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# THE IMPACT SOCIAL CAPITAL OF BEEF CATTLE FARMERS IN GROUP ON FARMER'S HOUSEHOLD WELFARE: A STUDY IN WEST SUMATERA, INDONESIA

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## ABSTRACT

This study aims to analyze the impact of social capital dimension in a group of farmer's and analyze the role of farmers social capital in cattle raising in groups to the development of farmers business and on increased farmer's household welfare. This research was the case study based on a group of farmer's in Padang Limau Sundai village, West Sumatera province. The respondents of research were 43 members of the group. The method of analysis the data was Structural Equation Modeling using Smart-Partial Least Square (PLS-SEM). The results of the study found that the joining of farmers into groups for joint cattle raising did not increase their social capital such as lack of trust, reciprocity, participation, cooperation, solidarity, togetherness and social responsibility of them. However, the social capital has exist as a basis the establishment of groups like togetherness and solidarity found have a positive influence to the development of the farmers business in a group and then also influences welfare of farmers household.

## INTRODUCTION

The livestock development is part of the national development which is very important. The long term objective of livestock development one of them is the establishment of adequate nutrition standards for the people of Indonesia from livestock. The Livestock development in Indonesia are also aimed at achieving food security through increased production of livestock.The increased of production is expected to affect the community income increase, improve the state of the environment, increase the occasions, new job

opportunities were available and extending existing employment opportunities. In achieving the development goals of the efforts should be contributions mind how to livestock agribusiness achieve self-sufficiency in food self sufficient.

Development should not just the responsibility of government, but synergies and the involvement of a number of stakeholder, including private sector, professionals, consumers, workers and civil society in general. The community must be participating and having responsibility for regional development. One of the development approach is through the role social capital of community. Social capital have important contribution to development, especially to achieve sustainable development. A country with high social capital, have a positive effect on economic growth (Knack and Keeper 1997). Social capital also used to explain the phenomena economic growth at the regional level (Putnam 1993; Beugelsdijk 2004; Iyer *et al*., 2005; Karlsson 2012). Micro level, also to the role of social capital on increased income and household welfare (Narayan and Pritchett 1999; Grootaert 1999; Maluccio *et al*., 2000).

In livestock sector, social capital has contributed in the construction of animal husbandry. One of the approach of sosial capital in the construction of animal husbandry is the approach oriented community is community groups like the farmer group.The farmers group basically is an organization non-formal in rural areas who growing "from, by and for farmers".Growth and development the farmers group have supported by the government which strengthen through Regulation Minister of Agriculture 2007. After that the more farmers group established in Indonesia with the aim of realizing agricultural tough to monitor food security, the enhancement of value add and competitiveness agricultural products and the rise in the welfare of farmers.

In implementing the development of community cattle farms, the government has provided support for the growth of cattle rancher groups in West Sumatra. In implementing the development of community cattle farms, the government has provided support for the growth of cattle rancher groups in West Sumatra. There are many groups of cattle ranchers in West Sumatra and one of them is a group of beef cattle farmers from Padang Limau Sundai village located in *Sangir Jujuan, Solok Selatan district*. This breeder group was established in 2010 which was pioneered by the village head. Something interesting is that all the people who have animals join the group to keep the beef cattle together. All livestock owned by the community are kept in one farming area so in this village we rarely encounter livestock enclosures around their homes. The grouping the livestock in one area will create a clean environment and tidy as settlement in rural areas. Pinfold this group in put calls from settlement and their own livestock protect together. In creating management animal husbandry in their groups designating the head of the group who to manage operational work with this group. The number of livestock maintained were 132 in two areas that separate.The number of livestock owned for one rancher is two to eight.

This phenomenon makes the author interested to analyze social relations and social values such as: trust, reciprocity, participation (Putnam, 1995; 2000: Mohd Mahzan et.al, 2019), togetherness, cooperation, solidarity and social responsibility created in this group that made this group can survive until now (Fitrimawati, 2015). Several groups of farmer able to stand up to assistance from the government and run by a group of farmer was brain dead. Therefore, the authors are interested to examine what dimensions of social capital they have and whether their social capital through social capital bridging has been able to develop their livestock business and improve their household welfare. Thus the authors are interested in examining what dimensions of social capital they have in the group and whether the social capital they have through bridging social capital has been able to develop their livestock business and improve their household welfare. Do the research have similarities with Narayan and Pritchett (1999); Grootaert (1999); Maluccio et al. (2000); Fafchamps and Minten (1999); Sulastri (2005); Fafchamps (2007) research before stated that households which join groups have a positive influence on the welfare of their households.

## METHODS

The research has done in livestock group in *Padang Limau Sundai village, Sangir Jujuan, Solok Selatan* district. This location is chosen purposively with the reason viewed the seen by farmers community in this area have high values and social norms and high awareness to farm in group. The kind of data on this research is primary data will be taken through the case study method with a tool the collection of data using a questionnaire. The questionnaire takes a statement in the form of scales likert filled by farmer as respondents.The number of respondents to this research is as many as the number of members of the group namely 43 people.The data processed in this research is data social capital group farmer in like togetherness, trust, cooperation, reciprocity, participation, solidarity and social responsibility as well as the development of business farmer and welfare of the farmer household.

The data collected processed through a process editing and testing validity and reabilitas.The method of analysis the data used to answer the purpose research is the method Structural Equation Modeling (SEM) using softwer *smart*pls 3.0. A method of PLS-SEM consisting of two sub model that are measurement model or often called outer model and structural model or inner model. Measurement model shows variable *manifest and observed variable* presented variable latent to be measured. In contrary, structural model shows the strength of estimation between variable latent or construct. Structure model in this study as in a figure below.

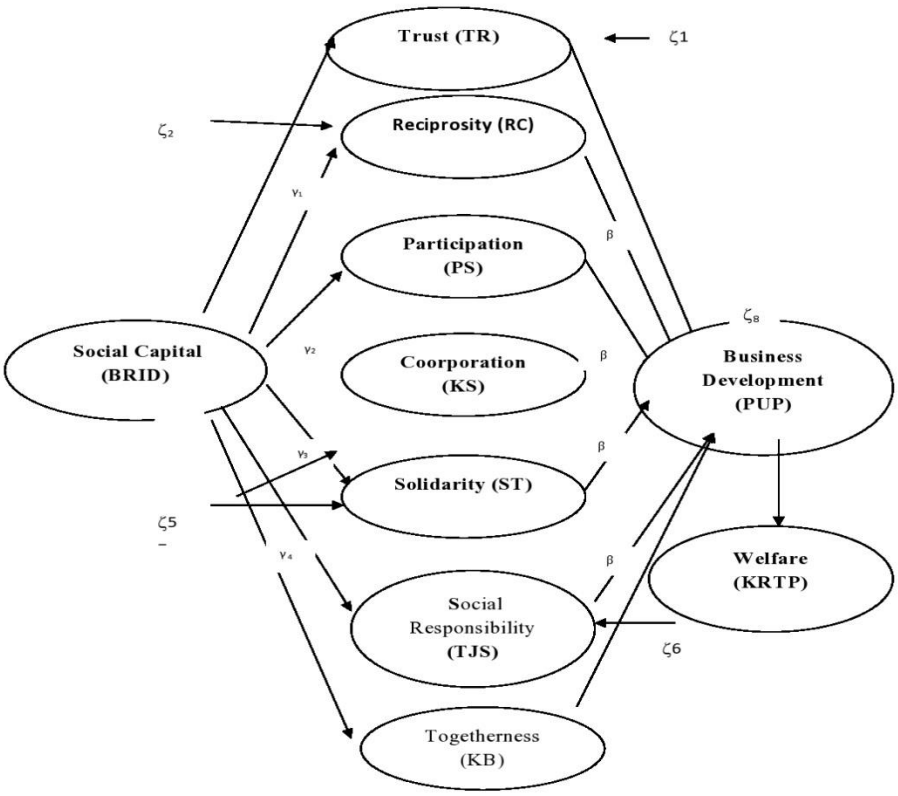


Figure 1. Model Structure

Then, model structure formulated in the equation structure.

$$TR = \gamma_1 \text{BRID} + \xi_1$$
$$RC = \gamma_2 \text{BRID} + \xi_1$$
$$PS = \gamma_2 \text{BRID} + \xi_1$$
$$KS = \gamma_2 \text{BRID} + \xi_1$$
$$ST = \gamma_2 \text{BRID} + \xi_1$$
$$TJS = \gamma_2 \text{BRID} + \xi_1$$
$$KB = \gamma_2 \text{BRID} + \xi_1$$
$$PUP = \beta_1 TR + \beta_2 RC + \beta_3 PS + \beta_4 KS + \beta_5 TJS + \beta_6 ST + \beta_7 KB + \xi_8$$
$$\text{KRTP} = \beta_1 \text{TR} + \beta_2 \text{RC} + \beta_3 \text{PS} + \beta_4 \text{KS} + \beta_5 \text{TJS} + \beta_6 \text{ST} + \beta_7 \text{KB} + \beta_8 \text{PUP} + \xi_9$$

The evaluation of measurement model or outer model done to assess the validity and reliability model. Outer model with an indicator reflective evaluated through the validity convergent and discriminant of indicators construct latent and composite reliability and cronbach alpha to block the indicators have to be large of 0.7. The validity convergent deals with the principle that manifest variable from a construct which is collerated to be high.Test the validity of convergent reflexive indicators can be seen from the value of loading factor in every indicator construct. Rule of thumb that is usually used to assess the relative validity convergent namely the value of loading factor of have to be large of 0.7 for research that confirmatory and 0,6 – 0,7 fore xplanatory research. The score of *average variance extracted* (AVE) must bigger than 0.5. *Validity discriminant* seen through score *cross loading* for every variable and must be greater than 0.7. Evaluation model structural or *inner model* aimed at to predict the relationship between variable latent. *Inner model* evaluated with to see how much the percentage variance described with saw the score R- Square to construct latent endogenous (Hair *et al.*, 1998).

## RESULTS AND DISCUSSIONS

The first stage to get results estimation structural model namely relations social capital the farmer in an effort to group (bridging social capital) against the development of the farmer business and welfare of farmers household is the analysis to the outer model.The validity of convergent testing shows of the *loading factor* on the results of this research is bigger than 0.7 to all indicators construct (Table 1).

**Table 1** Score of Loading Factor (*Outer Loading*) from Indicator Construct

| **Construct** | **Total of Indicators** | **Value of Loading Factor** |
|---|---|---|
| Bridging Social Capital (BRID) | 4 | 0.825 - 0.941 |
| Trust (TR) | 4 | 0.712 - 0.884 |
| Reciprosity (RC) | 3 | 0.887 – 0.938 |
| Participation (PS) | 3 | 0.794 – 0.918 |
| Coorporation (KS) | 4 | 0.839 – 0.956 |
| Solidarity (ST) | 4 | 0.813 – 0.853 |
| Togetherness (KB) | 4 | 0.789 – 0.865 |
| Social Responsibility (TJS) | 3 | 0.938 – 0.961 |
| Business Development (PUP) | 3 | 0.914 – 0.915 |
| Welfare (KRTK) | 3 | 0.813 - 0.951 |

It means that all of the indicators are valid. *Valitidity Discriminant* testing also prove from the result score of *cross loading* for every variables. The cross loading score bigger than 0.70. the other way to test the *Validity Discriminant*by analyzing the score of AVE. In the result of this research is the AVE score bigger than 0.50. it means 50% or more variance indicators that could be explained.

**Table 2.** Score of Validity and Reability of Outer Model

| **Construk** | **AVE** | ***Cronbachs Alpha*** | ***Composite Reability*** |
|---|---|---|---|
| Bridging Social Capital (BRID) | 0.755 | 0.930 | 0.939 |
| Trust (TR) | 0.688 | 0.882 | 0.898 |
| Reciprosity (RC) | 0.833 | 0.850 | 0.909 |
| Participation (PS) | 0.736 | 0.735 | 0.847 |
| Coorporation (KS) | 0.815 | 0.944 | 0.946 |
| Solidarity (ST) | 0.699 | 0.863 | 0.903 |
| Togetherness (KB) | 0.673 | 0.914 | 0.892 |
| Social Responsibility (TJS) | 0.902 | 0.925 | 0.948 |
| Business Development (PUP) | 0.836 | 0.803 | 0.910 |
| Welfare (KRTK) | 0.821 | 0.955 | 0.932 |

After that is the testing realibility of construct. Based on the research result on Table 2 get the score of *Composite Reliability* 0.847 until 0.948 for each constructs. The score is very good because the score is bigger than *Rule of thumb* are 0.70. Then, the score *Cronbachs Alpha*result is bigger than 0.70. It can be concluded that all of the construct indicators results are realible or fulfill of realibility test. It is prove that the use of instrument in this model is accurated, consistent, and correct on measurement construct.

The second stage analyze is structural model. In scoring of structural model by analyzing score of R- Square for each endogenous laten variable as strong prediction of structural model. Score of R- Square obtained on endogen variable PUP are 0.569 and KRTP are 0.530. the PUP score are 0.569 could be interpretation that the construct variability of PUP (Business Development) could be explained by construct variability TR, PS, RC, KS, ST, KB dan TJS with BRID as 56,9 % while 43,1% explained by the others variability out the treatment. The score of R- Square construct PUP as 0.569 has been categorized moderated. It has similarities for the score of R- Square construct KRTP.

**Table 3.** Score of Inner Model

| **Construct Correlation** | **Original Sample** | **Standard Deviasi** | **T Statistics** | **P Value** |
|---|---|---|---|---|
| BRID → TR | 0.467 | 0.449 | 1.040 | 0.299 |
| BRID → RC | -0.041 | 0.156 | 0.265 | 0.791 |
| BRID → PS | -0.223 | 0.159 | 1.403 | 0.161 |
| BRID → KS | -0.092 | 0.146 | 0.632 | 0.528 |
| BRID → ST | -0.124 | 0.143 | 0.865 | 0.837 |
| BRID → KB | -0.033 | 0.220 | 0.148 | 0.882 |
| BRID → TJS | -0.177 | 0.160 | 1.105 | 0.270 |
| TR → PUP | 0.073 | 0.159 | 0.465 | 0.642 |
| RC → PUP | -0.016 | 0.113 | 0.140 | 0.889 |
| PS → PUP | 0.018 | 0.148 | 0.122 | 0.903 |

| | | | | |
|---|---|---|---|---|
| KS → PUP | 0.150 | 0.149 | 1.005 | 0.315 |
| ST → PUP | 0.401 | 0.226 | 2.071 | 0.047 |
| KB → PUP | -0.300 | 0.135 | 2.215 | 0.027 |
| TJS → PUP | 0.119 | 0.168 | 0.465 | 0.642 |
| PUP → KRTP | -0.229 | 0.146 | 2.088 | 0.048 |

After that, analyze the correlation between construct to determine exogen variable to the influential endogenous variable. Based on the research result on Table 3 the majority of score T statistic is smaller than 1.96. It means that the beef catlle farmers joining the business group did not growing the values and the norms of togetherness. This means that the integration of farmers in care the beef catlle did not affects the trust between the farmers, did not affect desire for mutual unrequited kindness between them and did not influence in increasing their participation. Although the integration of farmers in business groups does not affect to togetherness, solidarity and cooperation and social responsibility among them. It is causes of the groups created driven by a desire to get help for beef from the government. Now, the government of Indonesia through Agriculture Ministry provide funding assistance to a group of livestock. This means that the aid given to farmers who joined in the group .That is why the results of this research was not in accordance with the findings Fitrimawati (2015) in her dissertation stated that the integration of Minangkabau ethnic in social groups in Ranah Minang influential positive on values and social norms such as trust, solidarity, reciprocity, participation, cooperation, togetherness and social responsibility of them.

However, there are some interesting accidents has found that are togetherness and solidarity in group give a positive impact to development of member business livestock. It is clear from score T is bigger than 1.96 with the probability score of construct Togetherness (KB) with the development of farmer business (PUP) are $P = 0.027 < 0.05$. It is same with the probability of construct of Solidarity (ST) with the development of farmer business (PUP) are $P = 0.047 < 0.05$. It means that joining the farmer to the group in taking care the cows based on the construct KB and ST could increase the development of farmer business. Developing of farmer business in group also gives positive impact for the welfare of farmer household. If the business of the farmer are increase in group then the welfare of the farmer will increase too. It is seen from the increase public health and education as increased meeting the needs of food, apparel and housing. It is proven from the estimation result of score T statistic is bigger than 1.96 with the score of probability construct of development of farmer business and the welfare of farmer household KRTP are $P = 0.048 < 0.05$. This result has similarities with Narayan dan Pritchett (1999); Grootaert (1999); dan Maluccio *et al.*, (2000); Fafchamps dan Minten (1999); Sulastri (2005); dan Fafchamps (2007) research stated that the household who has join in the group have a strong impact for the welfare of their household.

## CONCLUSIONS

Social capital is one of the capitals to support the national economic growth, region economic and household economic besides sources of human capital , physical capital and financial capital. Joined in a group is the source of social capital for animal breeders. However, the results of the study that the integration of livestock owners to get in the group in taking care the cow together are not increase their social capital such as the kind of trust, reciprocity, participation, cooperation, solidarity, togetherness and social responsibility.The result of this research received that a group of farmer have not raise social capital of them. Nevertheless, existing social capital as the basis for the establishment of groups like the togetherness and solidarity found the strong positive impact for developing of farmer business in group and then also influences the welfare of farmer household.

This study is a case study because it is a preliminary study. Hopefully further research will be developed by involving many groups of farmers in West Sumatera to obtain more general and stronger research results. The research of this case study will support great research from author about social capital of farmers in groups to the future.

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