

# Agriculture and Animal Husbandry Potential in the Sustainable Empowerment of Beef Cattle Farmers in the Dry Land Area of Kediri Regency

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## Abstract:

The purpose of this study is to determine the potential of agriculture and animal husbandry in the sustainable empowerment of farmers in the beef cattle business in the dry land of Kediri Regency and analyze the factors related to the sustainable empowerment of farmers in the beef cattle business in the dry land area of Kediri Regency. The study was conducted in Kepung Sub district, Kediri Regency with consideration of the area, the number of farmers who keep the beef cattle in a rowdy pattern, and is one of the areas that are the regional development priorities of the Kediri Regency government. Sampling method that used was a survey method. The results showed that the potential in agriculture in Kediri District showed that the largest percentage of the community worked as farmers or breeders and showed a very supportive interaction with the continuous empowerment of beef cattle breeders. Factors that related to Sustainable empowerment of cattle farmers in Beef Cattle are human capital, social capital, natural capital, motivational capital, artificial capital, capability capital for empowerment actors, and farmers' independence capital.

**Keywords** —potential, sustainable empowerment, dry land, beef cattle

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## I. INTRODUCTION

The constructions in Indonesia as one of the efforts to ensure the welfare of the community, so far it still prioritizes the economic growth aspects and increased income (Gross Regional Domestic Product [PDRB]) on a side, but on the other hand encourages excessive use of natural resources, energy use is not economically and socially does not involve many people in making decisions (exclusive), and the benefits are only enjoyed by a small number of people / groups (Mumbunan, 2012). Another impact which is according to Kartodiharjo (2006), is the occurrence of economic disparities (disparities) both personally and in groups, which in turn encourages new pockets of

poverty and unemployment in exploited natural resource centers.

One of the crucial problems on construction in Indonesia is the relatively high population growth rate. It affects in an increase in food demand and land requirements for the non-food sector (Food Security Council, 2011). According to the Ministry of Agriculture (2005), the high level of development activities in an area has led to the emergence of the conversion of agricultural land such as rice fields, dry fields, plantations and forests to non-agricultural fields (industry, housing and other public support facilities) that lead to environmental problems (water pollution and or air, damage to soil quality, fire and forest damage, climate, etc.).

Some of the problems in empowering rural communities from an economic aspect are; lack of institutional economic development system to provide opportunities in developing competitive economic business activities; lack of public access to economic resource inputs in the form of capital, business location, business land, market information, and production technology, and the lack of community ability to build community economic organizations that can increase their bargaining potential and competitiveness so as to have economic independence (Soemarno, et al 2012 ).

On the other side of the social aspects of problems in community empowerment are; lack of efforts that can reduce the influence of the social environment, culture that confines people to structural poverty conditions, lack of community access to increase knowledge and skills such as information, lack of community institutions development and social organizations that can be a means of social interaction, and the development of institutions that are unable to promote the principles of humanity, justice, equal rights and protection for vulnerable people. (Soemarno, 2012).

The potential strength of the agricultural sector, which predominantly occupies rural areas, has been a national asset to support community welfare (Setiawan, 2016). Five main problems in the agricultural sector that contribute to the decline in the economy of rural farming communities are; 1). Community Mental attitude which is not realize that the agricultural sector as the main livelihood; 2) Lack of communities' knowledge about entrepreneurship in agriculture; 3) Lack of knowledge and information access, so that agriculture is still traditionally managed by only sticking to the concept of farming. 4). Weak capital to reduce interest in agricultural business, and 5) the lack of agricultural institutions (Mangowal, 2013).

The objectives of the study are set out in the following questions:

- a) Determine the potential of agriculture and animal husbandry in the continuous

- empowerment of breeders in beef cattle business in the dry land of Kediri Regency.
- b) Analyze the factors that are related to the Sustainable empowerment of farmers in the Beef Cattle business in the dry land area of Kediri Regency.

## **II. RESEARCH METHOD**

The research was conducted in Kepung Subdistrict, Kediri Regency with consideration of the area, the number of farmers who maintain the pattern of beef cattle, as well as being one of the areas that became the regional development priority of the Kediri Regency government. Sampling method is using a survey method. In this survey, researchers did not have a complete list of all the names of farmers in Kepung District as a sampling frame. Therefore the sampling frame used in this study is a two-level cluster sampling. This study uses a questionnaire as a research instrument. In this research questionnaire uses a Likert scale in the form of a measure stating the category and ranking as well as the measured construct distance. This study uses a combined approach between quantitative analysis (mainstream) and qualitative analysis (non-mainstream).

## **III. DISCUSSION**

### **Characteristics of Research Respondents**

- 1) Work  
Mostly respondents which 62 (47.72%) respondents had jobs as farmers or ranchers, 41 (31.81%) respondents worked in the private sector, as many as 14 (11.36%) respondents worked as laborers, and 13 (9, 09%) respondents worked for other jobs.
- 2) Age  
Respondents from the age of 15-25 years old are 18 (13.63%) people, 26-35 years old are to 43 (32.57%) people, 36-45 years old are married with 42 (31.81%) people, 46-55 years old are 18 (13.63%) people, 56-65 years old are 9

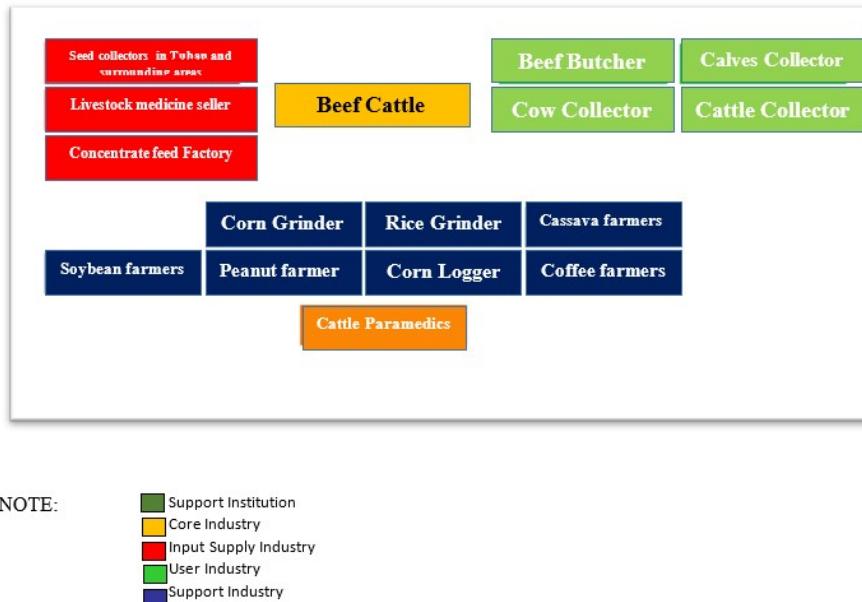
- (6.81%) people, aged 66-70 years old are 2 (0.75%) people and 76-85 years old are 1 (0.75%) person. The highest number of respondents is 26-35 years with a total of 43 (32.57%) people.
- 3) Formal Education  
The last formal education of the respondents are consisted of several levels of education that did not finish elementary school are 29 respondents (21.97%), Junior High school are 36 (27.27%) respondents, Senior High School are 53 (40.15%) respondents, D1 / D2 / D3 are 1 respondent and Bachelor are 13 (9.85%) respondents. The highest number of respondents was in high school graduates with 53 (40.15%) respondents.
- 4) Owned Land Area  
Respondent owns a plot of land. As many as 71 (53.78%) people have a 0-50 m<sup>2</sup> land area, 16 (12.12%) people have a 51-100 m<sup>2</sup> land area, as many as 7 (5.30%) people have 101-150 m<sup>2</sup> land area, as many as 9 people (6.81%) have 151-200 m<sup>2</sup> land area and 29 (21.97%) people have > 200 m<sup>2</sup> land area. The highest number of respondents has 0-50 m<sup>2</sup> land area with a percentage of 53.78%.
- 5) Covered Family  
There are 38 (28.78%) respondents have a covered family of 0-2 people, there are 76 (57.58%) respondents have a covered family dependents of 3-5 people, 18 (13.64%) respondents have a covered family of 6-8 people. The highest number of respondents has covered families of 3-5 people with 76 (57.58%) respondents.
- 6) Owned Livestock  
The average respondent has livestock. There are 11 respondents (8.3%) who have chicken, 20 respondents (15.15%) have cows, 11 respondents (8.3%) have goats, 11 respondents (8.3%) have fish and 72 respondents (54.54%) have mixed livestock, while the remaining 7 respondents (5.3%) do not have livestock.
- 7) Interested Business Groups  
The average business groups of respondents who are interested in fisheries are 8 respondents (6.06%), animal husbandry 28 respondents (21.21%), agriculture 17 respondents (12.87%), agriculture and animal husbandry 13 respondents (9.85%), livestock and fisheries 3 respondents (2.27%), and a combination of two or all 63 respondents (47.72%). Of the above number, the most interested business groups are a combination of two or all of them as many as 63 respondents (47.72%).
- 8) The Desire to Join in Groups  
From the survey results there were 11 respondents (8.3%) who did not want to join the group and there were 121 respondents (91.66%) who wanted to join. The highest value is on respondents who want to join, as many as 121 respondents (91.66%).
- 9) Tried in a Group Business  
From the survey results there were 46 respondents (34.85%) who had tried in groups and 86 respondents (65.15%) who had never. From the graph above it can be seen that more respondents have never tried in groups of 86 respondents (65.15%).

#### **Potential Characteristics of Agriculture and Animal Husbandry on dry land**

Based on the cattle commodity have a relationship with the actors in the agricultural and processed agricultural products industry. The existence of the cattle fattening industry produces waste due to using fermentation technology for forage feed. Fermented feed uses corncobs and

corn cars from corn stove, rice bran from rice starch, soybean straw from soybean farmers, corn straw from corn farmers, peanut shells from peanut farmers, and coffee skins from coffee farmers. Input provider industry in the form of beef cattle originates and is obtained from only Kediri and surrounding areas. This shows that going to be able to meet the needs of the district itself. There are no difficulties from the marketing aspect. Cows are bought directly by collectors and end consumers. In

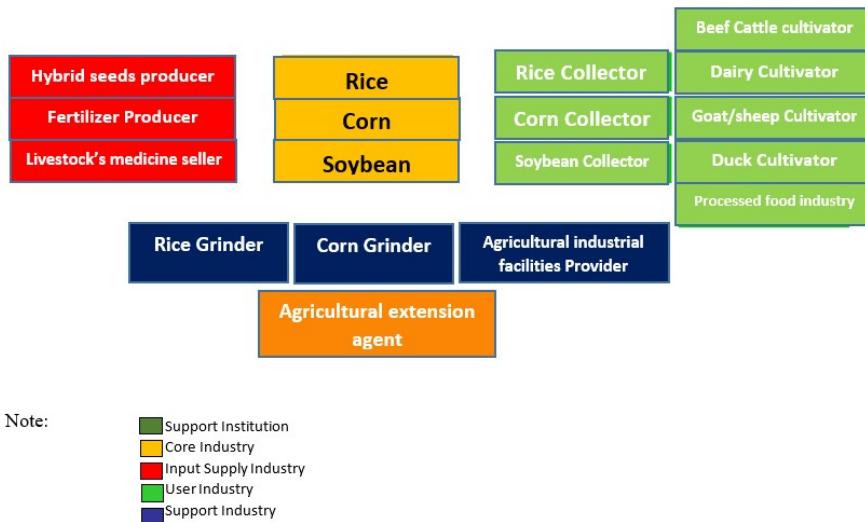
addition, the output of cattle is also bought by feeders and cattle brooders. The relationship between the actors above, it can be said that the cattle fattening industry in Kediri district has competitiveness because it is supported by actors from other industries. The diversity of actors involved in supporting industries of the cattle fattening industry makes this commodity very potential to be developed with optimal integration between supporting industries. and core industry.



**Figure 1. Cattle commodity perpetrators chain**

Based on the inter-commodity of food crop perpetrators, it shows a big role from the input supply industry especially in the form of feed. In the food crop sector, the most connected actors are from the user industry. Output from this industry is used by industries from various agricultural sub-

sectors. Apart from the main products produced, the food crop industry also produces high economic value waste that can be used as input from other industries, including beef cattle and dairy cattle farming, and so on.



**Figure 2. Food crop commodity perpetrators chain**

### **Characteristics of Waste Input and Utilization Needs**

One of the main principles of farmers' sustainable empowerment is to refer to the efficiency and effectiveness of resources and zero waste in agricultural integration areas, where biological cycles occur between agricultural businesses and livestock is expected to provide added value and economic effects to multipliers in utilizing chains value or chain of actors. In accordance to the results of research conducted in Kediri Regency, it can be identified the need for inputs per commodity along with the waste produced and the utilization behavior that has been carried out by agricultural, livestock and livestock sub-sector businesses.

### **Related Factors to Sustainable empowerment of farmers in the Beef Cattle business**

#### **1) Human capital**

Characteristics of human capital in the research area are considered important formed by education, skills, experience and training. Characteristics of human capital in

the research area of beef cattle business in the district of Kediri are considered important by respondents with an average score of 4.15 and are in the high category (average 3.41 - 4.20) with Training (X1.4 ) as the most important indicator (4.48) followed by skills (X1.3) with an average score of (4.21), experience (X1.2) with an average score (4.16) and Education (X1.1 ) with an average score (3.77). The education indicator (X1.1) of the human capital variable (X1), is considered important by respondents with an average score of 3.77 which is in the high category (an average of 3.41 - 4.20).

#### **2) Social capital**

Characteristics of social capital in the model of empowering beef cattle breeders in Kediri Regency formed by beliefs, norms and networks. Characteristics of social capital of farmers in the area of beef cattle business in Kediri Regency are considered important by respondents with an average score of 4.01 and are in the high category (average 3.41 - 4.20) with networks (X2.3) as the most important indicator (4.14) followed by the

norm (X2.2) with an average score of (4.05), trust (X2.1) with an average score (3.85). The confidence indicator (X2.1) of the social capital variable (X2), is considered important by respondents with an average score of 3.85 in the high category (an average of 3.41-4.20).

**3) Natural resource capital**

Capital Characteristics of Natural Resources (SDA) in the empowerment model for beef cattle breeders in Kediri district which formed by availability, access to natural resources and integration of natural resources. Characteristics of Natural Resource Capital (X3) in the research area of beef cattle business in the Kediri Regency are considered important by respondents with an average score of 3.63 and are in the high category (an average of 3.41-4.20) with access indicator (X3.2) as the strongest indicator (3.88) followed by availability indicator (3.73) and integration indicator (3.25). Indicator of natural resource availability (X3.1) from the variable natural capital capital (X3), is considered important by respondents with an average score of 3.73 which is in the high category (an average of 3.41-4.20)

**4) Motivational capital**

Characteristics of motivational capital in the model of empowering beef cattle breeders in Kediri Regency formed by social, entrepreneurial and social entrepreneur motivation that Characteristics of motivational capital (X4) of farmers in the research area of beef cattle business in Kediri Regency of Kediri are considered important by respondents with an average score of 4.07 and are in the high category (average 3.41-4.20) with indicators of social entrepreneurship motivation (X4.3) as the strongest indicator (4.13), followed by indicators of entrepreneurial motivation (4.11) and indicators of social motivation (3.99). Social indicators (X4.1) of the

motivational capital variable (X4), are considered important by respondents with an average score of 3.99 in the high category (an average of 3.41-4.20).

**5) Artificial capital**

Characteristics of artificial capital in the model of empowering beef cattle breeding areas in the dry land of Kediri Regency which are formed by physical / Sarpras, programs / funding and institutions. Characteristics of artificial capital (X5) of farmers in the beef cattle business research area in Kediri Regency are considered important by respondents with an average score of 3.89 and are in the high category (average 3.41 - 4.20) with institutional indicators (X5.3) as the strongest indicator (4.05) followed by program / funding indicators (3.85) and infrastructure indicators (3.76). Physical indicators / sapras (X5.1) of the artificial capital variable (X5), are considered important by respondents with an average score of 3.76 and are in the high category (average 3.41-4.20).

**6) Capital capabilities of the empowerment perpetrators**

Characteristics of capital capability of empowerment actors in the beef cattle business empowerment model in Kediri Regency which is reflected by awareness and desire to change (Power Within), ability to improve ability (Power To), Ability to face obstacles (Power Over), Group Ability (Power With). The capital characteristics of the empowerment actors (Y1) of farmers in the research area of beef cattle business in dry land of Kediri Regency are considered important by respondents with an average score of 3.89 and are in the high category (average 3.41 - 4.20) with the ability to increase ability indicator (Power To) (Y1.2) as the strongest indicator (4.16) followed by a group ability indicator (Power With) (Y1.4), with a value of 4.08 and then the ability indicator to face obstacles (Power

Over) (Y1.3) with a value (4.04) and lastly an indicator (3.76), and an Indicator of consciousness and Desire to Change (Power Within) (Y1.1) with a value of 3.71. Indicators of awareness and desire to change (Power Within) (Y1.1) of the variable ability of empowerment actors (Y1), are considered important by respondents with an average value of 3.71. and in the high category (average 3.41-420).

7) Capital independence of farmers.

Characteristics of capital independence of farmers in the model of sustainable empowerment of beef cattle breeders in the dry land of Kediri Regency which is reflected by Welfare, Access, Participation, Courage to Take Risks, Ability to Make Decisions, Critical Awareness of Problems of Capital Characteristics of Empowerers (Y1) of farmers in research areas. Beef cattle breeders in Kediri Regency are considered important by respondents with an average score of 3.89 and are in the high category (an average of 3.41 - 4.20) with an indicator of the ability to improve ability (Power To) (Y1.2 ) as the strongest indicator (4.16), followed by the indicator of group ability (Power With) (Y1.4), with a value of 4.08 and then the indicator of the ability to face obstacles (Power Over) (Y1.3) with a value (4.04) and the last indicator (3.76) and the indicator of consciousness and desire to change (Power Within) (Y1.1) with a value of 3.71.

#### **IV. CONCLUSIONS**

Some conclusions are based on the results of research answering the problem formulation are as follows:

- 1) Potential characteristics of agriculture and animal husbandry in the study area show interactions that strongly support the sustainable empowerment of beef cattle breeders, both value chain interactions,

relationships between perpetrators (potential providers and potential users), and the relationship of dry land commodities to the utilization of waste produced .

2) The variables or factors that related to the empowerment of beef cattle breeders in the dry land of Kediri Regency are as follows:

- a. The ability of empowerment actors (Y1) significantly influences the independence of farmers (Y2) and is positive, meaning that the higher the ability of empowerment actors will increase the independence of farmers.
- b. Human capital (X1) has a significant effect on the ability of empowerment actors (Y1) and the independence of farmers (Y2) and is positive, meaning that the higher the human capital will increase the ability of empowerment actors as well as the independence of farmers.
- c. Social capital (X2) has a significant effect on the ability of empowerment actors (Y1) meaning that the higher the social capital will further increase the ability of empowerment actors.
- d. Capital of natural resources (X3) does not significantly influence the ability of empowerment actors (Y1). However, this variable actually has a significant direct effect on the independence of farmers (Y2). This shows that the influence of natural resource capital on the independence of farmers does not need to be mediated by the ability of empowerment actors. In addition, the relationship between natural resource capitals to the independence of farmers is positive, meaning that the higher the capital of natural resources, the

- independence of farmers will also be higher.
- e. Motivational capital (X4) has a significant effect on the ability of empowerment actors (Y1). The influence of these two variables is positive, which means the higher the motivational capital, the more the ability of the empowerment actors will increase.
  - f. Artificial capital (X5) has a significant effect on the ability of empowerment actors (Y1), also has a significant effect on the independence of farmers. This condition shows that artificial capital has a direct or indirect influence through the ability of empowerment actors that are significant to the independence of farmers.
  - g. Variable Ability of the agent of empowerment (Y1) to mediate the variables X1-X5. This resulted in an indirect effect of the variables X1-X5 on Y2.
  - h. Variables that have the greatest total effect on the ability of empowerment

actors (Y1) are motivational capital (X4), followed by human capital (X1) and artificial capital (X5). On the other hand, the variable with the greatest total effect on the independence of farmers (Y2) is the ability of empowerment actors (Y1), followed by artificial capital (X5) and human capital (X1). The variables that have the greatest indirect effect through the ability of empowerment actors (Y1) are motivational capital (X4) and human capital (X1).

Some suggested research results are as follows:

- a. In the continuous empowerment of beef cattle breeders in dry land farming, potential characteristics must be ensured, both value chain interactions, relationships between actors (potential providers and potential users), and the interrelated use of waste from each commodity.
- b. Understanding of variables, indicators and sub-indicators is very important to make plans and technical activities related to the model of farmer empowerment on dry land.

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