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Financial Feasibility of Cattle Breeding Partnership in South Lampung Regency

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ABSTRACT

The arising problem in South Lampung Regency is that the pattern of cattle breeding runs on people's businesses scale related to other farming. The farmers established partnerships with feedlots to tackle the hardships of developing cattle breeding for more effective and efficient results. The disproportionate structure of cattle breeding should be analyzed carefully. This research aims to analyze the feasibility of a cattle breeding partnership in the two cattle breeding centers of the South Lampung Regency. The data were quantitatively analyzed with feasibility analysis and the indicators are NPV (Net Present Value), Net B / C (Net Benefit Cost Ratio), PP (Payback Period), and IRR (Internal Rate of Return. The research results indicate that the profit scheme is IDR 20,353,930. As the Net B/C ratio is higher than 1, the business is feasible. Also, the IRR value of 29.9% signifies that the business is economically feasible.

Keywords: Cattle Breeding, Feasibility Analysis, Partnership, South Lampung Regency

INTRODUCTION

The policy of developing cattle agribusiness is still constrained by the national cattle production problems in the upstream, on-farm, downstream, and agricultural systems. An increase in population will increase the amount of food demand (Handayani, Affandi, & Irawati, 2019). The high beef demand which cannot be met by local beef production causes an increased volume of beef import each year (Danasari, Harianto, & Falatehan, 2020). The national cattle population is extremely small, 14.8 million cattle (Directorate General of Animal Husbandry, 2007). It is predicted that will only be able to supply 2.4 million ready-to-slaughter cattle a year, while the demand is up to 3.8 million per year (assuming the meat consumption is 2.56 kg/capita). This implies that to meet the increasing demand for beef and Indonesia has to import feeder cattle and frozen meat. In this dilemma, it must be highly measurable quantities and in the framework of reducing pressure on local cattle slaughter (Handayani, Wirawati, Nirmagustina, & Sarono, 2020).

The cattle breeding partnership has been implemented in Lampung Province with eleven scheme feedlots (beef cattle fattening companies). Some of them are partnerships with smallholder farms, such as PT Juang Jaya Abdi Alam and PT Great Giant Livestock. The Regional Government of Lampung Province pursues to become a national cattle livestock with one of the cattle breeding centers in South Lampung Regency. Based on the results of research on Bank Indonesia (2018), South Lampung Regency has the potential and prospective in developing cattle breeding compared to chicken or other farms with a score of 0.0777. The Central Bureau of Statistics (2019) recorded that the cattle population in 2018 is 827.217 head and 819,571 head in 2019. This highlights a great opportunity for developing a cattle breeding business.

The problem is the pattern of cattle farming is on the scale of people's businesses related to other farming. The application of management and technology remains conventional, with limited capital, relying on natural forage, and with average ownership of 2-3 cattle, making the efficiency is difficult to achieve (Mandaka & Hotagaol, 2005). The farmers do not target the productivity of cattle to be achieved and do not take into account the input and output of their livestock business. The developments imply that cattle breeding partnerships are very important among cattle breeders since Indonesia's dependence on imported beef will increase, and domestic consumption needs will continue to be supplied by imported meat (Handayani, Fariyanti, & Nurmalina, 2016). The partnership with the feedlots is expected to overcome the limitations in developing the cattle breeding business, make it more effective and efficient, and provide benefits for the breeders. This disproportionate cattle agribusiness structure needs careful analysis.

An in-depth and comprehensive evaluation of the community cattle breeding partnership program is necessary to realize the partnership's effectiveness and its contribution to the feasibility of cattle breeding. It is a highly strategic step to support national food independence, increase national and increase household income (Asmara, Yeti, & Lubis, 2015). Business feasibility analysis is a useful input that examines the financial aspects comprehensively (Affandi & Handayani, 2020; Handayani, 2016). It can be used as a basis for determining investors to make more objective investment decisions for the sustainability of cattle breeding. This research is to analyze the feasibility of a cattle breeding implementing a partnership in South Lampung Regency.

RESEARCH METHOD

This study was carried out in Sidomulyo and Tanjungsari Districts of South Lampung Regency, the two biggest cattle breeding centers, purposively selected based on the consideration that the location is a center for cattle breeding establishing partnerships with feedlot companies. Methods of data collection comprise observation, surveys, in-depth

interviews, and FGD, with respondents consisting of 30 farmers. Research activities were carried out from June to November 2020.

The survey method is a research technique and data collection on a certain population to capture a certain amount of data for generalization. It is conducted to obtain data from certain natural places and the researcher performs treatment in data collection, for example, by distributing questionnaires, tests, and structured interviews (Sugiyono, 2009). The data were analyzed quantitatively with feasibility analysis (Ibrahim, 2009). The data of costs, income, and profits were converted into units of rupiah per year. Ibrahim in Handayani (2016) suggested that to determine business feasibility, the indicators are NPV (Net Present Value), Net B / C (Net Benefit Cost Ratio), PP (Payback Period), and IRR (Internal Rate of Return).

NPV (Net Present Value)
To calculate the NPV, we must first determine the net cash PV. The net cash PV can be found by creating and calculating company cash flow over the life of a certain investment. the formula is:

$$NPV = \sum_{t=1}^{n} \frac{bt-ct}{(1+i)^t} \tag{1}$$

where
Bt   : Revenues earned in year t (IDR)
Ct   : Costs incurred in year t (IDR)
N   : Economic age of the project (years)
I   : Interest rate (percent)
T   : (t = 0, 1,2,… n) years

The eligibility criteria are that if the NPV is negative, the business is not feasible to run; if it is positive, the business is feasible to run.

Net B / C (Net Benefit Cost Ratio)

$$Net\ B/C = \frac{\sum PV+}{\sum PV-} \tag{2}$$

The eligibility criteria are:
- If the ratio is ≥ 1, the business is feasible to run
- If the ratio is <1, the business is not feasible

PP (Payback Period)
The payback period criterion is no clear time limit. It all depends on the owner of the capital, but in general, a short payback period is the most preferred. The formula is:

$$PP = \frac{Investment}{net\ cash/year} \times 1\ year \qquad (3)$$

IRR (Internal Rate of Return)
The Internal Rate of Return (IRR) method is to calculate the amount of return expected by the company from the invested funds. The formula is:

$$IRR = i1 + \frac{NPV1}{NPV\ 1 + NPV2}\ (i2 - i1) \qquad (4)$$

where,
NPV1 : positive NPV (IDR)
NPV2 : negative NPV (IDR)
i1   : positive NPV interest rate (percent)
i2   : negative NPV interest rate (percent)

The eligibility criteria are:
- If IRR is > interest rate, the business is feasible to run
- If IRR is < interest rate, the business is not feasible to run.

RESULTS AND DISCUSSION

Cattle Breeding Partnership Model in South Lampung Regency
South Lampung Regency is one of the regencies in Lampung Province. The district capital is located in Kalianda City. This district has an area of 2109.74 km². South Lampung Regency is located between 105° - 105°45' East Longitude and 5°15' - 6° South Latitude. Given this location, South Lampung Regency, like other regions in Indonesia, is a tropical area. The southern part is tapered and has a large bay, namely Lampung Bay. In Lampung Bay, there is a port, namely Panjang Port where domestic and foreign ships can dock. In general, this port is vital for the economic activities of the people of Lampung, especially the people of South Lampung. Since 1982, this port has been included in the area of Bandar Lampung City. In the southern part of the South Lampung Regency, which is also the tip of Sumatra Island, there is a Bakauheni ferry port, a transit point for residents from Java to Sumatra and vice versa.

Sidomulyo District is part of Kalianda District. Along with the development of the region, based on the Decree of the Governor of KHD Level I Lampung, Number: G/069/DIHK1971, dated March 17, 1971, it was divided into Katibung District which is domiciled in Sidomulyo and in 1982, based on Government Regulation No. Katibung was divided into 2 sub-districts, namely Katibung District and Sidomulyo District. Sidorejo Village is the capital city of Sidomulyo District with an area of ± 840 Ha.

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A partnership is a business strategy carried out by two or more parties within a certain period of time to achieve mutual benefits with the principle of mutual trust, need, and benefit (Hafsah, 2006). The benefits of the partnership are: (1) the achievement of high productivity; (2) achieving efficiency; (3) quality, quantity, and continuity assurance; (4) risk management; (5) increasing the acquisition of added value, (6) enhancing the rural, regional and national economy; and (7) expanding job opportunities. The form of partnership pattern in Indonesia consists of plasma core partnership, sub-contract, general trading, agency, and Agribusiness Operational Cooperation or KOA partnership patterns (Hafsah, 2006). The existing partnership pattern has several characteristics according to each partnership pattern. These characteristics are in the form of the role of each party that distinguishes one partnership pattern from another. The characteristics and differences in the roles of each party in the existing partnership pattern are used to analyze the partnership pattern applied to PT Juang Jaya Abdi Alam.

The partnership model applied between local beef farmers and PT Juang Jaya Abdi Alam is the Agribusiness Operational Cooperation (KOA) partnership pattern. The KOA partnership pattern is a pattern of business relationships by partner groups and partner companies. Partner groups provide land, facilities, and labor, while partner companies provide costs, capital, management, and procurement of production facilities to cultivate or cultivate certain agricultural/livestock commodities.

In the KOA partnership pattern, the role of partner groups are:
1. Providing land to support business production with partner companies,
2. Having facilities to support business activities, such as cages or other media, and
3. Having manpower as an operational function of the course of business cooperation with partner companies.

The role of partner companies in the partnership pattern of agribusiness operational cooperation are:
1. Providing costs and capital to partner groups as well as procuring production facilities to cultivate an agricultural commodity,
2. Having good and organized cooperative business management,
3. Partner companies also act as guarantors for the product market by increasing the added value of the product, and
4. Many are found in rural communities, between small businesses in the village and household businesses in the form of a profit-sharing system.

The implementation of the partnership from both parties is that the company provides capital in the form of pregnant cows with a gestational age of 7 months and feed production facilities in the form of concentrate feed and forage seeds for cows which are given every day with the amount determined by the company in accordance with the number of cows kept by

partner breeders. The company also provides guidance and management to partner farmers so that the direction of common goals can be achieved and the company also provides free treatment for cows that really cannot be handled by the local *mantri* (orderlies) or veterinarian.

The implementation carried out by partner breeders is by providing land for forage plants such as elephant grass, *odot* (Pennisetum purpureum) and *tebon* (corn stalks) as well as proper cages according to established standards. Companies and partner farmers have different roles in the beef cattle partnership process according to the guidelines on the Agribusiness Operational Cooperation (KOA) partnership pattern.

Financial Feasibility of Cattle Breeding Partnership
The financial feasibility aspect can be seen from various indicators (NPV, Net B / C, IRR, and BEP). Net B / C ratio is the ratio value between the number of positive present values compared to negative present values. If it is greater than one, the business is profitable. If the Net B / C is less than one, the business should be suspended/canceled. Net Present Value (NPV) is the value difference between revenue and cost calculated with the present value (discount factor). If it is greater than zero, the business is profitable. If it is less than zero, the business is not feasible to run. If it is equal to zero, the business reaches a break-even point; it may be continued or canceled. The calculation to find the same interest rate between the calculated benefit and cost at this time may use the Internal Rate of Return (IRR). If it is greater than the discount factor, the business can be carried out, however, if it is less than the discount factor, the business/project is canceled (Fatmawati, Nurlaila, Sukoco, Ade, & Utomo, 2018).

The break-even point is a measuring tool to determine the costs incurred are the same as the revenue generated in a unit of time that returns all costs incurred in a business. If the investment return period is shorter than the economic life of a project, the project can be implemented. If the opposite happens, the project is suspended.

The financial analysis in this study applies an interest rate of 18% (general interest rates for financial institutions/cooperatives). In more detail, the analysis of the financial feasibility is shown in Table 1.

Table 1. Cattle Breeding Cashflow for Partnership

No	Description	Years					
		0	1	2	3	4	5
I	Inflow						
	Calves		25,200,000	25,200,000	31,500,000	31,500,000	31,500,000
	Female calves		18,000,000	18,000,000	13,500,000	13,500,000	13,500,000
	Manure		2,400,000	2,400,000	2,400,000	2,400,000	2,400,000

	Total		45,600,000	45,600,000	47,400,000	47,400,000	47,400,000
II	Outflow						
	Investment Costs	71,580,000					
	Production		9,840,000	9,840,000	10,020,000	10,020,000	10,020,000
	Labor cost		5,786,000	5,786,000	5,786,000	5,786,000	5,786,000
	Overhead		1,020,000	1,520,000	1,520,000	1,520,000	1,520,000
	Total cost	71,580,000	16,646,000	17,146,000	17,326,000	17,326,000	17,326,000
III	Net Benefit	-71,580,000	28,954000	28,454,000	30,074,000	30,074,000	30,074,000
IV	Balance						
	Discount Factor 18%	1.0000	0.8474	0.7181	0.6086	0.5157	0.4371
	NPV	20,353,930					
	Net B/C	1.28					
	PP	2 year 2 month					
	IRR	29.9%					

The Net Present Value (NPV), Net B / C, Internal Rate of Return (IRR), and Payback Period (PP) on financial analysis of cattle breeding with a partnership pattern lead to the conclusion that this business is profitable. However, by the two-year payback period, it is necessary to explain that this business requires a large investment cost. This requires financial support for breeders who have no business capital.

Halid, Muhtar, & Mokodompit (2017) contended that cattle farming development is an industry in the field of agribusiness that is not limited. Cattle farmers believe this business can provide great profits. As the business profit is fairly bigger, the increase in the number of cattle raised can be increased. Also, the variable costs are only on labor and feed.

CONCLUSIONS

The results of the study conclude that the cattle breeding partnership model in South Lampung Regency uses the Agribusiness Operational Cooperation (KOA) partnership pattern, which is a business relationship pattern run by partner groups and partner companies. Partner groups providing land, facilities, and labor, while partner companies provide costs, capital, management, and procurement of production facilities to cultivate certain agricultural/cattle commodities. The profit from the cattle breeding partnership scheme is IDR 20,353,930, Net B / C value is more than 1, which means that this business is feasible to run. The IRR value of 29.9% indicates that this business is economically feasible to run up to an interest rate of 29.9%. Based on these indicators, the cattle breeding partnership is financially feasible.

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