



***FINANCIAL APPRAISAL OF BROILERS FARM IN JOHOR  
MALAYSIA***

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A project report submitted to Faculty of Agriculture, Universiti Putra Malaysia, in fulfilment of the requirement of Final Year Project (PPT4999) for the award of the degree of

BACHELOR OF SCIENCE (AGRIBUSINESS)

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## ABSTRAK

Kajian ini adalah untuk membuat penilaian kewangan ladang-ladang penternakan ayam pedaging di Johor. Kajian ini dibuat bagi mengkaji kedudukan kewangan ladang penternakan ayam pedaging yang bertempat di beberapa daerah di Johor seperti Muar, Kluang, Pontian dan lain-lain dengan menggunakan teknik seperti belanjawan modal dan analisis kos pengeluaran. Kaedah belanjawan modal melibatkan pengiraan nilai semasa bersih, kadar pulangan dalaman, indeks keuntungan dan tempoh bayaran balik manakala kos tetap, kos berubah, pulangan bersih serta nisbah input dan output dikenalpasti melalui analisis kos pengeluaran. Maklumat pengeluaran dan perbelanjaan bagi ladang-ladang ayam pedaging di Johor telah dikumpul daripada 94 buah ladang secara rawak di beberapa daerah seperti yang dinyatakan di atas.

Data-data yang digunakan untuk penyelidikan ini diperolehi daripada Institut Kajian Dasar Pertanian dan Makanan. Data-data termasuklah maklumat asas petani, modal awal perniagaan, jumlah anak ayam yang diperlukan setiap pusingan, maklumat pemakanan ayam pedaging dan lain-lain. Data-data ini untuk mengenalpasti pencapaian industri ayam pedaging dari segi kewangan. Analisis kepekaan digunakan untuk menilai kesan peningkatan harga makanan ayam pedaging, peningkatan kos pembinaan sistem reban ayam dan penurunan harga jualan di peringkat ladang. Dapatan kajian mendapati kos makanan adalah kos paling tinggi bagi pengeluaran ayam pedaging. Beberapa perkara lain turut dianalisa menggunakan analisis kepekaan untuk mengenalpasti kesannya kepada sistem kewangan ladang.

## ABSTRACT

This study is related to the financial evaluation of broiler farming farms in the State of Johor. This study examines the financial position of broiler farming farms located in several districts in Johor such as Muar, Kluang and Pontian by using capital budgeting techniques and production cost analysis. The capital budgeting method includes the calculation of net present value (NPV), internal rate of return (IRR), profitability index and payback period while cost analysis is used to identify fixed costs, variable costs, net returns and input and output ratio. The production and expenditure information for broiler farms in Johor were collected from 94 farms in several districts by using simple random sampling.

The data used for this research were obtained from the Institute of Policy Studies on Agriculture and Food, UPM. Data include basic farmers information, initial business capital, the number of day old chicken (DOC) per round, broiler feed information and some others. These data are analysed to identify the financial performance of the broiler industry in Johor. Sensitivity analysis is used to evaluate the effect of increasing cost of broilers feed, the increase in the cost of building the coop system and a reduction of selling price at farm level. The findings show that feed cost is the highest cost for broiler production. Another things such as increasing cost to build the coop and decreasing of selling price also analysed using sensitivity analysis to identify the impact of changes on the broilers farm financial system.

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## REPORT DECLARATION FORM

This project entitled **Financial Appraisal of Broiler Farms in Johor** prepared by Sofiah binti Bakar (178669) and submitted to the Faculty of Agriculture in fulfilment of the requirement of Final Year Project Paper (PPT4999) for the award of the degree of Bachelor Science (Agribusiness) is based on my original works.

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## TABLE OF CONTENT

No.	Content	Page
1.	Abstract	i, ii
2.	Acknowledgements	iii
3.	Report's Declaration Form	iv
4.	List of the Table	vi
5.	List of the Figure	vii
6.	Chapter 1: Introduction <ul style="list-style-type: none"> <li>- Poultry industry in Malaysia</li> <li>- Problem statement</li> <li>- Research objective</li> <li>- Significant of study</li> </ul>	1 – 12
7.	Chapter 2: Literature Review <ul style="list-style-type: none"> <li>- Capital budgeting technique                             <ul style="list-style-type: none"> <li>o Net present value</li> <li>o Internal rate of return</li> <li>o Profitability index</li> <li>o Payback period</li> </ul> </li> <li>- Costing analysis</li> </ul>	13 – 21
8.	Chapter 3: Methodology <ul style="list-style-type: none"> <li>- Study area and source of data</li> <li>- Sampling technique</li> <li>- Analytical technique</li> <li>- Conceptual framework</li> </ul>	22 – 27
9.	Chapter 4: Results <ul style="list-style-type: none"> <li>- Descriptive analysis</li> <li>- Cost and benefit analysis</li> <li>- Financial analysis</li> <li>- Sensitivity analysis</li> </ul>	28 – 39
10.	Chapter 5: Conclusion and Recommendations	40 – 41
11.	References	42 – 46
12.	Appendices	47 – 50

## LIST OF THE TABLE

No.	Content	Page
1.	Table 1.1: Production and Consumption Indicators of Broilers Meat in Malaysia (2007 – 2014)	2
2.	Table 1.2: Poultry Population by States (2015 – 2016)	4
3.	Table 4.11: Production Description	32
4.	Table 4.12: Initial Investment	33
5.	Table 4.13: Fixed Cost	34
6.	Table 4.14: Variable Cost	35
7.	Table 4.15: Net Return	36
8.	Table 4.16: Input and Output Ratio	36
9.	Table 4.31: Net Present Value, Internal Rate of Return, Profitability Index, Payback Period	37
10.	Table 4.41: Sensitivity Analysis (Increasing of Feed Cost)	38
11.	Table 4.42: Sensitivity Analysis (Selling Price Decreased)	39
12.	Table 4.43: Sensitivity Analysis (Increasing of Coop Cost)	39



## LIST OF THE FIGURE

No.	Content	Page
1.	Figure 1.1: Weekly Output of Broilers in Peninsular Malaysia (2004 – 2017)	6
2.	Figure 1.2: Malaysia Broilers Meat Production by Year (1996 – 2018)	6
3.	Figure 1.3: Malaysia Broilers Meat Production Annual Growth Rate (1996 – 2017)	6
4.	Figure 1.4: Standing Population of Parent Stock (Broilers) in Peninsular Malaysia (2007 – 2017)	9
5.	Figure 4.1: Age of respondents	29
6.	Figure 4.2: Respondents Education Background	29
7.	Figure 4.3: Distribution System	29
8.	Figure 4.4: Business Status	29
9.	Figure 4.5: Farm Size	30
10.	Figure 4.6: Land Status	30
11.	Figure 4.7: Chicken Expenses per Cycle	32
12.	Figure 4.8: Fixed Cost of Production	34
13.	Figure 4.9: Variable Cost of Production	35

# CHAPTER 1

## INTRODUCTION

### 1.1 Poultry industry in Malaysia (Broilers Production)

In Malaysia, poultry sector is the one that contribute a lot of profit in livestock industry other than swine production sector. This sector was developed to be a progressive industry with high profit of return from annual production of poultry meat and eggs valued to RM1.78 billion to RM6.03 billion respectively (Jamaluddin, 2013). The poultry sector has more proportion in total livestock industry because it contributes and provides the protein required by population. Poultry meat has superior position and consumed by many people compared to beef, mutton and pork which are intolerable in some religion. According to Index Mundi Statistics 2017, Malaysia broiler meat production in 2015 is 1614 metric tonnes with 2.61% growth rate from 2014 and 1625 metric tonnes in 2016 with 0.68% growth rate from previous year.

Poultry sector in Malaysia already achieved it self-sufficiency level. According to Department of Veterinary Service (DVS), in 2007 until 2012 the self-sufficiency level for poultry is higher than 130 percent. (Elsedig, 2015) Along with aggressive development of poultry industry, the number of Malaysia population is increasing year by year. Other than demands from local people, poultry industry needs to serve migrant workers from foreign countries because of rise in labour intensive industries. Overall, Elsedig et al. (2015) also said that poultry meat in Malaysia predominantly broiler become the main source of animal protein where the consumption per person in 2011 has extended to 40 kg.

According to Department of Statistics Malaysia, per capita consumption for poultry meat in 2015 is 46.6 kg which indicate the increasing trend of broilers meat consumption.

Table 1.1: Production and Consumption Indicators of Malaysia's Broiler Industry,  
(2007-2014)

Years	Self-sufficiency (%)	Output of Poultry Meat products ('000 Metric Ton)	Consumption of Poultry Meat products ('000 Metric Ton)	Per Capita Consumption of Poultry Meat Products (kg)
2007	104.90	1,100.00	1,048.59	38.59
2008	104.00	1,162.57	1,117.90	40.32
2009	122.20	1,202.00	1,146.90	41.11
2010	127.90	1,295.60	1,227.45	43.32
2011	129.90	1,289.90	1,222.04	42.05
2012	130.70	1,374.37	1,301.48	44.40
2013	135.60	1,458.09	1,390.66	46.49
2014	136.40	1,584.06	1,519.18	50.20

Agro-food Statistic released in 2012 by Ministry of Agriculture and Agro-based Industry stated that 96% of total poultry population in Malaysia consists of broilers while ducks composed only about 3% of production. Malaysian people eat 1.8 million chickens and 2.8 million chicken eggs every day which make Malaysia as one of the countries in world's top for poultry meat per capita consumption. Per capita consumption for poultry meat in 2015 is 50.7 kg. Poultry sector in Malaysia is well managed and achieved self-sufficiency level compared to another sector in livestock industry but problem such as high cost of feed and disease prevention are still exist. This sector do not have severe issues especially linked with animal welfare and sustainable of production. However, there are a few environmental pollution concerns with the poultry production in Malaysia such as air and water pollution.

In broiler industry, each state in Malaysia has different performances which indicated with the number of broilers population produced. Johor becomes the lead in broiler production because of its exposition to Singapore market which is the Malaysia's largest live chicken export target. Johor is the state with highest number of broilers population which contribute to 22.7 % from total broilers population in Malaysia in 2016. Broiler farms in Malaysia according to state as reported by Department of Veterinary Service in 2012, Johor is the state with highest number of farm which consists of 709 farms followed by Perak, 631 farms. Johor is the most potential state to increase broilers productivity based on achievement in terms of number of population and farms. As a part of non-ruminant sector in Malaysia, the broiler industry has shown massive development because of giant firm involvement as a major market share which lead to effective and systematic management.

Table 1.12: Poultry Population by States

States	2015	2016
Johor	66,505,759	69,460,978
Kedah	53,862,440	60,041,255
Perak	36,031,200	38,740,037
Sarawak	32,367,038	32,992,104
Melaka	20,687,676	22,447,234
Selangor	19,936,840	20,400,381
Negeri Sembilan	18,819,054	19,894,661
Pulau Pinang	12,475,540	13,018,266
Pahang	11,482,436	13,121,732
Terengganu	5,709,691	5,870,455
Sabah	5,691,950	5,816,200
Kelantan	1,811,088	5,870,455
Perlis	1,240,122	1,408,985
Peninsular Malaysia	248,561,846	266,249,902
Total	286,620,834	305,058,206

## 1.2 Cost of Production

The cost of production in Malaysia's livestock industry such as for poultry and pig sector are mainly consist of feed cost because the feed ingredients are imported from other countries (Loh, 2002).

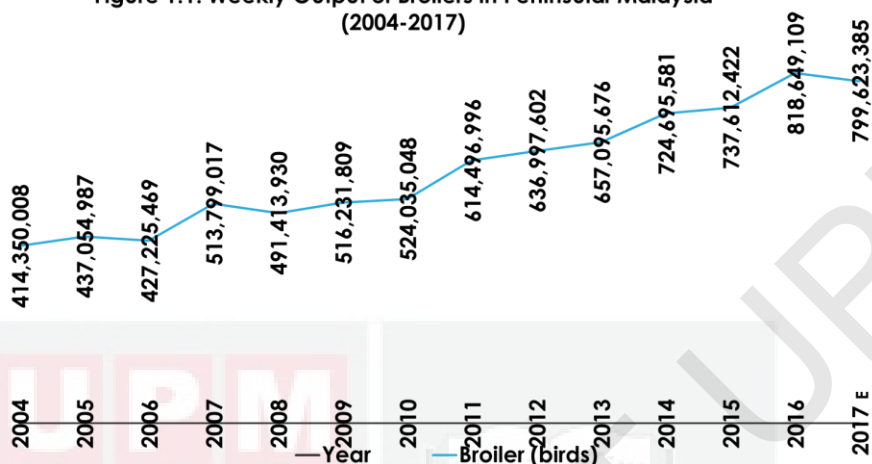
The feed ingredients for broilers is varied from vegetable and animal proteins that contained amino acids which are the main nutrients required in broilers dietary intake. Amino acids not only enclosed in protein-based feeds for example soybean meal, corn gluten meal but also derived from minerals and vitamin. However, protein products are most important for broilers nutrition because it helps in building and repairing muscles and other body tissues that encourage the broilers growth rate.

Abdollahi (2013) said that soybean protein is more favourable for cereal-grounded intakes because of the amino acid contents are balanced and well-adjusted. Malaysia is not producing soybean and corn which are the main components of feed ingredient for broilers production. The percentages of corn and soy bean as the main ingredients in feeding scheme for broilers are 55 and 52 percentages respectively, which both of these imported raw materials price is unstable depends on world market and make the local market price for broilers is higher (Elsedig, 2015)

Dependency on imported feed stuffs is unconvincing for broilers industry especially during fluctuation of currency exchange or during economic crisis. According to Food and Agriculture (FAO) sources, Asian economic crisis between mid-1997 and 1998 give negative impact towards livestock production because of real exchange rate depreciation. The cost of production highly increased compared to profit return. The local producers incapable of controlling feed price in international level. The main cost in feed processing is the cost of raw materials which contribute to high feed cost for broilers consumption, signify 60 to 70 percentages from overall broiler cost of production (Abdollahi, 2013).

Source: Department of Veterinary Services, Malaysia

Figure 1.1: Weekly Output of Broilers in Peninsular Malaysia (2004-2017)



Source: United States Department of Agriculture

Figure 1.2: Malaysia Broilers Meat (Poultry) Production By Year

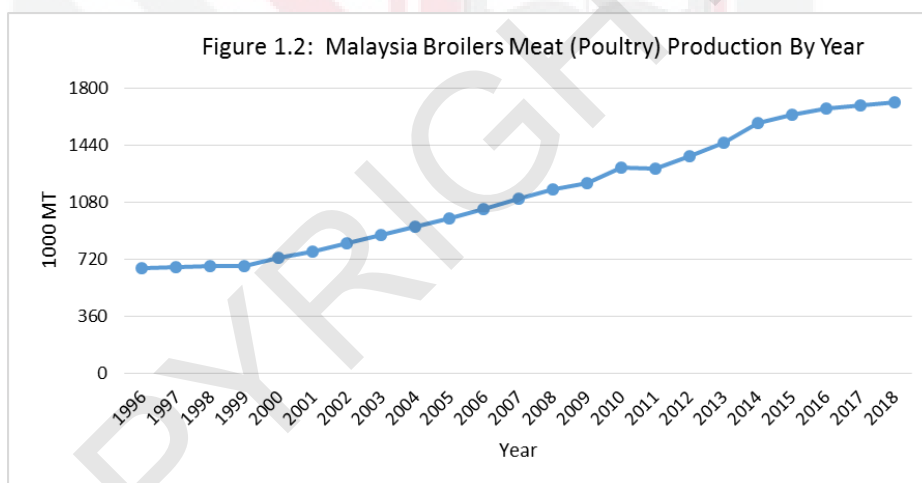
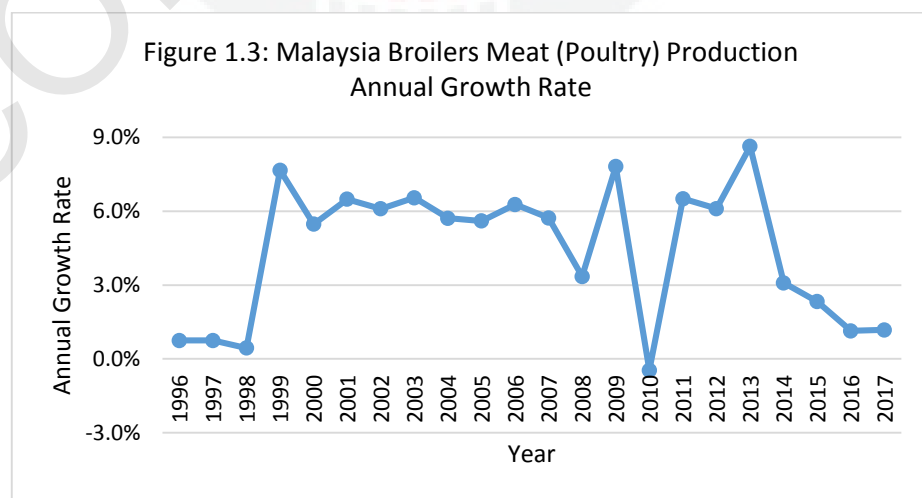


Figure 1.3: Malaysia Broilers Meat (Poultry) Production Annual Growth Rate



The graphs above are presenting the performance of Malaysia broilers industry which shown the increasing trend of broilers production on weekly basis and for a whole year of production. The first graph is about the weekly output of broilers production in Peninsular Malaysia only based on number of birds for 2004 until 2017. The second graph is shown Malaysia broilers meat production for the whole country based on the weight of chicken meat in metric tonnes from 1996 to 2018. Both graphs show the increasing trend that indicate the good performance of broilers in Malaysia in general term. The third graph presents the annual growth of broilers meat production in Malaysia from 1996 until 2017. From the graph, we can concluded that the annual growth of broilers is highly fluctuated and not stable from year to year. The annual growth rate for broilers production in Malaysia keep decreasing from 2013 until now which shown no sign to re-increased.

### **1.3 Environmental Issues**

Poultry industry in Malaysia required extra consideration and incentives from government, private sector, researchers and investors especially for technology development to increase productivity. Hasnul (2014) believed that imported technology for poultry in Malaysia such as pharmaceuticals for disease prevention, housing and production system, good-grade feed and breeds are slightly adapted to country locality. Players in broilers industry should focus on technology development in housing system and farm infrastructure which are suitable for domestic usage. Producers in broilers industry should follow the regulation made by Department of Veterinary Service (DVS) and Department of Environment (DoE) to protect the environment from agricultural-based pollution.

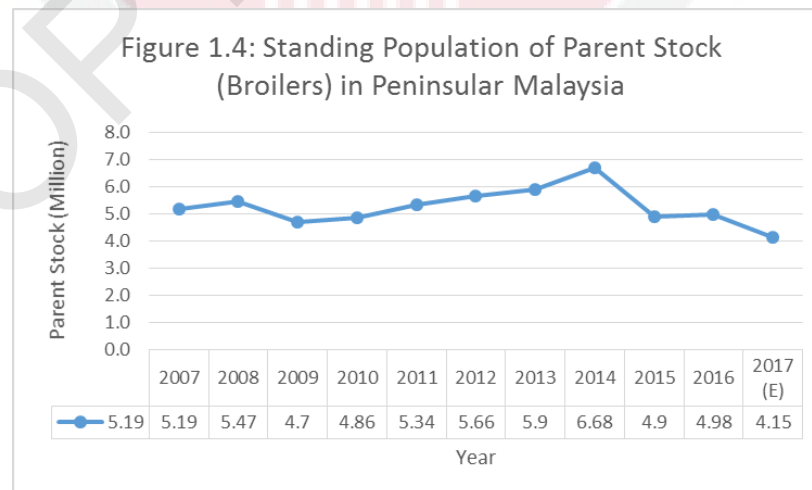


Sakawi (2015) stated that odour emission from poultry and pork farms were in average measurement, yet this phenomenon must be taken seriously because it is disturbing neighbourhood life in 50 metres to 1000 metres. Odour pollution issues increase during drought, rainy season and floods which negatively impacts the community and environment. Public convenience interrupted by poultry farms activities in many ways possible not only through smell emission but in the form of noise from operations, transportation system, dust and uncomfortable view (McGahan, 2003). Cohen (n.d.) believed that animal dung and agricultural waste are dangerous to the surroundings in term of air contamination, soil toxicity, dirty ground water as well as odour and pests. Free range areas for broilers production are more exposed to the soil contamination. Sakawi cited that a comparative study is made by Valli (2008) to compare between traditional and indoor livestock house system which then proved that indoor technique is efficient to reduce odour release by 25% to 60%.

There are some issues that need solution for instance such as the resources is not fully utilised and some problems in production accessibility and sustainability especially in some state with low number of production. Other than that, the farm location must be located away from public area despite some issues like air and water pollution. Loh (2012) states that numerous farms have to stop operating because people cannot accept livestock farming activities to be run in their area. Johor recently face issues related with ammonia pollution because of illegal fertilizers processing. Surface water and ground water are polluted by chicken dung malpractices and poor management. Surface water pollution occurs when large amount of chicken manure transported into the lakes and rivers which cause eutrophication.

## 1.4 Production System

Medicine, vaccination, pest and pollution technology control is important to reduce mortality rate of broilers in maintaining the production of chicken meat for domestic consumption and export purposes. The use of proper housing system such as closed house system is important to improve productivity of broilers by reducing the risk for disease attack. Liew et al. (2003) as cited in Bejo (2010) said that several surrounding factors for example temperature, humidity and climate is essential to control disease. Production of poultry comprises of three level of farming system starting from breeding farms, hatcheries until grower farms. Breeding farm is the farm that responsible to produce grandparent and parent stock for poultries. Vavra (2014) states that the number of breeding farms in 2012 is 108 farms with 37 parent stock farms located in Johor. The graph below shown the standing population of broilers parent stock in Peninsular Malaysia from 2007 until 2016 and estimation for 2017. The highest parent stock population is 2014, then number of parent stock is declining.



Source: Department of Veterinary Service, Malaysia

In Malaysia, farms for grandparent and stock poultry is managed by four major companies which are Ayamas Breeder Farm Sdn Bhd, CAB Cakaran Corporation Breeding Farm Sdn Bhd, Charoen Pokphand Farm Sdn Bhd and Leong Hup Poultry Farm Sdn Bhd (Mohamed, 2013). These four breeding farms provides grandparent stock for poultry rearing. Grandparent stock refers to imported breeder birds from overseas. This grandparent stock breeder laying eggs for producing parent stock. Parent birds are raised to produce eggs, before bred to produce fertile eggs for commercial broilers meat production (McGahan, 2003).

Vavra (2014) mentioned that contract scheme or outright ownership in business operation are used by integrators to replace independent and self-operated activities in broiler production. Contract farming is the system practised in order to maintain sustainability of broilers industry in Malaysia. This term is referred to forward contract between farmers and processors or contractor firms to produce or supply agricultural products at predetermined prices.

A few research have been done to confirm the effectiveness of contract farming in developing and expanding this sector. According to Majid (2014), 75 percent of broilers production in Malaysia is expected to take over by contract farming system but certain problems such as deposit, agreement of contract, influence towards farmers and several others must be under control. Several advantages of contract farming for farmers and contractors cited by Kaur (2015). For example, the contractors are capable of getting required amount of quality supply on time and the farmers is benefiting from technology transfer, low risk of operation and assured market.

## 1.5 Problem statement

According to some research findings before, the cost of feed in broiler production is very high from the total production cost. High cost of feed in broiler production offer less return of profit and it is affecting the profit return in industry for long run if there are no solution for this old issue. The number of production in Johor and other states differ in wide range because of some problems in broiler production and operation based on states such as the farm size, the location of the farm, the market availability, control of disease and farm management. Even if broilers production already achieve self-sufficiency level that does not mean there are no more problems or issues in this industry.

The contribution of feed cost that signify 60 % to 70 % from overall broiler cost of production is quite problematic especially because of ingredients in the feeding system are imported and their prices fluctuate according to world demand. If the cost of production is very high, then the net profit for broilers production is quite low because there are small gaps between cost of production and total income of the production. Broilers meat is second staple food after rice in Malaysia, which means the government need to control the price of chicken meat for local consumption so that producers cannot increase the selling price unreasonably because the cost of production is high.

Johor was selected due to its major contribution to the production of broiler industry in Malaysia to determine whether the dependency on expensive and unstable cost of feed affect the profit return in broiler industry. Other than that, the major problems in broiler production which high feed cost there are other issues that need attention from producers and government. For example odour pollution, waste management and disease prevention to ensure the sustainability of broilers production for a long period of time.

## **1.6 Research Objective**

- General Objective
  - The purpose of study is to investigate the socio-economics background and financial appraisal of broilers farm in Johor.
- Specific Objective
  - To describe cost and benefit analysis attribute of broilers farm in Johor.
  - To access the financial appraisal of broiler industries in Johor.

## **1.7 Significance of Study**

The study will provide general information about the existing farms socio-economic background, cost of production, total net income and input-output ratio and financial projection in Johor which is the information would be contributed to the farm management, government and society. From study findings, the current status of broilers productions is accessible and presenting which could be used to improve the performances and productivity of broilers farms in Johor. This study also obliging to identify the related issues and problems in broilers industry that need attention from government agency, research institute, business owners and public people. By accessing the broilers production costs such as general expenses, salaries, feed costs and day old chicken (DOC) costs, this study could provide broad idea about the broilers production system, financial status and farm management to people who interested to know about broilers industry.

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