



Perception and Participation Community of Gayo Lues Regency in The Implementation of Forest and Land Rehabilitation Activities

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ABSTRACT

The perception and participation of the community must be encouraged on an ongoing basis for activities of responsibility so that forests do not experience very worrying degradation. Forest degradation has a very negative impact on the existence of communities in or around forests because it can trigger natural disasters that are uncontrolled and detrimental to communities, such as landslides, flash floods, drought, local climate change, etc. This research aims to determine perceptions, participation, and factors influencing community participation in forest and land rehabilitation activities. The herd that will carry out research related to forest and land rehabilitation consists of 3 sub-districts, namely Terangun, Blangkejeren, and Blangjerango Districts, and Gayo Lues Regency with a sample size of 91 people. The findings show a level of people perception in Terangun, Blangkejeren, and Blangjerango sub-districts regarding forest and land rehabilitation activities obtained relatively good perception scores in every aspect, namely planning, implementation, utilization, and evaluation. Furthermore, the level of community participation in forest and land rehabilitation activities in Terangun, Bangkejeren, and Blangjerango Districts can be said to be high in every aspect, namely planning, implementation, utilization, and evaluation. Then the factors that influence the level of community participation in forest and land rehabilitation activities are age, education level, and income.

Keyword: Forest and Land Rehabilitation, Forest Degradation, Gayo Lues, Participation, Perception

1. Introduction

According to Ministerial Regulation Number 23 of 2021, forest and land rehabilitation (*Rehabilitasi Hutan dan Lahan/RHL*) aims to restore, maintain, and improve the function of forests and land so that their carrying capacity, productivity, and role in supporting life support systems are maintained, one of which is through planting and cultivation activities, plant enrichment, or implementing vegetative method conservation measures, which are conservation by utilizing plants so that the soil can be protected from rainwater and surface runoff as well as civil engineering (Article 41 paragraph 1), especially in the core areas of National Parks and Nature Reserves [1]. The RHL program is also complex, involving various social, economic, and ecological aspects. The RHL program is coordinated between the government and the community so that the community has a perception of the function of the forest and increases community interest in participating so that the use of forest resources can be maximized [2]. A person filters and analyzes information to produce environmental perceptions [3] and stores and conveys environmental information from the five senses to the nervous system [4].

Perception and participation from the community are very important to be involved in RHL activities to support the success of the activity, and the community must be encouraged on an ongoing basis to take responsibility for activities so that forests do not experience very worrying degradation [5]. This is because

land degradation in forest areas is closely related to natural disasters and the conversion of forest land to agricultural land. Land conversion is an event that shows a change in part or all of the functions of an area that has a sustainable impact on the forest ecosystem [6]. One of them is that changing the function of forestry plants to agricultural plants will cause damage to the forest and the living creatures in it. This situation is a problem that is contrary to the principles of sustainable forest management [7]. This function transfer activity resulted in a tenure conflict between the government and the community due to differences in perceptions between the two parties. These differences in perception can be in the form of interests, values, ownership status, and power [8].

Tenurial conflict in state forest areas is a difference in perception of the control and management of forest resources, such as the conversion of forest land into dry land agricultural land, roads, and residential areas [9]. As happened in Gayo Lues Regency, new land clearing is increasingly being carried out [10]. This shows differences in perceptions between the community and the government regarding the control and management of forest resources. Forest tenure conflicts that have occurred so far require resolution to overcome conflicts between communities and government, namely in the form of forest and land rehabilitation, which provides economic and ecological results, especially in the Gayo Lues Regency.

Gayo Lues has an area of 517,197 hectares, of which around 441,935 hectares, or 85.45 percent, is designated as protected forest [11]. Therefore, the community must have a perception and role of the community regarding the importance of forest functions, especially the implementation of the RHL program. Because RHL activities are a way to increase environmental improvement, requiring awareness and attention from all components of society so that the use of forest resources can grow productively and optimally [12]. In line with Utami, she stated that with RHL activities, forest areas can function again as protectors of watersheds (DAS) [13]. Because the RHL program can only be coordinated between institutions and the community nationally [14]. The assessment analyzes the short, medium, and long-term physical and non-physical activities involved in implementing RHL [15].

In Gayo Lues Regency, especially Blangjerango District, there are forest problems such as shifting forest functions, deforestation, and forest degradation, which have various bad effects on local communities. In implementing this activity, further evaluation needs to be carried out to see the extent of the success of the RHL program activities. Perception and participation in communal activities are expected to have high meaning because society can grow a sense of ownership and responsibility and benefit from RHL activities. Therefore, it is necessary to research perceptions and levels of community participation in supporting the success of the RHL program. This is the basis of reference for researchers to find out the perception and level of community involvement in RHL activities which can then affect improving and optimally improving the condition of damaged land. Forest farmer organizations are very principal [16]. Higher education broadens a person's horizons, especially regarding forests and society [17].

2. Materials and Methods

The communities to be studied consist of 3 subdistricts, namely Terangun, Blangkejeren, and Blangjerango Sub-districts, Gayo Lues Regency, Aceh, Indonesia (Figure 1). The study was conducted from October to November 2022. Respondents were communities directly involved in RHL activities. This aims to obtain more detailed data and find answers to questionnaires from planning, implementation, and evaluation.

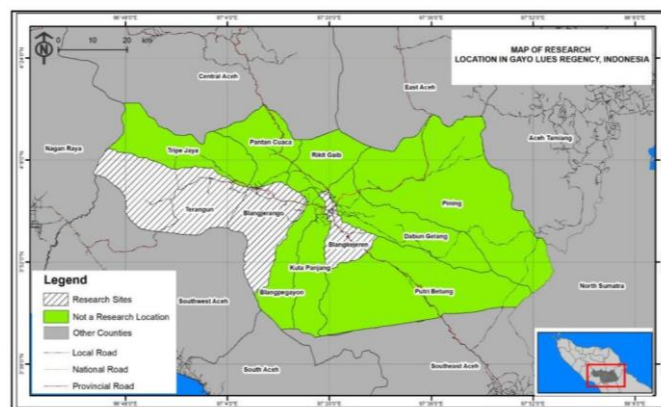


Figure 1. Map of Research

Based on the results of the Slovin, the number of respondents sampled was 91 people. Then the number of samples for each village from each sub-district was determined using formula 1 [18].

$$ni = \frac{Ni}{N} n \quad (1)$$

Information:

ni : Amount sample

n : Number sample entirely

Ni : Amount population

N : Number population entirely

Based on the results of calculating the number of samples for each village representing the three sub-districts as research samples (Table 1).

Table 1. Number of research samples

No	Subdistrict	Village	Population (people)	Sample (people)
1	Terangun	Bukut	160	16
		Gewat	145	15
		Padang	189	20
2	Blangkejeren	Penggalangan	142	14
		Lempuh	153	15
3	Blangjerango	Sekuelen	62	6
		Akul	49	5
Amount			900	91

To obtain data, the steps taken are as follows: 1) Literature study, or data collection strategy used by researchers to obtain data from books, notes, and documents that are relevant to the research topic; 2) Observation is a step in obtaining data carried out using direct observation techniques on the subject being studied. The subjects to be researched are people who directly participate in forest and land rehabilitation activities in forest areas in each sub-district in Gayo Lues district; 3) A questionnaire is a data collection technique that consists of questions that must be answered by the research sample. Questions are prepared systematically to function as an interview schedule in research. The purpose of the questionnaire is to obtain respondents' perceptions and participation in RHL activities in each village in each sub-district; and 4) Interview: Researchers use interviews to deepen the data needed. The interview carried out was structured, namely, questions focused on the main topic of discussion. So researchers have prepared questions regarding community perceptions and participation in RHL activities. The collected perceptions and participation are transferred from the questionnaire to the resulting tabulation sheet. The level can be measured based on indicators of planning, perception, and participation in the implementation of activities. Evaluation and assessment of these things use a Likert scale. After obtaining the value or score from each respondent, the scores obtained are then interpreted into several categories (Table 2).

Table 2. Perception categories

No	Category	Score
1	Good	≥ 38
2	Currently	27-37
3	Bad	≤ 26

Then the participation rate obtained were interpreted into participation categories (Table 3).

Table 3. Participation categories

No	Category	Score
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1	Tall	≥ 38
2	Currently	27-37
3	Low	≤ 26

The Spearman Rank (formula 2) correlation method was used to examine the relationship between factors that can influence the level of community participation, statistical analysis using. This method is used to determine the close relationship between variables and community participation using the following formula [18]:

$$r_s(2) = 1 - \frac{6 \sum_{i=1}^n d_i^2}{n(n^2-1)} \quad (2)$$

3. Result and Discussion

3.1. Community Perceptions of Forest and Land Rehabilitation Activities

The Forest and Land Rehabilitation Policy refers to Indonesian Government Regulation Number 76 Year 2008 concerning Forest Rehabilitation and Reclamation (PP. No.76/2008). Article 11, Paragraph 1 states that "forest and land rehabilitation is carried out through planning and implementation stages.". According to PP. No.76/2008 Article 15 Paragraph 1, the Forest Rehabilitation Management Plan (*Rencana Pengelolaan Rehabilitasi Hutan/RPRH*) contains policies and strategies for location, type of action, institutions, financing, and schedule. In this regard, the government has prepared the RPRH covering an area of 554,991.06 ha spread over the protected forest areas of Terangun (67,180.27 ha), Blangjerango (38,241.70 ha), and Blangkejeren (16,605.63 ha) by involving Farmer Groups and empowering these farmer groups. This empowerment is carried out through technical implementation guidance related to the procurement/distribution of seeds, making planting holes, planting methods, installing stakes, making work huts, activity/project nameplates, and how to care for grown plants. With this authority, the Management Plan Terangun, Blangjerango, and Blangkejeren District Protected Forest Areas can run according to the plan to achieve sustainable forest management. Therefore, it is very crucial to understand the perceptions of RPRH participants in forest areas.

It is important to note, does the community has a shared desire to manage forest and land rehabilitation areas in Gayo Lues Regency, especially in Terangun, Blangjerango, and Blangkejeren. The process encourages individuals to behave, manage, take action, and make decisions. All aspects of area management and community involvement in forest and land rehabilitation activities must be prioritized and taken into consideration in whole aspects, starting from the planning, implementation, and monitoring stages. This assessment step is important because it allows the community to assess the progress of forest and land rehabilitation operations [19]. Community perceptions of forest and land rehabilitation are listed in Table 4.

Table 4. Community Perceptions of Forest and Land Rehabilitation

Subdistrict	Village	Average	Category
Planning stage			
Terangun	Padang	82.00	Good
	Gewat	94.66	Good
	Bukut	82.50	Good
Blangkejeren	Penggalangan	90.71	Good
	Lempuh	76.66	Good
Blangjerango	Sekuelen	96.66	Good
	Akul	66.00	Good
Implementation stage			
Terangun	Padang	78.00	Good
	Gewat	78.90	Good
	Bukut	75.00	Good
Blangkejeren	Penggalangan	76.60	Good
	Lempuh	71.20	Good
Blangjerngo	Sekuelen	76.00	Good
	Akul	61.60	Good
Utilization and evaluation stage			
Terangun	Padang	83.33	Good
	Gewat	91.55	Good
	Bukut	82.5	Good
Blangkejeren	Penggalangan	90.00	Good

Blangjerngo	Lempuh	80.44	Good
	Sekuelen	96.66	Good
	Akul	80.00	Good

Based on Table 4, the community around the forest and land rehabilitation area management considers that RHL activities have been fully operational. It looks like public perception is in the good category. It is hoped that activities in forest and land restoration can restore forest function, increase land productivity, and maintain ecology.

3.2. Community Participation in Forest and Land Rehabilitation Activities

A crucial factor in managing forest and land rehabilitation areas in Gayo Lues Regency, especially Terangun, Blangkejeren, and Blang Jerango Districts, in this case, is whether or not there is a collective desire from the community to manage forests and land in rehabilitation areas. To achieve community empowerment in all aspects of area management, community involvement in the management of forest and land rehabilitation areas must be prioritized and considered in all contexts, starting from the planning, implementation, and monitoring stages.

For the management of the rehabilitation area to be truly successful, it is necessary to involve the local community in managing the forest and land rehabilitation area so that it can be realized by natural conditions and community expectations. In connection with the above, additional community involvement in forest and land rehabilitation activities in Gayo Lues Regency, especially in Terangun, Blangkejeren, and Blang Jerango Districts, will be discussed, which is integrated into Table 5.

Table 5. Society Participation in Gayo Lues Regency

Subdistrict	Village	Average	Category
Planning stage			
Terangun	Padang	74.33	Tall
	Gewat	71.11	Tall
	Bukut	73.33	Tall
Blangkejeren	Penggalangan	70.47	Tall
	Lempuh	71.11	Tall
Blangjerngo	Sekuelen	67.77	Tall
	Akul	77.33	Tall
Implementation stage			
Terangun	Padang	75.25	Tall
	Gewat	67.16	Tall
	Bukut	68.28	Tall
Blangkejeren	Penggalangan	68.57	Tall
	Lempuh	69.66	Tall
Blangjerngo	Sekuelen	62.91	Tall
	Akul	66.50	Tall
Utilization and evaluation stage			
Terangun	Padang	75.33	Tall
	Gewat	76.44	Tall
	Bukut	76.04	Tall
Blangkejeren	Penggalangan	75.00	Tall
	Lempuh	71.33	Tall
Blangjerngo	Sekuelen	75.55	Tall
	Akul	66.00	Tall

The community participation in forest and land rehabilitation activities in every aspect is categorized as high. Most of the community believes that community participation in forest and land rehabilitation activities is currently running optimally in all respects and aspects of planning, implementation, utilization, and evaluation. Based on the results of the questionnaire analysis, the community responded that community participation in RHL activities is relatively high and already well.

According to Van den Ban and Hawkins, local communities should play a greater role in planning forest and land rehabilitation operations programs than RHL committees [20]. Community involvement is expected to provide accurate information regarding the current circumstances and conditions in the area. This is because people know the conditions and settings where they are. Communities around forest and land rehabilitation areas must be involved and empowered at the planning stage, especially during action plans for using RHL tree seedlings. Residents have lived there for a long time, so they know the types of trees and plants that can survive and be tested by various natural challenges. Selecting the right tree species is one of the keys to planting activities whose success is greatly influenced by ecological factors [22].

3.3. The Relationship between Factors that Influence Community Participation in RHL Activities

The level of community participation is thought to be influenced by internal causes. Internal variables include things like age, education, and income. The relationship between internal factors and the level of community participation at each stage (planning, implementation, and evaluation) was analyzed using the Spearman rank correlation test using SPSS version 20 software (Table 6).

Table 6. The relationship between internal factors and the level of community participation

No	Factor	Village	Mark Unstandardized Residuals		
			Planning	Implementation	Evaluation
1	Age	Padang	0.388**	0.451**	-0.272
		Gewat	0.390**	0.374**	0.084
		Bukut	0.778**	0.278**	-0.200
		Sekuelen	0.283**	0.742**	0.029
		Akul	0.413**	0.451**	0.100
		Penggalangan	0.283**	0.272*	0.072
		Lempuh	0.483**	0.530**	-0.164
2	Education	Padang	0.628**	0.342**	-0.036
		Gewat	0.567**	0.453**	-0.090
		Bukut	0.524**	0.440**	0.210
		Sekuelen	0.550**	0.211*	0.069
		Akul	0.743**	0.643**	0.100
		Penggalangan	0.271**	0.261*	0.061
		Lempuh	0.335**	0.676**	0.159
3	Income	Padang	0.595**	0.521**	-0.065
		Gewat	0.417**	0.539**	-0.039
		Bukut	0.330**	0.261**	0.082
		Sekuelen	0.234**	0.334*	0.069
		Akul	0.414**	0.221*	0.198
		Penggalangan	0.376**	0.631**	0.021
		Lempuh	0.453**	0.234*	0.891

Information : ** Significant effect at $\alpha = 0.01$; * Significant effect at $\alpha = 0.05$

The respondent's age is an influential factor in decision-making. Age is related to experiences that will shape a person's perceptions and behavior. Based on the data presented in Table 6, it can be seen that age, education, and income are related to community participation in forest and land rehabilitation activities in the planning and implementation aspects. This condition shows that age has a strong level of correlation and is significantly correlated with community participation in the RHL program. Based on surveys in the field, younger or more productive people are more likely to participate in the RHL program. In essence, age influences work effectiveness, especially in the case of nurseries that have to do heavy work. Therefore, age influences community participation in the program. Age has an impact on involvement, decision-making, and the implementation of RHL [21].

The correlation coefficient between educational factors and community participation has the strength of the relationship as shown in Table 6. This situation shows that education has a level of relationship with RHL activities. Based on surveys in the field, education does not determine whether a person will participate in the RHL program. Education is an important factor in seeing a person's abilities and mindset. A person who has higher education will gain greater knowledge regarding development and the role they are given

[23]. Within the scope of RHL, participating communities have their own will and experience, especially in the agricultural sector, such as farmers who, on average, do not have formal education.

The correlation coefficient between income factors and community participation is the strength of the relationship. This shows that income has a level of relationship with community participation in the RHL program. Usually, people with high incomes have their own busy lives, so they don't have free time to take part in the RHL program. Therefore, a person's income level influences a person's participation in the RHL program. In line with [24], the factors of age and income are significantly correlated with RHL activities.

4. Conclusion

The level of community perception in Terangun, Blangkejeren, and Blangjerango sub-districts regarding forest and land rehabilitation activities obtained relatively good perception scores in every aspect, namely planning, implementation, utilization, and evaluation. Furthermore, the level of community participation in forest and land rehabilitation activities in the Terangun, Blangkejeren, and Blangjerango sub-districts has high participation in every aspect, namely planning, implementation, and evaluation. Then the influencing factors of community participation in forest and land rehabilitation activities are age, education level, and income.

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