

FEASIBILITY ANALYSIS OF BROILER FARM IN JEMBER REGENCY WITH PARTNERSHIP PATTERN

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FEASIBILITY ANALYSIS OF BROILER FARM IN JEMBER REGENCY WITH PARTNERSHIP PATTERN

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Abstract. This study aimed to examine the potential for sustainability of broiler farms in terms of investment feasibility. The identification of techno-economic feasibility used four investment criteria namely Net Present Value (NPV), Internal Rate of Return (IRR), Benefit-Cost Ratio (B / C), and Payback Period (PP). The population in this study were breeders in Jember Regency who used herbal ingredients as substitution for antibiotic growth promoter drugs in their business activities. The number of samples were 4 respondents selected based on purposive sampling technique. The results showed that there was negative (-) NPV value on 1 breeder that was equal to Rp 562,878, while the NPV values on 3 other breeders were positive with the value Rp11,429,098; Rp.3,410,492; and Rp6,931,781. The IRR values were 38%, 26.52%, and 28.41%, respectively, more than the expected profit of 25%. Each PI values were 1.38; 1.06 and 1.12. It indicated a number greater than 1, which means that investment in the broiler farm business was worth doing. The analysis also showed that the payback period was the fastest return in a period of 1 period 49 days or 109 days, and at the most 4 periods 13 days or 253 days. This showed the broiler farm business was considered feasible to be carried out due to the faster payback period than the economic life of the investment, which is 5 years.

Keyword: Investment Ability, Net Present Value, Internal Rate of Return, Profitability Index, Pay Back Period

I. INTRODUCTION

Indonesia is known as a country that has abundant natural resources, one of which is the potential of the agricultural sector. The agricultural sector is an integral part of national development aimed at improving the quality of Indonesia human resources [1]. Animal husbandry, one of the agricultural sub-sectors, has a strategic role in supporting the success of national development. Animal husbandry can contribute for food supply, labor resources, and sources of income in rural areas [2]. This strategic role needs to be optimized to guarantee the supply of highly nutritious animal origin food.

Jember is a regency city with an area of approximately 3,293.34 Km² and a population of 2,419,000 people with a per capita income of Rp. 15,000,000 / year. Jember is an area that has a large potential of livestock resources. In 2016, total production for all types of livestock meat was recorded at 22,962,018 kg, of which 16,450,000 kg or 71.6% were produced from

broilers [3]. The number is quite large in contributing on food supply of animal basis, especially broilers. Besides the increasing tendency towards meat consumption shows a significant increase, this can provide a very large market potential for the development of broiler farms in Jember Regency.

Public interest in the consumption of broilers continues to increase every year. Along with this increase in consumption, there has also been an increase in the business of broiler farming [4]. In 2016 the number of broiler populations in Jember was recorded at 2,053,941 [3]. However, the increase in livestock business is not accompanied by the stability of the profits obtained by farmers as a result of the low knowledge of breeders on good and productive business management and the lack of optimizing the use of materials and efficiency of maintenance costs.

In general, common problems faced by farmers are business management and environmental factors. Environmental disruption

caused by livestock waste makes farmers get a clash with social interests that can hinder the sustainability of livestock business. Another is government policies that prohibit the use of Antibiotic Grow Promoters (AGP) drugs [5]. Since the enactment of this prohibition, livestock productivity has tended to decrease due to low feed absorption. As the consequence, many farmers have suffered losses. To overcome this problem, broiler breeders use alternative herbal ingredients as a substitute for AGP drugs. In utilizing these herbal ingredients, a techno-economic study is needed to support the feasibility of the implementation in terms of its financial and economic aspects [4]. In addition, studies on the potential sustainability of the broiler business are also needed to anticipate the escalation of meat consumption needs in line with population growth and the economic status alteration of the community. This study aims to examine the potential for sustainability of broiler farms regarded from the feasibility aspects of broiler farms in Jember Regency.

II. LITERATURE REVIEW

The agricultural sector is an integral part of national development which aims to improve the quality of Indonesia's superior human resources, which includes the food crops sub-sector, the fisheries sub-sector, the livestock sub-sector and the plantation business sub-sector. The vision of Indonesian agricultural development 2013-2045 is "The realization of a sustainable agriculture-bioindustry system that produces a variety of healthy food and high value-added products from agricultural biological resources and tropical marine". One of the agricultural development policies of 2015-2019 is the policy of increasing food security [2].

From the macroeconomic performance, it shows that the Gross Domestic Product (GDP) of livestock for five years (2010-2015) based on constant prices has grown 4.67% per year. It is higher than the growth of the agricultural sector that only amounted to 4.26%. This shows that the livestock sub-sector is a new source of growth for the agricultural sector. The amount of employment in the livestock subsector in 2015 reached 3,856,839 workers. The ratio of labor absorption in the livestock sub-sector to the agricultural sector is 10.94% and the overall labor

absorption is 3.35% in 2015. Indicators of the success of farmers' welfare have fluctuated index values. In 2015, the exchange rate of livestock farmers reached 107.69, higher of a value of 100, which means that the price index received by farmers is greater than the price index paid by farmers [6].

Techno economics contains about how to make decisions limited by various problems in relation to an engineer so that it produces the best choice from various alternatives. Decision made is based on a process of technical analysis and economic calculation. In general, the application of techniques requires relatively large investments and long-term impacts. As consequence, it requires strategic decisions that require good and rational technical and economic considerations. Therefore, Techno Economics is often seen as a means of decision support [7].

[8]. Ringo has carried out the recent research on business feasibility. The results of the study stated that the broiler breeding business was feasible to be developed with a positive NPV, an IRR greater than the discount factor, B / C greater than 1, and relatively faster return on investment. The same concept was also stated by Maulana [9] which stated that the broiler breeding business had a business feasibility with 7-month payback period, a positive NPV, and an IRR greater than the discount factor.

Techno-economic study on the use of amtabis ration for broilers has been carried out by Efendi [10]. This study states an increase in the amtabis substitution percentage of 6% cause an effect in a decrease of the average value of production costs. It implies an increase in the average sales value with a benefit cost ratio B / C equal to one, so that the amtabis ration at the 6% level is feasible to be used in broiler business. While the use of an amtabis ration at the level of 4% was declared inappropriate because the B / C value generated was less than one.

An economic study conducted by [9] shows that price increases affect breeder's income, whereas increases in DOC prices, medicines, and labor wages do not affect the income of broiler breeders. In addition, this study also shows that the strategy of developing a broiler farm business is in a white area position (strong chance) with the development of a stability and caution strategy. [11] Maulana states that broiler farm

business in Tapin Utara sub-district has met the standard of business feasibility. Based on the analysis of the Revenue Cost Ratio (R / C), the average of farmer's income reaches Rp. 9,389,294 every period.

III. RESEARCH METHOD

This research was conducted in Jember Regency, precisely in Sumberjambe and Rambipuji sub-districts. The determination of the research location was chosen deliberately based on the consideration that the sub-districts are the center of animal husbandry that has the largest population in Jember Regency. Broiler population in Sumberjambe was 8.9%, and Rambipuji was 6.6% of the total broiler population in Jember Regency. In 2016, the total number of broiler populations in Jember was recorded at 2,053,941 [3]. This research used primary and secondary data. Primary data was obtained directly from broiler breeders through the distribution of questionnaires and interviews with a list of questions that have been prepared previously. Whereas secondary data was obtained from agencies relevant to this study, including the Office of Animal Husbandry Jember, BPS Jember, and partnership institutions in the district of Jember Regency.

The population in this study were broiler breeders in Jember Regency. Determination of the sample was chosen deliberately based on the largest population in each district, namely: Sumberjambe and Rambipuji sub-district. The sampling technique was done by purposive sampling technique. Purposive sampling is used to conduct interviews with selected respondents based on the results of initial identification of the study. Purposive sampling is a sampling technique that takes into consideration the considerations made by researchers based on convenience and in accordance with research criteria [12]. The criteria used by researchers in this sampling were as follows: (1) Respondents were breeders who have a minimum population of 5000 poultries; (2) Have a business experience at least 2 years; (3) Have a partnership system on their broiler farm business.

Data analysis used descriptive statistical analysis that is counting the number of population, capital costs, average costs, total

production, average income, and labor absorption. Furthermore, the data obtained was used as a basis for analyzing investment feasibility with Net Present Value (NPV) criteria, Internal Rate of Return (IRR), Benefit Cost Ratio (B / C), and Payback Period (PP), [11].

IV. RESULTS AND DISCUSSION

A. Identity of Respondents

Four respondents in this study work as broiler breeders in Jember Regency. Respondents' locations were in Sukowono and Panti sub-districts. The selection of respondents was based on the use of broiler farm partnership by using herbal ingredients. Breeders who use those herbal ingredients were set all to know the purpose of the study, namely assessing the economic feasibility of broiler farms using herbal ingredients. The identity of respondents in this study can be seen in the following table 1 below:

TABLE 1 IDENTITY OF RESPONDENTS

No	Name	Age	Business Location	Livestock Population	Experience
1	Tamam	45	Panti	5.000	9
2	Muhlis	39	Panti	5.000	8
3	Muis	41	Sukowono	10.000	5
4	Ismail	52	Sukowono	10.000	7

Based on Table 1 above, it can be seen that the age of the respondents lies between 39-52 years, this shows that the respondent has a good ability in developing his business. Maturity of thinking is very important to support good decision making in developing businesses. Besides that, the number of population owned ranges from 5000-10,000. This makes the impact of providing herbal ingredients for the effectiveness and efficiency of broiler maintenance was easier to be seen. In addition, all respondents had more than 5 years experience on their field. The experience of livestock referred to in this case is the length of the respondent in carrying out animal husbandry activities. The longer a person is engaged in animal husbandry activities, the more experience of animal farming is gained.

B. Livestock Business Management (Partnership System)

Business management conducted by the

respondents was engaged with a partnership system. The partnership system is a cooperation agreement between the core company and plasma (breeders) in broiler farming [13]. With the partnership system, breeders do not need to provide large capital during the maintenance period. Breeders only need to provide enclosure facilities and equipment, and also labor during the maintenance process. In one production period, the operational costs needed for livestock production facilities including feed, DOC, and medicines require funds of Rp. 150,000,000 for a population of 5000, while for a population of 10,000 requires cost Rp. 300,000,000. However, by using a partnership system, farmers only need to provide around Rp. 15,000,000 for 10,000 poultries and Rp. 7,500,000 for 5,000 poultries.

Partnership cooperation begins based on a cooperation agreement that regulates all scope of the partnership including the benefits obtained by each party and the business risks that must be accepted. Obligations of the core company for the plasma business are including the provision of livestock production facilities (DOC, feed, and medicines), cage equipment, technology guidance, marketing, and payment of the residual income of the plasma business, [14]. In starting a broiler breeding business with a partnership, breeders must agree to the conditions set by the company.

Breeders who became respondents in this study collaborated with different core companies, namely: Setia Mitra Sehati (SMS), Mitra Gemuk Bersama (MGB), Siung Mas, and others. Those core companies have different work contracts ranging from DOC, Feed prices, medicines and broiler contract of sales prices. As consequence, the benefits obtained by breeders who were respondents in this study differ on to another.

C. Business Financial Analysis

1. Operating Revenue

The acceptance in the partnership system of broiler business is when the final sale of broiler reduced by the operational costs that are endured together. Receipts from broiler sales are calculated with the assumption of 5% mortality, 2.1 kg / kg of broiler weight, and Rp. 18,000 / kg of broiler price. The amount of farmers' income over the past 2 years can be seen in the following figures 1 and 2 below:

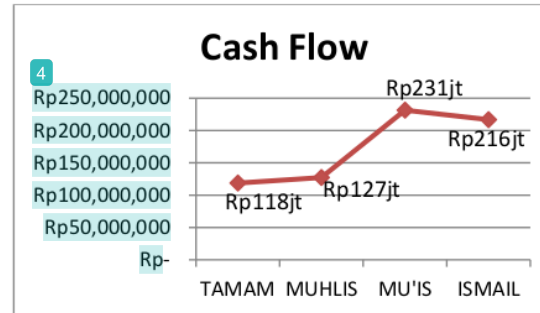


Fig. 1 Business Cash Flow

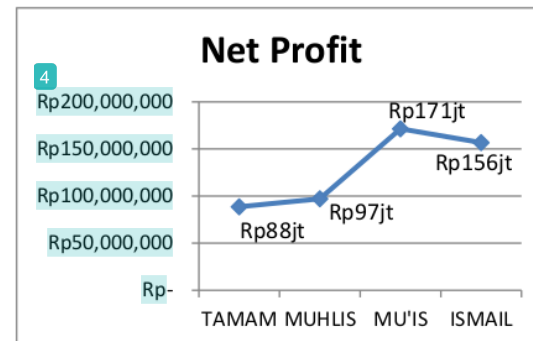


Fig. 2 Net Profit

The picture above shows that there is a difference in income between one breeder to another, both with a population of 5000 and 10,000. This shows that broiler farm cannot provide certainty for breeders' benefits, considering the success of broiler farm depends on the pattern of maintenance or business management itself. In addition, market prices also determine the level of profits of breeders. In a partnership system, if the market price is higher than the price of the contract of cooperation with the core company, breeders are titled to get bonus profit of 35% from the price gap. Other income opportunities can be obtained from the bonus feed conversion ratio (FCR). If the condition of FCR is good, breeders will get a bonus of Rp. 100 per kg. Another bonus is also obtained from the death rate obtained, if the death rate is less than 5% then the breeders gets a bonus of Rp. 25 per kg. This is what causes a gap of income amongs breeders.

2. Business Expenditures

Operational costs are costs that will be incurred during the process of raising broilers. In

the broiler farm business with a partnership system, there are two kinds of operational costs, namely:

a. Joint Operating Costs of Core Companies

These costs are operational costs that are jointly endured by the Core Company and Plasma (Breeders) which includes the costs of livestock production facilities (Sapronak). The cost component stated in this fee is fully determined by the Core Company as stipulated in the cooperation contract. The cost components can be seen in the following Table 2:

TABLE 2. OPERATIONAL COSTS (IN MILLION RUPIAH)

Name	DOC	FEED	OVK	TOTAL
Tamam	31.5	136.50	5	173.00
Muhlis	32.5	141.75	5	179.25
Muis	58.0	283.50	10	351.50
Ismail	63.0	273.00	10	346.00

It can be seen from table 2 above that the cost of feed is the largest operational costs for raising broilers. The amount of feed costs for each breeder has a difference number depending on the sum of populations and feeding management at the time of raising broilers. Quantitatively, the amount of feed costs ranges from 70% -75% of the total operational costs. This shows that good feed management can determine the potential benefits to be obtained by breeders. If the use of feed exceeds the specified standard, it is likely to produce a large feed conversion ratio (FCR) so that the profits of breeders will decrease, and vice versa. Besides, the quality of poultry feed also determines the potential benefits that will be obtained. A good feed will produce a comparison between the quantity of feed with the quantity of meat produced with a ratio of 50 Kg (Feed): 30 Kg (Meat). If the comparison level is obtained, breeders will get an average profit of Rp. 3,000.00 / head.

Another component in joint operational costs is DOC (day order chicken). This cost is the second largest cost after the cost of feed. DOC prices during the study period ranged from Rp.7,000.00 to Rp.8,000.00 per head. This price is a DOC price with a partnership system, whereas if the customers buy directly from a

DOC provider, the price ranges from Rp 4,500.00 to Rp.6,000.00 per head. The price gap is an advantage for the Core Company. This is a weakness of the partnership farm business because at the start of maintenance, the Core Company has already obtained profits while the breeders are still waiting until the maintenance period or harvest is finished. Thus, in the other hand, there are advantages to the partnership system, which is that breeders can maintain large amounts of broilers even though their capital is relatively small. Because the partnership system provides all the livestock production facilities needed at the time of maintenance, while breeders only need to provide cage and labor facilities needed during the production process.

In addition, another component in joint operational costs is the use of medicines. The size of the cost of medicines during maintenance depends on the health conditions of the broilers themselves. As the results of the study, it was found that high medicine use occurs when maintenance happen in the rainy season. In that season, broilers are very susceptible to diseases such as the e-coli virus, ND, and other chicken diseases so that they need intensive care including regular administration of drugs to keep the broilers in good condition, healthy, and free from disease.

b. Plasma Operational Costs (Breeder)

This charge is a cost that must be borne by breeders during the maintenance process. This cost component can be seen in the following Table 3:

TABLE 3. PLASMA OPERATIONAL COSTS (IN MILLION RUPIAH)

Name	Labor Costs	Maintenance Preparation Costs	Harvest Costs	Security Costs
Tamam	2.50	2.60	0.75	0.25
Muhlis	2.50	2.50	0.80	0.25
Muis	5.00	5.75	1.50	0.50
Ismail	5.00	6.00	1.75	0.50

In this plasma operational cost all farmers have almost the same standard cost, for the amount of labor costs usually calculated from the number of population owned by multiplied by Rp500 / head. The results are then divided by the

number of workers owned. For the cost of preparation for the maintenance of each farmer has a difference in the amount of the cost depending on the management of the business undertaken. These costs include the purchase of husks, the purchase of gas for heating the room, the purchase of newspapers and brown sugar. The harvest cost is calculated at Rp100 / head, so the size of this fee depends on the number of population owned. For security costs, it is necessary to anticipate resistance from the community. These security costs include laborers who stand guard at night and the cost of providing groceries to local residents as a form of social responsibility from the breeders.

D. Investment Feasibility Analysis

Identification of the cash flows that have been carried out is then continued by conducting a financial feasibility analysis or analysis of investment criteria. The analysis referred to here is carrying out a calculation regarding the feasibility of a broiler business / project developed when viewed in terms of investment criteria. This analysis is very necessary if the business that is being planned in the form of types of production activities, at least can be seen from the Net Present Value (NPV), Internal Rate of Return (IRR), Profitability Index, and Pay Back Period (PBP) [15]. Based on cash flow, financial feasibility can be analyzed. In this study using the expected level of profit is 25%. This criterion is carried out to see the extent of the feasibility of the business, if breeders expect a profit of 25%. The results of each investment feasibility analysis are as follows:

1. Net Present Value

Net present value (NPV) is the profit to be gained over the life of the investment. This method is calculated by reducing the value of receiving cash flow at the present time with the cost of cash flow at the present time for a certain time [16]. The NPV formula is as follows:

$$NPV = \sum_{t=0}^n \frac{A_t}{(1+k)^t}$$

Notes:

k = Discount rate used

At = Cash flow in period t

n = The last period which cash flow is expected

Eligibility criteria for investment receipts using the Net Present Value (NPV) method is a proposed investment declared feasible if the Net Present Value (NPV) is greater than zero or called positive. Conversely, if the Net Present Value (NPV) of an investment is less than zero or has a negative value, the investment is declared not feasible. The results of investment analysis with the NPV method can be seen in the following figure:

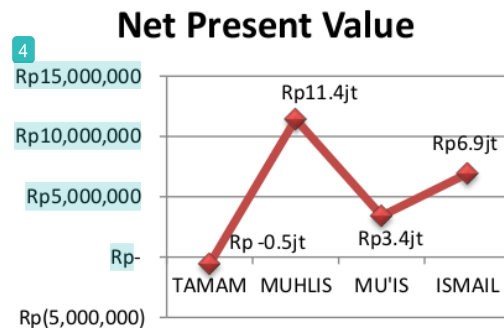


Fig. 3 Results of Net Present Value Calculation

Based on Figure 3 above, it can be seen that the NPV value of one respondent is negative, meaning that the investment is considered unfeasible, while in other respondents, the NPV is positive or more than zero, which means the investment is considered feasible. These results indicate that the level of investment feasibility of a broiler farm based on NPV assessment is 75%, while the other 25% has an unfeasible opportunity.

2. Internal Rate of Return

Internal Rate of Return (IRR) is a method of calculating investment by calculating the interest rate that equates the present value of an investment with the present value of future net cash receipts. Internal Rate of Return abbreviated as IRR is an indicator of the level of efficiency of an investment. Internal rate of return or IRR is the interest rate where the net present value of all cash flows (both positive and negative) from a project or investment is zero. The Internal Rate of Return (IRR) method is basically a method for calculating the interest rate that can equalize the present value of all cash inflows with cash outflows from an investment project [17]. The

IRR formula is as follows:

$$IRR = \sum_{t=0}^n \left[\frac{A_t}{(1+r)^t} \right] = 0$$

Notes:

r = Interest rate that will make PV and proceeds equal to p.v. of capital outlays

A_t = Cash flow in period t

n = The last period which cash flow is expected

Eligibility criteria for investment receipts using the Internal Rate of Return (IRR) method are the proposed investments declared feasible if the Internal Rate of Return (IRR) is greater than desired level of profit. Conversely, if the Internal Rate of Return (IRR) of an investment is smaller than the desired level of profit, then the investment is declared not feasible. The results of investment analysis using the IRR method can be seen in the following figure:

Internal Rate of Return

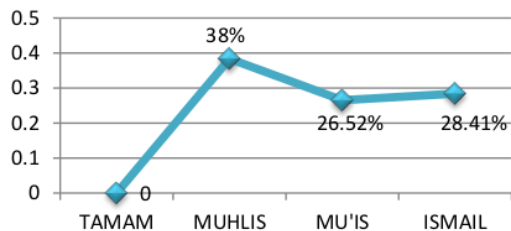


Fig. 4 IRR Calculation Results

Based on Figure 4 above, it can be seen that the IRR value for 3 breeders is respectively 38%, 26.52% and 28.41%. This value is greater than the expected return (expected return) which is 25%. This means that the majority of livestock business is considered feasible. The IRR value for one breeder is zero, this is due to the previous NPV calculation, which is a negative value so that the IRR value cannot be calculated.

3. Profitability Index

The Profitability Index (PI) or often called the Desirability Index (DI) is a method that calculates the ratio between the present value of net cash receipts in the future (proceeds) with the present value of investments (outlays) [18]. The formula used to calculate the Profitability Index (PI) is as follows.

$$\text{Profitability Index} = \frac{\text{Proceeds}}{\text{Outlays}}$$

The eligibility criteria for investment acceptance using the Profitability Index (PI) method is an investment that is proposed to be declared feasible if the Profitability Index (PI) is greater than one. Conversely, if the Profitability Index (PI) of an investment is smaller than one, the investment is declared unfeasible. The results of investment analysis by the PI method can be seen in the following figure:

Profitability Index

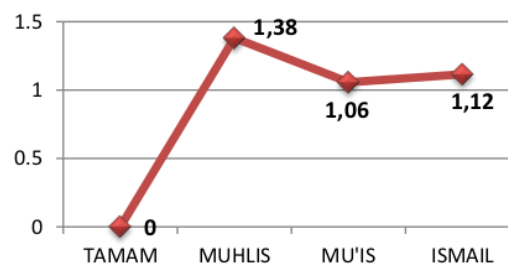


Fig. 5 Profitability Index Calculation Results

Based on Figure 5 above, it can be seen that the profitability index (PI) value of three breeders are 1.38; 1.06 and 1.12. This value indicates a number greater than 1, which means that investment in broiler business, is worth doing. This figure is the ratio number used for the present value of each rupiah used. The value of PI in one breeder is zero, this is due to the previous NPV calculation, which is a negative value so that the PI value cannot be calculated

4. Payback Period

Payback Period is a method used to calculate the length of time needed to return money that has been invested from the yearly cash flow (Proceeds) generated by the investment project. Eligibility criteria for investment acceptance using the Payback Period method is that an investment proposed is declared feasible if the Payback Period is shorter than the maximum payback period. Conversely, if the Payback Period (PP) of an investment is longer than the maximum payback period then the investment is declared not feasible [17]. The results of

investment analysis with the PBP method can be seen in the following figure:

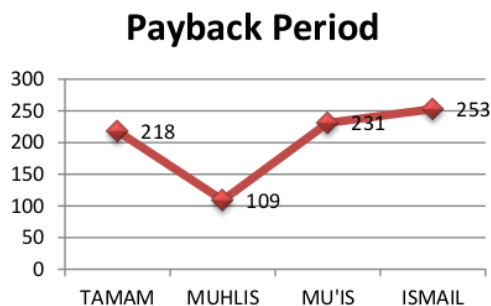


Fig. 6 Payback Period Calculation Results

Based on Figure 6 above, it shows that the payback period for each breeders has a different payback period. The fastest payback period was obtained in a period of 1 Period 49 Days or 109 days, and the longest payback period was 4 Period 13 days or 253. This means that the broiler business was considered feasible to be carried out because the payback period was faster than the the economic life of the investment, which is 5 years.

E. Discussion

Based on the results ² ¹³ the investment feasibility analysis with the Net Present Value, Internal Rate of Return, Profitability Index and Payback period assessment criteria, on three samples of broiler breeders in Jember Regency, there were feasible to be implemented because each investment criteria can be met. However, there was 1 breeder who has a negative NPV value which means that the investment was not feasible to be carried out. This shows that the broiler business does not guarantee a definite profit for each breeder, depending on the business management and business experience of the breeder himself. Besides that, broiler farm business with partnership system provides relatively limited profit opportunities for breeders, because the price contract of broiler and livestock production facilities are determined by the Core Company, while Plasma does not have strong bargaining position in the ² partnership system cooperation agreement. The results of this study support the research conducted by [9] which states that the broiler breeding business partnership pattern is considered feasible for

investment. These results also support the results of the study [13] and [19]

Management of Broiler farm business with a partnership system is a broiler farm with cooperation agreement between the Core Company and Plasma (Breeder), where the plasma party is only the executor in broiler farm, while the Core Company acts as a provider of capital in this case providing livestock production facilities that include the provision of livestock DOC, Feed and Medicines [20]. DOC prices during the study period ranged from Rp.7,000.00 to Rp.8,000.00 per head. This price is a DOC price with a partnership system, whereas if you buy directly from a DOC provider, the price ranges from Rp4,500.00 to Rp.6,000.00 per head. The price difference is an advantage for the Core Company, this is a weakness of the partnership system of farm business management, because at the start of maintenance, the Core Company has already obtained profits while the breeders are still waiting until the maintenance period or harvest time is completed.

In addition, the price of feed in the cooperation contract ranges from Rp.7,800 to Rp8,100 per Kg, while market prices generally range from Rp6,000 to Rp6,800 per Kg. The price gap is also the profit of the Core Company as a provider of livestock production facilities. This cooperation contract is certainly detrimental for breeders, considering that DOC and feed prices are not the same as market prices and the Core Company tends to take advantage of the supply of livestock production facilities. On the other hand, Plasma does not have any other alternatives in running its business due to limited capital, limited access to livestock production facilities, and limited business management. So in this case the need for the role of the government that functions to regulate policies related to a good partnership system so that broiler farm with a partnership system can benefit both parties.

The supporting role of the government for development of broiler farm business is also needed in creating stability on the price of chicken meat in the market. Fluctuation in broiler prices in the market is overpriced. During the period of research, the price of broilers at the breeders level reached the highest of Rp. 22,000 where this price occurred only at the time before Eid. While the lowest price at the breeders' level

ever reached Rp 9,000 and lasted for 1 month. The high gap in price fluctuations is undoubtedly causing instability towards breeders profit. Therefore, the government should play an active role in overseeing the livestock business from upstream to downstream to maintain the price stability of broilers and prevent cartels in the broiler business, considering that in Indonesia there are currently only 12 companies engaged in providing livestock production facilities. This certainly causes an imbalance between supply and demand for livestock production facilities so that the prices of livestock production facilities tend to be high and in this case, the most disadvantaged ones are broiler breeders.

Plasma Parties (Breeders) should always pay attention to the work contract that will be made with the Core Company. Considering that many work contracts give benefit to the Core Company, breeders are recommended to use alternative feeds and medicines to reduce the outcome of feed conversion ratio. For the government, they should play an active role in overseeing the livestock business from upstream to downstream to maintain the stability of broiler prices and prevent cartels in the broiler business.

This study was limited only to four investment eligibility criteria. There are still many investment eligibility criteria can be used for investment analysis, such as the Monte Carlo test, multi-dimensional scaling and others. In addition, this study only took four respondents with one Core Company as a research sample. In Jember Regency there are five Core Companies can be used as research samples.

V. CONCLUSIONS

Based on the results of research and investment feasibility analysis in animal husbandry business, it can be concluded that there was a negative (-) NPV value on 1 respondent that is equal to Rp 562,878, while the NPV values on the other 3 respondents were positive with the value of each Rp11,429,098; Rp3,410,492; and Rp6,931,781. This indicates the level of investment feasibility of broiler farm based on NPV assessment was 75%, while the other 25% has an unfeasible opportunity. The IRR values were respectively 38%, 26.52% and 28.41%, more than the expected return of 25%. It means the majority of broiler farm business are considered feasible.

Each PI value were 1.38; 1.06 and 1.12. This value indicates a number greater than 1, which means that investment in the broiler farm business, is worth doing. The fastest payback period was obtained within a period of 1 period 49 days or 109 days, and at the most 4 periods 13 days or 253 days. This showed the broiler farm business was considered feasible to be carried out due to the faster payback period than the economic life of the investment, which is 5 years.

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