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## Preface

The Faculty of Animal Science, Universitas Jenderal Soedirman, Purwokerto organized the Animal Science and Technology Conference Series (ANSTC 2019) on 6-8 August 2019 in Purwokerto, Central Java, Indonesia. The ANSTC 2019 aims to exchange knowledge and research finding among academicians, researchers, professionals, policy makers, and postgraduate students.

The countries in the tropics have a variety of local animals playing an important role and being extensive industry prospects. The ANSTC 2019 seeks to raise the question on how to develop animal industries for sustainable rural and environmental development facing the era of Industry 4.0. The right perspective on challenges and opportunities have been discussed under the themes: 1) General animal production and husbandries (ruminants and non-ruminants), 2) Post-harvest handling and processing of meat, milk, eggs, wools, and by-products, 3) Emerging and prospective animals, 4) Animal biotechnology, 5) Animal health, diseases, and welfare/ethics, 6) Edu-tourism and ecotourism involving animals, 7) Feeds, feeding, and animal nutrition, 8) Animal physiology, reproduction, and breeding/genetics, 9) Halal aspects of animal products, 10) Environmental issues of animal farming, and 11) Other aspects related to animal science and technology.

ANSTC 2019 was attended by 125 participants, and a total of 83 papers were presented and discussed. The papers were authored by researchers from Australia, Timor Leste, Malaysia, The Philippines, Thailand, and Indonesia. All papers have been scrutinized by a panel of reviewers who provide critical comments and corrections, and thereafter contributed to the improvement of the quality of the papers. Based on the reviewer's reports, 72 papers were selected and eligible to be published in the proceeding and 11 papers were assigned for further submission to the Journal of Animal Production, the scientific journal accredited by DGHE of Indonesia (S2).

We sincerely express our gratitude to the international/national advisory committee, presenters, organizing committee members, session chairs, the Dean and all members of the Faculty of Animal Science Jenderal Soedirman University, student volunteers, participants, contributors and all the members ANSTC 2019. Last but not the least, we are thankful to IOP JPCS for producing the proceeding.

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## The Contribution of Social Capital to the Income and Development of Beef Cattle Farmers

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# The Contribution of Social Capital to the Income and Development of Beef Cattle Farmers

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**Abstract.** Developing the livestock sector in Kediri, East Java Province requires an investigation on the social capital of beef cattle farmers to observe the actual condition and the strategies. The research is aimed to describe the social capital that includes the kinship, behaviours, norms and interactions and to analyze the correlation between social capital and economic income of beef cattle farming in Kediri Regency. The study was conducted from January to June 2018, collecting data from a survey and questionnaire. A multistage sampling method was applied to collect 150 farmers in eight sub-districts in Kediri. Data were subject to descriptive analysis. The result showed that the social capital of beef cattle farmers in Kediri is at the medium level as observed from the farmers' ability to collaborate in achieving group objectives. The average annual income of beef cattle farmers in Kediri was IDR 2.700.000. The result showed a significant correlation (0,426) between the social capital and the income of beef cattle farmers in Kediri. It indicated that the higher the social capital, the higher the income. Some efforts to increase social capitals included a social gathering and farmers upskill through intensive training on technology mastery.

**Keywords:** social capital, beef cattle farmer, Kediri Regency

## 1. Introduction

Improving the economic value of beef cattle is feasible when supported by financial and social capitals in the community. According to [1] Stated that in addition to financial capital, social capital is a promising investment. Social capital contributes almost equally to infrastructure in community economic development. Social bond (social capital) has a significant impact on income and economic efficiency of beef cattle farming. Furthermore, mentioned social capital as the resources for rural development, particularly on programs that involve the entire community. Social capital is the intangible capital for success. Social capital is formulated and developed through the existence and experience of human beings. The identification and contribution of social capital of beef cattle farmers in Kediri need further investigation to formulate a solution for the optimum development of beef cattle farming.





Rural society has a unique and heterogeneous social capital. Community social capital, especially the beef cattle farmers, is a dynamic subject to interest. According to [2] one of the necessary social capital in a community is building mutual trust between the members of society. Trust is a crucial aspect of networking. A Stated that social capital encompasses the characteristics of social organization such as trust, norms and network. Social capitals are divided into several forms. Cognitive social capital is an ascribed aspect of individuals in the form of cognition to exchange trust and principles. Structural social capital adheres to the structure of norms and values that emphasize mutuality, association and organization and government. Finally, relational social capital is established from a social relationship and social network.

Social capital is a component of society strength in facing the dynamics and threats and the starting point of collective self-development. According to [3] stated that social capital is all aspects that draw society together to achieve common goals and bound with the existing conformed norms. According to [4] long-term interaction between members of society would result in social capital in the form of emotional bonding that unites people towards a shared goal.

One of the goals in the livestock business in a rural area is to increase income although some members of the community correlate beef cattle farming with social status. It is crucial to building a collectivistic manner in society to collaborate in economic improvement. Cooperativeness in farmers community is a necessary social capital to improve the output in both individual and group level, in technical and economic aspects.

A comprehensive analysis needs to be conducted to gather current facts as the starting point to achieving goals. The strategic development of beef cattle needs to be constructed to improve farmers' economy and to implement the policy surrounding beef cattle development that is effective, accurate, anticipative and comprehensive to achieve public welfare.

## 2. Methodology

### Materials

The focus of the research is the social capital of farmers in Kediri regency. According to [5] the research objective is the focus or the target of the research. Social capital includes kinship, norms, behaviour and social interaction. Research subject involved the pre-selected 150 respondents with a minimum of two animal units and 4-year farming experience.

### Method

The location of the research was determined using a multistage sampling method with Location Quotient (LQ) to know whether the sub-district/village is a centre of beef cattle (LQ>1 =beef cattle centre). Data were collected through a survey method to describe the real issues. The instrument of data collection was questionnaire and interview, and the data were subject to descriptive statistic analysis. The business analysis included cash and non-cash aspects [6] Analysis of income and economic efficiency is calculated as follows

$$\text{Income} = \text{revenue} - \text{total cost} \dots (1)$$

$$\text{Efficiency(R/C)} = \frac{\text{Total revenue}}{\text{Total Cost}} \dots (2)$$

The Spearman's rank correlation was used to test the significance of associative hypothesis if each correlated variable is ordinal and the source of data between variables is not uniform [7]. Spearman's rank correlation test is to investigate the significance of the correlation between the income of beef cattle farmer (Y1) with social capital (X) that includes kinship, norms, behaviours and interaction.

## 3. Result and Discussion

### The characteristics of farmers in research location

Beef cattle sector in Kediri plays a vital role in national economic development particularly in providing jobs, improving community income, and strengthening the national industry. The ability of

regional government to maximize the strength, to address threats and shortcomings and to partake in business development supported by local resources is the contributing factors to formulating policies for regional development and planning a holistic development of beef cattle sector. Kediri is one of the regions in East Java Province that supply beef cattle. According[8], 17 out of 26 subdistricts in Kediri are the centre of beef cattle (LQ>1) namely Mojo, Semen, Kras, Ringinrejo, Kandat, Wates, Ngancar, Plosoklaten, Gurah, Puncu, Kunjang, Plemahan, Purwoasri, Papar, Pagu, KayenKidul, Tarokan.

Education background is one of the indicators of human resource quality, the higher the education, the better the quality. Demographic report on education background of the beef cattle farmers in Kediri stated that 34,73% farmers have primary level education and 5,76% have a college degree consisted of 1,29% Associate Degree, 3,96% Undergraduate degree and 0,51% Postgraduate degree. A formal education background significantly affected the farmers' way of thinking, innovation and management ability and business productivity. It was in line with [9]that the level of education, age and farming experience had a significant impact on management skill in livestock reproduction.

School graduates and 7% (10) holds an undergraduate degree. It showed that 78% of the farmers are holding an education beyond the primary level. Education level potentially improves the level of technology acceptance to livestock business. Personal competence could be enhanced optimally through education. According to Spencer and Signe in[10], competence is the essential characteristics for an individual to exhibit superior, compelling performance in a work or any circumstances. The essential characteristics include motives, character, self-image, knowledge and skill. Accordingly, both formal and non-formal education is important. According to [11]farmers' level of education affects technology application skill.

### The correlation between social capital and income

Beef cattle farmers in Kediri (46.67%) had a medium level of social bond with a high level of kinship, applicable norms, ethical behaviours and high level of interaction. However, the annual income rate was low, i.e. less than IDR 2.700.000 which is below the regional minimum wage in Kediri. It is because the business scale is tiny, with less than two animal unit per household. The coefficient correlation was 0.426 with 0,000 significance or  $P < 0.05$ . It indicated a significant and medium positive correlation between social capital and income of beef cattle farmers in Kediri (0,40 – 0,59). Therefore, social capital significantly affected farmers' income.

**Table1.** Farmers' Social Capital and Income

SocialCapitalScore	Income			Total
	High	Medium	Low	
	(>5,3mil)	(2,8-5,2mil)	(<2,7mil)	
High (118-160)	2	25	30	57
Proportion(%)	1,4	16,6	20	38
Medium(76-117)	0	23	70	93
Proportion(%)	0	15,33	46,67	62
Low(32-75)	0	0	0	0
Proportion (%)	0	0	0	0
Total	2	48	100	69
Proportion(%)	1,4	31,93	66,67	100

Source:Processed primary data,2018

**Table 2.** Result of Analysis of Correlation between Social Capital and Income

Variable	Income		
	Correlation	Category	Significance
Kinship	0,375	Low	**( <i>HighlySignificant</i> )
Norms	0,177	Very Low	<i>NonSignificant</i>
Behaviour	0,292	Low)	* ( <i>Significant</i> )
Interaction	0,319	Low	**( <i>HighlySignificant</i> )

Source:Processed primary data,2018

**Table 2** shows that farmers' kinship, behaviour and interaction had a significant correlation with farmers' income in the low category. Some strategies to increase the income include investigating and understanding a strong kinship, good behaviour and a sound interaction among fellow farmers in the community. On the other hand, norms were not significantly correlated with farmers' income because business venture must be based on applicable laws which often overlook the norms; therefore, the farmers in Indonesia tend to disregard the norms.

Beef cattle farmers in Kediri are accustomed to gotong-royong (mutual assistance) in daily life to, for example, build and repair the cage. Group involvement and cooperation to do specific task remains a tradition amid globalization. The farmers give a voluntary, mutual help. The social norm in Kediri values livestock as "rojokoyo" that stands for a commodity to gain more income. Cattle ownership is related to social status in the society; the more cattle a person has, the higher the social status. The belief has been ingrained in society. Individuals with a higher financial capital but less time and space for cattle farming will entrust the cattle to other individuals and share the income.

Farmers' involvement in the farmer community starting from 2014 has shown a significant improvement as seen from the formation of the farming community in every village in Kediri and the increasing number of active members. However, farming society has not optimally changed the perspective that beef cattle farming is a promising main centre. According to [12]farmers have low entrepreneurship because their motivation is challenged by the limited financial capital source and networking and traditional perspective in running a business. [13] stated that social capital between the agricultural and non-agricultural sectors are correlated, thereby stimulating development. Social and economic contribution from society would bring a positive impact on community development. According to [14] the participation of formal group would determine the sustainability of beef cattle farming. Furthermore, in his study on the correlation between social capital and welfare of broiler farmers in Gunung Kidul, [15] reported that social capital significantly affected farmers' welfare. It was in line with [16] on farmers in Malaysia.

A good interaction would lead to collaboration and help to actualise social capital into social welfare. According to [17] stated that social capital is a firm foundation that could alleviate development cost when well-managed. Accordingly, a sound interaction could be implemented in animal husbandry; the higher the interaction level, the higher the income and welfare not only the farmers but also the society.

A sound social interaction in the community of beef cattle farmers in Kedili would have an added value when modified into a massive interaction in business development. Trust between the investor and farmers with limited financial capital must be strengthened and maintained to nurture the mutually beneficial partnership. The thriving farmer's community in a village or subdistrict would bring more impact if their connection goes beyond hospitality, but instead establishing an inter-community collaboration to handle technical issues in cattle breeding and marketing to eradicate monopoly practice in the livestock business. It was in line with [18] that corporate marketing in Austria and Hongaria enables social capital to mobilise other capitals such as natural resources, physical resources, financial and human resources.

According [17] stated that norms establish an unwritten social control but a practical behavioural guideline for the society—a set of ethical behaviours in the community. According to [19] stated that economic productivity could be encouraged and strengthened by establishing a stable social condition. The social relationship is correlated with economic, social and political aspects and it affects the performance of the market and the country. Accordingly, it is critical to balance between financial capital and social capital such as kinship in order to improve farmers' income and welfare.

#### 4. Conclusion

The social capital of beef cattle farmers in Kediri regency is in medium level. Farmers' kinship, norms, behaviour and interaction are the variables of social capital in Kediri. Beef cattle business in Kediri has not yielded optimum income because the average number of cattle owned by the farmers falls under the small-scale category. Farmers' net income is IDR 2.700.000 per year. Social capital has a significant, positive and linear correlation with the income of beef cattle farmers in Kediri. It is important for the regional government to play its role in supervising and establishing a regulation that supports beef cattle farmers.

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