INTERNATIONAL JOURNAL OF ADVANCED BIOLOGICAL RESEARCH

www.scienceandnature.org

FIELD AND APPLIED STUDY TO EVALUATE THE ECONOMIC AND TECHNICAL BENEFIT OF ASSUMPTION PROJECT OF QUAIL BREEDING IN ANBAR GOVERNORATE

Hammeed Rasheed Al-Delaimy & Ahmed Abdullah Abbas
College of Agriculture – Anbar University, Anbar, Iraq

ABSTRACT
This study adopted an analytical method supported by practical application to obtain the required results to grow and breed quail to cover the local market needs, without ignoring the economic side. The study depended on a hypothesis which states that the economic evaluation to investing project aims to specify the scientific foundations and standards which describe the vision to the investor to overcome the worries that he might have and make him reassure and be able to adopt scientific, economic and thoughtful method, and be more realistic in making the right decisions to reach the best solutions which help in cutting down costs to the lowest and therefore ensure the most economic return. The study specifies the essential requirements and the necessary costs both the investing and operational, as well as the labor to run the project. In the light of this, the economic evaluation was carried out. The study shows that the net annual income was 391.23 million Iraqi Dinars a year, and the total additional amount was 523.18 million IDs, and the net additional amount was 457.23 million IDs, it also explained that the simple returned mean was 23.02% and the return for the invested Dinar was 23%, and the total period for the project to regain its investing cost is about 27 months. The study also showed that even if the prices of the main production materials which are about 34.69% of the total cost of the project would rise by about 15% with the assumption that the sealing prices of the end product would stay the same, the project would still be profitable and make a reasonable return. The study recommends many recommendations that it seems to be necessary to encourage the investments in this field.

KEYWORDS: Quail breeding, local market, Dinar, investment etc.

INTRODUCTION

The growing need to the sources of meat for the purposes of the human consumption led to the occurrence of extraordinary developments in their production especially the white meat since the broiler product became about 25% out of the world product (FAO, 2000). The increase of the growing need for the white meat encouraged many of the participants in this industry and expands the breeding and improving the tamed birds to get benefit of their meat or to produce table eggs. The breeding of these tamed birds in Iraq was limited to the traditional breeding. This is due to the feature which distinguishes the industry of poultry in the quickness of the cycle of the capital from one hand and the cutting down of cost under the prevailing climatic conditions from the other hand. Hence, the breeding of the poultry became a pioneer industry on which many countries depend to assure their need from the table eggs and the white meat. Many countries began to make use of the poultry other than the chickens in their product of eggs; therefore, these countries invested the quail as an alternative for the chickens in the product of table eggs for the local consumption because of the high ratio of the egg weight compared to the weight of the body. In addition to that, the eggs of the quail contain all the food elements which the eggs of chickens contain; moreover, the abundance of the annual product of this bird which may be (300) eggs a year. At the same time, the quails are characterized of early sexual maturity (Al-Soudi, 1970). Since the quail starts laying its first egg at six weeks age and the average of the weight of its body is ranged between 160-190 gr (Sezer,2007). This led to the development of the means of the scientific research and the expansion in the studies that concern this industry to invent new descendants which are characterized of the quick growth and the great ability for the food transmutation. Thus, the researchers studied this subject entitled "Field and Applied Study to Evaluate the Economic and Technical Benefit of Assumption Project of Quail Breeding in Anbar Governorate" to shed light on the nature of investment in such projects to encourage the investors to invest in this aspect due to its economic importance to ensure food with suitable prices and to compensate the shortage in the product of the white meat and to get the eggs with suitable prices besides encouraging the investor and helping him choose freely the project that realizes enough economic returns according to certain bases and enough phenomena to be able to regain the basic costs and to continue the aimed profit from the process of the investment in addition to removing the ambiguity and vagueness that face the investor to make his decision stable to more realistic when taking the suitable and correct decision to get the best alternatives which cut down the costs to the minimal to ensure

The project consists of halls and a factory to produce fodder ton /per hour. The capacity of the project is (570000) birds a year and it is specialized in breeding and fattening the quail because the Iraqi market is a good

consumer of the white meat and it has no wish to consume the meat that is imported

The purpose of the study

The purpose of the study in to shed light on the nature of the investment in such projects in order to encourage the investors who own capitals, to invest in this field due to its economic importance and compensate the shortage in the product of table eggs and the white meat besides creating a case of confidence for the investor to point out his preference among the investing opportunities available to him according to bases and phenomena which ensure the continuity of the profit aimed at by the investing process in this respect.

The importance of the study

The importance of the study is resulted from the point that the projects of the quail breeding is characterized with economic importance in the states of the world which made him be the most important projects which are concerned with the poultry after the chickens since the quail is the most important type of birds from the economic aspect (Sharma et al. ,2000). This study is also important because of the rarity of the economic studies about these projects. Hence, this study has been chosen to urge the investors to invest in this field.

Aim of the study

The present study aims at clarifying the economic and technical benefit of assumed and applied project for breeding the quail at a productive capacity (576000) birds per year.

The feature and advantages that characterize the quail:

The quail is the smallest farm animals (Panda and Singh, 1990). It is one of the birds that has great importance since its name was mentioned by Allah in the Holly Quran ((We gave them the shade of clouds , and sent down to them manna and quails, (saying): "Eat of the good things we have provided for you".)) (Al A'raf:160). It has several features that distinguish it from the rest of tamed birds (poultry) as the following:

1. The small size of the body and the low average of its fodder consumption.
2. The quail is considered of binary purpose and it comes in the third rank after the chickens and the duke at the level of the world and it has superiority over them in its economic return and resistance to the breeding environments. (Atiya,2006).
3. Meat of quail is characterized of being appetite and desired for its sweet flavor. It is sold at the age 45-50 days which means that its meat has few fibers (Mohammed,2004). This enables to produce from six to seven productive courses from the broilers of quail in the year (Naji and Ghalib,2007).
4. It is characterized as early sexual maturity and it lays the first egg at seven weeks age.
5. High average of eggs product which arrives at 300 eggs a year. This egg contains all food elements which the egg of a chicken contains.
6. High ratio of the dressing percentage which arrives between 65-70%.

Depending on what was mentioned above, it is possible to sum up the features that the quail has as follows:

First: The features of quail meat: Quail meat is considered the best type of meat of the birds due to the following characteristics:

1. The meat does not contain much fat. As a result, it has low ratio of cholesterol since the high ratio of it causes heart diseases.
2. Quail meat is characterized with being soft since the tissue of the muscles is regarded from the soft type since there are no fibers in the tissue of meat which makes it easy in chewing and in finding it pleasant.
3. Quail meat is characterized by the marble feature which makes it of good taste.

Secondly: The features of quail eggs:

1. Quail eggs are used in all types of food which depend in their make on the eggs because they give during eating the real taste of the domestic eggs.
2. They are considered the best type of birds eggs since the ratio of yolk to white is more than what is found in other types of birds: the chickens and the turkey.
3. The plentiful product of Quail eggs is considered a very important factor in its use in the hatching to get the small chickens without any need to importing or buying from other farms.

The shape and color of the crust of the quail eggs vary to a great deal since the grey tinctures belong to the deposition of porphyry in tincture on the surface of the crust according to a fixed design. This should be according to the shape, color and size of the egg as shown in the figure (1) below (Al-Mihimdi,2010).

The Technical study

Nature of the building and components of the breeding field:

The building is formed from a base of the reinforced concrete which is resistant to the salt. The building is by bricks with height 3.5m. The reinforced concrete which is resistant to the salt is also used in the floor of the building. The ceiling is formed from the tin plate which is polygonal and insulant of double layer. The boxes are made from the square iron of two knots and covered with the intertwisted wires, the measure of opening is 1 cm.

First: The buildings which include:

1. The breeding halls:They are six long halls, the area of the building needed for each is 95m x 10m which is specified for the breeding of the tamed birds. It is formed of two wings besides a room for the control. This room is specified for sitting of the workers of the hall and it includes the equipment of the electric control to direct (dominate) the light and electricity besides the operation of air-vacuums and the electric mangers for the hall. The estimated cost for the halls is about 924 million Iraqi Dinars.
2. Storehouses to store and industrialize fodder and the other requirements. The area of the building is 200m² and the estimated cost for the halls is about 924 million Iraqi Dinars.

3. The administration and services unit which consists of a building of three rooms (for the administration, the workers and the guards) with a small kitchen and baths with a total area of 80 m². The cost of building the unit of administration and services is estimated 16 million Iraqi Dinars.
4. The outer fence:There is an outer fence for the outer fence of 1500m length; 2m height of concrete poles and the intertwisted wire of 2 knots measure. The cost of building the fence is about 15 millions Iraqi Dinars.
5. The total cost for the buildings: The estimated total cost for the buildings is about 965 million Iraqi Dinars.

FIGURE1: Quail birds and sample of the eggs

Secondly: Apparatus and Equipments:

1. Consumption of the project from the electricity, fuel, water and the expenditure of the maintenance is 35 million Iraqi Dinars.
2. The raw materials, the subsidiary and the materials of packing and covering are estimated 15 million Iraqi Dinars.
3. Cars (pick up car no/1; kia lorry no/2, one of them is cooled.). The estimated cost is 56 million Iraqi Dinars.
4. Tractor no/1. The estimated cost is 12 million Iraqi Dinars .
5. The estimated value for the machines, the apparatus and the equipments and the other additions is about 85 million Iraqi Dinars.

Thirdly: The employees required to operate the project. Table no.(1) below clarifies this:

TABLE 1: Number of the employees required and their monthly and yearly salary

	The skills required	NO.	The monthly salary	The yearly salary	Total of the yearly salary
1	Veterinarian	1	600000 ID	7.2	7.2
2	Operator of Geerators	1	300000 ID	3.6	3.6
3	Worker for Services	12	250000 ID For each one	3	36
4	Technical Supervisor	1	400000 ID	4.8	4.8
5	Driver	2	350000 ID	4.2	4.8
6	Guard	2	250000 ID For each one	3	6
	Total				66

Fourth : The investing costs

1-The fixed investing costs which are summarized in table (2) below:

TABLE 2: The fixed investing costs of the project.

NO.	The details	The amount (million dinar)
1	The buildings and constructions	965
2	The machines and equipments	85
3	Means of transportations	56
4	Furniture and apparatus of bureau	4
	The total amount of the fixed investing costs	1110

2-The extinction that concerns the items of the fixed investing costs: It is possible to present the ratio of the extinction in the items of the fixed investing costs in the table (3) below:-

TABLE 3: The percentage and values of the extinction in the items of the fixed investing costs.

NO.	The details	Percentage%	The total amount (million dinar)
1	The buildings and constructions	5	48.25
2	The machines and equipments	10	8.5
3	Means of transportations	10	8.4
4	Furniture and apparatus of bureau	20	0.8
	The total amount		65.95

3- The changeable operative costs:
-Industrial and administrative expenditures including the fuel and maintenance =35 million dinar yearly.
-Salaries and wages =66 million dinar yearly.
-Value of the extinction =65.95 million dinar yearly.
-Other expenditures and advertisings=6 million dinar.
-Value of buying the young birds= 30 million dinars.
-Wages of hatching (incubation) =28.8 million dinars.
-Buying the fodder =343.09 million dinars.
-The raw and subsidiary materials and the materials of packing and covering =15 million dinar.
-The total amount=589.84 million dinars.
-The total investing costs= the fixed costs + the changeable operative costs=1110+589.84=1699.84 million dinars.

The economic evaluation of the project
1-Funds are calculated on the base that the capacity of the halls of the young birds of quail for meat which are 24000 birds in each group of the sixth groups. The wage of hatching of the single bird is 50 dinars taking into account that the eggs for hatching are from the project; the quantity of fodder consumed by one bird during the period of breeding is 0.55 kg; the price of one carcass of the young birds of quails is about 1000 dinars and the carcass of their mothers after the end of the breeding period is 0.75 thousand dinars. As a result, the wages of hatching of the young birds of the quail are 24000 birds x 50 dinars and x 4 halls x 6 groups= 28.8 million dinars and the quantity of fodder consumed by the young birds of the quail for meat till the moment of the sale = quantity of the fodder for one bird x the total number x number of halls x number of groups a year = 24000 x 0.55 x 4 x 6=316.8 tons of the fodder .

-Consumption of the fodder by flock of the mothers = 15000 x 9 kg/year = 135 tons of the fodder.
- Consumption of the fodder by flock of egg-laying quails= 20000 x8.64 kg/year = 172 tons of fodder.
Since the estimation price for one ton of the fodder is 550 dinars, this means that:
Amount (value) of the fodder = Quantity of the fodder x price x one tone = 623.8 x 550 =343.09 million dinars.
Amount (value)of hatching of the young birds of quail and buying the fodder = 28.8+ 343.09= 371.89 million dinars/ a year.
2-Returns of the meat that are expected to get:
A. young birds of quails for meat = The total number- Ratio of the dead young birds is (1%)
576000-5760=570240 birds the remained of the flock x 1000 diners /a bird =570.24 million dinars /yearly.
B. The mothers and the egg - laying after the end of the period of the annual product= The total number – The ratio of the dead birds (5%)= 35000-1750 = 33250 x 750 dinars=24.93 million dinars yearly.
Earnings of the meat that we expect to get= 570.24 +24.93=595.17 million dinars. -

3-Sales or funds of selling the eggs:
A . The hatching eggs produced by the mothers flock = 12500(means of the number of the females) x 280 eggs/ a year =3.5 million eggs .
The eggs specified for sale =number of the total eggs- the hatching eggs =3.5 million eggs -850 thousand eggs for the hatching = 2.65 million eggs .
Funds of the hatching eggs = 2.65 million eggs x 50 dinars = 132.5 million dinars.
B. Table eggs = 19500 (average of the number of eggs) x 280 eggs/a year = 5.46 million eggs.
Funds of the hatching eggs =5.46 million eggs x 40 dinars = 218.4 million dinars.
The total return of the eggs sale = 132.5 + 218.4= 350.9 million dinars.
4-Sales of the feces and the wastes:
The quantity of the feces for one group is estimated 25 m^3 and about 50 m^3 from each group of mothers or eggs – laying /a year. It is sold with an amount of money which is 50000 dinars for each m^3. The total quantity = (25x 4 x 6)+50 x 2 = 700 m^3/a year.
*The total return of selling the feces =700 m^3x 50000 dinars= 35 million dinars.
The total funds = funds of meat + fund of eggs + fund of feces =981.07 million dinars.
-Net of the annual funds = total of the annual funds –the changeable operative costs= 981.07-589.84=391.23 million dinars.
Amount of the product at the point of evenness= the costs of the fixed product/ amount of the product- costs of the changeable product x 100 (10) = 1110 /981.07-589.84 x 100= 2.83% from the planned capacity
The net additional amount = 391.23 +66 +65.95= 523.18 million dinars.
The net additional amount (11) = 457.23 million dinars.
Average of the simple return (12) = 391.23/1699.84 x 100= 23.02
Return of the investment (13) = 391.23 / 6699.84= 23% return of the investing dinar.

Period of regaining the capital =1699.84/391.23+65.95= 3.71 years, that is, it is possible to regain the capital during this period.

CONCLUSIONS

On the basis of what has been mentioned above, this project realizes high positive net present amount during the years of running the project equals 457.23 million dinars.

On this basis and even if we suppose the increase of the prices of the main requirements of the product which represent 34.69 % from the total costs of the project with average 15 % and the assumption of the fixing of the final prices of the product sales, this suggested project is still profitable and realizes an average of accepted return. According to what has been mentioned, this suggested project has an accepted degree of profit which makes the decision of the investment to achieve it amust with out any hesitation. At the same time, taking a decision to finance it does not have any real risks in the light of the realized profits because the realized profits which can be distributed can settle the payments of the amount of the loan if it was 80% from the investing capital during a period nearly less than twenty-seven months, but the present study supposed that the paying back during six years if the investor specified 37% from his profits to pay back the loan with the existence of a period of permission to him for a year to increase the running efficiency of the project and to avoid causing any financial obstacles that effect the investor.

RECOMMENDATIONS

1. In the light of what has been stated, the project of breeding the quail is economically useful according to the technical and economic phenomena, according to them, and the economic study was carried out. This is true after 27 months from the date of running the project and when a successful and efficient administration is available and when a modern technique is adopted in the product.
2. There should be no hesitation in taking decision concerning the investment of this project.
3. This study recommends the necessity to finance such projects because taking decision to finance them does not have any real risks in the light of the realized profits since these profits which can be distributed can settle the annual payments of the amount of the loan if it is 80% from the investing capital in nearly less than twenty- seven months.
4. The study recommends creating the suitable situation for the investment to encourage the investors such as ensuring the security and making the agricultural policy of the state clear besides providing the infrastructures needed by the government.

REFERENCES

AL-Duleimi,H. R. (2010) An Applied Study of Quality Assurance.

AL-Duleimi,H. R. (2010) A Hypothetical & Applied of Economic Quality Evaluation of Bull Breeding & Fatting, in Anbar Province: Journal of Vertinary,vol.3 No.2,2010.

AL-Duleimi,H. R. (2011) A Hypothetical & Applied Study to Construct Honey Dates Producing Factory in Heet District/Jazzerat Miskhin. Anbar University Journal for Economic & Administrative Sciences,Vol.3,No.5 p-p.158-166Sezer Metin (2007) Genetic Parameter Estimated For Sexual Maturity and Weekly Live Weights of Japanese quail (Coturnix coturnix Japonica). *Asian-Aust.Anim.Sci*.1:19-24.

AL-Mamori, Riadh Jamal Kadhem (2009) Analytical Study of the Economic and Financial Aspects of Modern Glass Slides in Anbar Province. A thesis-College of Economics & dministration/University of Anbar.

Al- Mihimdi, A. A. (2010) Genetic and phenotypic estimation of certain external egg quality in quil. Anber, J. of Agric. Sci. (special issue) 8 (4):37-44.

Al –Soudi, K.A. (1970) Selection for Growth Coturnix coturnix Japonica on allow Protein Ratio .Ph.D. Thesis, Oregon State University.

Attia (2006) A Comparison between Two Species of Japanese Quail(White and Gray)in Terms of immunity and Production Indicators as Well as Quality and Chemical Properties of Eggs. A thesis- University of Baghdad –College of Agriculture.

F. A. O. (2000) Statistics on Meat Production.

Mohammed, M. Saeed (2003) Quail Production in Small & Big Scale Projects and Embellishment Qail. Anglo-Egyptian Library.

Naji, S. A. and Ghalib. A. AL- Qaissi (2007) Commercial Production Index of Quail Birds. Iraqi union of Poultry Producers.

Panda, B. and Singh, R.P. (1990) Development in Processing Quail Worlds Poultry .Sci.J.46:219-234.

Qura'an (Alaaraf:160).

Sharma, D., K.B. Appa, and Toty, S. M. (2000) Measurement of Within and Between Population Genetic Variability in Quail .Br. Poultry.Sci.41:29-32.