

The Potential of Livestock Development in Pandeglang District, Banten Province

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Abstract. Located in sub urban area which is very close to the capital city of Jakarta, Pandeglang Regency has great potential in the development of livestock sector that leads to an independent and reliable economic growth. The aim of this research was to identify and determine the potential region for livestock development in Pandeglang Regency. The study used location quotation (LQ) and added capacity of ruminant population (ACRP) analysis. The result of LQ analysis from 35 districts indicates that each sub-district has a livestock base with a positive LQ value. Data presents an indication of animal activities in some sub-districts based on LQ Values. Maximum potential land resources in Pandeglang Regency is 102 891.22 Animal Unit (AU) and the real population is 75 951.57 AU. So, opportunity for added capacity of ruminant population based on land resources is still available for 26 939.65 AU. The result shows that Cikeusik sub-district has the highest potential to increase the number of livestock population up to 6 900 AU, followed by 4 800 AU for Panimbang sub-district, and Sobang Sub-district is about 3 800 AU. Meanwhile, the potential land resources in Sumur sub-district is not sufficient for the animals due to over capacity of -1 733.46 AU. It can be concluded that the development priorities take precedence in the sub-districts of Cikeusik, Panimbang and Sobang.

1. Introduction

Indonesia is ranked four as one of the highest populated country in the world. The increase in population directly leads to the high demand for food products, one of which is livestock products. According to information given by the Ministry of Agriculture (2016), most of the national meat consumption is still imported where milk is imported for almost 70%. Therefore, the government is expected to be able to provide strategic improvement in fulfilling the demand of increasing livestock products.

Atmiyati (2006) states that the location of farms, land suitability, food availability, and human resources are factors that must be considered in the development of a livestock business. There are several factors influencing the development of livestock such as physical, socio-cultural and economic factors. Environment and genetics are physical factors that directly affect livestock growth. As an area located close to the capital city of Jakarta, Pandeglang has great potential in terms of developing the

livestock sector. Economic development through livestock sector is focussed on independent and reliable economic growth. Therefore, this study aimed to determine the development potential of livestock areas in the Pandeglang area of Banten.

2. Material and Methods

2.1. Material

The study was carried out in Pandeglang District, Banten Province that conducted from July to December 2017. The study used qualitative and quantitative approach that included desk study, interview, direct observation and farm survey. Data was collected by interviewing 100 farmers from 9 sub-districts such as Sumur, Cigeulis, Cikeusik, Cibaliung, Panimbang, Munjul, Cibitung, Pandeglang and Cimanggu. The data collected from interviewing included farming system and financial aspects. Information on future plans was also collected during the interview.

2.2. Methods

Data were analysed by using descriptive analysis. Analysis of location quotient (LQ) was carried out to identify the potential of livestock in each sub-district based on the existing livestock population. This analysis was used to produce a type of livestock basis of each region for determining potential livestock.

The study also analysed potential and development strategies carried by calculating the value of Added Capacity of Ruminant Population (ACRP). This analysis was used to analyse the capacity and priorities of livestock development. Development of ruminant population is determined by number of households, capacities, and land resources. The ACRP in year's period was obtained as following:

$$\text{ACRP (AU)} = \text{RCC (Ruminant Carrying Capacity)} - \text{RCCU (Ruminant Carrying Capacity Used)}$$

3. Results and Discussion

Characteristics and organizational of Farmers

Livestock business in Pandeglang Regency began in the 80s. Farmers in Pandeglang Regency are formed in groups of farmers. However, the situation in the field shows that most farmers are independent farmers. Only 16% of farmers are members of cooperatives / farm groups. The survey found that the average age of farmers in Pandeglang Regency was 45.5 years, which is relatively young. 33.67% of farmers are under the age of 40 years.

For the education background, the level of formal education of farmers is still relatively low. Only 69% of farmers reached elementary school level, 11% finished junior high school and 7% completed senior high school. It is only about 3% of farmers had higher education background and 10% of farmers do not have formal education background. Generally, number of farmers in Pandeglang increases every year. Since 2010 there has been a significant increase in the number of farmers by 60 percent.

LQ Results

The result of LQ calculation shows that each sub-district has a positive LQ value. Buffaloes have more than average development in 15 sub-districts, while beef cattle have developed in 10 sub-districts. Buffalo has the highest LQ value followed by beef cattle and sheep. At the same time, poultry such as chickens, although the LQ value is positive but the LQ score is lower than ducks. The highest LQ value in buffalo is in Cisata sub-district while for ducks is in patia sub-district.

Potential development

Food crops available in Pandeglang Regency are cassava, soybeans, peanuts and corn. Food crop waste can be used as a concentrate of energy and protein sources such as onggok, soybean meal, peanut meal and corn flour which have very good nutritional value and have high palatability for livestock. In addition, the availability of quality feed can be obtained from the commercial concentrate obtained by the feed industry. The following table is the result of calculating the capacity of increasing population of ruminants per sub-district in Pandeglang Regency.

Tabel 1. Added Capacity of Ruminant Population in Pandeglang

No.	Kecamatan	RCC (AU/year)	RCCU (AU)	ACRP (AU/Year)
1	Angsana	4 980.12	2 119.00	2 861.12
2	Banjar	1 181.48	2 159.43	-977.95
3	Bojong	2 207.82	1 801.43	406.39
4	Cadasari	1 197.98	1 294.71	-96.73
5	Carita	1 855.87	2 845.29	-989.41
6	Cibaliung	2 486.79	3 241.29	-754.50
7	Cibitung	2 945.33	2 593.00	352.33
8	Cigeulis	4 530.90	3 751.71	779.19
9	Cikedal	1 741.82	1 763.43	-21.61
10	Cikeusik	10 171.47	3 257.00	6 914.47
11	Cimanggu	4 347.20	4 563.71	-216.52
12	Cimanuk	3 125.04	2 231.00	894.04
13	Cipeucang	1 447.57	2 153.57	-706.00
14	Cisata	1 628.85	2 746.14	-1117.29
15	Jiput	2 497.75	1 593.00	904.75
16	Kaduhejo	2 120.31	1 810.71	309.59
17	KarangTanjung	661.47	1 149.14	-487.68
18	Koroncong	1 022.36	1 536.86	-514.49
19	Labuan	713.74	1 860.29	-1146.54
20	Majasari	984.19	177.00	807.19
21	Mandalawangi	3 485.82	2 710.43	775.39
22	Mekarjaya	961.84	1 894.29	-932.44
23	Menes	1 487.67	1 386.14	101.53
24	Munjul	2 862.92	2 788.43	74.49
25	Pagelaran	3 997.18	2 343.29	1 653.89
26	Pandeglang	891.79	227.14	664.64
27	Panimbang	6 511.72	1 616.71	4 895.01
28	Patia	4 043.89	2 234.00	1 809.89
29	Picung	3 274.76	1 929.86	1 344.90
30	Pulosari	2 812.52	1 391.14	1 421.38
31	Saketi	2 300.30	2 359.29	-58.99
32	Sindangresmi	4 709.81	1 700.86	3 008.95
33	Sobang	6 143.86	2 318.00	3 825.86
34	Sukaresmi	4 617.82	1 729.57	2 888.25
35	Sumur	2 941.26	4 674.71	-1 733.46
	Kab. Pandeglang	10 2891.22	75 951.57	26 939.65

Based on Table 1, we can see that Pandeglang Regency holds 75 951.57 livestock units / year, so Pandeglang Regency still has the potential to increase the population of ruminant by 26 939.65 livestock units. The results shows that Cikeusik Subdistrict has the potential to increase its livestock population to 6 900 units of livestock. This indicates that Cikeusik District has a large carrying capacity for the development of livestock areas. Cikeusik Subdistrict has the potential to be used as a priority area for the development of livestock forage because it has the greatest potential for forage of the largest livestock food. This sub-district is able to provide forage continuously throughout the year and even has productivity that exceeds the needs of the current real population. Whereas the subdistrict of Sumur is a sub-district that is not suitable for the development of ruminants because it has a forage potential that does not meet the needs of their livestock, where in this sub-district there is over -1 733.46 livestock units.

Grass is the main food for ruminants. Therefore, land is an important factor that must be considered in developing livestock areas. Most of the land is used for the supply of fodder which consists of fresh and dry forages obtained from grass, legumes and other plants. Forages found in Pandeglang Regency include nappier grass, natural grass, and legumes. In addition, forages can also be obtained from the remaining agricultural waste from rice, corn, peanuts, cassava and sweet potatoes.

The productivity of livestock, especially ruminants, is determined by feeds intake. Therefore, it is needed to know the availability of forages in the area in order to be able to meet the needs of livestock. Availability of livestock forage in an area shows the level of carrying capacity of the region towards the development of livestock, especially ruminants. In addition, forages available throughout the year can reduce animal feed costs. The availability of fodder in Pandeglang Regency can be obtained from fodder fields, grazing land, plantations, forests, rice fields and agricultural waste. Based on the information given from land use data, Pandeglang District is able to produce around 375 552.97 tons of dry matter / year. Cikeusik sub-district is the district with the highest dry matter productivity followed by Panimbang, Sobang, Angsana and Sindangresmi sub-districts.

However, the production of dry matter cannot guarantee to determine the priority of livestock area development as a source of forage providers. Other information such as livestock populations must be considered. The amount of forage production must meet the available population. If the amount of livestock population exceeds the available carrying capacity, it will be over-capacity. It leads to under feeding for the animals. By knowing the potential forage of livestock in an area, the potential of the livestock population to be increased can be obtained.

4. Conclusion

Pandeglang has the potential to increase the capacity of ruminant livestock by one third of the amount of polpulation currently available. This priority is based on the potential availability of forages from each sub-district. Cikeusik is the most potential sub-district followed by Panimbang and Sobang.

5. References

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