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Analysis up-stream agribusiness and counselling beef cattle development in Jember

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Abstract. The study was to analyse the upstream agribusiness subsystem (upstream agribusiness). Data collection methods used were interviews, observation and questionnaires. Data analysis used Capacity Analysis for Ruminant Livestock Population Increase (KPPTR). The results of this study are seen from SDA, Jember Regency is a location that is not suitable for beef cattle business because of its narrow land. Land availability in the provision of feed (Effective KPPTR), has a negative value of 679,727. The human resources of Jember Regency are quite potential for the development of beef cattle business because in general, breeders have the main job as farmers (55%), although their education is still low because the average formal education is SD (38.3%). In addition, the agricultural counselling However, the role of agricultural extension agents has been effective because farmers have joined the IB program. Overall, Jember Regency has the potential as an area for fattening or ready-to-slaughter cattle business because the presence of cattle in the area is only temporary so that it does not interfere with the carrying capacity of the land in providing feed for beef cattle.

1. Introduction

Jember Regency also has the potential to support further development efforts, such as the availability of Natural Resources (SDA), the amount of feed and Human Resources (HR), but not all of these HR figures are optimized for beef cattle development. It is necessary to know the profile of Human Resources (HR), Natural Resources (SDA), and special livestock extension agencies in Jember Regency in the maintenance and development of beef cattle based on KPPTR and LQ calculations as well as alternative strategies in developing beef cattle in Jember Regency. Jember Regency. Based on these data and descriptions, a study was conducted on "Analysis of the Regional Potential of Beef Cattle Development in Jember Regency".

The purpose of this study was to see and analyse the upstream agribusiness subsystem, the potent for Human Resources (HR), Natural Resources (SDA), and special livestock extension institutions in the development and maintenance of beef cattle in Jember Regency. analysing the beef cattle business development strategy in Jember Regency.

2. Material and methods

2.1. Population

The first stage deliberately took 4 villages from 18 villages in Jember Regency based on the highest beef cattle population including Umbulsari District with 5442 heads, Jenggawah with 2615 heads, Sukowono 2452 heads, and Puger as many as 1856 heads (BPS, 2019)[11]

Samples must have at least one trait in common (Hadi, 2000). The sampling technique in this study was purposive sampling. Sugiyono (2013) defines purposive sampling as a technique of determining the sample with certain considerations. The criteria for consideration include: availability of interviewees and farming experience for more than 5 years with a minimum number of livestock of 5 heads. The total number of samples needed is 60 breeders from 4 sub-districts with the distribution of 15 breeders for each district.

2.2. Data collection methods

Obtaining the required amount of data, research was carried out using the following data collection techniques:

2.3. Field research (field work research)

Namely, direct data collection which becomes the object of research (beef cattle breeders) using the following methods:

    a. Observation (observation)
    b. Interview
    c. Questionnaire

2.4. Types of Data

2.4.1. Primary Data

Characteristics of breeders, financial conditions, management of maintenance, housing, internal and external factors of beef cattle business. Data obtained from direct interviews with breeders.

2.4.2. Secondary data:

General state of the area, population and type of livestock, total population, land use and other facilities. Secondary data were obtained from related agencies including: Central Statistics Agency (BPS), Animal Husbandry Service, Agriculture Service, District and Village Offices.

The data collected includes data on beef cattle population, population, arable land area, and other data that support the research

3. Results and discussion

This research was conducted to examine and analyse the upstream agribusiness subsystem (up-stream agribusiness), the potential for Human Resources (HR), Natural Resources (SDA), and specialized livestock extension institutions in the development and maintenance of beef cattle and monitoring and analysing business development strategies. beef cattle in Jember Regency. The sampling areas for breeders are areas that have beef cattle farms in Jember Regency. The results and discussion are as follows:

3.1. Characteristics of Breeder

A person's situation can affect different ways and abilities in the form of perception, desired information, and how to interpret that information. The results of the measurement of the characteristics of breeders in Jember Regency were distinguished by age, farming experience, type of work, education level, and motivation to breed.

3.2. Age of Breeder

Based on the table. 4, the age of the respondent breeders in the study area was mostly productive (15-64 years), namely 93.3%, while the other 6.7% were non-productive (> 64 years). This shows that the workforce in Jember Regency has the potential for development, the agricultural sector, especially livestock, because most of the breeders are of productive age. The productive age shows the ability and willingness to be more than the non-productive age in raising livestock, providing forage for livestock, caring for and maintaining the daily needs of livestock. According to [1], age is an indicator that shows a person's physical abilities. People who have a younger age are physically stronger than people who are non-productive. Work productivity in the livestock business is also influenced by the age of the breeders. Age of breeders is closely related to the mindset of breeders in determining the management system that will be applied in livestock business activities.

Table. 1 Data of Respondent Farmer Age (Year)

Village	15 - 64	>64
Umbulsari	15	-
%	25%	0%
Jenggawah	14	1
%	23,3%	1,7%
Sukowono	14	1
%	23,3%	1,7%
Puger	13	2
%	21,7%	3,3%
Total	56	4
%	93,3%	6,7%

Source: Primary data processed (2020)

Table. 2. Farming experience data

Village	Livestock Experience		
	10-15 Year	16-30 Year	>30 Year
Umbulsari	7	8	0
%	11,7%	13,3%	0
Jenggawah	8	6	1
%	13,3	10%	1,6%
Sukowono	4	8	3
%	6,6%	13,3%	5%
Puger	3	7	5
%	5%	11,7%	8,3%
Total	22	29	9
%	36,7%	48,3%	15%

Table 2 shows that the experience of raising ruminants, especially cattle in the study location, is mostly more than 15 years (63.3%). farming experience plays a very important role in the success of breeders in increasing livestock business development as well as efforts to increase farmers' income. If the farming experience is getting longer, breeders will be more careful in trying and fixing past deficiencies. Generally, breeders in Jember Regency know how to breed from family or relatives from generation to generation. Sufficient experience will make breeders have better knowledge and skills in managing beef cattle, such as growing feed on empty land and maintaining livestock health.

Most of the cattle business in Jember Regency is a side business. Based on Table 6. most of the respondents have the main job as farmers and have beef cattle at home, namely 55%, traders (16.7%), civil servants (6.6%) while the least number of jobs is pensioners (1.7%). The remaining 20% is the type of work that is not included in the specified type of work, including farm labor, self-employed, corn collectors, construction workers, and tire repairmen. Most of the work of breeders as farmers shows that farmers use agricultural land to grow food crops which are then used as agricultural waste to feed beef cattle. Livestock in Parengan District is a side business undertaken by breeders to help increase living costs and as savings when experiencing urgent needs.

Table 3. Type Work of Occupation Respondent

Village	The Main Job				
	Breeder/farmer	PNS	Retired	Selling	Others
Umbulsari	9	1	0	2	3
%	15%	1,7%	0%	3,3%	3,3%
Jenggawah	7	2	1	3	2
%	11,6%	3,3%	1,7%	5%	3,3%
Sukowono	8	0	0	3	4
%	13,3%	0%	0%	5%	6,6%
Puger	9	1	0	2	3
%	15%	1,7%	0%	3,3%	5%
Total	33	4	1	10	12
%	55%	6,6%	1,7%	16,7%	20%

Source: Primary data processed (2020)

Table 4. Farmer Education Level

Sub District	Education				
	Uneducation	SD	SMP	SMA	University
Umbulsari (%)	3,3 %	10%	10%	1,6%	0%
Jenggawah (%)	0%	8,3%	10%	6,6%	0%
Sukowono (%)	3,3%	6,6%	13,3%	1,7%	0%
Puger (%)	5%	13,3%	3,4%	3,3%	0%
Total	11,6%	38,35	36,7%	13,4%	0%

Source: Primary data processed (2020)

The education level of farmers in the study area is shown in Table. 4. Most of the breeders have primary school education (38.3%), followed by junior high school (36.7%), high school (13.4%), and no school (11.6%), while for tertiary education (0). The results showed that the education level of the breeders was still low with the range of only graduating from elementary school, which was the level of education that had little effect on the level of skills and knowledge of the breeders. According to Murwanto (2008), population quality indicators and the key to human resource development can be seen from the education level of breeders. In the livestock business, the educational factor is expected to assist the community in effort to increase the production and productivity of the farmed livestock. An adequate level of education will have an impact on improving the performance and ability of the management of the livestock business being run.

Therefore, field technical personnel are needed to provide field counselling from related offices in the area which aim to increase productivity in the livestock business being run. In the research area, there are already extension officers for breeders, but because Lack of farmer knowledge is difficult to learn about animal husbandry because farmers consider it less profitable for them.

In Table 5, it can be seen that the breeders in Parengan Subdistrict have an average of 3 cattle, while if calculated in Animal Units (ST) the average is 2.65 ST. Livestock ownership is the number of livestock owned by the breeder in the research area which is stated in the Livestock Unit (ST). Ownership of livestock can be categorized into two categories, namely small scale with criteria for livestock ownership of 1- 6 heads and large scale with criteria for ownership> 6 heads. The business run by breeders is classified as small because the livestock ownership is small and the business is only a side business. Beef cattle breeding business in Puger District is still side-by-side because it is included in the people's farm where each breeder has an average of 3 cattle.

Table. 5. Data on average of respondents' livestock ownership

Sub Distric (per responden)	Average beef cattle (tail)	Jumlah (ST)
Umbulsari	3	2,4
Jenggawah	3	2,4
Sukowono	4	3
Puger	4	2,8
Average	3,5	2,65

Source: Primary data processed (2020)

3.3. Institutional (agricultural extension)
Another factor that can support the area for developing a beef cattle business is a livestock institution that must always be built in order to develop a beef cattle business in Parengan District. The livestock institutions that support the business of beef cattle fattening in Parengan Subdistrict are livestock groups which are still not spread in every village. Beef cattle livestock groups in Parengan District can be seen in Table 6.

Table 6. Beef cattle farmer groups in Jember Regency

Name	Sub District
Karang Mulyo	Umbulsari
Lembu Selo Aji	Jenggawah
Sido Mulyo	Sukowono
Ngudi Rojokoyo	Puger
Margo Mulyo	Puger
Tani Asri	Jenggawah
Tani Makmur	Jenggawah
Margojujur	Sukowono
Abadi Jaya	Umbulsari
Tani Rahayu	Sukowono

Source: [2]

This beef cattle farmer group is given assistance from the government in the form of cash and cows which are given to the head of the livestock group with the assistance of a livestock extension worker to oversee the activities of the livestock group. The task of the livestock instructor in Jember Regency is to provide information related to the world of livestock with the aim of increasing the production of beef cattle owned by breeders, but this is less effective because of the enthusiasm of farmers who are less enthusiastic in receiving information from extension workers on the grounds that farmers are more comfortable using traditional methods of maintaining their livestock.
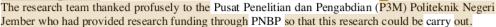
4. Conclusion

1. Overall, Jember Regency has the potential in developing beef cattle business, seen from the limited availability of land and forage for livestock but the lack of interest of breeders in increasing the population of their livestock.

2. The human resources in Jember Regency are quite potential for the development of beef cattle business because in general, breeders have the main job as farmers (55%), although their education is still low because the average formal education is SD (38.3%). In addition, the agricultural extension agents in Jember Regency are veterinarians or those in charge of controlling livestock health. However, the role of agricultural extension agents has not been effective because farmers are less interested in existing programs. Overall, Jember Regency has the potential as an area for fattening or ready-to-slaughter cattle business because the presence of cattle in the area is only temporary so it does not interfere with the carrying capacity of the land in providing feed for beef cattle.

References

[1]   Karmila. 2013 Faktor Faktor yang Menentukan Pengambilan Keputusan Peternak Dalam Memulai Usaha Peternakan Sapi Potong Di Kecamatan Bissappu Kabupaten Bantaeng. Fakultas Peternakan, Universitas Hasanuddin. Makassar. http://repository.unhas.ac.id/bitstream/handle/1234 56789/8231/KARMILA%20%20%28I%20311%2009%20292%29.pdf?sequence=1.Diakses pada tanggal 13 Oktober 2017

[2]   Murwanto, A.G. 2008. Karakteristik Peternak dan Tingkat Masukan Teknologi Peternakan Sapi Potong di Lembah Prafi Kabupaten Manokwari. Jurnal Ilmu Peternakan,3(1) p:8-15 http://download.portalgaruda.org/article.php?article=101916&val=1609. Diakses pada 03 Oktober 2017

[3]   Simamora, B 2004 Panduan Riset Perilaku Konsumen. PT. Gramedia Pustaka Utama. Jakarta.

[4]   Hardyastuti, DM. 2008. Strategi Pengembangan Wilayah Kabupaten Grobogan Sebagai Sentra Produksi Sapi Potong. Skripsi. Bogor (ID): Program Studi Teknologi Produksi Ternak. Fakultas Peternakan Institut Pertanian Bogor.

[5]   Iskandar I dan Arfa`i 2007 Analisis Program Pengembangan Usaha Sapi Potong Di Kabupaten Lima Puluh Kota, Sumatera Barat (studi kasus program bantuan pinjaman langsung masyarakat). (Skripsi). Fakultas Peternakan Universitas Andalas. Padang. http://repository.unand.ac.id/3985/1/Ismet_Iskandar.pdf. Accessed on 16 September 2017

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