue from sales. In the event of a decrease in exchange rates, the products can be sold in the domestic market.

9- Capital Requirements, Funding Methods, and Guarantees:

9-1. Foreign Currency Needed:

Row	Year	Amount of Required Foreign Currency
1	First	0
2	Second	0
3	Third	0
4	Fourth	0
5	Fifth	0

9-2- Participation and Funding Methods:

Lamb fattening loans, considering the role of agricultural and livestock activities in ensuring food security and producing the protein products required by society, are among the supportive mechanisms and part of the government's policies to further develop production units. One of the financial attractions of the plan is tax exemption, which the government has implemented to support producers. Other supportive mechanisms include the provision of loans. For breeders who cannot establish a lamb fattening unit using their own financial resources, bank facilities are available. However, obtaining a lamb fattening loan is subject to specific conditions and regulations. Among these conditions is the economic feasibility of the production plan. If the expenses exceed the revenue and profit, the plan will not be economically viable and may lead to significant losses for the producer. The Ministry of Agricultural Jihad, under "Clause A of Note 18 of Agricultural Jihad" and "Clause A of Article 52 of the Addendum Law," provides loans and facilities in the livestock and agricultural sectors. To promote fairness among individuals who are new to livestock and agricultural businesses, the Ministry strives to offer facilities with relatively reasonable interest rates. It is evident that both "Clause A of Note 18 of Agricultural Jihad" and "Clause A of Article 52 of the Addendum Law" are laws drafted to provide facilities to applicants investing in the agricultural and livestock sectors, including processing and complementary industries for these areas.

9-3. Payback Period:

The payback period for this project, based on the amount of fixed and variable capital and annual sales of the production—which includes four production cycles per year—and assuming that part of the fodder for feeding the livestock is sourced from surrounding rangelands or farms and their crop residues (approximately 40% of the fodder), will be around **4 years 10 months**. In other words, the investment made will be recovered within this period.

10- Incentives, Features, and Benefits of the Plan:

For the implementation of livestock farming plans, government facilities are often utilized, with the applicant's contribution typically capped at 20% of the total investment. In the planned livestock farming complex (lamb fattening), the establishment, preparation, and provision of infrastructure are the responsibility of the government. It is likely that land and the right to use units within this livestock complex, which is equipped with access roads, water, electricity, gas, fiber optics, internet, and other facilities, will be allocated for a fee to those interested in investing. Priority will be given to local livestock farmers in the area, who, in addition to engaging in agricultural activities, hold grazing permits for the rangelands surrounding the complex. The allocation process is similar to industrial parks, where land is provided in exchange for payments. After acquiring the land and obtaining preliminary approval and an operating license from the Organization of Agricultural and Natural Resources Engineering, individuals can apply for facilities specified in the law, such as loans under Clause A of Note 18 or Clause A of Article 52 of the Addendum Law, by registering on the Sina system. With their own contribution provided, applicants can use these facilities to construct livestock farming infrastructure.