Program Analysis of Rural Farmer School in Ngantru Village, Bojonegoro Regency

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Abstract. The purpose of this research was to analyze the process of farmer empowerment in Rural Farmer School (Sekolah Peternakan Rakyat/SPR) Mega Jaya founding and to find the impact of the program that might improve farmer resources in social-culture and economic aspects. The research was held in Rural Farmer School (SPR) Mega Jaya in Ngantru Village, Bojonegoro Regency for three months from 1st March until 1st June 2018. The material of this research was the human instrument which was the researchers themselves. The method of this research was qualitative, seven informants were chosen purposively and data collected were literacy study, interview, and observation. The data analysis used inductive qualitative method through data collection, data assessment, verification, and conclusion. The process of farmers’ empowerment in Rural Farmer School is pre-evaluation, prototyping, implementation, affirmation, and independence of the program. The Rural Farmer School program had both positive and negative sides. This program affected mostly in social-culture. It affected some aspects such as increasing mutual assistance, motivation, security, and kinship but it decreased farmers’ working hours. The program also affected the economic side, such as increasing workforce, asset, and infrastructure. There was a negative side that appears on the financial aspect that caused the expenditures increasing of self-help development.

1. Introduction

Indonesia is an agrarian country, where agriculture and livestock are in the highest industry sectors. Abundant natural resources and human resources are the main points in Indonesia's development. Meanwhile, three decades after the termination of beef export BPS [1] mentioned Indonesia still lacks cattle as much as 107,200 heads or equivalent to 321.4 million US Dollars to meet the needs of the national meat of 604,968 tons. The shortage of meat was imported from Australia and New Zealand. Indonesian farmers have the potential to answer the needs of the Indonesian food industry.

Yusdja and Ilham [2] said the industrial structure of livestock for all domestic livestock commodities mostly (60-80%) is in small scale farming. The small scale farming features are farmers have low education level, low income, poor farming management, and conventional technology implementation. The livestock location spread widely, relatively very small business scale as well as procurement of main inputs, namely forage that still depends on the season, the availability of family labor, limited forage land tenure, limited grain production. The Census of Agriculture ([3] indicated that Indonesia has a population of 12,329,477 cattle that are calculated from 5,078,979 household breeders. Bojonegoro district is one of the regencies in East Java that has an area approximately 2,384.02 square kilometers consisting of 27 districts, seven villages, and 420 villages, with a population of around 1,213,000 density 509 inhabitants/ square kilometers. The cattle population of 2016 was 201,954, which increased by 1.08% compared to the population in 2015 as 186,861 cattle. It is also the potential to be considered for the local government in its development mission. One of the areas that have the most
cattle population in Bojonegoro district is Kasiman Sub-district of 7,353 that has increased from 2015 as many as 6,827 [4].

Research and Community Service Department (RCSD) of IPB [5] said based on the condition and referring to Permentan 50/2012 about the guidelines for the development of agricultural areas, Kepmentan 43/2015 about the determination of cattle area, buffalo, goats, dairy cows, national sheep and pigs, and Government Regulation No. 6 year 2013 on farmer Empowerment, RCSD of IPB then conduct livestock development and animal health program through Rural Farmer School (SPR). This is an alternative solution to develop small scale farming towards the collective business ventures which are feasible, bankable, and competitive.

Fisheries and Livestock Department in Bojonegoro district, in cooperation with RCSD of IPB in 2014, formed Rural Farmer School (SPR) in Ngantru Village, Kasiman Sub-district, Bojonegoro Regency. The Rural Farmer School program was expected to encourage the development of livestock and animal health that has been outlined in the strategic plan of livestock development and animal health, which included: (i) increasing production; (ii) increasing livestock competitiveness and; (iii) Increasing farmer’s wealth.

2. Research method

This research used a qualitative approach with a case study method to explore and to find answers. The case study method focused on the experiences in the life of a group or social class. Data collection was obtained through literature studies, interviews, and observations. The data analysis used descriptive qualitative. Wibawa [6] argued descriptive qualitative research analysis is a technique that illustrates and represents the meaning of the data that has been accumulated by giving attention and recording as many aspects of the situation studied at that time. Thus, it was obtaining a general and thorough picture of the real phenomena. This process began by studying the data that has been obtained from several sources. The data libraries, interviews, and observations that have been obtained are further triangulated (re-checking) to validate the data. The informant selection technique was done by purposive sampling: 1). Head of RFS Division, Animal Husbandry and Fisheries Department of Bojonegoro Regency, 2). Mega Jaya RFS Manager, 3). Head of RFS of RCSD IPB, 4). Technical officers of Animal Husbandry and Fisheries Department of Bojonegoro Regency 5). Head of Farmers’ Representation in RFS, 6). Members of farmers’ representation in Mega Jaya RFS, and 7). Farmers.

Organizing the data was an early stage for categorization. Moleong [7] mentioned that the second stage was data processing to organize all the data obtained into the same category according to the classification specified. The third stage was the verification and interpretation phase of the data used to elicit fundamental substantive theories (grounded). The final stage was conclusion retrieval, Validity test was:

1. Extension of observation length up to six months due to the need to get data from the occasion that exists three months after the research plan.
2. Triangulation was done by testing the synchronization of data obtained through observation, interviews, and documentation testing.
3. A member check was done by discussing the results of the research with data sources that have been obtained from the informant. The provisional conclusions are then discussed with other respondents and informants.

3. Result and discussion

3.1. Mega Jaya Rural Farmer School (RFS) founding stage

Prawoto [8] states that in the formulation of a community empowerment strategy requires at least three stages, namely (1) data collection and management, (2) data analysis, and (3) preparation of strategies based on the internal evaluation. These three stages were used to analyzed the Mega Jaya RFS founding process.

Observation during the Mega Jaya RFS founding preparation process included four stages: (1). preparation process, (2) data collection, (3) socialization, and (4) declaration. The preparation phase was an initial stage of communication between Bojonegoro district Officer and RCSD of IPB. Data collected on the potential of the region in general and the potential of livestock area in particular. The third stage was socialization to bring the community’s sense of belonging and responsibility of the RFS
program, which was attended by 200 farmers. The last stage was a declaration, which was held on August 26, 2014, together with the big event from Livestock Department of Bojonegoro Regency, namely the "Animal Contest" program that participated by all Sub-district farmers in Bojonegoro Regency.

3.2. The Mega Jaya RFS implementation process
Mega Jaya RFS has five stages of implementation process that are carried out between 2015 and 2019, namely (1) Assessment, (2) Establishment/prototyping, (3) Implementation, (4) Strengthening-affirmation, (5) Group Independency. The assessment stage had three activities: formation of the Farmers’ Representation in RFS managerial structure, the appointment of RFS managers, and undertaking livestock health research. The second stage was the establishment/prototyping, which consisted of several activities: membership structure making, organizing, RFS Handbook constructing, sustainable infrastructure development and partnership with private sector initiating. The third stage was the implementation which consisted of the Mulya-52 program, the cattle fattening business program, forage planting, and processing program and the establishment of the RFS collective business group. Affirmation/strengthening stage was targeted to increase the quality of (1) Production and business system standards, (2) Collective business group to achieve professionalism, (3) farmer databases and (4) Upstream-downstream integration of livestock supporting businesses, (5) Application of IPB research, and (6) RFS adoption in other districts. The last stage was to increase group independence by lessening government and IPB contribution.

Tan and Toepatimasang [9] state that people should be invited to think and analyze their own circumstances and problems critically. Only when they are able to have new insights, sensitivities, and awareness, then they have the desire to act and to do something to change the circumstances they experience. Researchers found in the upstream preparation phase of the program were the local government and RCSD of IPB. In preparing the preparation, implementation and evaluation plan, the main parties that conceptualize were academicians. This has not yet come from the results of the thinking and critical analysis process from farmers about the things they need. Because the awareness agreed on communally will produce an action that will be the biggest motivation of farmers in alleviating the problems they feel together. For example, poverty, do farmers agree that poverty is their main problem, or is it just a situation that is seen by one party by the local government or RCSD of IPB? So finding a common problem is an absolute thing that must be used as the background of all RFS program development activities.

3.3. The impact of the RFS program on improving farmer resources
Effendi, Bangsawan, and Zahrul [10] state that the welfare of forest village communities is not only measured by physical and economic progress but also from the high social solidarity of their citizens, which they can develop spontaneous cooperation for the common good. Observation of the impact of the Mega Jaya RFS program is grouped into two main topics, namely the influence on the socio-cultural and economic impacts. The socio-cultural aspect was measured by the level of trust, the strength of the network, and the strength of cooperation. The economic aspect was indicated by the economic changes in the management of assets, money, labor, and family time of the farmers.

3.3.1. Socio-cultural impact
There were significant changes that fell into several categories. The changes from contrary to favorable conditions occurred in aspects of cooperation, motivation, and farm management. Before RFS was implemented, the social conditions of farming activities were only carried out individually since farming was only for saving orientation. Thus, farmers did not wish to increase their farming scale and to solve a problem collectively. However, there were some cooperation cultures to solve some of the problems of society in general, such as fixing damaged roads and bridges and jointly helping a community member who is having a cultural event. This condition has changed after RFS was applied since farmers started to find their limited condition. The social capital of farmers then increases as the activities are carried out together and problems are resolved communally. For example, the community improves and builds its farming infrastructure together without outsiders’ assistance. According to Soemardjan [11] in the book Social Change in Yogyakarta said that several factors are supporting social
change, namely a touch of advanced education and the emergence of public dissatisfaction with specific areas of life.

**Table 1. Socio-cultural impacts of Mega Jaya RFS program**

| NO | INDICATORS               | BEFORE          | AFTER                                      |
|----|--------------------------|-----------------|--------------------------------------------|
| 1  | Community self-help       | Individualism in managing cattle farming. | Farmers community self-help in developing RFS infrastructure. |
| 2  | Motivation               | No motivation in developing livestock business. | Increasing learner’s motivation to develop livestock as a business commodity. |
| 3  | Kinship                  | Communal decision making (social aspect). | Appreciation culture emerged by the Farmers’ Representation in RFS as a form of gratitude for every calf birth (cultural aspect). |
| 4  | Farmer’s working hours   | Farmers have free time with their families. | Family time is reduced because they spend more time farming. |
| 5  | Breeding management      | Not familiar with animal science technology. | Start using technology in feed and waste processing. |

The cattle farming motivation before the RFS was obvious, namely as savings because they cannot depend on its insufficient income to meet the needs of farmers. This motivation then changes when RFS was introduced. Farmers began to realize that there are many opportunities to increase the regular income of farmers apart from uncertain agricultural yields. The culture of communal decision making support this positive change. Priyanti [12] states that the development of business diversification in the crop-livestock integration system can help the economic performance of farm households in facing agricultural business risks. This is in line with the RFS member farmer activities that yield other products such as cattle businesses, catfish businesses, straw-based feed, organic vegetables, and other associated products.

On the management side, livestock experiences positive changes that are seen in general, from traditional to conventional, which is characterized by the use of technology. For instance, in the use of technology in the processing of fecal waste into biogas and the technology for cutting grass field. In terms of family and security, there is a positive side that existed before the RFS came in the form of a culture of deliberation to decide on some matters to agree on a communal decision. Farmers have also been able to carry out activities that were previously carried out by other parties, now they have been delegated to RFS members. For example, in the past, the recording of livestock included identification of the cattle breed, estimated body weight, age, and reproductive health of livestock which can only be done by the agricultural extension officers, but today it can be done by RFS members.

On the negative side, farmer’s working hours turned to be longer due to the increase in farming scale then the system must be communally managed by farmers. The existence of livestock grants from the private sector as many as 133 Brahman Cross cows urges farmers to meet the needs of the cattle breed which tends to be higher when compared with local cattle. The farmer’s working hours were 6-8 hours,
then changed into 10-12 hours a day and reduced their family time. This change then a new challenge for the community’s social capital.

3.3.2. Economic Impact

The economic aspect was divided into four categories: Labor, Assets, Financial, and Village Infrastructure. The aspect of employment was seen in terms of the absorptive capacity of the laborers of Ngantru village in managing livestock. Assets, according to the Indonesian Dictionary, are defined as something that has an exchange value, capital or wealth. Ownership of personal assets and group assets of farmers was used as a comparison to determine changes that occur in the farmer’s environment. The financial asset is the general monthly income related to financial nominal. Meanwhile, infrastructure is something that becomes the primary support for the implementation of a farming process.

Before the RFS program has existed, the youth unemployment rate in the Ngantru village was quite high as 25 people, but after the RFS, the figure dropped to 17 people because it was absorbed as RFS workers. Each person gets 15 head of cattle that need to be cared for, fully responsible for feeding, maintaining animal health, to the reproduction of the animal.

In the aspect of assets, three things will be discussed: the addition of land and forage production, the population of Ngantru village cattle, and cooperatives. Some of these things are influenced by the cooperation that has been established by Mega Jaya RFS, both to relevant government agencies and private. Cattle feed, forage extends from collaboration with Indonesia State Forest Company and the addition of land from residents who are increasingly aware of the importance of land for animal feed. The livestock population is increased by 58% to 960 from 623 during the three years running the RFS. The cooperative has also been established since the existence of RFS to help farmers fulfilling their farming needs. The cooperative provides medicines, operational tools, and savings and loans. The increased economic impact on farmers that are presented in this following table:

**Table 2. Economic Impact of Mega Jaya RFS Program**

| NO | INDICATOR | BEFORE | AFTER |
|----|-----------|--------|-------|
| 1. | Labor | The high level of unemployment in young people of productive age. | Empowerment through communal cattle rearing labor recruitment. |
| 2. | Assets | 90% of Ngantru village people work as farmers. | Do not have a foraging area for livestock feed sources. - Forage area is available as a source of animal feed. - The livestock population increased by 58% from 623 to 960, which is 1000. - Formed cooperative existed. |
| 3. | Financial | Income mostly comes from crops. | Increasing income from cattle farming. Increased expenditures for group infrastructure. |
| 4. | Infrastructure | Not yet having facilities/ infrastructure for group farming. | Formal management formed, 300 pens and the road to Ngantru village was repaired. |
The road to Ngantru village is damaged.

Of the four categories identified by researchers, there were positive and negative impacts that arose. Some conditions that were initially negative turned into positive things; this was shown in all sub-aspects with a linear case. There had also been a change in the initial positive to negative aspects, which had been demonstrated in the financial sub-aspect. While there was the potential of Ngantru village that was able to be put to good use so that it had been proven to have increased the economic quality of the Mega Jaya RFS. Matters that had a negative impact were a decrease in monthly household income caused by the relocation of funds high enough to the KAS group to support the needs of self-help groups, but on the other hand, there was no monthly active income for farmers.

Before the RFS program was carried out, the primary profession of the residents of Ngantru village was farmers. Cattle farming is only a part-time job because livestock only functions as savings to be sold in emergency needs, but after RFS was applied it then became the primary income source.

On the other hand, Ngantru village people also used their free time to supplement their monthly income. Some of these professions are furniture makers made of teak wood, grocery traders, and pottery makers. The condition of Farmers’ Representation in RFS after the program became very busy so they do not have much time to get additional income. Farmers spend more money on group infrastructure development. In terms of infrastructure, the Ngantru village had increased because of road improvements to the Ngantru village, which was initially damaged, repaired by paving and macadam. Road access was the most crucial thing to facilitate the mobilization of livestock and human resources involved in the RFS development process.

4. Conclusion
1. The Rural Farmer School Founding process consists of (1) preparation, (2) data collection, (3) socialization, and (4) program declaration. The RFS Implementation Process consists of the stages of (1) Assessment, (2) Formation (Prototyping), (3) Implementation, (4) Strengthening (Affirmation), and (5) Independence.
2. The socio-cultural impact of RFS shows positive effects on cooperation, motivation, family, and animal science indicators. On the other hand, it has a negative effect on the increasing farmer's working hours. The economic impact of RFS shows has positive effects on labor, asset, and infrastructure indicators. However, it has a negative effect on the monthly income of farmers’ households.

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