RESEARCH ARTICLE

POTENTIAL AVAILABILITY OF CATTLE FEEDBACK FROM HEALTH BEED BEAST IN MALANG.

Hariyono. M. B[1], Z. Fanani[2], B. A. Nugroho[2] and M. Nasich[2].

1. Student of Doctor's Program in Animal Husbandry of Brawijaya University.
2. Lecturer of Doctor's Program in Animal Husbandry of Brawijaya University.

Manuscript Info	Abstract
Manuscript History Received: 15 January 2018 Final Accepted: 17 February 2018 Published: March 2018	Research on Potential Availability of Beef Cattle from Pedet Male Dairy Cow is done in Pujon District of Malang Regency. Determining the location of the study was done purposely (purposive sampling). The study period lasted for three months: ie in January to March 2016 The purpose of this study is to describe the real condition of availability of male dairy calf in Pujon Malang district, describes the possibility of donation from male dairy cattle as a contributor of beef which has been dependent on imports, develop alternative strategy of cow dairy pedet as provider going beef cattle. The research method is survey, using a structured questionnaire. Respondents in this research are 150 breeders. Data analysis, using descriptive analysis, that is to know the state of cow dairy cattle breeding business and using SWOT analysis. The result of research shows that the real condition of the availability of male dairy cow calves in Pujon Malang sub-district for the last five years averaged 47.335% of the total pedet population with traditional maintenance system. The availability of the male dairy calf population contributes 0.032% in 2016 for the availability of beef cattle in East Java. With the SWOT matrix, strategies can be applied with strategies to remind the number of parent populations maintained.

Introduction:-
East Java is one of the areas that has a large population of dairy cattle, also contributes to the fulfilment of national meat needs, population of 323,814 dairy cattle in 2013 (Directorate General of Animal Husbandry and Animal Health Ministry of Agriculture, 2014). This large number of livestock population should be able to provide an overview to further optimize the productivity of dairy cattle, so that the gap between supply and demand that becomes the problem of the fulfillment of meat needs can be reduced. During this role the supply of beef cattle from dairy cattle has never been mentioned in the provision of meat.

Theoretical Basis:-
Suryana (2009), livestock as a side line business, with income from livestock <30%. The availability of local resources and technological capabilities and the support of the Government in declaring self-sufficiency of meat, through the revitalization of agriculture and livestock sub-sector should be an opportunity that can be utilized. In order to succeed, it will require hard work and financial support with a plan of implementation and evaluation programs and targets to be achieved by Aunurohman, and Krismiwati Muatip (2004).

Corresponding Author:- Hariyono. M. B.
Address:- Student of Doctor's Program in Animal Science of Brawijaya University.

Bowker et al 1978, in Suryaningsih L. 2008. The average carcass obtained from male dairy cattle is 51.24%, from the average live weight of 437.10 kg at the age of 2-3 years of fattening results.

The role of livestock subsector supports food security, also indirectly acts as a field of business to increase income, so that will later meet the needs of animal protein meat (Aunurohman and Krismiwati Muatip, 2004). Dairy cows at the age of 9-24 months have entered the age of virgin (puberty) the maximum growth rate. Past the age of cow puberty will begin to show the rate of growth slows down. From the results of these studies the body weight can reach 331.70 kg

Yuswantoro, 2009, stated that the real condition of the availability of male dairy calf in Tutur District of Pausruan Regency in 2008 is 2023 birds or about 38.17% of total pedet populace with traditional dairy cattle rearing system.

Research Methodology:-
Location and Time of Study
Research location in Pujon Sub-district of Malang Regency, because Pujon sub district is the biggest dairy population in Malang Regency.

Data Retrieval Method
The method used in this research is survey method by using structured questionnaire. Primary data obtained through observation and direct interview. Respondents in this research are 150 breeders. Secondary data obtained by sub-district office, East Java Livestock Service Office, Livestock Service Office of Malang Regency, and local dairy cooperatives (research area).

Data analysis
Data analysis using SWOT analysis.
   a. Analysis of Internal Strategic Factor Analysis Summary (IFAS)
      IFAS analysis is used to analyses the internal environment of a business through a functional approach, thereby identifying the extent to which internal competition influences performance and success.
   b. External Analysis Strategic Factor Analysis Summary (EFAS)
      EFAS analysis of the matrix used to analyses the company's external environment or which is influential and important so it is identified the extent to which the company's opportunities and threats affect the strengths and weaknesses of the company.
   c. Internal-External Matrix
      After analyzing the IFAS and EFAS matrices, the model developed is a model Internal-External matrix (IE matrix). The parameters used include forecasting the company's internal strength and the influence of external parameters facing the company. This analysis is used to see the right strategy to be applied in the company.
   d. SWOT Matrix
      SWOT matrix is a tool used to develop strategic factors.
         1. SO Strategy: This strategy is made by utilizing all the strengths and taking advantage of the greatest opportunities
         2. Strategy ST: This strategy strengths the company to address threats
         3. WO Strategy: This strategy exploits existing opportunities by minimizing existing weaknesses
         4. WT Strategy: This strategy is based on deffensive activities
            and avoiding further theoretical threats to see the position
            an institution can be done by observing the analysis diagram
      SWOT in the form of four quadrants as follows:
        1. Quadrant I, supporting aggressive strategy
        2. Quadrant II, supporting diversification strategy
        3. Quadrant III, supports turn-around strategy
        4. Quadrant IV, supporting the deffensive strategy

Results and Discussion:-
An Overview of Dairy Cattle Farming Conditions in Pujon District of Malang Regency

The population of dairy cattle in Pujon sub district is quite large. The condition of dairy farms becomes an option for the Pujon community, because the area is suitable for the maintenance of dairy cows with temperatures around 18 - 200C. Sudono (2004) stated that Holstein Friesian cows live at temperatures ranging from 15 to 210C.

Dynamic Growth Population of Dairy Cattle in Pujon District of Malang Regency
The population of dairy cattle in the past 5 years period starting from 2012 until the year 2016 has decreased, can be seen in the following table:

Table 2:- Dairy based cattle population

No	Year	Parents	Winch	Calf				Male
				Male			Female	
1	2012	11.239	2.439	1.337			2.789	
2	2013	10.070	3.689	1.497			2.782	65
3	2014	10.624		3.859	579	1.447		
4	2015	9.443		3.522	1.593	2.940		
5	2016	9.226		4.035	1.446	2.913	532	

Source: Koperasi S A E Pujon

Potential Availability and Development of Dairy Cow Pedet through SWOT Analysis
This potential of availability and development is analyzed using the SWOT analysis. SWOT analysis results obtained on the internal condition of dairy cattle breeding business in Pujon region:
1. Strength (Stenghts)
    a. Ownership of the number of productive parent
    b. Availability of production facilities owned by farmers
    c. Average service per conception (SC) and calving intervals that are not too long
    d. The condition of farmers is incorporated in the cooperative
2. Weaknesses (weaknesses)
    a. Limited capital
    b. Land ownership
    c. Mastery of breeding technology
External conditions of dairy cattle breeding business
3. Opportunities (opportunities)
    a. The demand for domestic meat is still largely imported
    b. The opening of a wide market
    c. Speed of dairy cattle growth
    d. Availability of agricultural waste
    e. The possibility of cooperation with other parties
4. Threats (threats)
    a. The selling price of calf cattle is relatively low
    b. Cooperative policy not to keep calf calf
    c. Population density that will shift cattle raising land
Scale weighting assessment and category levels as follows (Rangkuti, 2006):
    a. Weight 0 - 0,04 category level not support (rating 1)
    b. Weight 0.05 - 0.09 category level not support (rating 2)
    c. Weights of 0.1 - 0.14 category categories do not support (rating 3)
    d. Weight 0.15 - 0.2 category category not support (rating 4)

Table 3:- Matrix of internal factors and external factors as in the following table:

No	Internal Factor	weight	rate	score
1	Kekuatan : 1. The ownership of productive parent that reared breeders are increasing	0,2	4	0,8
	2. availability of livestock production facilities (sapronak) owned by farmers to support the development of calf bull calf	0,14	3	0,42
	3. SC (service per conception) average 3 times and calving intervals			

	being (14 months)	0,14	3	0,42
	4. Life of farmers supported by cooperation	0,2	4	0,8
	Sub total			2,44
2	Weakness :			
	1. Limitation of Funding and Cash needs	0,15	1	0,15
	2. Farmer did not have enough land to fulfil the feeds	0,1	2	0,2
	3. Low comprehension on technology and cattle	0,07	3	0,21
	Sub total			0,56
	Total	1,00		3,00

Table 4:- External Factor Matrix Factor of Dairy Cattle Farming

No	Internal Strategy Factors	bobot	Rating	skor
1	Opportunity:			
	1. The needs of beef which mostly depend on import	0,15	4	0,6
	2. Open market in the district which sale male calf	0,15	4	0,6
	3. Grown speed of male calf, the ideally ration is sex ratio 1 : 1,62	0,1	3	0,3
	4. Availibilty of alternaitve option for feeds	0,1	3	0,3
	5. Opportunity contribution between government and investor in order to growing up male calf	0,05	2	0,1
	Sub total			1,9
2	Threat :			
	1. Value of male calf relatively not high as the expectation	0,15	1	0,15
	2. Cooperation policy which decided to not preserve male calf	0,2	1	0,2
	3. The resident will endanger availablity of farm	0,1	2	0,2
	Sub total			0,55
	Total	1,00		2,45

After obtaining the scores of strength, weakness, opportunity, and threat factors then can be prepared the IFAS and EFAS matrices used to determine which strategy will be selected, as follows:

SO Skor (S) + Skor (O) 2,45 + 1,9 = 4,34	**WO** Skor (W) + Skor (O) 0,56 + 1,9 = 2,46
ST Skor (S) + Skor (T) 2,44 + 0,55 = 2,99	**WT** Skor (W) + Skor (T) 0,56 + 0,55 = 1,11

Picture 1:- Analytic Diagram SWOT

Based on calculations on the IFAS and EFAS matrices the highest score score is on the SO score, ie by the amount of 4.34, the strategy to be taken is in quadrant IExternal Internal Matrix (IE)The internal strategy factor matrix shows the total value of 3.00 and for the external factor matrix indicates a total value of 2.45 the total matrix of internal factors and the external factor matrix is distributed into the internal-external matrix with the results obtained seen in table 5

Table 5:- Internal - External Matrices of Dairy Cattle Breeding Livestock Business

	4,0	3,0	2,0	1,0
	High 3,0	**GROWTH** Contreation through vertical intergration	**GROWTH** Contreation through horizontal intergration	**RETRENCHEMENT** Turnaround
TOTAL SCORE OF EXTERNAL FACTOR STRATEGY	Middle	**STABILITY** Carefully	**GROWTH** Contreation through horizontal intergration **STABILITY**	**RETRENCHEMENT** Captive company

2,0		No progress on profit and streategy	
Low	**GROWTH** Concentrik Disverifaction	**GROWTH** Disverifaction by investor	**RETRENCHEMENT** Bankrupt
1,0			

Based on the internal - external matrix, the total score of IFAS = 3.00 and EFAS = 2.45 shows that the position of the breeder households in providing support to the availability and development of dairy calf in growth conditions with concentration through horizontal integration and stability. Determination of the position of dairy farmer household is based on total score analysis of internal factors and external factors, using Internal-External Matrix model (Wheelen, 1995). Alternative strategies can be formulated from the SWOT matrix analysis model based on the combined internal and external factors shown in Figure 2, below.

Figure 2:- SWOT Matrix Diagram

IFAS / **EFAS**	**STRENGS (S)** *The ownership of productive parent that reared breeders are increasing *availability of livestock production facilities (sapronak) owned by farmers to support the development of calf bull calf *SC (service per conception) average 3 times and calving intervals being (14 months) *Life of farmers supported by cooperative	**WEAKNESSES (W)** * * limited funding for business development and cash needs * farmers do not have enough land to meet the availability of forage feed * low level of comprehension of technology and knowledge of farmers
OPPORTUNITIES (O) *The needs of beef which are mostly depend on import *Open market in the district which sale male calf *Grown speed of male calf, the ideally ration is sex ratio 1: 1,62 *Availibilty of alternaitve option for feeds *Opportunity contribution between government and investor in order to grow up male calf	**STATEGI SO** * increase the number of livestock population maintained * optimize of calf until age 5-6 months * development of marketing line of cow calf through blantik / intermediary trader and cattle fattening business in local area	**STRATEGI WO** * Looking for investment between cooperation with investors to get capital in order to growing up cattle breeding business and fattening calf * need for socialization counselling and guidance from the relevant departments about good cattle calf rearing management and profitable breeders
TREATHS (T) * Value of male calf relatively not high as the expectation * Cooperation policy which decided to not preserve male calf * The resident will endanger availability of farm	**STRATEGI ST** * regulates the cattle dairy calf development system through the proposed policy to the cooperative	**STRATEGI WT** * the development of bull fattening calf with a profit-sharing system in farmers with investors in this cattle fattening business

From the above SWOT matrix diagram can be taken several strategies, namely:
SO Strategy:
  a. Increase the number of livestock population maintained
  b. Optimization of dairy cow calf cultivation until selling age 5-6 months
  c. The development of pedah cow sales line through intermediary traders and fattening business in Malang area
WO Strategy:
a. Seeking investment cooperation with investors to get the capital of dairy cattle breeding business and fattening calf cattle
b. Needs of socialization, counseling and guidance from the relevant agencies about the management of good cow calf rearing and profitable breeders

Strategy ST: Arrange the dairy cow calf development system through policy
            proposed to the cooperative
WT Strategy: Development of fattening cow manure pededt with system
            profit sharing in breeders with investors in this fattening business
            cow
Strategy Setting
Based on the results of SWOT analysis, the potential position of cowskin calf development is at a level that could be a good opportunity. The strategy policies undertaken to develop the calf bull calves are as follows:
1. Short Term Strategy
a. Efforts to increase the population of male dairy calves by increasing the parent population
b. Optimization of cattle calf cattle cultivation cultivated until the economic life of about 5-6 months
c. The development of pedetal bull market through intermediary traders
2. Long Term Strategy
a. Efforts to support the continuity of the development of calf bull cattle by reviewing and making a policy in this case cooperatives with policies and programs that are able to accommodate and support the development potential of male dairy calf
b. It needs an effort from all parties, both breeders and cooperatives to create a promotion that will attract investors and do not rule out the role of government.

Conclusions and Recommendations:-
Conclusion:
1. The real condition of the availability of male dairy calf in Pujon sub-district in the average in the last six years amounted to 47.335% of the total population of pedet
2. Availability of calf cows, no need to worry
3. Through the SWOT matrix, a strategy that can be applied with the application of SO strategies, ie by maintaining dairy cows

Bibliography:-
1. Aunurohman H dan Krismiwati Muatip. *2004. Evaluasi Usaha Sapi Perah daiam Aspek Finansial pada Peternak Sapi Perah Peserta Proyek di Kabupaten Banyumas, Animal production Vol. 6, No. 2, Nopember 2004: 76 - 85. Fakultas Peternakan Univerersitas Jenderal Soedirman, Purwokerto.*
2. Direktorat Jenderal Peternakan dan Kesehatan Hewan, 2014. Badan Pusat Statistik.
3.   http://www.bps.go.id/tabsub/view.php?kat=3&tabel=1&daftar=1=daftar=1&id
    a.   subyek=24&notab=16. diakses 10 Nopember 2014.
4. Yuswantoro, Y. E, 2009. Skripsi Potensi Agribisnis Dan Strategi Pemasaran Sapi Perah Jantan di Wilayah Kecamatan Tutur Kabupaten Pasuruan.
5. Kurniawan. N. 2008. Pola dan Estimasi Pertumbuhan Sapi Perah Friesian-
    a.   Holstein Betina di Wilayah Kerja Bagian Barat KPSBU Lembang.
    b.   Skripsi. Program Studi Teknologi Produksi Ternak, Fakultas
    c.   Peternakan,   Institut   Pertanian   Bogor.
         http://repository.ipb.ac.id/bitstream/handle/123456789/10661/D08nku.pdf?sequence=2,   diakses   6
         Maret 2013.
6. Rangkuti, F (2006), Analisis SWOT Teknik Membedah Kasus Bisnis. Cetakan ke empat belas. PT. Gramedia Pustaka Utama. Jakarta.

7. Suryana, 2009. Pengembangan Usaha Ternak Sapi Potong Berorientasi Agribisnis dengan Pola Kemitraan. Jurnal Penelitian dan Pengembangan Pertanian 28 (1) 2009. Badan Penelitian dan Pengembangan Pertanian – Departemen Pertanian. Jakarta.
8. Suryaningsih L. 2008. Persentase Pemotongan Daging Has Dalam (*Fillet*), Has   Luar (*Sirloin*), dan Lamusir (*Cube Roll*) Pada Sapi Jantan Bali dan Fries Hollands Umur 2 – 3 Tahun Hasil Pengemukan. disampaikan dalam seminar Nasional Teknologi Peternakan dan Veteriner, Bandung, 2008).