

# Cattle Production and Efficiency in Pinogaluman of North Bolaang Mongondow Province of North Sulawesi, Indonesia

*by* Lydia Kalangi 4

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**FACULTY OF ANIMAL SCIENCE  
BOGOR AGRICULTURAL UNIVERSITY**



**THE FOURTH INTERNATIONAL SEMINAR ON ANIMAL INDUSTRY**

**“Harmonizing Livestock Industry Development,  
Animal Welfare, Environmental and Human Health”**

**August, 28-30 2018  
IPB International Convention Center, Bogor-Indonesia**

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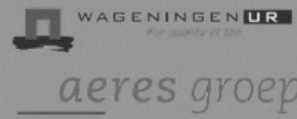
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# **FULL PAPERS**

## **PARALLEL SESSIONS**

### **SUBTHEME: ANIMAL AGRIBUSINESS, SOCIAL ECONOMICS AND POLICY IN ANIMAL PRODUCTION**

## Cattle Production and Efficiency <sup>14</sup> Pinogaluman of North Bolaang Mongondow Province of <sup>4</sup> North Sulawesi, Indonesia

<sup>4</sup> Lidya Siulce Kalangi, Stanl <sup>4</sup> O. B. Lombogia, Femi Hadidjah Elly,  
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### Abstarct <sup>6</sup>

Cattle is one of the mainstay livestock and serves as a source of income for the community in the Pinogaluman District. Some farmers develop cattle integrated with rice crops. Integrated cattle farming development show the development carried out under the principles of environmental friendly. Development with the system integration is done by utilizing rice waste as cattle feed and cattle waste as compost. The problem of rice waste has low nutritional quality as the need for feed for cattle. Based on the problem then has been done research, in Pinogaluman District with the aim to know the benefits of cattle farming. This research has been conducted in Pinogaluman District of North Bolaang Mongondow Regency using survey method. Village as the location of research <sup>6</sup>, determined by purposive that is village which have the most of cattle population. The number of respondents as <sup>36</sup> ny as 30 farmers has been determined by simple random sampling. Data analysis used is descriptive analysis. The results showed that research area is agricultural development area with rice as the dominant crop <sup>31</sup>. The development of cattle farming depends on the characteristics of farmers. Age of <sup>31</sup> spondent is categorized as productive age and education level is considered low. The number of cattle ranges from 2-6 head <sup>12</sup> which is grazed on farmland. The food consumed is wasted rice and wild grasses. Based on the result of this research, it can be concluded that cow farming is feasible to be developed which seen from RC value of greater ratio one.

*Keywords:* development, cattle, benefits

### Introduction

Demand for livestock products tends to increase due to increasing population, community income, and community knowledge about the importance of animal protein consumption of livestock. On the other hand, the increasing needs of livestock products can not be offset by its availability (Rahmawaty and Budianto, 2011; Buharman, 2011; Utomo and Widjaja, 2012) especially for beef. According to Sibagariang et al. (2010) that the contribution of beef 24% of total national meat consumption.

Cattle is one of the mainstay livestock and serves as a source of income in the community Pinogaluman District. Some farmers raising cattle integrated with rice crops. The Walia and Kaur (2013) studies showed that integrated farms were less risk, efficient, gave benefits to farmers and impacts on environmental health. Integrated farming is the right choice because of the limited ability of agricultural

resources (Wulandari, 2014). Unified farming according to Wahyuni (2015) is an alternative effort in order to improve the efficiency of cattle business on farmland. Integrated cattle breeding development demonstrates environmentally friendly development. According to Munandar et al. (2015) that a Farming System Integration is an alternative to climate change mitigation. Development with the system integration is done by utilizing rice straw as cattle feed and cattle waste as compost. The problem of rice straw has a low nutritional quality in meeting the needs of feed for cattle. Based on these problems then conducted research in Pinogaluman District with the aim to know the benefits of cattle farming.

### Materials and Methods

The material this research is cattle, feed, labour. Cattle are based on cattle ownership by each respondent. Feed is based on forage consumed in the form of rice straw, corn straw and natural grass. This research was conducted in Pinogaluman District of North Bolaang Mongondow Regency using survey method. Village samples at the location of research was determined purposively with cattle population 2902 heads. The number of respondents as many as 30 farmers was determined by simple random sampling. Data analysis used was descriptive analysis and RC ratio analysis.

### Results and Discussion

The results showed that the research area was agricultural area with rice plant was the dominant plant. The development of cattle farming depends on the characteristics of farmers. Respondent's age ranged from 25 to 65 years old, and 90% (27 respondents) were under 65 years old so most of the respondents were categorized as productive age. According to Suprianto (2016) that the productive age indicates that farmers are expected to be able to perform their activities without the constraints of decreasing physical ability as the ages continue. The education level of respondent for elementary school was 53.33% (16 respondents), junior high school 40.00% (12 respondents) and high school 6.67% (2 respondents). This condition shows that education level in research area was still low. The number of family members 2-5 people, this condition affect the ratio of consumption and workers. The more family members the higher the respondent's income to be allocated as consumption expenditure.

The number of cattle reared per farmer ranges from 2-6 with the total of 76 cows reared on agricultural lands. The feed consumed was rice straw, corn straw and natural grass that grows wild (field grass). Total forage feed consumed by 1 cattle daily is 20.7 kg, consisting of 10.5 kg of rice straw, 5.4 kg corn straw and 4.8 kg of field grass. Rice straw was the feed that the respondents rely on. Food crop wastes strongly support feeding needs in the North Bolaang Mongondow Regency (Pomolango et al., 2016). However, rice straw has a high fiber content and low energy levels so that the digestibility is low. Feed consumption according to the results of research was considered low so it needs to be pursued the development of quality forage. According to Utomo and Rasminati (2010), the availability of forage is one of the critical factors in the success of cattle farming. Sustainable forage production was an important factor in cattle production systems (Dianita et al., 2014).

However, the improvement of forage feed by Jasmani and Haryanto (2015) needs to be followed up with efforts to increase community interest and expansion of plantation area.

The success of livestock business depends on the revenue of the sale of cattle by farmer. Farmers sold cattle if they need money for purchasing inputs for paddy farming, building houses, paying for school children and other urgent needs. Research by Kalangi et al. (2014) showed that most farmers sold their cattle for cash to fulfill the family needs for food, education, health, and also festivity cost. Revenue in this study was calculated based on the value of cattle during the study. Average farmer revenue was Rp 22,800,000. Production costs consist of fixed cost and variable costs. Fixed costs in the form of rope and machete costs, while variable costs consist of feed costs and labor costs. Fixed cost of Rp 107,500, feed cost Rp 11,541,300 and labor cost Rp 1,837,674 with total cost Rp 13,486,474. Feed purchases are assumed to purchase forage of Rp 600 / kg and labor cost is assumed Rp 12,500 per hour. The average labor allocation per day is 0.4 hours. Profits obtained by farmers of respondents is Rp 9,313,526 with RC ratio 1.69. Based on the RC ratio, it shows that the business managed by the respondent is feasible to be cultivated, such as Satiti et al statement (2017) that the feasibility of cattle business can be seen from its RC value. Cattle are a source of farmers income for Pinogaluman District, so the population and productivity still needs to be improved. Government intervention is needed to encourage the development of cattle farms. Jamilah (2017) argued that the development of cattle proclaimed by the government as a reference in increasing the income of farmers as well as a major driver of regional economic development.

The results showed that cattle waste had not been utilized as organic fertilizer which will certainly have an impact on environmental pollution. Issues developed both nationally and internationally that farms are considered as one of the causes of CO<sub>2</sub> emissions that lead to increased global warming. According Syarifuddin (2012), need to find an effective way to reduce the risk of environmental pollution. The development of cattle using integrated farming system approach is suggested showing an interrelated approach. Organic fertilizer sourced from cow waste can substitute organic fertilizer. But according to Wibowo and Sumanto (2012), the development of integrated cattle farming needs government support.

## Conclusions

Based on the result of this research, it can be concluded that cattle business is feasible to be developed which seen from RC value of ratio is bigger one. Government assistance in the development of integrated cattle farms is needed.

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