

Farmer Group Participation in Land Rehabilitation Effort Through KBR (*Kebun Bibit Rakyat*) Program in the Donoyudan Village, Kalijambe Sub-district, Sragen Regency

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Abstract—Critical land in Sragen regency and Bengawan Solo watershed area was caused by topography factors, high erosion, inappropriate land management, and low land closing. Bengawan Solo watershed management center delivers critical land education through a program called *Kebun Bibit Rakyat* (KBR) program. The purpose of this research is to find out the activities of Bengawan Solo watershed management center, the participation of farmer groups, and the effect of farmer groups participation towards KBR program. The samples of 86 farmer groups were collected using proportional random sampling. The methods to collect the data were questioner, interview, observation and documentation. Data analysis technique used was descriptive analysis, descriptive statistics, and simple linear regression. The activities of Bengawan Solo watershed management centre are technical and vegetative activities. The average result of statistics on farmer group participation is 21,27 and it is categorized as low. The result of simple linear regression show that there is an effect farmer groups participation to KBR program; it is about 38,9%. Re-evaluation in delivering the socialization should be done, provision of plant seeds should be adjusted to the community's needs and capability, and utilizing teak trees as potential in Donoyudan Village should be the activities of farmer groups.

Keywords—Farmer Group Participation, land rehabilitation effort, *Kebun Bibit Rakyat* (KBR) program

I. INTRODUCTION

High critical land problem in Bengawan Solo watershed area led the local government implement several efforts in rehabilitating on it. One of the efforts is *Kebun Bibit Rakyat* program in city/regency that has critical land. Sragen regency is chosen as a regency-receiver the program, due to some critical lands in this regency. According to the spatial data of *Satuan Wilayah Pengelolaan Daerah Aliran Sungai Solo* (SWP DAS solo) in 2007 and 2014, the data obtained from Sragen regency critical land were 18.619.37 ha in 2007 and 42.209.19 ha in 2014. Besides topography, decreasing land vegetation cover which can cause high erosion rates also contribute to the critical land. Based on satellite image observation in 2001 and 2003, there were decreasing land because of

vegetation cover at the upstream and middle of Bengawan Solo watershed. Moreover, land as a system has specifically organized components and their behavior leads to certain goals [1]. The problem of the high critical land around the Bengawan Solo river basin motivates the Bengawan Solo Watershed Management Agency to make various efforts in rehabilitating critical land around the Bengawan Solo watershed because there is a close relationship between the soil, water and vegetation components of the land cover in a watershed [2]. One of KBR programs in Sragen regency is allocated to Donoyudan village, Kalijambe sub-district as the village-receiver

Critical land is a problem that requires sustainability handling. If the land is productive, proper management through land rehabilitation is needed. According to [3], forest and land rehabilitation intend to restore and improve forest & land function so that the capability, productivity and its role in supporting the life system is maintained. Education can last a life time and the educational process can occur inside or outside of the school. Based on above, BPDAS Bengawan Solo in Donoyudan creates a community-based education by empowering farmer groups in land rehabilitation efforts for their welfare. The nature of education for people who are active in all programs designed to answer their needs [4]. Community involvement become output which has been done by BPDAS Bengawan Solo. Based on Cohen and Uphoff in [5], there are several forms of participation: participation in planning, participation in implementing, and participation in evaluating. Those participations can be used as an assessment to the success rates of KBR program.

The purpose of this research is to find out BPDAS Bengawan Solo activities in land rehabilitation efforts, participation of farmer groups, and the effect of farmer groups participation to the KBR program. The findings of this research are expected to be useful materials at the class. Further, they can enrich students' references gained from non-formal education and become an evaluation for BPDAS for Bengawan Solo.

II. METHODS

This research used descriptive method with quantitative approach. The population of this research was all farmer groups who administratively live in 6 villages and they also joined Jati Makmur farmer groups. About 115 farmer groups spread out in those villages. They were Tempel village, Blangunan village, Beran village, Rejosari village, Donoyudan village, and Bendo village.

The sampling technique of this research used was proportional random sampling. The sample was taken from farmer groups who administratively live in 6 villages. Random sampling was chosen because the sample was homogeny. The total amount of sampling chosen was based on Krecjie & Morgan sample table with 5% error[6]. If the population was from 110 up to 115, so the sample chosen was 86 people.

The variables of this research were farmer groups participation as independent variable, land rehabilitation efforts as intermediate variable and KBR program as dependent variable. The tools and techniques used were interview, observation, questionnaire, and documentation. The technique analysis employed was descriptive statistics. It was used to explain farmer groups participation, and the activities of BPDAS Bengawan Solo. Then, to find out the effect of farmer groups participation towards Kebun Bibit Rakyat program, simple linier regression was implemented.

III. DISCUSSION AND ANALYSIS

A. General Description of Research Location

Donoyudan village, Kalijambe sub-district, Sragen regency is one of 14 villages in Kalijambe sub-district. Geographically, this village is bordered with another area, north of Wonorejo village, east of Samberembe village, south of Keden village and west of Boyolali regency. This village has 384,348 ha area.

Land management is divided into 51% (194 hectare) of rice fields, 34% (129 hectare) of plantation land and 16% (61 hectare) of settlement and moor. Land management productivity and annual average production is rice with an area of 1 hectare followed by a production of 6 tons/year (registration data of village in 2007). Most of land management in this village is used for rice farming, so almost all the villagers work as a farmer. The type of rice fields is rain-fed rice fields. The majority of Donoyudan villagers work as a farm worker. They are 30% from total villagers, private workers are 26%, farmers are 22%, unemployment was 7% and 10% or 227 villager work as police, seller, labours and so on.

B. Forms Activities of BPDAS Bengawan Solo

As parts of critical land rehabilitation efforts, some activities in DAS area should be done. The activities conducted by BPDAS Bengawan Solo in critical land rehabilitation are vegetative activities such as KBR, Agroforestry, permanent nursery, and distribution of productive plant seeds (Vegetable plants). There are also technical activities such as construction of land conservation buildings and sedimentary barrier.

Infiltration wells usage is also done to increase groundwater volume and preserving the water. As critical land handling needs multiple strategies, all of those activities involve all parties both from government and community.

In addition, to educate the society and increase the community's awareness about the importance of good and correct land management, socialization and critical land rehabilitation training through KBR program are also carried out. They are attended by head of farmer groups and PPL in every sub-district which have been chosen as KBR program receiver.

C. Farmer Groups Participation

The participation of Jati Makmur farmer groups is still low. This is indicated by the average score of 21,27 which is categorized as low participation.

TABLE I.

| Interval score | Percentage (%) | Criteria |
|----------------|----------------|-----------|
| 35,8 – 44,00 | 81.25 - 100 | Very high |
| 28,6 – 36,8 | 62.25 – 81.00 | High |
| 21,4 – 29,6 | 43.25 – 62.00 | Low |
| 11,0 – 21,4 | 24.25 – 43.00 | Very low |

The participation of this research covers participation in planning, implementing, and evaluating. Low participation may also be influenced by some factors for example the socialization method and inappropriate activities implementation.

Indirect delivery method to farmer group through middleman such as head of farmer groups and PPL can cause miss communication between them. Furthermore, the expected purpose of BPDAS Bengawan Solo cannot be completed. Most of farmer groups didn't understand about the purpose and function of this program. As the learning does not work optimally, the result is not well-ended. The other factor is presumption about agricultural land that can ruin rice field.

D. Farmer Group Participation Effect Towards KBR Program

The effect of participation towards KBR program is constant about 10.125. This means that if farmer group participation's (X) value is 0, then the KBR program's (Y') value is positive that is about 10.125. If the variable regression coefficient of farmer group participation(X) is 1, then KBR program volume is 0.467 and positive. This means that the higher participation, the higher success rate can be achieved from KBR program. Based on the findings, low level of farmer participation influences the success of KBR program in Donoyudan village. It's supported by rotten teak seeds as the standard of this success program. This is influenced by low farmer group participation in handling and managing the seeds.

In addition, farmer group was not interested with the seeds because of long harvest time and there's too many teak trees planted in Donoyudan village. Most of them suggested to grow vegetable by the reason's harvest faster, so they can get the benefit as soon as possible. In contrast, the type and condition in Donoyudan village was more suitable for teak seedlings because it had dry land &

lack of irrigation. In farmer group ability sides, planting vegetable need good knowledge and experience of planting. This misperception can decrease the farmer group's interest about KBR.

IV. CONCLUSION

Various activities carried out by BPDAS Bengawan Solo to rehabilitate critical land in Bengawan Solo watershed area had been done whether in vegetative or technically. These activities were used for the community as learning material by providing socialization and training, the average score was 21,27 according to total score and average answer from the respondent. It included low category, and there was a positive correlation and significant contribution between Jati Makmur farmer

group participation toward KBR program about 38,9% while the rest is 61,1% influenced by external factors.

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