Analysis of Financial Broiler Farming Open House System Partnership at Sinar Sarana Sentosa, Ltd. Malang Region

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Abstract : *Objective of research is to analysis financial with account the BEP, MOS, R/C Ratio, rentability, TATO, NPM and ROI. Study was conducted at December 2014 until January 2015. Research method is purposive sampling and data collecting with observation and interview with 59 farmers respondent that taken by total samplingand with Sinar Sarana Sentosa, Ltd. Data analysis tools were descriptive analysis and than account economic analysis. Result of research indicates that chicken capacity is divided into 3.500-6.000 chickens for strata I, 6.001-8.000 chickens for strata II, 8.501-11.000 chickens for strata III and 11.001-13.500 chickens for strata IV with its averages of both production costs are IDR. 850.530.571, IDR. 1.417.074.158, IDR. 1.723.602.683and IDR. 2.213.476.650. The averages of revenue are IDR. 943.116.780, IDR. 1.553.636.211, IDR. 1.908.201.667 and IDR. 2.461.892.374. The averages of gross profit are IDR. 92.586.209, IDR. 136.562.053, IDR. 184.598.983 and IDR. 248.415.724. The averages of nett profit are IDR. 83.327.588, IDR. 122.905.847, IDR. 166.139.085 and IDR. 223.574.152. Production cost, revenuew and income for strata IV more than strata I, II and III. Financial broiler farming aspect shown that with detail broiler farming is profit and more than visibility to be developed that shown from financial account result.*
Keywords: *Financial analysis, broiler farming, partnership*

I. Introduction

The demand for animal protein in Indonesia is growing but the supply is still less. Atmakusuma, Harmini and Winandi (2014) admit that the increasing meat demand is not balanced with the increasing production of domestic meat such that the stock of national cow meat is always lacking.

Population growth is always advancing but often forcing the employment to shrink. The efforts to meet the demand of animal protein may open work opportunity and improve the income of the breeders. The breeders have used livestock commodities as their work opportunity. One of them is concerning with broiler. Indeed, broiler is meat producer with relatively faster growth and harvest period. Broiler can be harvested in 35 to 40 days of age.

Broiler efficiency for meat production cannot escape from relatively higher production cost. The cost reaches almost 80 % with fluctuated meat price in the market. Maintenance management may be complicated and the un-penetrated market is the barrier against profit making. To have a successful broiler work, PT. Sinar Sarana Sentosa, through its core-plasma partnership system, embraces peoples surrounding to establish and to manage broiler work into a success and efficient work. Production cost can be paid after harvest. Sale price of chicken harvest is guaranteed into certain level. The deviation against partnership between company and farmers may influence the profit obtained by partner farmers.

Every breeding work is oriented toward the achievement of maximum profit. Therefore, some methods of financial analysis are used such as Break Even Point (BEP), Margin of Safety (MOS), Revenue Cost Ratio (R/C Ratio), Rentability, Total Assets Turnover (TATO), Net Profit Margin (NPM) and Return on Investment (ROI). All these analyses are giving farmers the information about how far is the work becoming successful.

II. Material And Methods

Method of research is case study, whereas data collection involves observation and interview.

Data Collection Method

The source of data includes primary and secondary. Primary data are obtained from interfacial meeting and dialog with distributing questionnaire to the respondents, respectively broiler breeders who participate into partnership program with Sinar Sarana Sentosa, Ltd. in Malang Regency Region. Secondary data are acquired from scientific reports, notes and documents from institutions and references relevant to this research.

The determination of research location is purposive sampling. Meanwhile, the determination of sample population is through total sampling. The sample is broiler farmers who participate into partnership program with PT. Sinar Sarana Sentosa in several regions of Malang Regency, such as Bantur District, Dampit District and Gondanglegi District. The partnership involves Open House System covering 59 broiler farmers. Chicken

ownership is divided into Strata I (3.500-6.000 chickens), Strata II (6.001-8.500 chickens), Strata III (8.501-11.000 chickens) and Strata IV (11.001-13.500 chickens).

Data Analysis

Data analysis is a descriptive analysis to understand the condition of broiler farming works, the characteristic of farmers, the implementation of core-plasma, partnership and the counting of the composition, the analysis of production and profit and the analysis of finance.

a. Cost is all expenses used for production. It is a result of the addition between fixed cost and variable cost. Systematically, it is written as follows:

$$TC = TFV + TVC$$

Note:

TC	= Total Cost (IDR)
TFV	= Total Fixed Cost (IDR)
TVC	= Total Variable Cost (IDR)

b. Total Revenue is the result of multiplication between the number of the sold unit and the price per the sold unit. Ahyari (1987) describes this income with equation as following:

$$TR = (p.Q) + \text{Wet Husk Sale (IDR)} + \text{Feed Sack (IDR)} + \text{FCR Bonuses (IDR)} + \text{Mortality Bonuses (IDR)} + \text{Transport Replacement (IDR)} + \text{Feed Discount (IDR)}$$

Note:

TR	= Total Revenue of farmers (IDR)
Q	= The harvest of maintenance result (kg)
P	= Sale price per kg of broiler weight (IDR/ kg body weight)
FCR	= Feed Consumption Rate

c. Profit is the difference between total revenue and total cost expended by breeders. Ahyari (1987) describes the profit systematically as follows:

$$\pi = TR - TC$$

Note:

π	= Profit (IDR)
TR	= Total Revenue of farmers (IDR)
TC	= Total Cost (IDR)

d. Break Even Point (BEP) is a condition where every company does not suffer the loss or obtain the profit (Prawirokusumo, 2001). Systematically, it is written as follows:

$$BEP_{price} = \frac{\text{Total Cost Production (IDR)}}{\text{Broiler Work Harvest (Kg.)}}$$

$$BEP_{product} = \frac{\text{Total Cost Production (IDR)}}{\text{Sale Price per Kg Body Weight}}$$

$$BEP_{chicken} = \frac{BEP product}{\text{BB per chicken}}$$

e. Margin of Safety is giving a description to the management how far is the sale decrement that can be tolerated without suffering the loss. Munawir (2002) explains Margin of Safety as follows:

$$MOS = \frac{\text{Sale per BW} - \text{Sale per BEP}}{\text{Sale per BW (IDR)}} \times 100\%$$

f. A certain work can be said as profitable if the comparative resultant between Revenue and Cost (R/C) is more than one. Revenue Cost Ratio (R/C Ratio) is comparing between revenue and cost (Soekartawi, 2000). The equation is systematically written as follows:

$$RC\ Ratio = \frac{\text{Revenue (IDR)}}{\text{Cost (IDR)}}$$

Criteria:
-   If RC Ratio < 1, the work is loss.
-   If RC Ratio = 1, the work is break even (not profit, not loss)
-   If RC Ratio > 1 = the work is profitable

g. Rentability can be said as a comparison between the profit obtained from company operation and the capital used. It is represented by percentage (Nikmat, 2004). The equation is written systematically as follows:

$$Rentabillity\ (\%) = \frac{\text{Profit (IDR)}}{\text{Beginning Capital (IDR)}} \times 100\%$$

Criteria:
-   Rentability for 1-25 %, included into bad category.
-   Rentability for 26-50 %, included into low category.
-   Rentability for 51-75 %, included into adequate category.
-   Rentability for 76-100 %, included into adequate category.

- Rentability> 100 %, included into very good category.
h. Total Assets Turnover (TATO) represents the analysis to measure the effectiveness of the use of all assets to produce the sale. Sudana (2009) describes Total Assets Turnover within systematic equation:

TATO $= \dfrac{\text{Sale or Harvest of Broiler Work (IDR)}}{\text{Total Capital (IDR)}}$

Criteria:

The higher ratio means the more effective the management of company asset.

i. Net Profit Margin (NPM) is showing how much net profit after the tax can be provided the sale in one period. Sudana, I.M (2009) arranges Net Profit Margin in the following equation:

NPM $= \dfrac{\text{Earning After Tax (IDR)}}{\text{Harvest of Broiler Work (IDR)}}$ x 100%

Criterion:

The higher rate of Net Profit Margin is the more efficient the use of all assets to produce the sale.

j. Return on Investment (ROI) is the analysis to measure company capacity entirely to produce profit with all available assets (Syamsuddin, 2004). Return on Investment is written systematically as follows:

ROI $= \dfrac{\text{Earning After Tax (IDR)}}{\text{Total Capital (IDR)}}$ x 100%

III. Result And Discussion

General Description of Breeding Location

Broiler farming is located in Dampit District, Bantur District and Gondanglegi District at temperature ranges ordered as follows 27^0C-30^0C, 27^0C-32^0C, and 26^0C-30^0C. Breeding location remains within the less populated environment and is nearby the road access that can retain 7,5 tons pickup truck.

Broiler ownership by the partner farmers of PT. Sinar Sarana Sentosa in the regions of Malang Regency is counted for 3.500-13.500 broilers. There are 28 Dampit District farmers with population of 187.500 broilers. In Bantur District, there are 20 farmers with 126.500 broilers. In Gondanglegi District, there are 11 farmers with 106.500 broilers.

General Description of Sinar Sarana Sentosa Ltd.

Sinar Sarana Sentosa, Ltd. is a business unit of Pokphand Indonesia, Ltd. Sinar Sarana Sentosa, Ltd. specializes on the cultivation of final stockbroiler and develops a certain type of cooperation with people breeders. The cooperation is called as core-plasma partnership. This partnership involves price contract on which the company acts as the core whereas the breeders represent the plasma.
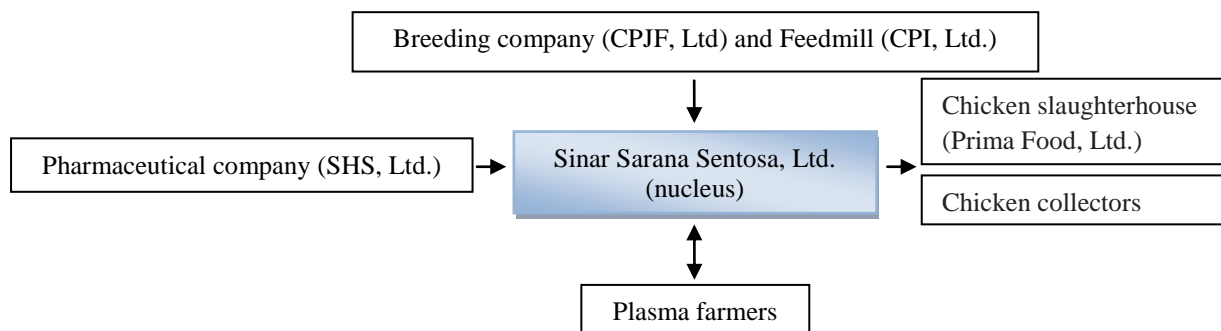
Picture 1. Implementation of the Partnership in Livestock Production Facility Procurement

Deviations and Problems Around Core and Plasma

- Pre-production
  Core : None
  Plasma : - The location of ranch is determined.
  - The ranch is not compatible
  - Breeder candidate does notunderstand the contract.
- Production
  Core : - The delivery of feed and medicine is late.
  - Grade of Day Old Chicken is low.
  Plasma : - Core guidance is not complied.
  - Bio-security clearance is not met.
  - It sells feed to other parties.
  - It uses additional feed out of contract.

- It cultivates broilers out of core unit, it sells broilers to others instead of the core.
- Post-production
  Core : It remains uncertain with harvest age.
  Plasma   : None

Research Respondent Characteristic

Respondent characteristic includes respondent age, education background, farming experience and occupation status. Each characteristic of respondent may influence the successful path of broiler breeding work. Breeders in the partnership are required to follow the contract rule and the company guidance, and also to keep tracking the growth of broilers as well as broiler breeding management.

Table 1. Respondent Characteristic Age Based

Age Interval (years)	Strata I	Strata II	Strata III	Strata IV
	(%)	(%)	(%)	(%)
20 - 39	45,16	44,44	50,00	28,57
40 - 59	48,39	44,44	41,67	57,14
> 60	6,45	11,11	8,33	14,29
Total	**100,00**	**100,00**	**100,00**	**100,00**

During the research, the greatest percentage of respondent is found at Strata I, II, and IV, whose age interval is 49-59 years old. In Strata III, the age interval is 20-39 years old. The age of breeders is very influential to their physical strength and knowledge because animal husbandry sector is using most human power, especially when it must undergo the maintenance and use the technology to support the successful breeding work.

Table 2. Respondent Characteristic Education Based

Education	Strata I	Strata II	Strata III	Strata IV
	(%)	(%)	(%)	(%)
Elementary School	19,35	11,11	8,33	0,00
Middle School	19,35	33,33	16,67	14,29
High School	48,39	44,44	66,67	71,43
Bachelor	12,90	11,11	8,33	14,29
Total	**100,00**	**100,00**	**100,00**	**100,00**

In this research, the high-school education is dominating all strata. The order of percentage is arranged as follows: 48.39 % for Strata I, 44.44 % for Strata II, 66.67 % for Strata III, and 71.43 % for Strata IV. Breeders with higher education level can absorb the information given by the core. Easy absorption is facilitated by wider insight shown by farmers.

Table 3. Respondent Characteristic Broiler Farming Experience Based

Experience (years)	Strata I	Strata II	Strata III	Strata IV
	(%)	(%)	(%)	(%)
1 - 5	64,52	11,11	16,67	14,29
6 - 10	29,03	33,33	41,67	14,29
11 - 15	3,23	44,44	16,67	42,86
16 - 20	3,23	11,11	16,67	14,29
> 20	0,00	0,00	8,33	14,29
Total	**100,00**	**100,00**	**100,00**	**100,00**

In this research, the average boiler farming experience varies. Strata first 1-5 years of experience farming first rank, at strata II and IV of the highest breeding experience 11-15 years, while the highest strata III 11-15 years farming experience. Long experience of breeding will make easy ranchers deal with problems that occur.

**Table 4.** Respondent Characteristic Type of Work Based

Type of Work	Strata I (%)	Strata II (%)	Strata III (%)	Strata IV (%)
Main	80,65	100,00	100,00	100,00
Side Job	19,35	0,00	0,00	0,00
Total	**100,00**	**100,00**	**100,00**	**100,00**

At every strata, including Strata I, II, III and IV, the main occupation is farmer. This occupation becomes the main pivot of breeder household economic. Their income has given warranty of meeting household demand. Somehow, the income from breeding work is higher than other work done by breeders. By focusing on broiler breeding work as main occupation, breeders can spend their time for maintenance and development of the work.

Financial Analysis
**Work Capital, Production Cost, Revenue and Profit**
Production cost and revenue may change over period. The change of production cost is caused by the difference in terms of feed quantity, medicine, and DOC quality. The percentage of production cost in the strata is ordered as follows: 74.55% for Strata I, 76.29% for Strata II, 75.44% for Strata III, and 75.12 % for Strata IV. The highest revenue is acquired from chicken sale and FCR bonus. The following table of production cost, revenue and profit.
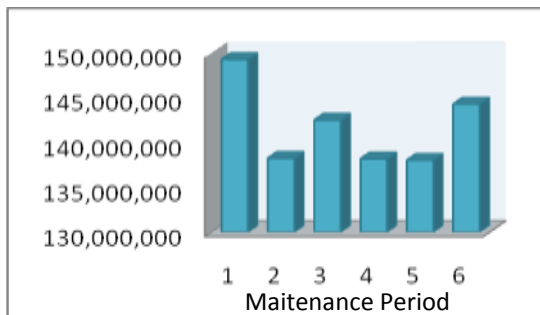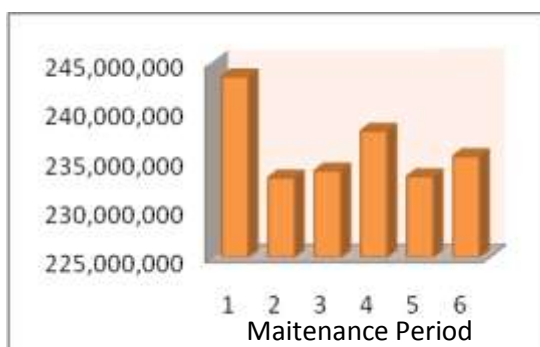

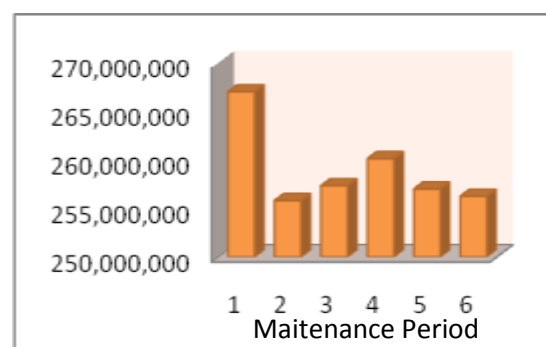**Picture 2.** Production Cost Strata I
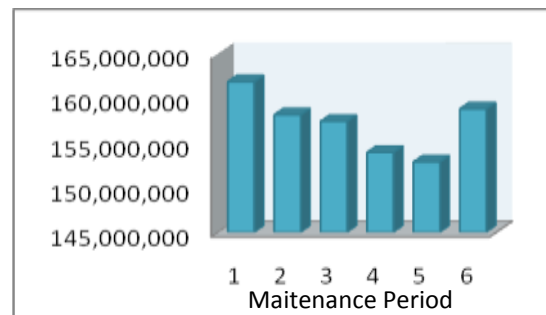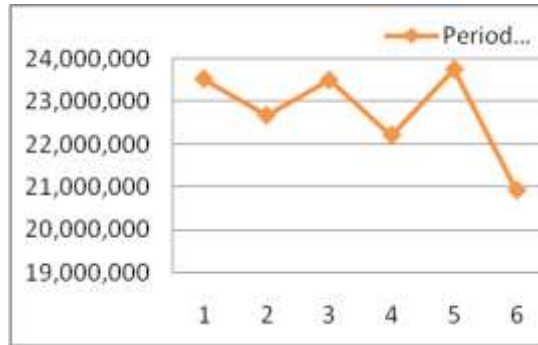

Picture 3. Revenue Strata I
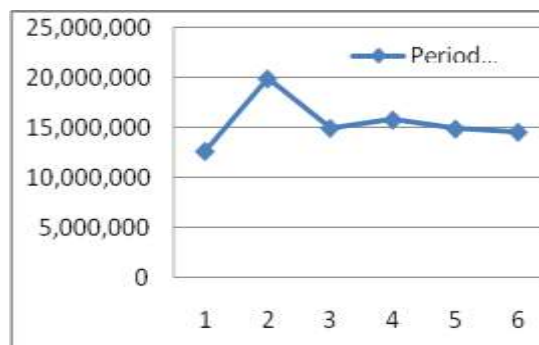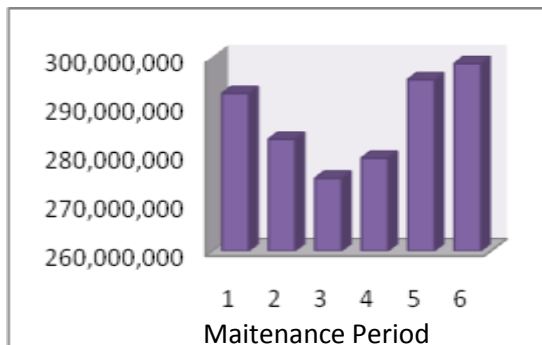

Picture 4. Profit Strata I

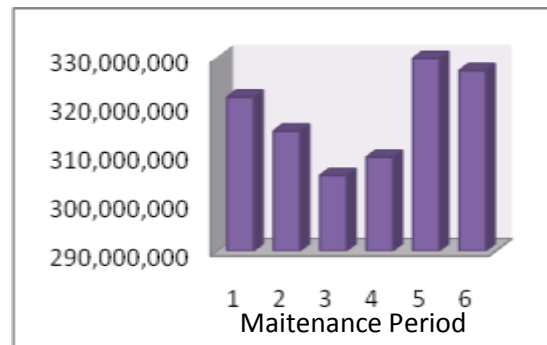**Picture 5.** Production Cost Strata II
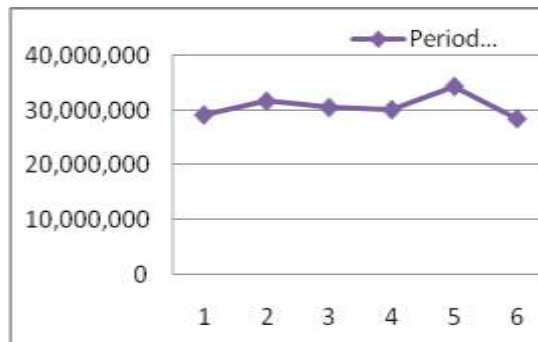

Picture 6. Revenue Strata II
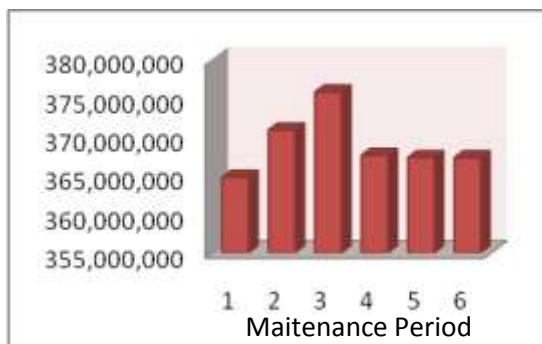
Picture 7. Profit Strata II

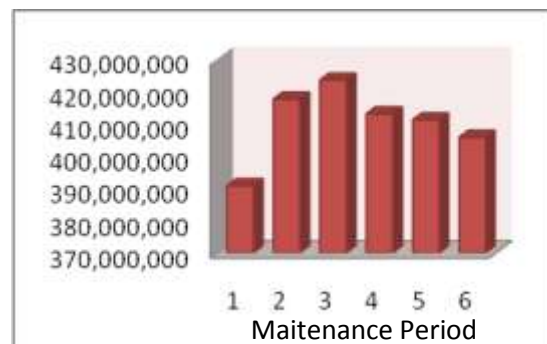**Picture 8.** Production Cost Produksi Strata III
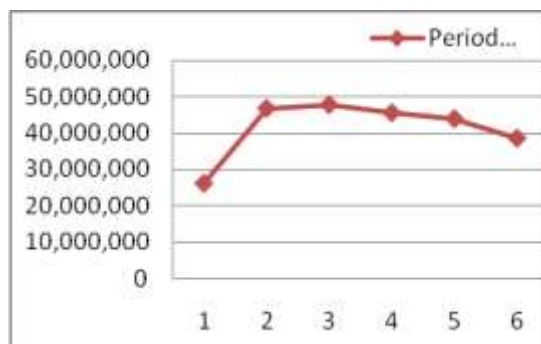

Picture 9. Revenue Strata III

Picture 10. Profit Strata III

Picture 11. Production Cost Strata IV

Picture 12. Revenue Strata IV

Picture 13. Profit Strata IV

Result of work profit at Strata IV is IDR 248,451,724, and it is the highest. The greater the maintenance capacity means the higher work profit.

Different revenue to obtain may be caused by different achievement of mortality standard, Feed Consumption Rate (FCR) and bonus standard. Siregar (2009) has stated that the lower FCR means the smaller cost expended to buy the feed. In contrast, the higher FCR means the higher cost to buy the feed. Such difference is also caused by different harvest weight and also triggered by the fact that the harvest price of every weight can also be different.

Break Even Point (BEP) Analysis

Break Even Point Analysis is conducted to understand one-year minimum production, minimum price per kilogram of life weight, and one-year maintenance expense needed to avoid from loss but also not to have a profit. The following table of break even point.

Table 4. Avarage Yield of Break Even Point Analysis

Strata	Total Cost (IDR)	Broiler Work Harvest 1 Year (Kg)	Chicken Price (IDR/ Kg BW)	Body Weight per Chicken	BEP price (IDR)	BEP product (kg)	BEP chicken (chickens)
I	850.530.571	54.119	17.181	2,01	15.716	49.505	24.629
II	1.417.074.158	89.478	17.180	1,96	15.837	82.483	42.081
III	1.723.602.683	109.941	17.152	1,89	15.678	100.491	53.157
IV	2.213.476.650	142.242	17.113	1,88	15.561	129.345	68.952

One of BEP results (Strata IV) can be interpreted as follows. BEP of the price remains at IDR 15.561/kg of life weight with harvest weight average of 1,88 kg/chicken. It means that the sale price will not put breeders into the loss but also not give them profit. BEP of the product remains at 129.345 kg of life weight, meaning that by one-year minimum harvest weight, breeders do not suffer the loss. BEP of broiler is 68.952 boilers per annum, meaning that at minimum capacity of maintenance at harvest weight of 1,88 kg and also with 0% mortality rate, it seems that breeders will not suffer the loss.

Margin of Safety (MOS) Analysis

Margin of Safety (MOS) is helping farmers to determine how much is the sale percentage can decrease to avoid the suffering of losses. The core is also facilitated by Margin of Safety to obtain the description of how much sale price is to be charged to be competitive with sale price from another partnership.

Table 5. Perhitungan analisa Margin of Safety (MOS) Peternak

Strata	Sale per Kg Body Weight (IDR)	BEPprice (IDR)	MOS (%)	MOS (IDR)
I	17.181	15.723	8,49	1.458
II	17.180	15.835	7,83	1.345
III	17.152	15.679	8,58	1.472
IV	17.113	15.558	9,09	1.555

Result of MOS in Strata IV is the highest. It means that it does not give the loss but the price is allowed to decline maximally at 9,09% of contract price. The higher MOS rate is the better because it provides opportunity to breeders to prevent the loss during unfavorable condition. If the partnership between the core and

the competitor becomes a matter, the low MOS is the best because the core can increase the contract price to be competitive against competitor partnership to help the core in maintaining participant breeders and also in seeking new plasma.

Revenue Cost Ratio (R/C Ratio) Analysis

Chicken breeding work always needs to be efficient. Efficiency is achieved by increasing the production and minimizing the production cost. Successful work can be measured from work efficiency and the tool is R/C Ratio.
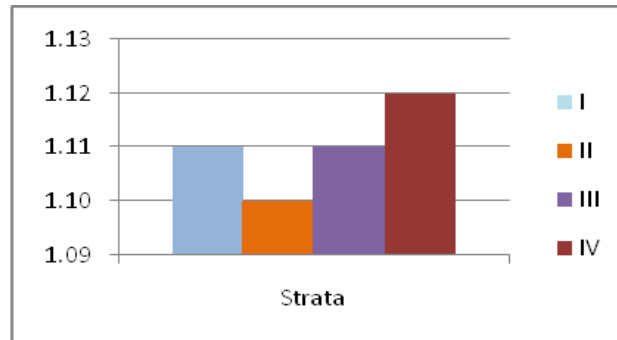
Picture 14. Result of R/C *Ratio* Farmers

Related to R/C Ratio, farmers have R/C Ratio above 1, meaning that their work is efficient and profitable. The biggest R/C Ratio is found at Strata IV, which reaches 1,12. The production cost is IDR 100.000.000 which gives profit for IDR 12.000.000. The bigger maintenance capacity is the more efficient production cost. Revenue cost ratio can be increased by improving the efficiency of production cost and by boasting up broiler production.

Rentability Analysis

Economic rentability indicates how far is the capacity of assets to produce the income or the return on investment.

Table 6. Account Rentabillity Analysis

Strata	Profit (IDR)	Capital (IDR)	Rentabiliy (%)
I	92.586.209	233.462.872	39,66
II	136.562.053	362.487.941	37,67
III	184.598.983	432.422.263	42,69
IV	248.415.724	523.862.498	47,42

Result has shown that in all strata including Strata I, II, III and IV, the average rate of rentability remains into low category. In Strata IV, the use of capital toward the profit is more efficient than other strata. This difference is caused by the fact that the capital use across breeders may have different efficiency to produce profit. The different profit is caused by mortality, bonus and sale price of broilers. The risk of broiler work is relatively higher. High or low rentability depends on Asset Turnover. In this case, in using the capital, farmers are required to be more efficient in order to produce good sale and higher profit.

Total Asset Turnover (TATO) Analysis

Sudana (2009) has defined that total asset turnover is the tool to measure company capacity in meeting the short-term financial demand. TATO analysis is measuring the effectiveness of all capitals used to produce the sale. The higher total assets turnover is the more effective the use of all capitals.

Table 7. Account Total Assets Turnover (TATO) Analysis

Strata	Total Revenue (IDR)	Tota Capital (IDR)	TATO (x)
I	943.116.780	233.462.872	4,04
II	1.553.636.211	362.487.941	4,29
III	1.908.201.667	432.422.263	4,41
IV	2.461.892.374	523.862.498	4,70

Based on TATO result, Strata IV is the most efficient in capital management. Broiler ranch work in the partnership can get revenue at 4,70 times greater than the capital used every year. Weston and Copeland (1999) reveal that the average standard rate of TATO in similar industry is 5,0x. It means that TATO of the partnership between broiler breeders and PT. Sinar Sarana Sentosa is not quite good after all.

The smaller capacity is related to the smaller TATO rate. Breeding ownership with good maintenance management will determine the obtained revenue because the revenue is always influential to capital management efficiency. TATO can be improved by increasing the capacity of maintenance, suppressing the mortality, and improving the revenue.

Net Profit Margin (NPM) Analysis

The analysis indicates that Strata IV has the highest NPM, which is 9,08 % if compared with 8,48 % for Strata I, 7,91% for Strata II, and 8,71% for Strata III. NPM rate can be interpreted as follows. Every the sale of IDR 10.000 will produce net profit of IDR 908 at 6 periods or 1 year. High or low NPM rate can be influenced by revenue components of the breeders, such as mortality bonus, chicken harvest sales, transportation bonus, Feed Consumption Rate bonus and others. Umar (2003) says that NPM shows net profit obtained by the company.

Return on Investment (ROI) Analysis

Return on Investment (ROI) rate is obtained by dividing with 10% earning after tax (EAT) the profit obtained by breeders from their revenue. The higher ROI is the better.

Table 8. Account Return on Invesment (ROI) Analysis

Strata	Laba Bersih (Rp.)	Modal Usaha (Rp.)	ROI (%)
I	83.327.588	233.462.872	35,69
II	122.905.847	362.487.941	33,91
III	166.139.085	432.422.263	38,42
IV	223.574.152	523.862.498	42,68

ROI Analysis describes the total capacity of broiler breeding work to produce profit with the existing work capital. Strata IV has the best ROI, which is 42,68 % in 1 year, meaning that in every IDR 10.000 of the capital invested into the work will produce profit for IDR 4.268. High or low ROI rate is influenced by net profit obtained from the investment of the breeders. ROI rate can be increased by suppressing the production cost and improving the production to raise the profit.

IV.   Conclusion

Based on the result and discussion previously stated, it is concluded that:
1.   a. Production cost at strata I,II,II and IV the order is arranged as follows: IDR 850.530.571, IDR 1.417.074.158, IDR 1.723.602.683 and IDR 2.213.476.650.
    b. Revenue at strata I,II,II and IV the order is arranged as follows: IDR 943.116.780, IDR 1.553.636.211, IDR 1.908.201.667 and IDR 2.461.892.374.
    c. Gross profit at strata I,II,II and IV the order is arranged as follows: IDR 92.586.209, IDR 136.562.053, IDR 184.598.983 dan IDR 248.415.724.
    d. Nett profit at strata I,II,II and IV the order is arranged as follows: IDR 83.327.588, IDR 122.905.847, IDR 166.139.085 dan IDR 223.574.152.
2.   a.   Analysis of financial BEP and MOS at Strata I, III, III and IV are relatively good, as proved by the contract price interval. The percentage of BEP and MOS in all strata is ordered as follows: 8.49%, 7.83%, 8.58% and 9.09%. Strata IV has the best MOS.
    b. R/C Ratio at Strata I, III, III and IV is favorable because it is > 1. The best ratio is 1.12 and shown by Strata IV.
    c. Rentability and TATO at Strata I, III, III and IV are unfavorably low. Rentability in all strata is 88.14 % and remains in low category. TATO rates in all strata are ordered as follows: 4,04x, 4,29x, 4,41x and 4,70x.
    d. NPM and ROI at Strata I, III, III and IV are relatively good. NPM rates are ordered as follows: 8,84; 7,91; 8,71 and 9,08. ROI rates are ordered as follows: 35,69%, 33,91%, 38,42% and 42,68%. The best of both rates is on Strata IV.

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