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Information Access Capability of Goat Farmers in Purworejo Indonesia

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Abstract

This study analyzed the type of knowledge information needed by goat farmer and recovered the level of farmers competence in doing their business, analyzed the channel used to disseminate the knowledge information, and described participation in accessing market and factors influence to their participation. This research used survey method. The results showed that there was significant relationship between access of knowledge level and level of innovation. Information type that relevant significantly was marketing and reproduction domains. The results also showed that experienced learning was the key for farmers in doing their animal business. Farmer participation in market access used indicator for knowing price of market, selling animal directly to market, and selling goat independently at any time.

Keywords: innovation, competency dissemination, market access, goat farmers

1. Introduction

Regulation and market liberation has changed the business environment on agriculture (including livestock) and small and medium enterprises (SMEs) in developing countries in the past two decades [1,2]. Some barriers are found is the need for high capital, lack of access to information and skills, and the various costs of acquisition and licensing [3,4]. Some studies in Africa indicated similar findings about how the barriers to entry to limit the creation of employment opportunities and the utilization of business opportunities as well as increasing inequality regional and social [5,6,7]. Information lame generally inhibit prospective entrepreneurs in realizing their chances of benefit. Asymmetry of information, which is defined as unequal access to knowledge and competence to productive objectives, is a major cause barriers to entry [8]. Research conducted in six districts in Indonesia indicate that the asymmetry of information occurred in Indonesia, and access to information determining participation in economic activities [9].

In the context of innovation, in Indonesia, how limited information has been to encourage SMEs in the rural areas of innovation adoption decision modeled on SMEs in the surrounding area, and are less likely to adopt innovations that have not proven successful [10]. Channel of information dissemination is very diverse, ranging from the traditional (personal and from mouth-to-mouth), the utilization of print media and the mass media, through the use of information technology [11]. The use of information technology in India in the agricultural

sector has proven farmers' access to information relevant to business development [12]. A number of researchers have examined about what is driving the market access of farmers and many of which have been revealed, for example [13,14] found that good road conditions and access to information positively affect farmers' participation and access to the market because of its effect the reduction of transaction costs. Other studies found that low yields associated with the failure of farmers to use an improved input causes a lack of competitive production and low market participation[15,16,17]. Small plots of land and the high cost of inputs has limited results of the potato in Uganda and therefore limit the benefits of small-scale producers [18]. Especially for seed and fertilizer, the failure of some markets in Sub-Saharan Africa because of high transaction costs, risk and economics at a low level [19].

This study is expected to identify the knowledge needed to improve the innovation of farmers and communication channels that can be used to disseminate such knowledge. Theory of information asymmetry, barriers to entry, entrepreneurship, innovation diffusion, and socioeconomic farm were used as an analytical tool. Recommendations also be produced for various parties, including the farmers, sources of knowledge (universities, research centers) and policy makers in government. Three research questions (formulation of the problem) that answered by this study: what is the type of information / knowledge of what is required by the goat farmer in enhancing innovation? and up to how much the level of competence of farmers in conducting their business? what canal can be used for dissemination of information/knowledge? and how can farmers participate in market access and the factors that influence the participation? The aim of this study was to determine the types of information/knowledge required by goat breeders in an effort to boost innovation, and to examine the canals were used for dissemination of information/knowledge.

2. Materials and Methods

The approach used in this research is to develop a questionnaire survey method. Questionnaire developed based on the results of a review of previous relevant research and preliminary interviews to some goat farmers. Some in-depth interviews with goat farmers were also made to obtain a more complete portrait of the context of the problem being studied. Interviews were also conducted to the parties related to the development and facilitation goat farmers, such as the clerk at the village level, the clerk at the district level, and related agencies. The diversity of sources of information have to triangulate the data and test the validity of the information obtained. In addition, field observations were also made to obtain more detailed information related to the research context. Respondents of this study were the goat farmers in Purworejo, Central Java. A number of 150 farmers were selected by proportional stratified random sampling. By using three strata according to Purworejo topographic layout, the area of high, medium and low, so that in every stratum of information

obtained. Data survey results (questionnaires) were tabulated, cleaned and analyzed. Statistical analyzes were performed, in addition to the descriptive also performed multiple linear regression analysis Data from the interviews were transcribed

3. Results and Discussion

Total number of respondents was 150 farmers, spread over three strata of the District Kaligesing namely: Donorejo, Kaligono, and Purbowono. Kaligesing accessibility limitations in the area are some of the reasons the limited number of respondents.

3.1. Respondent characteristics

Age. On average the respondents aged 51.69 ± 13.30 years, with the age group most are between 50-59 years 33,33%. This suggests that the enthusiasts to maintain an average goat in the elderly. Only about 3.33% of young group (20-29 years). Needs to be intensified again the young generation to maintain goat, considering this to be excellent goats mainstay of Indonesia in the development of goat, as well as the area Kaligesing is the center.

Formal education. Formal education is taken by the majority of farmers are elementary schools as many as 36%, while the middle and high school, respectively amounted to 27.33%. Meanwhile, those who received his college sitting at 6.67%. This shows that the human resources / actors in the production or livestock farming sector is still relatively low. Goat

Farming experience. Many farmers also are beginners, which only has 10 years of experience (30.67% no). This shows that there are still many enthusiasts / farmers who raise goats between the period of the last ten. Sustainability needs to be done to maintain Purworejo as goat production centers.

Land area. Average area of land owned under 20,000 m², with the majority is ranged from 5000 to 10,000 m². This shows that the land owned enough to develop goats. Although for the time being is still integrated with plantation crops such as durian and mangosteen.

Goat ownership. In general, farmers only have goats under 1 AU, with the highest composition is between 0.25 to 0.50 AU. Which is why maintaining bit is a lack of manpower in the family who can help maintain, in addition, it also owned land used for plantation crops, so that the limited resources available for livestock feed.

Maintenant purposes. Goat maintenance purposes, among others for the savings that can be taken at any time (82%), provision of future children (8.67%), as a pet 8%), as well as the use of dung as fertilizer for garden plants (1.33%), This percentage indicated that the purpose was not prioritized for business interests, but rather the fulfillment of insurance if one day farmers need.

3.2. Animal business portraits

The development of livestock ownership was judged from ownership of livestock, it is difficult concluded, that in the last three years, farmers of goats have not enjoyed significant progress. The average number of male goats from 2013 to 2015 decreased, as well as in adult female goat. As for the young goat in 2015 increased compared to 2013 and 2014. For kid also showed an increase in the amount of 2015 compared to those year 2013 and 2014. (Table 1).

Table 1. Development of goat ownership per farmer.

	Average of goat ownership by farmer (head/farmer)		
	2013	2014	2015
Male goat	1.73±1.45	1.58±1.09	1.12±0.33
Female goat	2.79±2.05	2.61±1.81	2.14±1.27
Young	2.40±1.83	2.24±1.37	1.70±1.00
Kid	2.57±1.55	2.52±1.88	2.65±2.54

Problems encountered . It turns out four components to rate the difficulty, partly in a state of intermediate difficulty both on capital, health, marketing, feed management, as well as animal breeding and reproduction. This shows that it needs more concrete government and non-government assistance in this particular field goat farm in the fifth increase in a wide area of innovation mentioned above.

Table 2. Problems faced by farmers

Innovation area	Very Easy				Very difficult
	1	2	3	4	5
Capital	14.00%	32.00 %	36.67%	12.00%	5.33%
Animal health	4.00%	32.67%	44.67%	16.00%	2.67%
Marketing	4.00%	18.00%	39.33%	32.00%	6.67%
Feed management	0.27%	26.67%	47.33%	20.00%	3.33%
Breeding and reproduction	1.30%	19.33%	58.00%	19.33%	2.00%

Access to information. In general, the level of the farmer access to information or knowledge level is very minimum. As summarized in Table 2, in a 5-point Likert scale (1 = beginner / little, 5 = expert / many), the study found that farmers access to information most minimal capital (1.85). Access the best, though only with a score of 3.20 is the marketing information. Access to information about the health of livestock, feed management and cattle reproduction is also very minimum (less than 3.00) (Table 3).

Table 3. Access / level of knowledge of farmers

Knowledge	Score
Capital	2,587
Animal health	2,840
Marketing	3,180
Feed management	2,958
Breeding and reproduction	3,020

Remarks: *using Likert scale :5 point (1= beginner/little, 5=expert/ahli/many)

Relevance source of knowledge. Judging from the domain knowledge gained from various sources following in Table 4, most of the knowledge capital obtained from a friend / group (63.33%). Another important source of information capital respectively own study based on the experience that they got before, knowledge of hereditary which gotten from parents, as well as private institution. Knowledge of animal health, marketing as well as breeding and reproduction of most goat farming obtained from friends/group. As for the management of the feed comes from learning their own or their experience performed for a long time. Table 4 shows that the resources derived from non-formal education / courses, formal education, extension of the school / college, newspaper and magazine media, formal education, and the internet has a small role as a source of information (Table 4).

Table 4. Relevance source of knowledge about the various aspects to improve farm business

	Source of information	Capital (%)	Health (%)	Marketing (%)	Feed management (%)	Breeding and reproduction (%)	Total (%)
1	Self learning	50.67	56.00	62.00	62.00	68.00	59.73
2	Friend/group	63.33	49.33	66.67	42.67	68.67	58.13
3	Knowledge of hereditary	26.67	54.67	34.67	44.00	39.33	39.87
4	Extension worker	2.00	9.33	4.00	7.33	7.33	5.00
5	Institution/private company	11.33	2.00	2.67	2.67	2.00	4.13
6	Non formal education/course/training	2.00	5.33	2.00	4.00	3.33	3.33
7	Television	2.67	3.33	3.33	3.33	2.67	3.07
8	Extension from university	0.00	4.67	1.33	6.00	1.33	2.67
9	Radio	1.33	2.00	2.00	2.00	0.67	1.60
10	Newspaper/magazine	0.67	1.33	0.67	1.33	0.67	0.93
11	Formal education	1.33	2.00	0.00	1.33	0.00	0.93
12	Internet	0.00	0.00	0.00	0.67	0.00	0.13

The influence of demographic and contextual factors for participation market access.

From the results of multiple linear regression analysis (Table 5), explained that the partial amount of livestock significant affect on participation of farmers in market access ($P \leq 0.05$) with a positive regression coefficient, which means that the number of livestock owned the more the participation of farmers market access is also higher. Likewise, the value of livestock, influence the participation of farmers in market access ($P \leq 0.1$), the regression coefficient is positive, it indicates that the higher the value, the higher farmer participation in market access. Whereas other variables such as age, education knowledge access, farming experience, distance from the house to the animal market, road conditions, and adoption rate, does not affect significantly participate in market access.

Table 5. The multiple linear regression analysis of the factors that affect in market access

Variables	Regression coefficient	T	Significant
Constante	13.187	11.675	0.000
Age	-0.016	-1.567	0.119
Education	-0.007	-0.166	0.869
Number of goat	2.411	1.957	0.050**
Value of goat	1.759E-7	1.815	0.072*
Knowledge access	-1.894	-0.998	0.320
Goat farming expereince	0.05	0.675	0.501
Distance from house to market	2.233E-6	0.009	0.992
Road condition	0.200	1.102	0.272
Adoption rate	0.001	0.123	0.902
$R^2 = 0.269$			
F test = 1.209			

Remarks:

*significantly different at $P \leq 0.1$ **significantly different at $P \leq 0.05$

3.3. Discussion

The following discussion made reference to the research question has been formulated previously. This type of knowledge to improve innovation. The study showed a significant relationship between access / knowledge of farmers and the level of innovation is done. The type of information that is relevant significantly to increase innovation is still in the domain of marketing and animal reproduction, followed domain feed management, animal health, and the last capital. Although farmers have access / knowledge level on marketing was the highest among existing domain, but marketing is the toughest problems faced by goat farmers. The second is the capital's toughest problems. The problem of capital is indeed a classical problem faced by all farmers. This does not mean that access to capital negligible knowledge to improve farmers' innovation.

Canal for the dissemination of knowledge. Studies have found turned out to learn from experience is the key to confidence in conducting goat farming. Proven results of the study of the sources of knowledge, experience is the best teacher believed by farmers. Furthermore, other sources are from friends/groups. Friend/group became an important source of knowledge to gain their knowledge. The dominant role of friend/group domain knowledge is seen as a source of capital, marketing, and breeding/reproduction of livestock. And the third source is the dominant source of knowledge from generation to generation of parents and grandparents.

Participation of farmers in market access. Participation of farmers in market access using indicators to know the price in the market, selling goat directly to the market, and the freedom to sell livestock at any time. Overall, the level of participation of farmers in market access is high. The analysis showed that the number of goats owned by farmers and livestock values have a real impact on the participation of market access. This is due to the increasing number of livestock owned and the value of livestock, the farmers are increasingly concerned

with market conditions, especially terntang price in the market, desire to sell itself, and has the flexibility to be sold at any time.

4. Conclusion

Based on the analysis and discussion above, several conclusions can be drawn:1). Knowledge relevant to increase innovation is still in the domain of marketing and animal reproduction.2). Learning from experience themselves and friend / group is an important source of knowledge for all domains of knowledge. And electronic mass media, including the Internet, have not been widely used by farmers as a source of knowledge.3). The amount of the ownership of goats and values have a real impact on participation of farmers in market access.

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