

DETERMINANT FACTORS OF THE SUSTAINABILITY OF BARN GROUP
(Case in “Karya Tani” Barn Group, Pasir Malati Village, Dawuan Sub district,
Majalengka Regency, West Java Province, Indonesia)

Jaka Sulaksana^{1*} and Merida Dwiprani Rahayu^{2*}

¹Agriculture Faculty University of Majalengka

²Agricultural Extension Office of Majalengka

*Email : j_sulaksana@yahoo.com

ABSTRACT

This paper describes Barn Group sustainability (its level and factors affecting on it) and find the model that can keep this group survive. This research was conducted in the the Pasirmalati Village, Dawuan Subdistrict, Majalengka regency with the method of census to 45 farmers. The results showed that group sustainability level components (includes service attitude, system of borrowing, lending terms, the accuracy of the service and the overall amount of loans) in range of average to very good level. Land ownership, formal education, informal education, the attitude of members toward the Barn Group, and the attitude of members toward the leadership of group jointly affect the level of group sustainability. Land area, formal education, informal education, and the attitude of members to the leadership of group independently does not affect the level of group sustainability. However, the attitude of members to the Barn Group independently has an effect on it.

Keywords : Sustainability level, Barn group, affecting factors

INTRODUCTION

Indonesia is an agrarian country, where growing and developing of the agricultural sector. Agriculture can never be separated from the food problem, because the main task of agriculture is to provide food for the people of country. One important indicator to look at the food security of a country is through the aggregate average number of food availability. In the Law No. 7/1996 and refined into the Law No. 68/2002 on food security explained that “Food Security is fulfilled condition of food for households which is reflected in the

availability of adequate food, both in quantity and quality, safe, equitable and affordable”.

Indonesian economy began slumped since the economic crisis of 1998 brought great impact into the quality of the food security community, especially at the household level. The availability of food, especially rice associated with food reserves that must be managed wisely. The management must be aligned with the level of food production produced adapted to the potential and ability of communities to seek

alternative opportunities problem solving, is also able to manage them effectively, efficiently, and continuously.

The focus of development at present is still directed at the handling of the problem of food insecurity and poverty in rural / urban areas by enhancing food security. In order to improve family food security, efforts are being conducted through the strengthening of public food reserves in the form of institutional barns. These barns are built in each village that housed the harvest of the communities in anticipation of the lean season when food insecurity and natural disasters that come can not be predicted. Associated with regional autonomy, barns can serve as food reserves so that the region can sustain the food security area. Barn is one of the institutions that exist in the community which has long played a role in the procurement of food, especially in times of scarcity and effectively serve the financial needs of its members (Sumardjo, 2005). These barns are built in each village that housed the harvest of the communities in anticipation of the lean season when food insecurity and natural disasters can not be predicted. Related to the regional autonomy, barns is hoped can serve as food reserves so that the region can sustain resilience food area. However, along the way where the barns are also not optimal in accordance with the objectives of the establishment. This raises new issues need serious attention.

According to Raya and Wastutiningsih (2005), barns community is supporting local food security institution with its main function is as a support for collective food reserves. However, the main tasks of institutional functions attached to the barns has not run optimally. Barn system as the central food reserves, especially in rural areas, is increasingly hard to find. Remaining local knowledge (indigenous knowledge) was eroded by the changing times. There are at least four causes of system problems of barns village increasingly marginalized: (1) the tendency of farmers to behave consumptive, (2) the entry models of institutional developing, (3) the farmers are entangled system of bonded labor, and (4) the attitude of farmers tend to be apathetic in line with faded values of mutual help among the community. Therefore, the potential of this village barns need to be developed and revitalized through a systematic process of community empowerment, integrated and sustainable by involving all related elements (Herman 2009; Meulemeester 2005; Jamal, Kamarulzaman, Abdullah, Ismail, & Hashim 2013; Solano *et al* 2015)

Referring to the importance of the role of barns in community living, the barns will be one important factor in the government's program to reach food security. But on the other hand, the existence or terms of the sustainability of public barns are not all in good condition. It seems

affected by several factors. This research was hoped able to describe the comparison of all the factors that affect the sustainability of the Barn Group as group sustainability in Sulaksana's research. The farmer group can sustain in a long term if it has some factors inside, such as the significant role of leader, group dynamics, and motivation of members which is described in their attitude toward the group (Sulaksana 2011). Agricultural farms are sustainable if they are economically viable, environmen-tally sound, and socially acceptable (Oudshoorn, Kristensen, van der Zijpp, & Boer 2012).

Referring to the importance of the role of barns in community living, the barns will be one important factor in the achievement of the government program to reach food security. But on the other hand, in terms of its existence is not all of Barn Groups which has been built either governmental or non, running as objectives of the establishment. This is certainly influenced by several factors. According Huntington in Goldsmith & Brinkenhorf, the concept of sustainability here is the sustainability of the institution. Institutions are the values of stable or unstable behavior patterns. Value or positive behaviors that should be stable in the long term (Oudshoorn *et al* 2012 ; Angelkova, Koteski, Jakovlev, & Mitrevska 2012; Tsitsimpelis, Wolfenden, & Taylor 2016).

Special research in barn has been conducted by many researchers, such as

Sumardjo and Koesoemawardhani (2005) and Sibuea (2009). Sumardjo has studied the Role of Communication in Institutional Development, Food Security Society, in the other side Sibuea has studied more in revitalization of Barn group to handle food insecurity in the village. Because of the difference of main focus of researchs, this study tried to get more deeply or focus on the survival ability or sustainability of barn group in the village.

Sustainability of Barn Groups is measured by the dynamics of the group that is the power inside the group that determines the group's behavior and the behavior of members of the group to achieve group goals. Assess the dynamics of the group means assessing the forces that arise from various sources within the group. The forces within the groups as suggested by Slamet (1978) in Syamsu et al (1991), namely: (1) The purpose of the group, (2) The structure of the group, (3) Function assignment, (4) Guidance of group, (5) Solidarity group , (6) the atmosphere of the group, (7) pressure on the group, (8) the effectiveness of the group, (9) a hidden intention (sulaksana 2011). In this study, only limited is used , they are the purpose of the group, group coaching, and the effectiveness of the groups that more specifically characterized by engineering services to members of the Barn Group and the effectiveness of service of barns group: a) Technical Services of Group to the member, seen from an attitude of service ,

borrowing, lending terms; b) The effectiveness of services seen from the accuracy of the service, the loan amount.

Factors that affect the sustainability of the Barn Group: a) Land, is the total area of paddy rice to be planted in a particular season member-owned spacious views of the narrowness of the land owned; b) Formal Education, education member seen from the last academic education levels achieved members; c) Informal education, education of each member views of education beyond academic education have been followed as ever participated in outreach, training, and others associated with increased knowledge of the members in agriculture and barns; d) The attitude of members to the Barn Group, seen from the interest and support of every member of the development community barns; e) The attitude of members to the leadership of group, seen from the perception and support of the members toward group management barns, especially to barns group leaders.

METHODS

This study has been conducted in the Pasirmalati village, Dawuan subdistrict, Majalengka regency, precisely in "Karya Tani" barn group. The choice of location is determined intentionally (purposive) and based on the consideration that "Karya Tani" barn group has a lifespan of more than 5 years. The study began in March until July 2015. The study was conducted using the

Barn Groups in Majalengka is amounted to 212 units and spread in 23 districts. Each subdistrict indicates own Barn Group such as the District Dawuan has 24 units of Barn Group located in seven villages. But from all 24 groups in the District only 13 pieces still exist. Referring to the data department of Majalengka agriculture, Barn Group "Karya Tani" in the village of Pasirmalati which is one of the groups which can stand for a long time and is continuing or growing. Based on it, I am interested in conducting research on "Determinants of Sustainability of Barn Group". This study has been conducted at the Barn Group "Karya Tani" in the Pasirmalati Village, Dawuan Sub district, Majalengka regency. Based on the mentioned above background, the aim of this research can be defined as follows:

1. To know the level of sustainability of the Barn group
2. To know What factors are affecting the sustainability of the barn group

method of survey (survey method). Survey Research is research that takes a sample from a population and using questionnaires as the main data collection tool (Singarimbun and Effendi 2009). According to Singarimbun and Effendi (2009) characterizes research is data collected from numerous respondents using questionnaires. As a variable in this study are the level of sustainability of the group and the factors

that affect the sustainability of barn group. The unit of analysis is the farmer who are members of the barn group.

This study tried to reveal the level of sustainability of the barn group and factors affecting its sustainability which is measured by the dynamics of the group. Variables used in this research are Factors that influence the dynamics of the group (X). They are land ownership, formal education, informal education, the attitude of members toward the group, the attitude of members toward the leadership of group. Land ownership is seen by land held by member (X₁). Formal education member is seen from the last academic education level achieved by member (X₂). Informal education members seen from many members ever participated in the extension and others associated with increased knowledge about agriculture and barns (X₃). The attitude of members toward the group that is viewed of interest, and support members of the development barns (X₄). The last is the attitude of members toward the leadership of group (X₅).

Group Dynamics of Barn group (Y) is a forces within the group that determine the group's behavior and the behavior of members to achieve group goals. The indicators used are: Mechanical Services Barn group to members, seen from (1) an attitude of service; (2) the process of borrowing; (3) the terms of borrowing. Effectiveness of services seen from (1) the accuracy of the service; (2) the

amount of the loan. Data to be collected in this study is comprised of primary data and secondary data. Primary data is data obtained from the results of direct interviews with respondents, using tools such as a list of questions (questionnaire) which has been prepared and conduct field observations. The data that is on the analysis of the level of sustainability of a barn group and the factors that influence the sustainability of the barn group. Meanwhile, secondary data is the supporting data is the data obtained from the literature, both from the relevant agencies and institutions that are related to both existing research field level which is used as the study site, or from the library.

In this study, respondents are all farmers who are members of barn group and administrators of barn group "Karya Tani" in the village of Pasirmalati, Dawuan. Withdrawal technique of the respondents used in this study is a complete enumeration (census), meaning that all farmers was sampled. It is based on the opinions of Arikunto (2006), that if the population is less than 100, preferably all population become research sample.

In terms of the use of questionnaires in data collection of this study, the seriousness of respondents in answering the claims is expected. Therefore, the measuring instrument should be valid and reliable so as to describe the state of the research object actually need the holding of two (2) ways of testing in the form of a test of validity

(validity test) and test of reliability (reliability testing). To determine the influence of these factors on the sustainability of the barn group, it were calculated by using linear regression function with the formula:

$$\bar{Y} = b_0 + b_1x_1 + b_2x_2 + b_3x_3$$

Where :

\bar{Y} = Level barns sustainability

x_1 = Land

x_2 = Formal Education

x_3 = Non-formal education

x_4 = Attitude toward group members, in terms of interest and support

x_5 = Attitude member to the leadership of the group

b_0 = constant of the level of productivity simultaneously

b_1 = the rank of a coefficient of elasticity of variable (in percent).

In the calculation of the analytical technique used SPSS version 21. Before analyzing the data must be made hypothesis. To test simultaneously:

H_0 : None of variables did not affect the level of sustainability of Barn Group

H_1 : Independent variables affect the level of sustainability of Barn Group, for testing independently:

H_0 : Input variables x_1 does not affect the level of sustainability of Barn Group

H_1 : input variables affect the level of sustainability of Barn Group

RESULTS AND DISCUSSION

General Condition of Barn Group

The term of barn is nothing new for the people of the Pasirmalati village, especially in a society who is capable of storing food reserves which were done in warehouse grain / granary, but to improve the community's role in the development of barns society is not easy, dissemination and extension to convince the public of the importance of storing food reserves requires quite a long time.

Starting from extension and advisory activities are carried out routinely by agricultural extension in the Pasirmalati village and companion Action of "Autonomy Village of Food". At a meeting held on Saturday February 27, 2007, specifically companion provide materials on barns. The results of the meeting to decide the formation of community groups of barns named "Karya Tani". Principal savings of 100 kg / member pays 2 times of the harvest, and for members who borrow loans service charged at 30% per season.

The formation of the barn group is inseparable from the role of the people who always crave a village developed, established and independent. Barn Group activities performed by "Karya Tani" barn group has inspired the community outside of the group members to keep a portion of grain (unhulled rice) result of "supply" to be saved as a food reserve season drought. This is an evidence of an increased role of the

community in the development of the community in the Pasirmalati village. Management of “Karya Tani” Barn group in the Pasirmalati village was formed on the deliberation on February 27, 2007. Under the guidance and coaching done by Mr. Toto Suharto as the Regional Patronage Pasirmalati Village, recording organizational administration and business administration of “Karya Tani” Barn group made a gradual improvement, this is done because of limited human resources committee.

Business activities of Barn group “Karya Tani” is still limited on lending and borrowing of grain (unhulled rice) within the members, family members and the community in the Pasirmalati village. Capital of barns Farmers consist of its own

capital and outside capital. The physical building of old barn was built in August 2007 using funds of member. The new building physical barns was constructed by using grant of West Java provincial government IDR 30 million. Implementation of development was begun on December 10, 2009 - December 28, 2010, funds used for the reparation of the old building.

Level of Barn Group Sustainability

Component level of barn group sustainability consists of five components, namely service attitude, borrowing process or system, lending terms, the accuracy of the service and the loan amount. Recapitulation score in each component level of sustainability of Barn Group can be seen in Table 1.

Table 1. The Level Sustainability of Barn Group

No	Component	Actual Score	Ideal Score	Percentage
1	Service attitude	160	180	89%
2	Process of Borrowing	76	90	84%
3	Borrowing Conditional	79	90	88%
4	Accuration of service	235	270	87%
5	Amount of loan	319	360	89%
Rata-rata		173,8	198	88%

Source: Primary data (2015)

The results of the analysis of the recapitulation of the scores that achieved in each component

level and sustainability of the group were then grouped by category as follows

Table 2. The Sustainability Level Category

No	Result (%)	Category
1	0 – 20	Not good
2	21 – 40	Less good
3	41 – 60	Enough
4	61 – 80	Good
5	81 – 100	Very good

Source: primary data (2015)

Based on results, it can be seen that the level of sustainability is very good (88%). Component service attitude and the loan amount is at most that percentage was 89% in the category very good, while the lending process components which have the smallest percentage of 84%.

Analysis of Factors Affecting Sustainability of Barn Group In the Pasirmalati village of the Dawuan Subdistrict

Results of analysis using SPSS 21 for windows can be seen in Table 4. Based on Table 4, land area, formal education, informal education, the attitude of members toward the barn group, and the attitude of members toward the group leadership jointly affect the level

of sustainability of the group which is counted to 12.279 are seen on the F count. The significance value obtained was 0.000 or less than 0.05. Because of this significance value, the conclusion drawn is to accept H_1 and reject H_0 . It means that: land area, formal education, informal education, the attitude of members to the barn group, and the attitude of members to the group leadership together (synchronously) affects the level of sustainability of group. The results of the analysis to determine how strong the relationship between the factors of land area, formal education, informal education, the attitude of members to the barn group, and the attitude of members to the group leadership and the sustainability of barn group can be seen in Table

Table 4. Model Summary

Model R	R Square	Adjusted Square	R Std. Error of the Estimate	of Change Statistics						
				R Change	Square F Change	df1	df2	Sig. Change	F	
1	.782 ^a	.612	.562	.19536	.612	12.279	5	39	.000	

Based on Table 4, figures obtained regression coefficient (R) = 0,782, which means that the strong relationship between the factors influencing the level of sustainability of barn group. Furthermore, the value of coefficient determination (R^2) = 0.612, which means by 61.2% of the factors

that influence the level of sustainability of barn groups can be explained by the variable land area, formal education, informal education, the attitude of members toward the barn group, and the attitude of members toward the group leadership, and the remaining 38.8% is explained by other

variables outside the model. In such circumstances, it is clear that the influence of land area, formal education, informal education, the attitude of members to the barn group, and the attitude of members to the group leadership simultaneously affected the level of sustainability of Barn Group. Tests were conducted to determine whether the individual / independent of each factor affects the level of sustainability by t test,

provided that if t is greater than t table or the value of $P < 0.05$ then the decision taken H_0 refused and H_1 accepted, and otherwise. Before concluding whether H_1 or H_0 received, firstly creating hypothesis, as follows:

H_0 : Input variables X_1 does not affect the level of sustainability of Barn Group
 H_1 : X_1 input variables affect the level of sustainability of Barn Group

Tabel 5. Analysis of Factors Affec

	B	Std. Error	Beta	T	sig
(Constant)	.180	.303		.595	.556
Land ownersip (X_1)	.024	.103	.025	.238	.813
Formal Education (X_2)	-.009	.092	-.010	-.096	.924
Informal Education (X_3)	.217	.113	.228	1.922	.062
Attitude of members to the group (X_4)	.777	.131	.696	5.947	.000
Attitude of members to the group leadership (X_5)	-.117	.132	-.106	-.891	.378

The results of the analysis of the influence of the land area, formal education, informal education, the attitude of members toward the barn group, and the attitude of members toward the group leadership partially (independent) affects the level of sustainability of barn group. It were analyzed using SPSS 21 for windows and the result can be seen in Table 5.

Based on Table 5, it can be made multiple linear regression equation as follows:
 $Y = 0,180 + 0,024x_1 - 0,009x_2 + 0,217 x_3 + 0,777 X_4 - 0,117 x_5$

Influence independently of each variable is indicated by the coefficient value (rank) . Based on Table 5 to explain the influence of the factors that affect the level of sustainability of barn groups is as follows:

1) The value of the influence of land area as unsignificance factor (x_1) obtained amounted to 0,813. Because of the unsignificance value ($p > 0.05$), then H_0 is accepted and H_1 rejected. That is

independently broad factors of land does not affect the level of sustainability of Barn Group ;

- 2) Evaluate the significance of formal education factor (x_2) obtained amounted to 0,924, because the significance value > 0.05 , then H_0 is accepted and H_1 is rejected. That is independently formal educational factors do not affect the level of sustainability of Barn Group;
- 3) The value of the significance factor Informal Education (x_3) obtained amounted to 0,062, because the significance value > 0.05 , then H_0 is accepted and H_1 rejected. That is independently informal educational factors do not affect the level of sustainability of Barn Group ;
- 4) The significance of factors Attitudes of member to the group (x_4) obtained 0,000, because the significance value < 0.05 , then H_0 is rejected and H_1 is

accepted. This means that independently of factors Attitudes of members Toward barn group business (x_4) affects the level of sustainability of Barn Group;

- 5) Significance value of factor of the attitude of members toward the leadership (x_5) obtained amounted to 0.378, because the significance value > 0.05, then H_0 is accepted and H_1 rejected. This means that independently of factors attitude towards members of the leadership does not affect the level of sustainability of Barn Group.

CONCLUSIONS

Based on the results of research that has been discussed and statistical calculations which has been done, it can be concluded as follows:

1. Component level on the sustainability of Barn Groups "Karya Tani" in the Pasirmalati village, which includes service attitude, borrowing process, lending terms, the accuracy of the service and the overall amount of loans with average to very good (88%). Component of service attitude and have the loan amount is the highest percentage was 89% in the category very good, while the lending process components which have the smallest percentage of 84%.
2. The land area, formal education, informal education, the attitude of members toward the barn group, and the attitude of members toward the group leadership together (in union) affect the level of sustainability of Barn Group. Land area, formal education, informal education, and the attitude of members toward the leadership group independently (partial) did not affect the level of sustainability of groups barns, but the attitude of members toward the barn group independently

(partial) affects the level of sustainability of Barn Group

RECOMMENDATIONS

As for suggestions that can be conveyed based on the conclusions of this study are as follows:

1. One of the efforts of the management of barn group "KaryaTani" to improve the level of sustainability of the group is to make improvements by training which is facilitated by the government and the local extension workers then hopefully group members feel the benefits of the group and maintain their survival.
2. Do efforts especially to increase the attitude of members toward the barn group, which are expected through the attention and support of the members to the group effort can promote the development of barn group.

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