

Economic Analysis of Quail Farming: The Impact of Subsidies on Costs and Profitability in Saravan County

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التحليل الاقتصادي لتربية السمان : تأثير الدعم الحكومي على

التكاليف والربحية في مقاطعة سراوان

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Abstract:-

This study investigates the impact of government subsidies on the costs and profitability of quail farming in Saravan County. Given the region's specific conditions and the high costs of energy and feed, the aim of this research is to compare the economic status of two groups of quail farmers: those who benefit from government subsidies and those who operate without them. Data were collected from several quail farming units through interviews and questionnaires. The analysis was conducted using partial budgeting and cost-benefit analysis methods.

The results indicate that subsidized farmers achieve a net profit of 2,570,000 Tomans per 100 quails, whereas non-subsidized farmers incur a net loss of 750,000 Tomans for the same number of birds due to higher feed and energy costs. This discrepancy is mainly attributed to the elevated expenses for feed and electricity in the non-subsidized group. Consequently, subsidies play a crucial role in the profitability of quail farming units. It is recommended that non-subsidized farmers adopt management techniques such as insulating facilities and optimizing energy consumption to reduce costs. Furthermore, strengthening government support policies in providing essential inputs, including feed and fuel, could significantly improve the economic viability of this sector.

Key words: Quail farming, Subsidies, Economic analysis, Costs, Profitability, Saravan, Energy.

المخلص:-

تهدف هذه الدراسة إلى تحليل تأثير الدعم الحكومي على تكاليف وربحية تربية طيور السمان في مقاطعة سراوان. نظراً للظروف الخاصة للمنطقة وارتفاع تكاليف الطاقة والأعلاف، يهدف هذا البحث إلى مقارنة الوضع الاقتصادي لمجموعتين من مربي السمان: المجموعة التي تستفيد من الدعم الحكومي والمجموعة التي تعمل بدونه. تم جمع البيانات من عدة وحدات لتربية السمان من خلال المقابلات والاستبيانات، وتم تحليلها باستخدام أساليب الميزانية الجزئية وتحليل التكلفة والعائد.

تشير النتائج إلى أن المربين المدعومين يحققون ربحاً صافياً قدره (٢,٥٧٠,٠٠٠ تومان) لكل ١٠٠ طائر سمان، بينما يتكبّد المربون غير المدعومين خسارة صافية تبلغ (٧٥٠,٠٠٠ تومان) لنفس العدد من الطيور بسبب ارتفاع تكاليف الأعلاف والطاقة. يعزى هذا التفاوت بشكل رئيسي إلى ارتفاع مصاريف الأعلاف والكهرباء في المجموعة غير المدعومة. وبالتالي، يلعب الدعم الحكومي دوراً محورياً في ربحية وحدات تربية السمان. يوصى بأن يعتمد المربون غير المدعومين على تقنيات إدارية مثل عزل المنشآت وتحسين استهلاك الطاقة لتخفيض التكاليف. بالإضافة إلى ذلك، يمكن لتعزيز سياسات الدعم الحكومي في توفير المدخلات الأساسية مثل الأعلاف والوقود أن يساهم بشكل كبير في تحسين الجدوى الاقتصادية لهذا القطاع.

الكلمات المفتاحية: تربية السمان، الدعم الحكومي، التحليل الاقتصادي، التكاليف، الربحية، سراوان، الطاقة.

Introduction:-

Saravan County, located in the southeastern part of Iran within the Sistan and Baluchestan Province, holds a unique and strategic geographical position due to its proximity to the Pakistan border. Characterized by a hot and arid climate, the region has limited natural resources. Despite challenges related to water scarcity and soil conditions, agriculture and animal husbandry remain the primary economic activities for the local population. Saravan is a sparsely populated county with a rich and diverse cultural heritage, and its residents are mainly engaged in farming, livestock breeding, and border trade.

In this region, quail is considered a suitable option for farming due to its resilience to diseases, rapid growth rate, and lower requirements for space and resources. Quail farming, with its high productivity compared to other poultry, allows for the efficient use of limited resources and can significantly contribute to improving household livelihoods in the area. Moreover, it serves as an effective strategy for creating sustainable employment, increasing rural household incomes, and enhancing food security in the region. In recent years, quail farming has emerged as a potential economic opportunity in Saravan and has gradually gained a foothold in the local economy.

However, quail farming in Saravan faces significant economic and infrastructural challenges. Limited access to water resources, high feed costs, fluctuations in the prices of raw materials, and lack of government support for many unlicensed producers are among the major barriers to the industry's development. These issues are particularly pressing given that licensed farming units benefit from government subsidies for feed, electricity, and fuel—subsidies that can directly reduce production costs and improve profitability. In contrast, unlicensed producers are deprived of such support and must bear substantially higher expenses.

Given the critical role of subsidies in reducing production costs, this study aims to examine and analyze the impact of government subsidies on the costs and profitability of quail farming in Saravan County. The research compares licensed and unlicensed farming units in terms of subsidy access and its effects on profitability.

Additionally, the study proposes strategies for improving the economic conditions of this industry in Saravan, with the goal of enhancing productivity and enabling its sustainable development.

Problem Statement

Quail farming in Saravan County, as one of the emerging sectors in livestock production, holds significant potential for improving rural livelihoods and fostering regional economic development. Given Saravan's hot and arid climate and its limited water and land resources, quail presents itself as a suitable option for livestock expansion due to its resilience to harsh environmental conditions and low resource requirements. With its rapid growth rate and favorable economic returns in both meat and egg production, quail farming can play a key role in meeting local protein demands and generating employment in the region.

Nevertheless, quail farming in Saravan faces a variety of economic challenges. One of the most significant is the high cost of establishing and equipping quail farms. Many local producers lack the financial capacity to adequately invest in starting or expanding their farms. In addition, sharp fluctuations in poultry feed prices and the lack of reliable access to these resources are critical factors that can severely affect the profitability of this industry. These problems are especially pronounced in areas like Saravan, where producers often receive limited governmental support or subsidies.

Another major challenge is the lack of access to appropriate markets for selling products. The absence of efficient distribution networks and marketing infrastructure has resulted in quail products being sold at low prices in local markets. This situation not only reduces producers' profitability but also deprives them of opportunities to access larger and more lucrative markets.

Moreover, the lack of technical and specialized training in quail farming is another major issue faced by many local farmers. Insufficient knowledge of optimal feeding practices, health management, and rearing methods can lead to reduced productivity, increased production costs, and ultimately lower net profits.

In light of these challenges, this study seeks to answer the fundamental question: Is quail farming economically viable in

Saravan County? In addition, the research aims to identify the key factors affecting the profitability of this industry and to propose practical solutions for overcoming challenges and enhancing productivity.

Research Methodology

This study adopts a comparative approach to the economic analysis of quail farming among two groups of farmers in Saravan County: those who receive government subsidies and those who do not. The primary objective is to examine the impact of subsidies on the costs and profitability of quail farming. Data were collected directly from quail farmers through structured interviews and specifically designed questionnaires.

Sampling Method

A purposive sampling method was used to select two groups of quail farmers:

- One group receives government subsidies for essential inputs such as feed, electricity, and other necessities.
- The second group operates without any subsidies. Each farmer in both groups provided detailed data on costs and revenues for a single production cycle involving 1,000 quails.

Variables

- Dependent variable: Final profit (net income from the sale of quails and quail eggs after deducting all costs)
- Independent variable: Farmer classification (with subsidies vs. without subsidies)
- Control variables :
 - ✓ Feed costs: Expenses related to poultry feed
 - ✓ Labor costs: Wages and other human resource expenses
 - ✓ Electricity costs: Energy costs for heating, cooling, and ventilation
 - ✓ Mortality rate: Percentage of quail losses during the production cycle

- ✓ Miscellaneous costs: Including veterinary medicine, vaccines, maintenance, and other indirect expenses

Statistical Population

The statistical population consists of all quail farming units in Saravan County. For the purposes of this study, farmers were classified into two main categories:

1. Subsidized farmers: Beneficiaries of government subsidies for feed, electricity, and fuel
2. Non-subsidized farmers: Those who do not receive any subsidies and therefore bear higher costs for feed and energy

Data were gathered through interviews with farmers and the examination of their financial records concerning expenses and income. Random sampling was applied to select a number of representative quail farms across Saravan.

Data Collection Method

Structured questionnaires were used to collect data on the following cost categories:

- Purchase of quails
- Feed
- Labor
- Electricity and fuel
- Miscellaneous expenses

Additionally, local market data were used to determine the selling prices of quails and estimate the final profit.

Data Analysis Method

In this study, two main methods were employed to analyze the data:

1. Partial Budgeting: This method examined the impact of changes in costs and revenues resulting from receiving or not receiving subsidies on the final profit of quail farming units. For example, the effect of electricity and feed subsidies in reducing

costs and increasing the profitability of subsidized farmers was analyzed.

2. Benefit-Cost Analysis (B/C): This method was used to evaluate the economic efficiency of quail farming units. The benefit-cost ratio was calculated to determine whether the farms were profitable or not. This ratio was computed for both subsidized and non-subsidized groups to enable a precise comparison of their economic status.

Calculation Formulas

The net profit (π) was calculated using the following formula:

$$\pi = VTP - TC$$

where:

- π : Net profit
- VTP: Total production value
- TC: Total costs

Also, the benefit-cost ratio (B/C) for each unit was calculated as:

$$B/C = \text{Benefits} / \text{Costs}$$

Production Period

This study considered a production period of 2 months for quail farming. Mortality rates were also included in the calculations.

Calculations for Subsidized Farmers:

- Selling price per quail: 60,000 Toman
- Purchase cost per quail: 7,000 Toman
- Feed cost: 1 kg per quail (16,000 Toman per kg)
- Fuel cost: 500 Toman per quail, totaling 50,000 Toman for 100 quails
- Labor cost: 1,000,000 Toman for 100 quails
- Electricity cost: 30,000 Toman
- Miscellaneous costs: 500 Toman per quail

Calculation of VTP:

$$VTP=100\times 60,000=6,000,000$$

Calculation of TC:

$$TC= (100\times 7,000) + (100\times 16,000) \\ +50,000+1,000,000+30,000+(100\times 500)$$

$$TC=700,000+1,600,000+50,000+1,000,000+30,000+50,000$$

$$TC=3,430,000$$

Net profit (π):

$$\pi=VTP-TC=6,000,000-3,430,000=2,570,000$$

Calculations for Non-Subsidized Farmers:

- Selling price per quail: 60,000 Toman
- Purchase cost per quail: 7,000 Toman
- Feed cost: 1 kg per quail (30,000 Toman per kg)
- Fuel cost: 20,000 Toman per quail, totaling 2,000,000 Toman for 100 quails
- Labor cost: 1,000,000 Toman for 100 quails
- Electricity cost: 1,000,000 Toman
- Miscellaneous costs: 500 Toman per quail

Calculation of VTP :

$$VTP=100\times 60,000=6,000,000$$

Calculation of TC:

$$TC= (100\times 7,000) + (100\times 30,000) \\ +2,000,000+1,000,000+(100\times 500)$$

$$TC=700,000+3,000,000+2,000,000+1,000,000+50,000$$

$$TC = 6,750,000$$

Net profit (π):

$$\pi=VTP-TC=6,000,000-6,750,000=-750,000$$

Summary of Results :

- Subsidized farmers :
 - ✓ Total costs: 3,430,000 Toman
 - ✓ Net profit: 2,570,000 Toman
- Non-subsidized farmers :
 - ✓ Total costs: 6,750,000 Toman
 - ✓ Net loss: 750,000 Toman

These results confirm that subsidies play a critical role in the profitability and sustainability of the quail farming industry in Saravan County. The absence of subsidies can lead to significant financial losses for farmers. Therefore, strengthening supportive policies and allocating appropriate subsidies could improve the economic status of this sector.

Data analysis indicates that the costs of quail farming without subsidies are considerably higher due to increased feed and electricity expenses. Under such conditions, farming not only becomes unprofitable but also incurs losses. Specifically, non-subsidized farmers face higher costs and struggle to compete with subsidized farmers, which may reduce motivation and investment in this industry.

Suggestions for Future Research

Studying the Impact of Climate Change: The effects of climate change on the performance of quail farms in Saravan should be examined more closely. This includes factors such as temperature, humidity, and rainfall patterns, and their impact on the health and productivity of quails.

Exploring Local Feed Resources: Future research could focus on the use of native feed sources and their impact on cost reduction and increased productivity. This study could help identify new, sustainable resources for supplying quail feed.

Broader Economic Analysis: A more detailed economic analysis comparing production costs with other regions of Iran and neighboring countries could help identify further opportunities for

improvement. This could include the evaluation of production, distribution, and consumption patterns.

Recommendations for Producers

Reducing Feed Costs :

Given that feed accounts for a significant portion of total costs, it is recommended that local producers source feed from domestic suppliers or use alternative formulations. Research and development into cheaper feed options or utilizing food waste as substitute feed could be effective strategies.

Utilizing Modern Technologies :

The adoption of modern technologies, such as automated feeding and ventilation systems, can increase efficiency and reduce labor costs. Producers should consider investing in modern equipment as a means to improve farm performance and enhance profitability.

Accessing New Markets :

With growing demand for quail products, producers should strive to identify new markets, especially export opportunities. This can significantly boost profitability.

Recommendations for the Government and Policy Makers

Support for Local Feed Producers :

The government can assist local feed producers by offering financial incentives and low-interest loans, enabling them to produce quail feed at lower prices. This would not only reduce the production costs for quail breeders but also contribute to the growth of the national livestock feed industry.

Establishment of Support Programs :

Supportive programs such as low-interest loans or financial assistance for purchasing modern equipment can help breeders improve productivity and product quality.

Development of Export Infrastructure :

The government can facilitate exports and reduce related tariffs, encouraging breeders to access international markets. This would

enhance revenues and support the growth of the quail farming industry.

Research Limitations

Limited Access to Complete Data :

Due to the lack of cooperation from some producers or the absence of accurate records, certain data may have been incomplete or limited. This could have affected the precision of the analysis and influenced the results obtained.

Geographical Limitation :

The research was confined to Saravan County, and the findings may not be generalizable to other regions of Iran or countries with different climatic and economic conditions. Therefore, the results should be applied cautiously in other contexts and locations.

Market Fluctuations :

Variability in feed prices and market changes may have temporarily impacted the results, and the findings may not remain consistent under all economic conditions. Price fluctuations could significantly affect the costs and revenues of producers.

Practical and Policy Implications

This section discusses the practical impacts of the research findings and the policy recommendations that emerge. The aim is to illustrate how the results of this study can contribute to improving the quail farming industry.

Practical Implications

Increased Productivity :

The study shows that adopting modern technologies and reducing feed costs can lead to greater productivity and profitability in quail farms. This can encourage producers to shift toward innovative production methods.

Boost in Exports :

Given the positive relationship between access to export markets and profitability, developing export infrastructure can increase demand for quail products and enhance producer income. This can

stimulate regional economic growth and boost the competitiveness of products.

Policy Implications

Support for Investment in Technology :

The results indicate that producers who effectively use modern technologies achieve higher profitability. Therefore, supportive policies to facilitate investment in technology should be prioritized by the government. Such support could include financial incentives, consulting services, and training programs for the adoption of new technologies.

Facilitation of Export Processes :

Since exports play a critical role in the profitability of the quail farming sector, the government should assist producers in accessing international markets by reducing trade barriers and improving infrastructure for agricultural and livestock exports. This could involve lowering tariffs, enhancing transportation systems, and improving product quality standards.

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