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EVALUATION OF CATTLE SHARING SYSTEM IN THE DEVELOPMENT OF CATTLE FARMING FOR THE FARMER GROUPS UNDER NATURAL BOWL FARMING GROUP IN MOJOKERTO REGENCY EAST JAVA

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Abstract

The objective of the research cattle sharing program is implemented by the Lembu Alam Farmer Group, an independent community-based institution in Mojokerto, East Java, in terms of farmer income, labor employment and cattle population increase. A survey was conducted using all the 55 farmers participating in the program from April to June, 2023. Net present value (NPV), benefit cost ratio (BCR) and internal rate of return (IRR) were determined from the conditions of before and after participating in the program. NPV was found to increase for 64.40% from IDR 18,251,432 (before) to IDR 28,338,774 (after). BCR and IRR were 21.35 and 50% respectively. Average income was found to be IDR 5,212,500/year. Cattle natural population increase was found to be 27.05%/year. This program increased the labor employment as much as 12.27%. Regression analysis showed that the factors affected the ability of farmers to give back the share were cattle mortality ($P<0.01$), farmer experience ($P<0.05$) and calving interval ($P<0.01$). It is concluded that this cattle sharing program is a success program in increasing cattle population,

Key words: *Cattle-sharing program, Program evaluation*

A. INTRODUCTION

The development of livestock as part of the agricultural sub-sector, continues to be developed in order to meet the need for animal protein while at the same time making a real contribution to national development. Beef cattle is a livestock commodity that has the potential to be developed in Indonesia to support this target. One of the areas in Indonesia that has the potential for the development of beef cattle is East Java Province. The main reason for the development of beef cattle is the condition of the land which is quite large and the availability of livestock forage and agricultural waste which is quite abundant throughout the year for livestock needs. The type of beef cattle that is generally kept is Limosin cattle which has a fairly high growth rate of meat (Bandini, 2003).Mojokerto Regency is one of the beef cattle development centers in East Java which has promising prospects for beef cattle business development. This is supported by the level of meat consumption in East Java Province which continues to increase.

The action taken by the government is to develop livestock to increase production and population. The success of beef cattle business is influenced by internal and external factors. Internal factors include business scale, breeder capital and location while external factors include markets, technology, economic conditions and government policies. The condition of beef cattle farms in Mojokerto is almost the same as in several areas in East Java, namely they are still managed traditionally and rely on smallholder livestock businesses. One of the internal problems most experienced by breeders in the field is the lack of capital in the beef cattle development business. This problem has an impact on low livestock ownership, labor that has not been maximized and low income derived from beef cattle business. One of the efforts made bythe Lembu Alam farmer cooperativeMojokerto Regency to develop beef cattle is to implement a partnership program through empowering the people's economy by providing cattle assistance to several groups of breeders in the form of rowdy cows. Saptana and Ashari (2007) state that a partnership is a partnership of various agribusiness actors, starting from pre-production, production to marketing activities. Partnership is based on the principle of equality of position, mutual need and mutual benefit as well as the existence of an agreement between the partners to

share costs, risks and benefits. In this partnership model,the Lembu Alam farmer cooperative acts as the nucleus and the breeder as the plasma. In the production process, breeders only provide labor and cages, while the partiesthe Lembu Alam farmer cooperativeproviding seeds, feed, medicines, production technical services and animal health (Hartono, 2000).

The success of the agribusiness program in the livestock sector that has been rolled out is expected to be in accordance with the main objectives of the program itself, namely being able to direct people's livestock businesses which have so far been traditional in nature to become industrial, create jobs, and increase breeder income. In addition, it is necessary to study the social factors and reproductive performance factors that influence the success of rowdy beef cattle, therefore researchers are interested in evaluating the beef cattle development program through the Lembu Alam farmer group in Mojokerto Regency, so that it can be used as a reference in efforts to improve beef cattle development programs in the future. The purpose of this study was to evaluate the business feasibility and effectiveness of the gaduh beef cattle development program in terms of the aspects of increasing the ruminant beef cattle population, absorbing energy, increasing the farmer's income, as well as the factors that affect the return time of the rowing beef cattle. The benefits of research as a material consideration in running a beef cattle business in the context of utilizing beef cattle rumble packages to increase farming income, considerations in policy making, especially in efforts to develop beef cattle business through a rowdy pattern to the Lembu Alam Farmer Group which is mutually beneficial.

B. RESEARCH METHOD

Location and Research Design

The research location is in Suru Village, Dawarblandong District, Mojokerto Regency, East Java. The research was conducted from April to June 2023.

Research material

The material used in the study was all 55 farmers receiving rowdy cattle in 2023 who are members of the Lembu Alam farmer group in Suru Village, Dawarblandong District, Mojokerto Regency, East Java.

Data collection method

Data collection is done by census method. The data taken includes primary and secondary data. Primary data were obtained by direct interviews with respondents who were recipients of the beef cattle rowing program based on the questionnaire that had been prepared. Secondary data obtained from literature related to research.

Data analysis

The results of the research are in the form of field data, tabulated and then analyzed in accordance with the research objectives, namely 1) population increase, 2) income increase, 3) labor absorption and factors that influence payback time. To determine the feasibility of using the discounted cash flow method, it includes: benefit cost ratio (BCR), net present value (NPV), and internal rate of return (IRR) (Gray et al., 2005). To find out the factors that influence the return time of rowdy, it is analyzed using a multiple linear regression model (Algifari, 2000). The mathematical model used is: Y = a = + b1X1 + b2X2 + b3X3 + b4X4 + b5X5 + e Information:

Y = payback time (years)
X1 = farming experience (years)
X2 = allocation of livestock livestock (HOK/year)
X3 = the number of dependents
X4 = *calving intervals*(month)
X5 = mortality rate (%)

a = constant or intercept

b1-b5 = regression coefficient of each variable e e = errors

C. RESULTS AND DISCUSSION AGE OF BREEDERS

Age is one of the factors that influence the work and mindset of breeders in determining the style and pattern of management applied in managing their farminglivestock business. In line with increasing age, productivity decreases, but the higher the person's experience (Suratiyah, 2006). The full age classification of rowdy breeders is presented in Table 1.

Tabel 1. (*classification of farmers based on age*)

Umur (*age*)	Orang (*farmers'*)	(%)
0 – 15	0	0,00
15 – 64	52	94,54
> 64	3	5,46
Total	55	100,00

The average age of cattle breeders is 46.6 years with a range of 32-70 years which is a productive age in accordance with Mantra (1985) which states that people who are included in the labor force are people aged 15-64 years. The age range that has entered the work force will be more receptive to innovation, so it is still possible to develop a rowdy beef cattle business. The study conducted by Fatati (2001) shows that the younger a person is, the faster they accept changes from outside because farmers always want to try something new as an effort to increase their knowledge and skills in diversifying their business.

Farmer education level

The level of education includes formal and non-formal education. The level of education will greatly influence the differences in the way of thinking of farmers in adopting the various innovations and technologies they acquire, which in turn can increase the productivity of livestock businesses. Breeders with a high level of education will more quickly accept new innovations than breeders with lower levels of education. In detail, the education level of breeders is presented in Table 2.

Tabel 2. (*farmers'education*)

(*education*)	(*total*)	
	Orang	%
Tidak sekolah (*illiterate*)	2	3.63
SD (*primary school*)	17	30.91
SMP *(junior school)*	14	25.46
SMA *(senior school)*	16	29.1
D1-D3 *(diploma)*	4	7.27
S1 *(undergraduate)*	2	3.63
	55	100

The education level of most breeders, namely those with elementary to junior high school education, is around 50%. This is in accordance with the conditions in Indonesia, in general, most people's farms have junior high school education and below. Farmers who have a high level of education will more quickly receive and understand new information, able to make innovative changes in livestock management. Soekartawi et al. (1984) stated that farmers with higher levels of education are faster in adopting innovations.

Breeding experience

Experience in raising cattle for participants in the cattle rowing program presented in Table 3.

Tabel 3. (*farmer's experience*)

(*experience (year)*)	(*farmers*)	(%)
< 5	12	21,81
5 – 10	15	27,27
11 – 16	6	10,90
> 16	22	40,00
Total	55	100,00

Breeders generally have knowledge of cows for a relatively long time. The average farming experience is 14 years with a range of 2-45 years. This is because cattle have a very close relationship with agricultural businesses, as well as family savings, for example livestock can be used as capital to send children to school or as capital for other businesses. In an effort to develop beef cattle rumbles, breeders are equipped with practical knowledge on how to raise beef cattle through counseling and guidance from Animal Husbandry Practitioners. According to Isbandi (2004), counseling and coaching to livestock farmers is carried out to change farming methods from traditional patterns to commercial livestock businesses by applying good zootechnical methods.

Livelihood

The livelihoods of breeders receiving ruminant beef cattle are presented in Table 4.

Tabel 4. (*main occupation of farmer*)

Mata pencaharian (o*ccupation*)	Orang (*farmer*)	(%)
Petani (*farmer*)	30	54,54
Swasta (*non farmer*)	12	21,82
PNS (*government official*)	10	18,19
Pensiunan (*retired*)	1	1,82
Lain – lain (*others*)	2	3,63
Total	55	100,00

Based on Table 4, the beef cattle business carried out by the respondents is still a part-time business, almost 50% of the respondents work as farmers. The main commodity is food crops. In general, livestock business is a part-time business to provide for one's own needs (Directorate General of Livestock, 1991). This is in accordance with the opinion of Roessali et al. (2005), that farming or beef cattle business for people is generally small-scale. The main goal of rearing has shifted from working livestock to being replaced by hand tractors so that until now it has been more directed towards family savings which can be used at any time in the context of urgent needs

to be used as capital. Tawaf and Kuswaryan (2006) state that people's beef cattle business should begin to be directed to commercial businesses, no longer as a hobby or savings, because people's livestock will be the backbone of the success of the meat sufficiency program in the future. The data above also shows that the rowdy program has not been fully on target because according to the rules participants are not allowed to work permanently, but in reality there are still cattle breeders who have got jobs and steady income but still get rowdy cows. This is contrary to the objectives of the gaduh program, including creating jobs for the community. but in reality there are still cattle breeders who have got jobs and steady income but still get cow noise. This is contrary to the objectives of the gaduh program, including creating jobs for the community. but in reality there are still cattle breeders who have got jobs and steady income but still get cow noise. This is contrary to the objectives of the gaduh program, including creating jobs for the community.

Number of breeder family members

The number of family members of the breeder can affect the business activities of the breeder itself because the number of family members can supply the availability of labor that can assist their activities. The complete composition of the farmer's family is presented in Table 5.

Tabel 5. (*age and sex composition of family*)

age group (year)	(sex)	(%)	(*average members of family)*
0 – 9	Pria (*male*)	7,99	0,34
	Wanita (*female*)	10,92	0,47
10 – 14	Pria (*male*)	8,40	0,36
	Wanita (*female*)	9,24	0,40
>15	Pria (*male*)	36,55	1,58
	Wanita (*female*)	26,90	1,16
Total		100	4.31

Table 5 explains that the average number of respondents' family members is 4.31 people consisting of various age groups. In general, they are over 15 years old (63.45%) who are of productive age, while only 36.55% are family dependents. In terms of the number of family members, the greater the number of family members, the greater the needs of the family that must be met. Thus it will encourage farmers to try to obtain additional income through other businesses. As seen in this study, one of the objectives of developing beef cattle ranches is to increase family income. When viewed from a labor perspective, the number of family members determines the availability of labor in their business activities.

Livestock ownership

The composition of the livestock is based on the age of the livestock consisting of calves (birth to 6 months of age), virgins and young (between 6-12 months of age), and adults (more than 12 months). Livestock ownership is calculated based on livestock units (UT) using the following conversion: one calf = 0.5 UT, one young animal = 0.8 UT and an adult animal = 1 UT (Directorate General of Livestock, 2004). The type of cattle cultivated is Limousin cattle. The average livestock ownership is presented in Table 6.

Based on Table 6, the average beef cattle ownership is 2.39 UT. On average, each breeder has 3 livestock consisting of 1 adult, 1 young and 1 calf. The average livestock ownership is the remaining livestock until now, after paying off the return of rowdy livestock and livestock that have been sold or are small-scale farmers. This is supported by the statement of Roessali (2004) that small-scale farmers are only raising cattle as a sideline and tend to keep their numbers the same from year to year based on the ability of the number of family members.

Employment

Based on the results of research in the field, data was obtained that the labor used in farming activities came from within the family and from outside the family. Especially for the beef cattle business, the workforce still relies on family labour. In the research conducted, the availability of family labor was calculated based on men's working days (HKP) with the conversion: 1 adult male = 1 HKP can work for 7 hours/day, 1 adult woman = 0.7 HKP and 1 child (10-14 years old) = 0.5 HKP (Hermanto, 1995). The overall availability of family labor for agriculture and animal husbandry and other businesses is presented in Table 7.

Tabel 7. (*absorbtion of family labour to the effort agriculture, ranch and other effort*)

(*age (year)*)	(*average family number)*	(*manequivalent)*	(*working hours/day*)	(*working days/year)*	%
> 14 pria (*adult male*)	1,58	1,58	12,64	576,70	57,00
>14 wanita (*adult female*)	1,16	0,81	6,50	296,38	29,30
14 – 16 anak (*children*)	0,76	0,38	3,04	138,70	13,70
Total	3,50	4,02	22,17	1,011,78	100,00

Based on Table 7, the average number of family members of respondents who are of working age (age 10-64 years) is 3.50 people with details of 1.58 adult men, 1.16 adult women and 0.76 children. If converted based on JOK, the number of family hours available for each respondent is 22.17 JOK, consisting of 12.64 JOK for adult men, 6.50 JOK for adult women and 3.04 JOK for child labour. The average absorption of labor for agricultural businesses is 5.26 JOK, for beef cattle business is 1.49 JOK and other businesses is 3.67 JOK. Matatula (1997) states that the employment of beef cattle business families is 13.85% of the total productive workforce. This shows that in the study area the absorption of labor for livestock business is still low because livestock business is still a side business. Absorption of labor for agricultural business is 23.71% of the available workforce, absorption of labor for the rowdy beef cattle business is 6.70% of the available workforce and employment for other businesses is 16.58% of the total available workforce. If converted to HOK/year, the total working hours used is 1011.78 hours, but if deducted by the total HOK/year for agricultural businesses, rowdy beef cattle and other businesses in one year, there are still 474.98 hours or 11.87 JOK per day. Based on the results of the research above, it shows that there is still a workforce that has not been utilized optimally.

Technical and economic parameters of beef cattle in the current condition

The technical and economic parameters of beef cattle at the current rumble of beef cattle obtained at the research location based on observations were calving intervals of 13 months, mortality 1% of the average value of livestock kept. The average selling price of male beef cattle is Rp. 19,000,000.00/head, Rp. 16,000,000.00/head, young male Rp. 14,500,000.00/head, young female Rp. 14,000,000.00/head, while for calves the average per head is Rp. 11,500,000.00. The projection of the beef cattle business model by providing 2 cows ready for mating, with the return of 2 offspring aged 12-16 months, a period of 4 years and a calving interval of 13 months, shows that in the third year the breeder can repay the loan and can increase the cattle population by 2-3 offspring.

Natural increases

*Natural increases*in percent or natural population increase calculated based on % births minus % deaths in one year. In the research conducted, NI was calculated from May 2021 to May 2022. Table 8 presents the composition of beef cattle and the average age obtained in the study.

Tabel 8. (*natural increase of the catlle belong to the farmer)*

age group (years))	(*male*)		Betina (*female*)		Total
	(*head*)	(*average*)	(*head*)	(*average*)	
>12	28	2,28	64	3,24	92
6 – 12	16	1,8	14	1,9	30
< 6	14	0,45	20	0,46	34
Total	58		98		156

The number of calves born for 1 year was 34 calves or 53.12% of the parent population, namely 64 calves. The calf death at birth was 1 calf, so the calf crop obtained for 1 year was 33 calves or 51.56% of the parent population. The percentage of sows is 64/122 X 100% = 52.45%, so the percentage of calves born per total population is 53.12% X 52.45% = 27.86%. The number of deaths of beef cattle from the population for 1 year is 1 head or 1/122 X 100% = 0.81%. Based on these results, the NI number of rowdy beef cattle business in this study was 27.86% - 0.81% = 27.05% a year. When compared with non-adversary breeders, from 216 head of cattle taken as random at the study site, the NI rate obtained was 25.81%. This shows that the existence of a rowdy program can increase the population increase naturally better than non-custodial breeders, although it is not significant because in general the management of livestock rearing is relatively the same between custodian and non-informer breeders in the study area. When viewed from the NI rate of cattle at the research location, it is high when compared to Indonesia's NI rate in 1991 of 17.5% (Faculty of Animal Husbandry UGM, 1991). The high rate of NI is due to the ideal calving interval of 13 months, and rowdy breeders already know when the livestock will be mated so that the mating time can take place properly. although not significant because in general the management of livestock rearing is relatively the same between custodial and non-assist breeders in the study area. When viewed from the NI rate of cattle at the research location, it is high when compared to Indonesia's NI rate in 1991 of 17.5% (Faculty of Animal Husbandry UGM, 1991). The high rate of NI is due to the ideal calving interval of 13 months, and rowdy breeders already know when the livestock will be mated so that the mating time can take place properly. although not significant because in general the management of livestock rearing is relatively the same between custodial and non-assist breeders in the study area. When viewed from the NI rate of cattle at the research location, it is high when compared to Indonesia's NI rate in 1991 of 17.5% (Faculty of Animal Husbandry UGM, 1991). The high rate of NI is due to the ideal calving interval of 13 months, and rowdy breeders already know when the livestock will be mated so that the mating time can take place properly.

Financial analysis of beef cattle business

In the financial analysis, what is mainly done is to find out whether the business that is run within a certain period of time can provide benefits or not for rowdy beef cattle breeders. Based on the results of the financial analysis with and without the beef cattle cowling project, the farmers' income prior to the existence of the project was obtained from agricultural businesses in general, amounting to Rp. 6,009,000.00/year. From the first year to the second year, the beef cattle business does not generate income financially, where the beef cattle business does not produce offspring or calves to be born to pay installments. In the project period of the third and fourth years, the beef cattle business is financially able to provide an increase in income for 4 years each of Rp. 3,100,000.00 and Rp. 14,900,000.00.

Benefit cost ratio(BCR)

*Benefit cost ratio*is a comparison between the present value of the results and the cost of capital as an indicator of whether or not an investment is accepted. According to Machfoedz (1987), the BCR criteria provide guidelines that a project will be selected if the BCR is greater than 1, and vice versa if a project has a BCR less than 1 then the project will not be selected. In this study, BCR was calculated based on the length of time the farmer received the rumble of beef cattle until the time the research was carried out. In the rowdy program implemented most of the inputs used by breeders include; labor, stables, feed and medicines to raise livestock are free of charge. In this case the breeder does not spend cash for cattle investment. Breeders basically only take advantage of the fattening profit from the sale of calves. The BCR value of 21.35 indicates that the cattle business is feasible to run because the cattle breeders benefit from the cattle they raise.

Net present value(NPV)

*Net present value*is the entire net cash flow multiplied by the discount factor in the year and the interest rate at a predetermined rate (Gray et al., 2005). In the research conducted using an interest rate of 12%. This refers to the discount rate used in Indonesia. According to Gray et al. (2005), the discount rate ranges from 10-15%. In accordance with the assumption that a certain amount of money at the present time has a different value in the future, the NPV criteria helps in knowing the value of rupiah received at this time and if received in the future. Based on the results of research on beef cattle rowing business for 4 years, the NPV is positive or greater than zero, namely Rp. 28,338,774.00. This shows that this business is feasible (feasible). This is supported by Kadariah et al. (1999) where a project if the NPV calculation is greater than 0 (zero) then the business/project is feasible to run and if the NPV is less than 0 (zero) it is not feasible to implement because there are still other, more profitable uses for the resources needed by the project. Furthermore, if the NPV is equal to 0 (zero), it means that the project is in a break event point (BEP).

Internal rate of return (IRR)

*Internal rate of return*is the level of profit from the investment invested in a business. The main purpose of the IRR is to find out how much money is in a business that is planned to allow the business to recover the capital and interest issued (Jakfar and Kashmir, 2007). In general, the IRR investment criteria as a guide that the project will be selected if the IRR> discount rate. According to Gray et al. (2005), a project is feasible if the IRR is greater than the discount rate or bank loan interest (10-20%), if it is smaller then the investment is rejected. In this study the IRR was more than 50%. This shows that the business of rowing cows is feasible to continue because the IRR is higher than the bank loan interest. The cause of the high IRR in this project is the use of low production factors and almost 80% of the investment return is obtained from borrowing costs. IRR analysis in this study is only valid for 4 years of maintenance. In general, the economic and technical life of the business being carried out has not ended so that the recovery period for investment capital is not taken into account in the research.

Factors that influence the time of taking beef cattle rumble

To find out the factors that influence the length of time for taking rowdy beef cattle, a test was carried out using multiple linear analysis. Completely presented in Table 9.

Tabel 9. (*regression analysis of variables affecting period of catlle restitution)*

(*independent variable*)	(*coefisient of regression)*	t	(*significancy*)
Constant	0,777	0,713	0,479
(*farming experience (year)*)	-0,019	-3,109	0,003**
(*manpower allocation (HOK/year)*)	0,023	0,892	0,377ns
(*member of dependent (person)*)	-0,026	-0,555	0,581ns
Calving interval (*calving interval (month)*)	0,176	2,029	0,048*
(*mortality rate*)	0,060	7,129	0,000***
Koefisien determinasi (R^2) = 0,700			
F_{hitung}	= 22,840		0,000**

*** P<0,01, ** P<0,05, * P<0,10, ns *non significant.*

The results of the research based on the results of the analysis then formulated a multiple linear regression equation model with the following form: **Y= 0.777 – 0.019X1 + 0.023X2 – 0.026X3 +0.176X4 + 0.060X5**

In this study, beef cattle return time as the dependent variable was influenced by several factors including farming experience (X1), labor allocation (X2), number of dependents (X3), calving interval (X4) and mortality (X5). The results of the processed data in Table 9, the independent variables that show a significant effect on the return time of beef cattle as the dependent variable is the mortality rate, while the independent variables that show no significant effect are labor and the number of dependents. Based on the t test, partially the independent variable calving interval and the mortality rate obtained the regression coefficient is positive so that it has a significant effect on the dependent variable, because the shorter the calving interval, the faster the time to return livestock. Devendra et al.

Mortality rate (P<0.001) for the return time of rowdy cattle with a positive coefficient value (0.060) indicates the higher the livestock mortality rate, the longer the return time for rowdy cattle, and conversely the lower number mortality, the faster the return time of cattle. On experience breed And amount

dependent coefficient value is obtained regression negative and significantly influence the dependent variable. Breeding experience (P<0.01) on the return time of beef cattle with a negative regression coefficient (-0.019), This means the longer the farming experience, the faster the return time for rumbles, and conversely the less farming experience the longer the time return cattle rowdy. Amount family responsibilities do not affect the time of return because the study area is an agricultural location, so not all families are involved in livestock business. Table 9 also shows the coefficient values determination (R2) of 0.700 means that the variation in return time as the dependent variable can be explained by the variation of the independent variables in the regression equation model of 70.0%, while the remaining 30.0% is explained by the variation of variables not included in the regression equation model. The calculated F-value is 22.840 (P<0.01), this indicates that all variations of the independent variables (X1,X2,X3……X5) in the regression equation model jointly affect the dependent variable

D. CONCLUSION

From the results of the study it was concluded that the beef cattle development program through the Lembu Alam Farmer Group in Mojokerto Regency in general had not reached the program's target. This is evidenced by the low increase in the population of rowdy cattle, the selection of potential recipients has not met the requirements, violations without strict sanctions,

the ineffectiveness of field officers and the low level of breeders paying off their cattle on time. The results of the financial analysis of farming on the condition of rowdy beef cattle breeders in the Lembu Alam Farmers group in Mojokerto Regency with a period of 4 years, and the average maintenance of 2 cows, the BCR value is greater than 1, namely 21.35, the NPV value with a positive discount rate of 12% is Rp. 28,338,774.00 and the IRR value is greater than the discount factor, which is 50%. The average increase in income per year for the recipients of gabuhan is Rp. 5,212,500.00. The natural population increase in the beef cattle business of the Alam Lembu Farmers group in Mojokerto Regency is 27.05% a year. The results of the regression analysis showed that the calving interval and the mortality rate had a positive effect on the return time for the rumble of beef cattle.

The beef cattle business of the Lembu Alam Farmer Group in Mojokerto Regency is feasible to be developed in order to increase the income of the beef cattle raisers and the availability of family labor and does not rule out the possibility of increasing the number of cattle raised by the breeder, so that the active role of the giver of rumination or credit is not limited to rolling out and taking credit for wading cattle, but needs to play a role in continuous coaching and mentoring. In addition, the selection of recipients of rumination must be more stringent and the distributed livestock must be in accordance with the specifications and the enforcement of rules and the application of sanctions must be stricter in accordance with the agreement on rowdy.

REFERENCE

Algifari. 2000. Regression Analysis (Theory, Cases and Solutions 2nd Edition). BPFE, Yogyakarta.

Devendra, CT, LK Cho, M. Patheachan. 1973. The productivity of Bali catle in Malays. Agric. J. 8(4): 49-55.

Directorate General of Livestock. 1991. Development and development of livestock in Indonesia in terms of genetic quality improvement. Paper. Presented at a one-day Livestock Breeding seminar, Bogor.

Directorate General of Livestock. 2004. Livestock Statistics Bulletin 06 – 07/VII. Indonesian Ministry of Agriculture, Jakarta.

UGM Faculty of Animal Husbandry. 1991. Inventory of the potential supply of beef cattle in Central Java.

Research Report. Collaboration with the Animal Husbandry Service for Central Java.

Fatati. 2001. The behavior of livestock farmers in diversifying oil palm crops with beef cattle in the Sungai Bahar transmigration area, Muaro District. Journal of Animal Husbandry Sciences 4(2): 29-35.

Gray, C., P. Simanjuntak, LK Sabur, FPL Maspaitela. 2005. Introduction to Project Evaluation. Gramedia Pustaka Utama, Jakarta.

Hartono, R. 2000. Minimization of production costs for broiler livestock businesses in a partnership pattern. Livestock Bulletin 24(4): 170-175.

Hermanto, F. 1995. Farming Science. Print V. Independent Publisher, Jakarta.

Isbandi. 2004. The influence of group dynamics on the application of zootechnics by groups of beef cattle farmers. Journal of Agricultural Extension Development in the Field of Animal Husbandry Sciences 13: 120-123.

Jakfar and Kasmir. 2007. Business Feasibility Study.

2nd edition. Kencana, Jakarta.

Kadariah, L. Karlina, and C. Gray. 1999. Introduction to Project Evaluation. Faculty of Economics. University of Indonesia, Jakarta.

Machfoedz, M. 1987. Management Accounting. Open University. Ministry of Education and Culture, Jakarta.

Mantra, IB 1985. Introduction to Demographic Studies.

Nurcahaya, Yogyakarta.

Matatula, JM 1997. Evaluation of the development of bovine beef cattle from independent partner foundations in the Wayapo transmigration area, Kab. Central Moluccas. Thesis. Gadjah Mada University Postgraduate Program, Yogyakarta.

Roessali, W. 2004. Profitability of the Simental nursery in IV Cawang District, Agam Regency. Journal of Tropical Livestock Development. Special Edition National
Seminar on Ruminants October 7, 2004 Book
3. Faculty Diponegoro University Animal Husbandry, Semarang.

Roessali, W., BT Eddy, and A. Murthado. 2005. Efforts to develop beef cattle business through the agribusiness entity "Corporate Farming" in Grobogan Regency. Journal of Animal Husbandry Socioeconomics 1(1): 25-30.

Saptana and Ashari. 2007. Sustainable agricultural development through business partnerships. Journal of Agricultural Research and Development 26(4): 126-130.

Soekartawi, A. Soehardjo, JR Dillon, and B. Hardeker. 1984. Farming Science and Research for the Development of Small Livestock. UI Press Publisher, Jakarta.
Suratiyah, K. 2006. Farming Science. Independent Spreader, Jakarta.

Tawaf, R. and S. Kuswaryan. 2006. Constraints to sufficiency of meat 2010. In B. Suryanto, Isbandi, BS Mulayatno, B. Sukamto, E. Rianto, and AM Legowo (ed.). Empowerment of Livestock Communities in the Agribusiness Sector to Support Food Security. Proceedings of the 2006 National Seminar, Diponegoro University, Semarang. p. 173185.