

Research Article

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

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Abstract

Productive cows are important asset for cattle farmers in running and expanding their beef cattle farming, but fact in Indonesia, the asset is sold by cattle farmers. Therefore, this research aims are to explain why cattle farmers have behaved to sell their cows productive. The research used quantitative approach through questionnaires survey method. A total of 197 cattle farmers used as a sample, and the data were analyzed descriptively. The results of this study indicate that cattle farmers have a great opportunity to behave in the sale of their productive cows. This because although farmers believe the consequences sell the productive cows and avoid sales (attitude), but the there is no social pressure that forces cattle farmers not sell productive cows (subjective norm) and farmers are very easy to sell productive cows (control perceived behavior). The implications of the application TPB theory in the field of animal husbandry as well as into information for practitioners in formulating policies to prevent the depletion of the cow's population in Indonesia

Keywords: Beef Cattle Farming; Behavior; Cattle Farmers; Cows Population; Productive Cows

Introduction

Indonesia is a mid-sized producer beef cattle ranked 27th in the world, but the largest in Southeast Asia with 13-16 million beef cattle in 2013 [1]. The beef cattle industry makes an important contribution to the country. As well as providing a source of meat protein to consumers, it provides employment and income for millions of rural families and investment opportunities for private companies, both of which are important for Indonesia's regional development. Through its demand for inputs and through the sale of cattle along the beef value chain, it also provides a stimulus to many other sectors of economic activity [2]. Increasing per capita incomes, strong population growth and the change in consumption pattern were driving a rapid increase in beef consumption. The increasing of beef consumption is not compensated with the increasing of beef production and its lead to increased gap between low production and high beef consumption. The impact an increasing trend of domestic beef price even though its

international price tends to decrease. Main reason of the gap is decreasing number of cows due to the increase of productive cows slaughtered every year. Number of cows slaughtered had reached on average of 72% from total slaughtered, where more than 90% were productive cows [3-5]. Diwyanto (2011) [6] reported that nationally is estimated at about 150-200 thousand productive cows spent annually. Meanwhile, in South Sulawesi as one area of Bali cattle production center in Indonesia, the percentage of reduced cow population (i.e sloughtering, dispensing, and dead) is reached 13.29% while the percentage of increased (i.e. importation, birth from IB or natural mating) only reached 7, 42% or in other words rate decline of cow population per year is 4.59% [7]. Until now, various policies have been taken by the government to rescue productive cows, both macro (policy prohibition and restrictions slaughtered on the productive cows) and micro (policy grants incentives to farmers not sell their productive cows). However, both slaughtered as well traded of productive cows is still ongoing [8,7]. Still very little research on the dewatering and depletion of population of productive cows, and many research focused on cause of the slaughtered productive cows by buchers in the slaughter-

houses (abattoir), ignoring the role of farmers as the main actors of upstream activities of the slaughter productive cows. Consequently, the study also did not can reveal the cause depletion of productive cows by traded inter-island and sold in the local cattle market [7,8]. Herath [9] noted that sales of productive cows are depends on the behavior of farmers. Therefore, an understanding of the behavior of farmers is essential to know the reason why farmer's sales their asset (productive cows). All this time, the behavior of farmers in selling their productive cows are still not understood [10]. In recent years, the study of the behavior of farmers have a lot of get the attention of the researchers. Therefore, the purpose of this study is to fill previous research by explaining why farmers behave to sell their productive cows in Indonesia

Theoretical Framework

Cattle farmers' behavior in selling productive cows can be approached with the Theory of Planned Behavior (TPB). TPB assumes that an individual's behavior is influenced by three determinants: 1) beliefs about the likely outcomes of behavior (attitude toward behavior), 2) beliefs about societal norms (subjective norms); and 3) beliefs about an individual's control over the outcomes of a behavior (perceived behavioral control). In the aggregate, these beliefs influence an individual's intention to adopt that behavior. Based on that perspective, then the belief the behavior (behavior belief) gives rise to a positive attitude (favorable) or negative (unfavorable), against certain behavior, normative beliefs (normative belief) resulted in the formation of the perception of the existence of pressure (pressure) to do social action or subjective norms (subjective norm), and a control belief raises a perception of control over behavior (perceived behavior control). The combination of the attitude toward the behavior, subjective norm, and the perception of control over behavior (perceived behavior control), resulting in the formation of intensi behavior (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 intensi (intention) to behave. With a sufficient degree of actual control of a behavior, then the individual will express intensi (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 intensi (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.

Recently, existing literature on cattle farmers' behavior are being incorporated into breeding cattle. The cattle farmers' behavior is controlled /triggered by many factors, which can be

classified consist of internal factors and externally. The internal factors or characteristics of individuals including skills, ability, information, etc. While external factors including the situation and factors environment. Clark and Marshall, 2002 argued that the cattle farmer's behavior is determined by the relationship between expectations about the future, and the calculation of the risks and rewards. According to Armand and Syahibuddin, several factors affecting farmers in decision on beef cattle production, including the biophysical factors such as climate, soil biological and social factors while economy such as capital, skills and knowledge of farmers, marketing, institutional and government policies. Chilonda and Van Huylenbroeck, grouping the factors that influence the behavior of cattle 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, farm 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 policy, 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. Added by Squires, Jones [11] and Pike [12] 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 [13] found that cattle farmers in the District Majelengka 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. Murhadi [14], found that the farmers behavior in raising beef cattle in the District Temanggung, Temang- is semi-modern. Breeders more trust one source to obtain knowledge to change their behavior in maintaining beef cattle, ie broker, orderlies animals, friends or acquaintances. Meanwhile, Elly and Salendu [15], examined the behavior of farmers in the production of beef cattle in Minahasa Regency, 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 business. Then, Tomatala

[16] examined the behavior of farmers in developing beef cattle production in west Java, found an association between use of communications media with the behavior of livestock farmers. Roessali [17] examining the factors that influence the behavior of farmers on the program development of beef cattle in Central Java, 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 (2011) [18] examined the factors that motivate farmers in the beef cattle production development decisions in Central Java, 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.

Methodology

This research was carried out in Gowa Regency Barru as the local beef cattle production Center (Bali Cattle) in South Sulawesi. The districts choised as a location based on the consideration that the districts have trend decline in the population of cows, and occurred genetic degradation and reproduction due to cows good quality are not left for breeding [7,19]. The methods used in this research is qualitative research done through the methods of the questioner’s survey. Given the size of the population of cattle 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 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 cattle farmers as much as 2.803

person. To determine the minimum sample size to be taken from the population, its used the formula 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 cattle farmer respondents using a questionnaire tools. To measure behavior (TPB), the cattle 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 assumed reflect actual behavior of cattle 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.

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. It is generally used to measure reability is internal consistency. 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 cattle farmer behavior in selling productive cows presented in (Table 1).

	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 cattle 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
Sumber: Olahan data primer, 2012			

Table 1: Component of Cattle farmer Behavior in Selling Productive cows

From (Table 1), on the attitude aspect, the majority of the cattle farmer respondents 94.47% agree that keeping 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 cattle 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 cattle farmers sell productive cows, arguing the need for money, hard feed and labor (72.36%). This result illustrate that most cattle 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, cattle 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 cattle farmers decision. These findings provide an indication that the perception of cattle farmers on social pressures leave a great opportunity for them to behave in the sale of productive cows. According to Ajzen and Fishbein [21] a subjective norm pressure to perform or not perform a specific behavior. Furthermore, of the control aspects of planned behavior appears that cattle farmer respondents no barriers to sell productive cows, which indicated as much as 70.85% of the cattle 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 cattle farmer to sell their productive cows. According to Ajzen and Madden [22] the perceived behavioral 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 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

Conclusion

Based on the analysis of components of behavior, it can be concluded: Farmers have a great opportunity to behave in selling productive cows. This is because of the attitude aspect, although 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 cattle farmers behavior in selling their productive cows. For policy makers, if the policy makers in Indonesia aim to rescue productive cows, they have to design policy and programs that emphasize the role of media and community leaders to change behavior of the cattle farming in selling their productive cows. For the cattle farmer, they have to increase scale of beef cattle farming business, moving from small scale to larger scale production. This research

has limitations that only analyze components the behavior of cattle farmers. Therefore, further research could examine the factors that trigger motivation and inhibiting effect on the change behavior of cattle farmers to sales productive cows.

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