Production sharing system and beef cattle business revenue pattern in Tellulimpo district, Sidenreng Rappang regency

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Abstract. An important way to achieve welfare goals for breeders is by sharing the profit sharing system. The implementation of profit sharing system involves two parties: the capitalist and the breeder. The party that provides capital is the party that owns the cattle, but does not have enough time to raise the cow, so the capital owner gives the cow to the farmer to be raised in accordance with the agreement and previous agreements established. This research was conducted in Tellulimpo district, Sidenreng Rappang regency. Total sample was 64 farmers using a total sampling approach. Analysis of the data used in this study used quantitative descriptive. The results showed that there were two types of profit sharing system applied by beef cattle breeders, namely the main female cow and the cost system. The income earned by farmers was IDR 4,484,842 per household/year, the results of the income was shared by the capital owner in accordance with the agreement.

1. Introduction

Sidenreng Rappang regency is one of the areas in which livestock develops beef cattle business with a production sharing system. According to Zainabriani et al. (2015), sharing system in local regency or profit-sharing system is one of the local institutions in several regions, especially South Sulawesi province, this Tesang system occurs when there is an agreement between the capital owner (sharing system in local regency) and breeder (sharing system in local regency) [1]. On the other hand, there was no agreement between the systems of government cooperation and other systems of partnership for sharing results. Sanjaya (2015) added that people who conduct a revenue-sharing system based only on trust between the two, do not make agreements explicitly [2]. The owner of the cow and the keeper of the cattle prioritize trust over making agreements because it will reduce trust between the two.

The existence of farmers in sharing the system (sharing system in local regency) in the Sidenreng Rappang Regency is seen positively as a way to achieve welfare goals for farmers who carry out the production sharing system (sharing system in local regency). Farmers who carry out the production sharing system (sharing system in local regency) are breeders who already have experience in conducting the production sharing system (sharing system in local regency) which ranges from 5-10
years for generations. The experience in conducting the production sharing system (sharing system in local regency) spurred the farmers' hopes to continue to carry out the production sharing system (sharing system in local regency). Sirajuddin et al (2017) added that the traditional profit-sharing system of beef cattle have a strong relationship with farmers' income [3].

Implementation of the profit-sharing system (sharing system in local regency) in Sidenreng Rappang regency, involves between two parties; the capitalists and breeders. Partnership is a collaboration between agribusiness actors starting from the process of preproduction, production to marketing based on the principle of mutual need, and benefit for those who partner [4]. The party that provides capital is the party that owns the cattle but does not have enough time to raise the cow, so the capital owner gives the cow to the farmer to be raised in accordance with the agreements and agreements previously established.

Basically, farmers who follow the profit-sharing system are limited to additional income to meet their needs. According to Kusnadi (2008) livestock business is an important source of additional revenue to support the needs of farm families, especially in rural areas [5]. In this case, Nugraha et al (2019) explains in his research the motivation of farmers in conducting a production sharing system because it is influenced by the number of cows owned, non-livestock income, the production sharing system, agricultural land ownership, and the number of calves produced [6].

But in the implementation of the production sharing system, there are often problems that raised such as if there is a death of a calf from the results of cattle ranching or the cow whose mother died. The unclear profit-sharing system condition is always a party that loses, both from the owner of capital and the keeper of cattle [7]. Based on these problems, it is interesting to study how the pattern of profit-sharing systems and business income of beef cattle in Sidenreng Rappang Regency.

2. Research method
This research was conducted in Tellulimpoe district, Sidenreng Rappang regency. This location was chosen as a research location with the consideration that this area is one of the areas that develop profit-sharing systems in beef cattle business. Sampling used in this study were 64 farmers using a total sampling approach. The reason for taking total sampling is because a population of less than 100 entire populations is used as a research sample [8]. Analysis of the data used in this study was quantitative descriptive. To find out or calculate the amount of beef cattle business income in the production sharing system [9], the equation is used:

\[ P = TR - TC \]

Details:
- \( P \) = Total income or profit obtained by beef cattle ranchers (IDR/year).
- \( TR \) = Total revenue that obtained by beef cattle farmers (IDR/year).
- \( TC \) = Total Cost or costs incurred by beef cattle farmers (IDR/year).

3. Results and discussion

3.1. Patterns of beef cattle business production sharing systems
The sharing system pattern was a partnership system by providing capital in the form of beef cattle to be maintained and developed by farmers who have competence in managing beef cattle business [10]. In Tellulimpoe district, Sidenreng Rappang regency, there were two types of the profit-sharing systems implemented by beef cattle breeders, such as the pattern of cows and the cost system. To illustrate the pattern of profit sharing system which implemented by beef cattle farmers in Tellulimpoe district, Sidenreng Rappang Regency was as follow:
Figure 1. Production sharing system patterns applied by beef cattle farmers in Tellulimpoe district, Sidenreng Rappang regency.

3.2. Patterns of cows
In this pattern, the cows that were given by the owner of the cows to the breeders to be raised were adult cows or cows that have been bred. Distribution of results was in the first year if the female calf gave birth then the calf in the first year was given to the temporary owner in the second year to the breeder or vice versa according to an oral agreement and so on until the fifth year and usually the number of cows given was 2 years or more. This pattern was largely applied because in the opinion of the breeder if the adult cows that were raised did not require a long time to be breedable. According to Jannah and Jafar (2018), cooperation between cattle owners and breeders was only verbally and was based on mutual trust and usually, livestock keepers were people who were well known by the owner of the cow or those close to the owner of the cow [11].

3.3. Cost system pattern
In this pattern, livestock owners or capital owners gave cattle farmers to raise bulls to be fattened within 3-6 months and subsequently sold where the obligation of caregivers was to cover all feed (forage and concentrate), treatment, and pens. The procurement of broodstock was borne by the owner of the capital purchased from cattle traders, then gave the broodstock to the breeder [12]. As for the example of the production sharing system, if within a certain time the bull will be sold, the proceeds of the purchase of the cow were reduced by costs during the subsequent maintenance of the yield divided between the breeder and the capital owner.
3.4. **Sharing system for beef cattle business income**

The income of the sharing system was the income of respondents from the profit-sharing system for beef cattle, expressed in IDR. The following table analyzes the income of beef cattle breeders for the production sharing system in Tellulimpoe District, Sidenreng Rappang Regency.

**Table 1.** Analysis of farmer’s income analysis table for revenue sharing systems in Tellulimpoe district, Sidenreng Rappang regency.

| Description         | Amount | Price (IDR) | Total/Year (IDR) | %    |
|---------------------|--------|-------------|------------------|------|
| Variable cost       |        |             |                  |      |
| 1. Calf cattle (UT) | 1.58   | 5,725,870   | 9,046,875        | 65.49|
| 2. Feed:            |        |             |                  |      |
| Elephant grass (kg) | 489.37 | 5           | 2,446,875        | 17.71|
| Straw corn (kg)     | 496.17 | 4           | 1,984,688        | 14.36|
| Salt (kg)           | 32.81  | 3           | 98,438           | 0.71 |
| 3. Vitamins (units) | 2.71   | 10          | 27,188           | 0.19 |
| 4. Rope (m)         | 2.71   | 1           | 2,719            | 0.01 |
| 5. Bucket (fruit)   | 1.29   | 15          | 19,453           | 0.14 |
| Total variable cost |        |             | 13,656,238       |      |
| Fixed cost          |        |             |                  |      |
| 1. Cage depreciation | 1      | 156,693     | 156,693          | 1.13 |
| Total fixed costs   |        |             | 156,693          |      |
| Total cost          |        |             | 13,812,931       | 100.00|
| Revenue             | 1.58   | 6,118,607   | 18,111,078       |      |
| Income              |        |             | 4,484,842        |      |

The data in table 1 explained that the total variable cost was IDR 13,656,238, while the revenue was IDR 18,111,078. The income received by farmers in the district of Tellulimpoe was IDR 4,484,842 per household/year, the income was shared by the owner of the capital in accordance with the agreement. In this case Novanda (2018) stated the high variable costs incurred by farmers due to the outpouring of labor costs and relatively high feed costs per year [13].

In the distribution channels, beef cattle were sold by bringing them to the city of Makassar, precisely in slaughterhouses, then there were be weighed with the live weight was sold at IDR 50,000/kg, whereas if there were slaughtered, the price was IDR 100,000/kg at the Makassar slaughterhouse.

Based on data from a total of 64 respondents, there were 45 respondents or 70.4 percent who received a revenue-sharing system of IDR 5,000,000 - IDR 20,000,000. The income were divided into 50:50 between the owners of capital and farmers in accordance with mutual agreement.

4. **Conclusion**

There were two types of the profit-sharing system applied by beef cattle breeders, namely the mother cow and the cost system. The pattern of a cow which given by the owner to the farmer to be raised was an adult cow or a female calf that has been bred. Distribution of results was in the first year, if the female calf gave birth then the calf was given to the temporary owner. In the second year the calf was given to the breeder or vice versa. According to an oral agreement for the cost system pattern, the livestock owner gave the bull to be fattened within 3-6 months and subsequently were sold. The guardian's obligation was to cover all feed (forage and concentrate), medication and cages. The income received by farmers in the Tellulimpoe district, Sidenreng Rappang regency was IDR 4,484,842 per household/year, the income was shared by the owner of the capital in accordance with the agreement.
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