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ECONOMIC EVALUATION OF ONE OF THE BROILER BREEDER FARMS IN THE PROVINCE OF QADISIYAH, SUNNIAH AREA (CASE STUDY FOR THE 2016 AGRICULTURAL SEASON)

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Abstract

Iraq has many investment opportunities of economic feasibility, especially, in the fields of plant and animal productions, including produce broiler chicken. The poultry sector is considered as one of the most important agricultural sectors. It attracts thousands of workers in large companies and small farms in different activities. It produces the most couple important nutritional supplements that the Iraqi consumers depend on, namely meat and eggs, which makes it able to meet food self-sufficiency also be able to export. Constraint and limitation factors that hinder the operation of broiler farms in Qadisiyah province, Sunniah area are existed, despite the possibility of exploitation and operation of these farms halls of increasing the capacity to increase the domestic production of poultry meat and making money for the country. The study aims at conducting economic evaluation and analysis of the optimal farm that is selected from the sample farms. For this purpose, a set of economic criteria to identify marketed production capacity and economic profit were used. The criterion of the invested dinarre turned has achieved 1.65 Iraqi Dinar(ID), which generates a profit of 0.65 ID. The criterion of money refund is relatively low, which is (6) months. The commercial profitability percentage is 64%, which is good, encourages investors to invest their money in such projects despite the rise in the prices of inputs, especially feed and other supplies. Despite the rising cost of production, the farm achieved an economic profit 82543425 ID. The project is economically feasible and has a low-risk level because the farm is typical, although it is known that risk degree is very high due to diseases and markets fluctuating prices.

Key words : Broiler, poultry economic evaluation, and poultry investment.

Introduction

Investment in broiler chicken can reduce the country's need for imports shortly and may open the door for exports to make more hard currency. In addition, food will become available, cheaply and easily, for all classes of people. This will lead to the need of manufacturing some agricultural products, which stimulates the industrial sector and the national economy as a result. This is the best way for the progression, which is the approach adopted by most of the developed countries. Focusing on expanding poultry projects at the present time will ensure two main objectives: First, poultry projects are considered to be rapid economic development projects. They reduce the country's need for food imports. Second, ensuring minimum food security. The evaluation of projects is increasingly important under the guidance of the State to reduce the role of the public sector and increase the role of the private sector. It seeks the optimal use of available resources by directing them to the best available uses, which is called rational uses (Barbaz, 2014). The amount of meat consumption determines the social and economic place of the country or individual. When a nation progresses industrially and improves its economic position, consumption of meat would be increased (Abboud, 2009). Estimation of total Iraqi meat production is 86360 tons during the year 2015, which had an increase of 16157 tons as compared to the previous years of 2014 that had

a production of 70203 tons. This means production increased by 0.23. Broiler production estimation of private sector projects was 85956 tons, which makes 5.99 % of the total production of Iraq. The production of sold and leased government projects was estimated at 404 tons (5.0%) (Ministry of Planning and Development, 2014). This indicates that production is concentrated in the private sector projects and supports the trends towards this sector. Therefore, it is importantto study and identify the reality of broiler production in the province of the Qadisiyah, Sunniah area.

Problem statement

The presence of some obstacles that hinder the operation of the poultry halls of farms in the Qadisiyah governorate, Sunniah area, despite the possibility of exploitation and operation of these halls to increase their production capacity and domestic production of broiler chicken and make a difficult currency for the country.

The goal of the study

Conducting the evaluation and economic analysis of a typical farm in the mentioned area. For this purpose, a set of economic criteria to identify production and the economic gain was used.

Data sources

The main data were collected by designing a questionnaire form. It was collected through a personal interview with the broiler breeders in the Sunniah area during the year of 2016. The secondary data were collected from publications of the relevant bodies and are located on their websites, Central Statistical Organization.

Materials and Methods

The evaluation process requires criteria and indicators as measurement tools for their implementation. Their success depends on the validity, accuracy, measurability and accountability. Financial success estimation of the units of production is one of the most important objectives of the farm management in evaluating the performance of the unit (Erhumah *et al*., 1998). The main objectives of the feasibility study and evaluation of projects, especially in the evaluation of existing projects are the following (Dahiri, 1991; Essawi, 2005):

1. Achieving the optimal use of available resources and estimating production efficiency of the elements involved in the production process.
2. Assist the investor in directing his invested funds towards the objectives that the investor wishes to achieve.
3. Mitigating the risk of investing money by helping to choose the right alternative.
4. Ensure that the objectives are achieved and the weaknesses and shortcomings in performance are identified so that possible actions and ways can be proposed to avoid existing defects.
5. Developing scientific policies by setting criteria, ratios or levels that determine in advance how to exploit the resources and available possibilities as efficiently as possible to invest them as best as they can.
6. Achieving control through comparisons between what is determined in advance and what actually achieves and to identify the points of imbalance in comparison with the set objectives in advance with an explanation of the causes of imbalances.
7. Coordinate financing, use, production, marketing, training and prioritization of projects with economic returns.
8. Evaluating the completion of the economic unit of the assigned functions comparableto those planningto in the production plan.
9. Achieving the coordination among different aspects of project activity in order to ensure economic savings and avoid financial resource waste.

It is worth mentioning that the process of evaluating projects and selecting the best alternative varies according to the undertaking objectives. For investors, it represents the direct economic return that will be gained from the establishment of a project, which will be limited to compare the money spent by the owner for the proceeds that investors will receive from an expenditure in the form of direct profits based on market prices. The ultimate objective of the entrepreneur is to maximize this profit. This study adopted a set of criteria to be used in the economic evaluation of the project:

1. Net cash income criterion

It is a measure of the farm's ability to generate cash as a useful starting point for calculating the farm's ability to meet its debt, which is the difference between cash farm income and its cash costs (Samarrai, 1984).

Net cash income = Cash income - Cash costs (variable)

2. Economic profit criterion

The concept of profit within the field of practical application is related to production and its elements. Costs are assumed to be an indication of each component of the leased production that are involved in the production process estimated at the value of each unit of that component. The excess of their use is called net profit,

which is assumed to be lost in the long term (Al-Aziz, 2000).

Economic profit = Total revenue – Total costs

3. Invested dinar returned criterion

It is calculated by dividing the annual return of the project on the annual costs, all at the present value, both in terms of returns or costs. It is known that projects of economic merit have a greaterratio of return to cost than the right one (Mashhadani, 2002).

The return on investment of the dinar is calculated from the following equation:

Investor dinar return = (Annual project return) / (Annual project costs)

If the value of this criterion is greater than one, it means the production unit financially success. If this ratio is equal to the correct one, it means a financial equalization. If it less than the correct one, indicates financial problems in production that need to be dealt with in different procedures.

4. Variable capital productivity criterion

The measurement of productivity includes many indicators that differ in terms of the unit of measurement or its coverage of the production elements or its limitation on one element such as the measurement of labor productivity or. Capital productivity can be in twofold, the first is the variable capital productivity and the second is fixed capital productivity. Variable capital productivity is expressed by dividing the total returns by the total variable costs (Ahmed, 1982).

5. Period of capital recovery criterion

It is one of the most common and used measurement. It can be defined as the required time for the project to recover the invested capital. In other words, it is the required time period to get the inward cash flow be equaled with the cash outflow of the project (Abu Amer, 2003).

Redemption Period = (Investment spending value) / (annual profit average)

6. Profitability criterion

It means the difference between the returns and costs of the project, net profit, after payment of all other costs and expenses as calculated as a percentage of the annual return of the capital, which consists of fixed capital and working capital and calculated using as follows:

Commercial Profitability = (Annual net profit) / (Gross cost) × 100

7. Tie blister criterion

A tie point means that it is the lowest level of production or level of sales that the project can operate at without loss. In light of this, the profit-to-sales ratio can be derived P / V or so-called marginal income ratio when the variable production cost is subtracted from the correct one divided by the volume of sales as shown in the following equation:

PLV = 1 – (TVC / TR)

In light of extracting marginal income, a tie point can be found according to the following equations :

Tie point = fixed costs TFC / marginal income MI Tie point is also defined as the volume of production (sales) in which the project does not generate profit or loss, and is usually seen as a percentage of the maximum project capacity. The best project is the one that achieves the minimum tie size level. The point of production is calculated as the value of fixed costs (TFC / 1) subtracted from (variable cost of production, TVC / revenue generated TR). While, tie point as a unit is calculated according to the equations:

Tie point as a unit = (Production quantity × constant production costs) / (variable cost - production value).

The production safety limit, which presents the percentage of production without loss, can be calculated according to the following equation (Abu Amer, 2003):

Productive safety limit = (Annual production – Equalizer production) / (Annual production) × 100

8. Farm work returns criterion

Farm returns = Net farm income - Interest on invested capital (Samarrai, 1984).

9. Farm management returns criterion

Farm management returns = Farm work returns – The value of farm workers (Samarrai, 1984).

Results and Discussion

It is necessary to identify the description of the research sample and analyze the structure of both of costs and returns.

A sample of the study description

The sample size shall be 77%, which the sample of the research shall consist of 24 fields out of the total of 31 producing farms that are located in Qadisiyah province, Sunniah area. A typical farm consisting of 4 halls of each floor area (80 m × 10.5 m) was chosen. Each hall has a capacity of 9687 chicks. 16 air coolers, 30 air discharge, 15 heating devices and 84 an ottoman that runs along the hall were used in this hall. The farm is run by its owner, 8 workers and 4 administrators working with a salary of

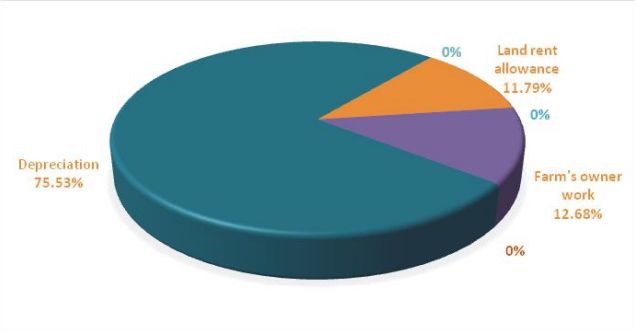

Fig. 1 : Relative importance of the fixed costs.

The annual amortization premium is calculated using the straight-line method, it is calculated as shown in the table 2.

3. Operational costs

Fixed costs formed 6.17% of the total costs of the research sample. Thus, the total cost amounted to 7886200 dinars as shown in the table 3. Fig. 1 shows the relative importance of these costs. Variable costs were 93.83% of the total costs of the sample and thus the total variable costs are 120020375. This high ratio of variable costs, dues to the high prices of purchasing farm supplies as shown in the table 3. Fig. 2 illustrates the relative importance of these costs.

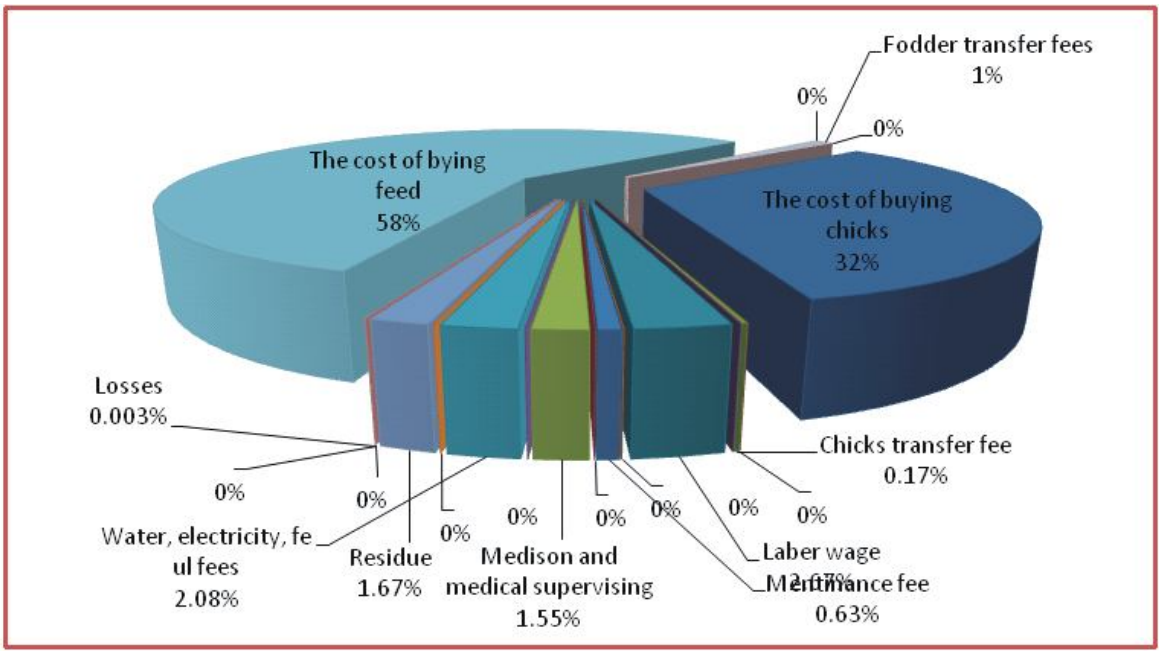

Fig. 1 : Relative importance of the variable costs.

400,000/one time payment. The losses per one time producing are 3875 chicks. The production capacity of the farm 38750 chick.

Cost structure analysis

Costs for an investment project consist of two main components : investment costs and working capital costs. Capital costs include all the required costs for the establishment and processing of the project. Capital costs are paid once when the investment project is established and are not repaid except for the cost of replacing fixed assets at the end of their economic life.

1. Investment cost of the project

The cost of investment for the best project in the sample was estimated at 37354000 dinars. The halls and buildings represent 56% of the average total investment costs, while the other machines and equipment constituted 44% as presented in table 1.

2. The percentage of investments

Table 1 : Details of the investment cost of the project in thousands of Dinars.

Details	Total cost	Relative importance
Halls and buildings	21000000	56%
Heating and cooling equipment	16354000	44 %
Total	37354000	100%

Source: Prepared by researchers based ona questionnaire.

4. Project income

Project income is the sum of the goods and services produced by the project throughout its productive life. The amount of achieved income affects the determination of the profits of the project and to identify the project

Table 2 : Annual disbursements of project assets.

Details	Total Cost	Depreciation rate	Annual amount of depreciation
Halls and buildings	21000000	%5	1050000
Heating and cooling equipment	16354000	30%	4906200
Total	-	-	5956200

Source: Prepared by researchers based on a questionnaire.

Table 3 : Annual operational costs of the study sample.

Details	Fixed Costs	Relative Importance	Details	Variable costs	Relative Importance	Total Costs		
Land rent allowance	930000	11.79	The cost of buying chicks	38750000	32.29%	Fixed costs	**7886200**	6.17%
Work of the owner of the farm	1000000	12.68	Fees of transfer of chicks	200000	0.17%	Variable costs	**120020375**	93.83%
Extinction	5956200	75.53	Workers' wages	3200000	2.67%			
			Maintenance fee	750000	%0.63			
			Medicines and health supervision	1854000	1.55%			
			Water, electricity, fuel and oils	2500000	2.08%			
			Residue	2000000	1.67%			
			Losses	3875	0.003 %			
			The cost of buying feed	69600000	%57.99			
			Fodder transfer fees	1162500	0.98%			
Total	**7886200**	**100**		**120020375**	**100**		**127906575**	**100**

Source: Prepared by researchers based on questionnaire.

Table 4 : Annual project income.

Income type	Quantity	The weight of chicken/kg	Price per kilogram/ thousand dinars	Value of production (total returns)
Broiler chicken	34875 chicks	2	3000	209250000
Residues of bedding (animal fertilizer)	4 tunes	-	300	1200000
Total	-		-	210450000

Source: Prepared by researchers based on questionnaire.

returns (table 4).

Results of financial and economic assessment criteria

The financial analysis of the project goes entirely towards determining the commercial profitability. The socio-economic assessment addresses the direct and indirect economic and social impacts of the project on the national economy such as increasing real national income, exploiting domestic resources with an abundant supply, improving the balance of payments and saving in foreign currency, economic and social development and increasing the volume of national savings (Hamid, 2011). The farm obtained a net income of 90429625 dinars, which came from sailing broiler chicken as a main source and residues of bedding as a secondary source. Thus, the farm is economically efficient since it achieves 90429625 dinars as a net income. The profits of this sample are 82543425 from sailing broiler chicken. This increase in profits is due to the efficiency of investing the available materials and increasing the volume of production. Despite

Table 5 : Results of financial and economic assessment.

Criterion	Criterion value
Farm income	210450000 Dinars
Net cash income	90429625 Dinars
Economic profit	82543425 Dinars
Business profitability percentage	64.53%
Return of the invested dinar	1.65
Capital recovery period	0.5 year
Variable capital productivity	1.75
A tie point as a unit	304
A tie point as a value	7886199
Production safety limit	91 %
Returns to farm work	89429625 Dinars
Returns of farm management	88429625 Dinars

Source: Prepared by researchers based on tables: 1, 2, 3 and 4

the achievement of these profits, it is low profit, according to the owner point of view because he runs 4 halls. Thus, the profitability ratio is 64.53%, which is a good profitability reflects how good are the broiler projects. The return of the invested dinar amounted to 1.65, which is greater than the right one. This indicates the feasibility of producing broilers since each dinar spent on the project generates a net return of 65 Dinars, which is a proof of the existence of technical and economic efficiency. The capital recovery period is a half of a year, which is a good period to recover the invested capital. The efficiency of variable capital productivity showed an increase of 1.75 for each Dinar would be spent on production inputs. Tie point was 7886199 Dinar, which is the required returns that the project should achieve to be at the point of parity. It comes from selling of broiler chickens as a major product. It also presents the production safety limit of 91%, which is the percentage that production can drop without losses. It is a large percentage reflecting the ability of the farm to cope with the conditions of potential risk caused by the decline in broiler production or low sales prices. The results of the financial and economic assessment is drawn in table 5.

Conclusion

1. The studied farm sample has achieved high returns and profits despite the operation of the halls for just one time producing distributed in four halls only and its high costs.
2. The reason for the increase in these costs is the high cost of inputs purchasing including chicks, feed, wages of workers, medicines and veterinary supervision. Thus, the project is economically feasible and characterized by low risk.

Recommendations

Expansion of investment opportunities in the field of breeding and production of broiler chickens in the region since it is close to markets and thus contribute to raising national income and reduce the exit of hard currency and increase domestic production.

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