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Explaining Farmers Behavior Toward in The Sale Productive Cows : Cases of Bali Beef Cattle in South Sulawesi, Indonesia

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Abstract: Productive cows is important asset for farmers in running and expanding their beef cattle farming, but fact in Indonesia, the asset is sold by farmers. Therefore, this research aims is to explain why farmers have behave toward in the sale their productive cows with the application TPB theory The research used quantitative approach through questionnaires survey method. A total of 197 farmers used as a sample, and the data were analyzed descriptively. The results of this study indicate that farmers have a great opportunity to behave in the sale of productive cows. This is because even though farmers believe the consequences of selling productive cows and avoiding sales (attitudes), social pressure that forces farmers not to sell low productive cows (subjective norms) and breeders is very easy to sell productive female cattle (perceived behavioral control). This study has implications for the application of the TPB theory in the field of animal husbandry as well as information for practitioners in formulating policies to prevent the depletion of the population of productive female cattle in the production center

Keywords: Productive cow, selling, farmers behaviour, beef cattle farming

I. Introduction

Along with the increase in people's purchasing power and their awareness of the importance of animal protein for health and intelligence, the demand for beef is increasing. While the rate of increase in the population of domestic beef cattle cannot compensate for the pace of demand so that the availability of beef in the country is always experiencing shortages. One of the contributing factors is the reduction in the productive cows population (1). Sunari et al. (2) report that nationally it is estimated that around 150-200 thousand productive cows are expelled annually in the production centers. Meanwhile, in South Sulawesi, which is one of the centers of Bali cattle production in Indonesia, the cutting of cows reached an average of 72% of total cuts, of which more than 90% were productive cows (3). Until now, various policy measures have been taken by the government (central and regional) to save productive cows, both on a macro basis (prohibiting the cutting and limiting of productive cows) and micro basis (policy of giving incentive funds to farmers), but slaughtering productive cows in the production centers are still ongoing and even difficult to control (4, 5, 6). Many studies have been done to investigate cause of depletion of productive cows and most of the studies focused on the role of buchers in abattoirs and ignoring the role of farmers as the owners of productive cows (7;3) The sale of productive cows depends on the behavior of farmers, which are determined by their norms, beliefs and attitudes towards the sale of productive cows. Therefore, understanding the behavior of the farmer is important to find out the reasons why the farmer acts on the sale of productive cows and explains the factors that trigger the behavior of the farmer (8). Thus, the purpose of this study was to reveal the opportunity for farmers to behave in the sale of productive cows in the central area of local beef cattle production (Bali cattle) in South Sulawesi by analyzing behavioral components (attitudes toward behavior, subjective norms, and perceived behavioral control).

II. Theoretical Framework

Farmers' behavior in selling productive cows can be approached with the Theory of Planned Behavior (TPB). TPB assumes that an individual's behaviour is influenced by three determinants: (1) beliefs about the likely outcomes of behaviour (attitude toward behaviour), (2) beliefs about societal norms (subjective norms); and (3) beliefs about an individual's control over the outcomes of a behaviour (perceived behavioural control). In the aggregate, these beliefs influence an individual's intention to adopt that behavior (9). Based on that perspective, the belief the behavior (behavior belief) gives rise to a positive attitude (favorable) or negative (unfavorable), against certain behavior, normative beliefs resulted in the formation of the perception of the existence of pressure to do social action or subjective norms, and a control belief raises a perception of control over behavior. The combination of the attitude toward the behavior, subjective norm, and the perception of control over behavior, resulting in the formation of behavioral intention. As a general rule that a favorable attitude accompanied by subjective norms (subjective norm) and by the presence of perceived control are adequate, then it will cause strong intention to behave. With a sufficient degree of actual control of a behavior, then the individual will express intention, if the opportunity arises. However, because a lot of behavior is difficult to do because of the lack of internal and environmental advocates, and with my limited willpower, it is necessary to consider the presence of the perception of control over behavior (perceived behavior control) as a can spur the incidence of intention. Further that the perception of control over behavior (perceived behavior control) controller can be as actual control (the actual control), and provide predictions against behavior (10). Recently, existing literature on the farmers' behaviour are being incorporated into breeding cattle. Clark and Marshall (11) argued that the farmers' behavior is determined by the relationship between expectations about the future, and the calculation of the risks and rewards.. Chilonda and Van Huylenbroeck, (12) grouping the factors that influence the behavior of farmers in a decision of beef cattle production into variables relating to the characteristics of farmers and livestock business, economic, institutional, and biophysical factors. Factors associated with the farmer characteristics is the goal of raising livestock, farming knowledge, attitude to risks, experience and education. Factors associated with characteristics of the cattle business is: market orientation, production systems, availability resources (capital, labor, and feed), income from livestock and other farm, spacious and land tenure, the number of cattle ownership scale, age and sex structure of livestock. Factors associated with the economy is the existence of input and output markets, the level of input and output prices, and relationships demand and supply. Factors associated with an institutional government policies, availability of physical infrastructure, market infrastructure, group farmer, sources of financing, resources and extension services, and fees transaction. Factors associated with the biophysical are outbreaks of livestock disease, availability of water, the fourth addition to these factors. Furthermore, Jones (13), and Pike (14) argued that the behavior and decision of farmers are also triggered by characteristic of household (family size) and social and cultural factors (social capital, cultural values in cattle). Result of previous study, Kusna (15) found that farmers in the Majelengka Regency in dealing with business risk, they tend to refuse or are reluctant to risk business, and the factors that influence such behavior is age, land, area, education, experience, status of livestock ownership, and family characteristics. Elly and Salendu (16) examined the behavior of farmers in the production of beef cattle in Minahasa Regency, and they found that the behavior of producing beef influenced by the price of cattle, the amount of grass consumed, the amount of waste corn and number of family members, labor allocation behavior is influenced by wage labor, the outpouring of employment as farm workers and facilities costs; and household expenditure behavior is influenced by the number of family members, formal education and total household income for the cattle farming. Roessali (17)) examined the factors that influence the behavior of farmers on the program development of beef cattle in Central Java, and he found that most 63.78% of farmers have a low response to the development of beef cattle, and amounting to 86.2% of farmers behave neutral to the risk of raising cattle. Roessali et al (18) examined the factors that motivate farmers in the beef cattle production development decisions in Central Java, and he found that the number of family labor and hopes to improve income has a positive effect on farmer's decision increase the scale of their beef cattle business. In contrast, the level of education and business risk has a negative effect on farmer's decision increase the scale of their beef cattle production. Kariyasa and Kasryno (19) reported that the marketing chains in both regions (Bali and NTB) are market-butcher-market-traders/meat-consumer traders. Distribution of marketing margins from three major cattle/beef marketing actors in Bali is 11.0 percent, 68,0 percent slaughter, and meat trader 21.0 percent. The margin distribution for the case in NTB was 23.8 percent, butchered meat 35.7 percent. Meanwhile, the proportion of marketing expenses covered by beauty is relatively large, i.e 63.3 percent in Bali and 43.3 percent in NTB. In both locations, it can be understood if farmers' perceptions of urgency of collector local existence are very high at 90-95 per cent in Bali and 85-90 per cent in NTB. Sukanata, et al. (5) showed that the marketing of beef cattle in Bali, especially the marketing of inter-island beef cattle has not been efficient. This is indicated by the low farmer's share that ranges between 63.48% -69.03% of the final consumer

purchase price and the high total marketing margin of 40.93% of the final consumer purchase price. Most of the margin is a total profit of 78.09% -83.35%, which is enjoyed by traders.

III. Methods Of Research

This research carried out in Gowa and Barru regencies at South Sulawesi province. The regencies were choised as the location based on the consideration that they as centre location of Bali Cattle breeding program, have trend decline in the population of cows, and occurred genetic degradation and reproduction due to cows good quality are not left for breeding (6). The methods used in this research is qualitative research done through the methods of the questioners survey. Given the size of the population of farmers is not known with certainty and presence geographically dispersed, the sampling technique, therefore, its used was multi-stage cluster sampling technique. From each regency was choiced three districts based on the highest density of cattle. From each district, the two villages are choised , so that in total there are 12 villages as a study area with the number of farmers as much as 2.803 person. To determine the minimum sample size to be taken from the population, its used the formula of Slovin (20), where the level of looseness 1%, then it obtained a sample of at least 197 farmers. The data was collected between July and September 2016 through direct observation and interviews with farmer respondents using a questionnaire tools. To measure behavior (TPB), the farmer respondents were asked to respond to as many as 11 item statement concerning components of the TPB i.e. attitude toward the behavior, subjective norm, and perceived behavioral control on a 5- point scale from 1 (not strongly agree) to 5 (strongly agree). While the intentions asummed reflect actual behavior of farming, i.e. decision to sell or not their productive cows. To that end, a questionnaire was tested with using a reliability test (test of reliability) to test the sincerity of answers respondents. The data analyzed statistically by applying computer software with SPSS 16.0. The result of descriptive analysis presented with the average and standard deviation for interval or ratio scale data, and for large-scale data presented ordinal percentage of the response level of agreement to help assess the interpretation of data**.**

IV. Result and Discussion

Some of the concepts or variables of the study is not perfectly measured by single items, so the reliability analysis needs to be done to ensure that the measurement concept or variable is adequate or realibel. Its generally used to measure reability is internal consistency (Hair et al.,1998). A widely used measure of the internal consistency is Cronbach's alpha.The calculation result against 16 items with SPSS indicates that the value of the alpha of Cronbach's behavior in the sale of productive cows is 67%. The result of descriptive analysis for component of farmer' behavior toward in the sale of productive cows presented in Table 1

Table 1. Component Of Cattle Farmers' Behaviour Toward In The Sale Of Productive Cows

Component Of Behaviour	Averages	SD	% Agree
Keep the productive cows is important for sustainability of my beef cattle farming business	5.1	0.44	94.47
Although profitable for me, I feel guilty if selling cows that are still productive and could still go forth	4.28	0.89	61.31
If there are any farmers sell productive cows by reason of the need for money, hard labor and feed, it can be justified	4.5	1.07	72.36
I believe the people who make my role model approved my decision to sell productive cows	3.77	0.94	44.72
Do I sell productive cows or not, it all depends on me	4.22	1.19	60.8
My family encouraged and supported my decision to sell productive cows	3.87	1.07	53.77
My motivation to sell productive cows, based on the presence or absence of support/encouragement my family	3.95	1.26	52.76
For me, the prohibition to sell productive cows is not possible	4.14	1	64,82
It's hard for me not to sell productive cows if my income is low	4.52	1.32	76,88
My experience will make it easier for me to sell productive cows	3.84	0.78	77.39
If I want to, I can sell productive cows any time	4.5	0.82	70,85

Sources: the analysis of primary data 2012

From Table 1, on the attitude aspect, the majority of the farmer respondents 94.47% agree that keeping productive cows is essential for sustainability of their beef cattle farming business, but an average of 66.84 %

of them were categorized as a type of the farmers who avoid selling productive cows, because according to them "although beneficial for me, I feel guilty if selling cows that are still productive (61,31 %), and they do not justify, if any farmer sell productive cows, arguing the need for money, hard feed and labor" (72.36%). This result illustrate that most the farmers respondent perceived negative on sell of productive cows because they know the consequences of selling productive cows for the sustainability of their beef cattle farming business. While on the subjective norms aspects, farmers respondent does not require consent of the person whose views are important for them to sell productive cows, As its indicated only 44.72% of them who agree to a statement that the decision to sell productive cows need support and encouragement from people who be a role model and even they do not require the approval of family as shown only 53.77% who agrees that the their encouraged and supported them to sell productive cows, and most of them felt that whether or not they sell productive cows will be completely up to their own as shown that as many as 60.8% approve if selling productive cows depends on the individual farmers decision. These findings provide an indication that the perception of the farmers on social pressures leave a great opportunity for them to behave in the sale of productive cows. According to Ajzen and Fishbein (9) a subjective norm pressure to perform or not perform a specific behavior. Then, Tomatala (21) examined the behavior of farmers in developing beef cattle production in west Java, and he found that an association between use of communications media with the behavior of livestock farmers. Furthermore, of the control aspects of planned behavior appears that farmer respondents no barriers to sell productive cows, which indicated as much as 70.85% of the farmers respondents were able to sell their productive cows whenever they want it. These findings indicate that farmers have a great opportunity to behave in the sale of productive cows, because of their perceived on ease selling productive cows. The factors that motivate them to sell productive cows is due low income (76.88%) and already have prior experience in selling cows (77.39%) . It is probable that lack of financial resources would motivated the farmer to sell their productive cows. According to Ajzen and Madden (22) the perceived behavioural control refers to people's perception of the ease or difficulty of performing the behavior of interest, and the factors that influence the control over the intended behavior are: resources, such as financial resources; and opportunities, like market opportunity. Meijer et al (23) noted that the perceptions the farmers have about an sell of farming production asset are very closely related to the knowledge they have about it. Whereas knowledge refers to factual information and understanding of how the farming production asset works and what it can achieve, perceptions relate to the views farmers hold about it based on their felt needs and prior experiences; and these do not necessarily align with reality. Novra and Pramusintho (24) found that economic factors are suspected to be the main drivers that will affect the potential release of productive cows by farmers The potential of productive cows release will be higher in the farmers with high incomes because cattle have no strong relationship with the household economy. On the other hand, the value of benefits that can be gained from livestock business which became one of the indicators of the role of cattle business in the family economy is inversely proportional to the potential release of productive cows. The higher the role of cattle in the household economy, the lower the potential for productive cows release

V. CONCLUSION

Based on the analysis of components of behavior, it can be concluded: the farmers have a great opportunity to behave in selling productive cows. This is because of the attitude aspect, although the farmers know negative consequences of the sale of the sale of productive cows, but from aspects of subjective norms, lack of social pressure that forces them to not sell productive cows and aspects of perceived behavioral control is very easy to sell productive cows. The findings of this research will contribute to the existing body of knowledge by providing a better understanding of farmers' behavior in selling their productive cows. This study has limitations that only analyze components the behavior of farmers, and further research could examine the factors that trigger motivation and inhibiting effect on the change behavior of farmers to sales productive cows. Our finding could not be generalized to all developing countries with different the wider socio-cultural, under future research studies upon the topic and region examined to be undertaken. In order to prevent the loss of Bali cattle populations in the future. for policy makers, they have to design policy and programs that emphasize the role of media and community leaders to change bahaviour of the farmers in selling their productive cows. For the farmers, they have to increase role of beef cattle business in the family economy by developing feedlot business

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