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## Social capital on poultry farms in South Sulawesi, Indonesia

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**Abstract.** Social capital plays an important role in the development of poultry farms in South Sulawesi. Poultry farms consisted of laying hen and broiler farms. Most of laying hen farms were located in Sidrap Regency, while broiler farms were located in Maros regency. The aim of this research was to know social capital on beef cattle farms in South Sulawesi. Population of this research was 120 farmers which consisted of 60 were laying hen farmers and 60 were broiler farmers. Variable of social capital was mutual trust, reciprocity, shared norms and linkage. The data were collected from observation and depth interview by using questionnaire. There were 10 questions. The answer was scored by using Likert scale ranging from 1 refer to strongly agree; 2 refer to agree; 3 refer to not sure; 4 refer to disagree and 5 refer to strongly disagree. The data were analyzed descriptively using frequency distribution. The research revealed that mutual trust and shared norms members of the group in broiler farms have higher level than that on laying hen farms, on the other hand, linkage or net working members of the group among laying hen farmers has higher level than that on broiler farms.

### 1. Introduction

Demand for poultry product such as chicken meat and eggs increases steadily year by year. However, the domestic production of chicken meat and eggs cannot fulfil the local demand. Therefore, Indonesian government should import chicken meat and eggs from other countries. To overcome the loss of the foreign exchange, the development of poultry farms in Indonesia should be supported by a good regulation, poultry farmers participation, private and government intervention [1].

Poultry has the best conversion rate of feed to human food in terms of per kg meat or eggs produced [2]. The success of poultry farms were influenced not only by technical factors, but also non-technical factors such as social capital. According to Putnam [3] and Subejo [4], social capital is a characteristic of social organization such as trust, norm, and networking that facilitate the occurrence of coordination and cooperation for mutual benefit.

Social capital is formed and developed through the existence and life experiences of human beings. Each person in a different social environment such as a different family or location will have different



views. Further, each community has its own concepts and values that are formed through the accumulation of beliefs, moral standards and other individual contacts inside that community [5]. Hasbullah [6] added that social capital is anything related to cooperation in society or nation. To achieve a better purpose of life, sustained by the values and norms that become the main elements such as trust, community participation, reciprocity, collective rule in a society or nation. Dinda [7] offered a more general definition, calling social capital “a broad term containing the social networks and norms that generate shared understandings, trust and reciprocity, which underpin cooperation and collective action for mutual benefits, and creates the basis for economic prosperity”.

According to Salman [8], social capital can be divided into some form. It is in the form of cognitive social capital: something inherent to the individual in the form of cognition for mutual trust and principled reciprocity; it is in the form of social capital structural: something inherent to the structure of values and norms that emphasize togetherness, associations and organizations and governance; and it is in the form of relational social capital: something born of social relationships in the form of social networks.

Syahyuti [9] found that social capital in a society can be strengthened but requires the support of certain resources. In order to create good social and institutional relationships so community members must support it. Social capital acts as a glue that binds all the people in the society. In order for social capital to grow well there is a need for shared values, beliefs, and organizing roles expressed in personal relationships. According to Flora [10] and Flora *et al.* [11], an important aspect of community quality of life is social capital, which includes mutual trust, reciprocity, and shared norms and identity. In general, communities with greater social capital provide greater quality of life.

Based on previous studies [12], social capital was a significant factor determining the level of agricultural income. Munasib and Jordan [13] found that community involvement had a positive effect on the decision to adopt sustainable agricultural practices, and, secondly, it also had a positive effect on the extent to which farmers adopt these practices.

The most populous laying hen in South Sulawesi was in Sidrap Regency. In 2013, there were 4,041,027 tail. Unfortunately, the population decreased to be 3.48 million tail in 2016. On the other hand, the most progress poultry farms in South Sulawesi was broiler farms which was located in Maros regency. Since 2011, the population increased by 185%. Total population was 18,497,399 tail in 2011, then it increased steadily to be 52,651,682 tail in 2016 [14].

According to central bureau of statistics [14], the role of broiler chicken (broilers) is very important to meet the needs of society for meat as material nutritious food, this is remembering the population of chickens is quite large and its maintenance is almost on all corners of the country. The development of poultry farms in South Sulawesi was supported by local government, animal husbandry services, private sectors and poultry farmers. Most of poultry farmers became a member of farmers group.

The purpose of this research was to know social capital on poultry farms in South Sulawesi.

## 2. Research Method

This research was conducted on poultry farms which consisted of laying hen farms and broiler farms. Laying hen farms were mostly located in Sidrap regency, while broiler farms were located in Maros regency. Population of this research was based on FAO data. Sample were consisted of 120 poultry farmers which consisted of 60 laying hen farmers and 60 broiler farmers. The data were collected through observation and depth interview by using questionnaire.

The element of social capital was consisted of trust, norms and networking (linkage). There were 10 questions. The answer was scored by using Likert scale which started from 1 refer to strongly agree, 2 refer to agree, 3 refer to doubt or not sure, 4 refer to disagree and 5 refer to strongly disagree. The data were analysed descriptively using frequency distribution [16].

## 3. Results and Discussion

Table 1. showed that on average respondents were in productive age both to laying hen farmers and broiler farmers. Managing poultry farms need a lot of work such as cleaning the cage, feeding, picking

the eggs and marketing. According to their education, on average, poultry farmers spent more than 9 years at school. This indicated that both laying hen farmers and broiler farms finished their elementary school. In other words, they were literate. The education level of respondents was better than that of Riduwan and Akdon [16] which majority (68.85%) of native chicken farmers just finished from elementary school. With regard to gender, male was dominant than female for both laying hen farmers and broiler farmers. Most of female in rural area were busy with their domestic job in their family, such as take care of their children, cooking, washing, and cleaning the house. Looking at farms experience, both laying hen farmers and broiler farmers spent more than 5 years in managing their farms, this indicate that they have enough experience. Usually farmers go their experience from their parents. According to the number of chicken they have, on average for both laying hen farmers and broiler farmers have chicken less than 10,000 tail, this indicate that they were smallholder farmers.

**Table 1.** Characteristic of respondents

No	Characteristics of respondents	Laying Hen Farmers	Broiler Farmers
1	Age (year)		
	• Average	44.67	45.23
	• Minimum	23	26
	• Maximum	80	80
2	Education (year)		
	• Average	10.2	11.07
	• Minimum	0	0
	• Maximum	17	26
3	Gender (person)		
	• Male	48	53
	• Female	2	7
4	Number of chicken (tail)		
	• Average	5,875	4,338
	• Minimum	1,000	300
	• Maximum	40,000	50,000
5	Farm experience (year)		
	• Average	8.2	6.43
	• Minimum	1.0	1.0
	• Maximum	20.0	23.0

On table 2, it can be seen that mutual trust and norm variables on broiler farms were higher than that of laying hen farms. This was because currently, the majority of broiler farmers is not working independently but united with integrated partner companies. According to [18], the partnership scheme is a partnership between the partner farmer and partner companies. The partner farmer groups act as plasma, while the partner companies act as the core. In the broiler partnership that is currently running, the partner or core companies provide farming production facilities such as DOC (Day Old Chick), feed, medicines, vitamins, vaccines, technical supervisor, and products marketing, while the plasma provide the chicken house and worker. The aim of this partnership scheme is to help the broiler farmers who have limited funds. However, essentially partnership is business cooperation for certain objectives and each party should have equal interest and position.

**Table 2.** Category of Social Capital on Poultry Farms

No	Variable	Laying Hen Farmers		Category	Broiler Farmers		Category
		Score	(%)		Score	%	
1	Trust	3.26	63.0	High	3.63	69.8	High
2	Norm	2.98	57.13	Enough	3.60	60.5	High
3	Linkage	4.00	60.33	High	2.98	58.67	Enough
Social Capital			60.8	High		64.20	High

During its journey, the broiler partnership experience an up and down. It because of the system of broiler raising management should be well conducted to reach optimum results as broiler age is relatively short between 32 to 36 days of raising period [19]. Yunus [20] argued that broiler harvesting carried out at 32-36 days, when the chicken have average weight of 1.75 kg/head. Samarokoon and Samarasinghe [21] added that as the harvesting time increased, it would cause the increasing of FCR. Therefore, the result of this research indicated that trust and norms of broiler farmers were categorized as “high”.

On the other hand, linkage of member group on laying hen farms was higher than that on broiler farms. This was because the breeders of laying hen farms were independent breeders. Everything from the procurement of DOC, feed, chicken house, vitamins, vaccines, medicine, worker, technical supervisor and marketing were provided by themselves. So the network with other laying hen breeders must be strong. Total social capital for both poultry farms were categorized as “high”. Although social capital was high, it is also important to understand whether or not this social capital can be turned into action (i.e. whether or not there is a high level of “agency” within the group). This group agency variable was determined from an understanding of how groups would respond to issues or difficulties facing the group and individuals.

**Table 3.** Farmers response to HPAI (bird flu) within the farms

Farmer response	Laying hen farmers	Broiler farmers
Group members would help each other	43 (71.67%)	40 (66.67%)
Group would ask for help from government	13 (21.67%)	10 (16.67%)
Everyone would deal with the situation by themselves	4 (6.67)	7 (11.67%)
Group would seek help from wider community	0	3 (5.0%)

Based on table 3, if there was an issue facing the group (for example Avian influenza), 71.67% of laying hen farmers and 66.67% of broiler farmers would like to help each other rather than asking for help from government. Helping each other was the characteristics of poultry farmers. The result of the recent research was supported by Patrick *et al.* [22] who found that beef cattle farmers in Bali and Lombok do the same respond.

Overall, social capital on poultry farms both for laying hen farmers and broiler farmers in South Sulawesi were categorized as high.

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