



# Community Empowerment in Forest Management through Community Based Forestry Management Arrangements in Ngadas Village as an East Java Biosphere Reserve Cluster

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## ABSTRACT

Community empowerment in forest management is important to improve the welfare of the community itself by taking results and preserving forests without logging which can damage the ecological function of the forest. The concept of community-based forestry management (CBFM) is the right method to increase the role of local communities in managing and managing forest resources. This research conducted a study on Ngadas Village located in the Bromo Tengger Semeru Arjuno biosphere reserve area in East Java. The establishment of biosphere reserves is carried out by UNESCO which aims to implement sustainable development with better area management and encourage sustainable economic development. Therefore, it is important to make arrangements for the implementation of CBFM in Ngadas Village in the format of village regulations. The author suggests a draft Ngadas Village Regulation on Community-Based Forest Management in Ngadas Village with a scope that includes the formation of community groups, forest management, forest control, and activity funding.

**Keywords:** *Community empowerment, community-based forestry management, village regulations.*

## 1. INTRODUCTION

As one of the natural resources that plays an important role in supporting people's lives and maintaining natural balance, forests have various functions for humans both in fulfilling economic, socio-cultural, and ecological functions. If the forest is managed properly and forest sustainability is maintained, the benefits provided by the forest to the community can continue to be felt in the future. To manage forests well not only by handing them over to the government and environmental activists, but the role of the entire community is very important to participate in forest management so that it remains sustainable in terms of fulfilling ecological aspects, and can meet the economic and socio-cultural aspects of the community as well.

East Java as the province with the largest forest cover area on the island of Java in 2021 with a forest area of 25.6% shows the potential of natural resources from such a large forest, supported by East Java Provincial Forestry Service [1]. In managing these vast forests, the government cannot do it alone. Communities living around forests need to be involved so that the balance and ecological function of forests are maintained but can also be maximized to meet the economic and socio-cultural needs of local communities.

Ngadas Village as one of the villages in Pronojiwo District, Malang Regency, East Java, has abundant natural potential, especially forestry. The area of forest that is included in the administrative area of Ngadas Village is 6 ha (hectares) in which there is a variety of vegetation such as spruce, pine, and amethyst, supported by Primasari [2]. The people of Ngadas Village consider the forest in their area not only as a natural resource but also as a respected place and part of the traditional ceremonial rituals of the village community which is the Tengger tribe community. The community obtains materials for the purposes of traditional ceremonial rituals from the forest so that the role of the forest is very important for the sustainability of customary activities,

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supported by Gifari et al [3]. Therefore, forest sustainability in the Ngadas Village area is very important to note. Moreover, the Ngadas Village forest is part of the conservation forest area of Bromo Tengger Semeru National Park (BTSNP) so that forest utilization cannot be done carelessly. Conservation forest itself is a forest area with certain characteristics that has the main function of preserving the diversity of plants and animals and the ecosystems in it. Conservation forest is a protected forest area so that the preservation of the forest and the various life in it is maintained as the function of the forest should be. Therefore, communities that live side by side with conservation forests must be careful in carrying out forest management so that the function of forests to maintain the sustainability of the ecosystem remains safe, but the community also still benefits from the forest.

In 2015, UNESCO designated the BTSNP and Mount Arjuno areas as biosphere reserves at the 27th session of the International Coordinating Council of Man and Biosphere in Paris. The biosphere reserve itself is a natural site that is managed innovatively so that there is synergy between existing natural resources and local communities. The granting of biosphere reserve status serves to combine biodiversity conservation with the development and sustainable use of natural resources, as well as create solutions to the problems of the people in the region, supported by Utami [4]. Therefore, people living around forests must be able to coexist with forests and maintain forest sustainability in order to benefit from forests.

Community participation in conserving forests is an important empowerment to do because in addition to maintaining forest ecosystems, forest preservation by the community can also bring benefits to the community itself. The concept of community-based forestry management is a method that has been applied to 732 million ha of forests in 62 countries around the world, supported by Food and Agriculture Organization [5]. Community-based forestry management activities themselves are activities that involve certain initiatives, science, policies, institutions, and processes to increase the role of local communities in managing and managing forest resources. The main purpose of this activity is to improve forest conditions and improve the livelihoods of the community, especially small farmers who carry out forest management, supported by Gilmour [6]. The benefits of community-based forestry management activities include improving forest conditions, increasing the social and institutional role of communities around forests, increasing community sources of income, and increasing equity and reducing poverty. Based on this, the establishment of a legal umbrella in community empowerment activities to carry out forest management is important so that the forest management process by the community can run well and in accordance with its goals. This is important because environmental policy is the key to encouraging the success of environmental management activities by utilizing technology that can have a significant economic impact on society. As supported by the opinions of Kneese and Schultze, environmental policy can be one of the determining factors for the success or failure of environmental protection efforts, supported by Stavins et al.[7]. Therefore, the government must be able to make an environmental policy that supports environmental management activities, especially forests that have a positive impact on the environment as well as can be a source of economy for the community. Based on this background, the following two problem statements can be formulated, which is: (1) What is the concept of community empowerment in forest management through community-based forestry management in Ngadas Village as a cluster of East Java biosphere reserves? (2) What kind of arrangements can be made in community empowerment through community-based forestry management activities in Ngadas Village as an East Java biosphere reserve cluster?

## 2. METHODOLOGY

This research was conducted from March to November 2023 in Ngadas Village, Poncokusumo District, Malang Regency, East Java. The method of approach taken is a juridical sociological approach that emphasizes research aimed at obtaining legal knowledge empirically by going directly to the object. Sociological juridical research is legal research using secondary data as the initial data, which is then continued with primary data in the field or against the community, supported by Soekanto [8]. Primary data is data obtained directly from research subjects using measurement tools or data collection tools directly on the subject as a source of information needed or to be sought, supported by Azwar [9]. Meanwhile, secondary data is data that is used as a complement or supporter of primary data which includes, among others, official documents, books, even research results in the form of reports, supported by Soekanto [8]. In this study, primary data were obtained through interviews and FGDs, while secondary data were taken from the literature review conducted. The data analysis used is qualitative descriptive analysis with details of the current conditions and consequences of the strategic issues raised. In the final stage, a design scenario of Ngadas Village community empowerment through CBFM was made through the formulation of a draft Village Regulation on Ngadas Village Community-Based Forest Management.

### 3. DISCUSSIONS

#### *3.1. The concept of community empowerment in forest management through community-based forestry management in Ngadas Village as a cluster of East Java biosphere reserves*

The concept of community empowerment focuses on the model of community intervention in local wisdom around it. Empowerment itself is a process of increasing significant participation by people who have the skills, intelligence, and power to influence their lives and the lives of others, supported by Mardikanto et al [10]. Community empowerment is an effort made by the community to improve their welfare independently through increasing awareness and mindset to maximize the potential that exists in the community, both natural and human potentials to be utilized sustainably. According to Sulistyani, there are three stages in carrying out community empowerment, namely: (1) the stage of formation and awareness of behavior; (2) the stage of providing basic skills and insights; and (3) the level of skills, abilities, and intellectuals so as to create innovative abilities and initiatives, supported by Sulistyani [11]. The involvement of local communities in managing and utilizing the potential around them is a solution to government policy discrepancies that are often universal while each region has different potentials. For example, in Ngadas Village, Poncokusumo District, Malang Regency, there is abundant vegetation potential because it is in a mountainous area, but it does not have fishery potential because it is far from the sea. Therefore, community involvement is important in managing the potential of resources around them because the community better understands what potential exists in their area and it can meet the needs of the community itself.

Community empowerment in forest management is a form of community participation in managing forests in order to get maximum benefits from forests, moreover people living around forests depend on resources in the forest, so it is the community's right to get results from the forest by taking results, planting, but not logging that can damage the ecological function of the forest. In Ngadas Village which is a traditional village inhabited by the Tengger tribe community, where the community often performs traditional ceremonies, the need to carry out traditional ceremonies is often obtained from the forest in the village area. To maintain the availability of community needs in carrying out traditional ceremonies originating from forests, community participation to preserve and maintain forest ecosystems is important to be improved.

Basically, forest management in Indonesia is the responsibility of the central and local governments. Government Regulation Number 72 of 2010 concerning State Forestry Public Companies (Perum Perhutani) explains that those assigned and authorized by the government to carry out forest management are State Forestry Public Companies or what is called Perum Perhutani. However, at the implementation level, forest management cannot only be carried out by Perum Perhutani considering the area of forests in Indonesia, especially in East Java, is so vast that the community needs to be involved in managing forests.

Community-based forestry management is one method of increasing community participation in forest management by increasing public knowledge about good forest management. As explained in the background, community-based forestry management (CBFM) is a forest management method that is applied internationally in 62 countries in the world with monitoring from the Food and Agricultural Organization of the United Nations. Implementing CBFM requires collaboration in decision-making related to forest management that initially developed in the global south, which later expanded to Western Europe, Canada, and the United States, and followed developments in Asia-Pacific, North America, Latin America, and Africa. The objectives and benefits of implementing CBFM include, supported by Food and Agriculture Organization[5]:

a. Improve forest conditions

Assessment of CBFM results in several areas shows improvements in forest conditions (increased density, productive capacity, and biodiversity species), expansion of forest areas, and reduction of threats such as forest fires and illegal logging.

b. Increase the social and institutional role of communities around forests

The increase in social/institutional and human resources is evident from the CBFM regimes that have been in place in India, Mexico, Nepal, the Republic of Tanzania, as well as in European and North American countries. Social cohesion occurs due to the influence of decision making from the process of forest management activities to the marketing of forest products without destruction.

c. Increase people's income sources

There is a lot of evidence to show that CBFM can increase people's financial resources. In Cameroon, the economic surplus from CBFM is used as a community asset as well as to improve health services. In Vietnam, CBFM conducted by smallholders shows positive economic benefits as well as creating local jobs. In America, CBFM has provided good employment options and increased the value of life held by individuals and communities. But in many cases, CBFM serves as an

additional source of income for communities and individuals, rather than being the only source of income.

d. Increase equity and reduce poverty

Although one of the goals of CBFM is to reduce poverty and increase equity through maximizing the use of natural and human resources, this cannot happen if poor people are not identified and the opportunities and benefits of these activities are not targeted to them. While special arrangements are in place to target CBFM activities to marginalized communities as implemented in Kenya, Nepal, and the Republic of Tanzania, CBFM has reduced social inequality, gender inequality, and poverty through job creation and equitably benefiting forest ecosystems.

Based on extensive studies of CBFM implementation, there are six keys that must be met in order for CBFM implementation to be successful and achieve its ecological and socio-economic goals. The keys are, supported by Food and Agriculture Organization [5]:

a. Legality of forest ownership

In general, rights to land and natural resources by indigenous and local peoples are so weak that the ability and willingness of local communities to participate in forest management is limited. A successful CBFM regime must have secure and long-term tenure or legal rights to forest tenure so that forests can be managed, used, and controlled through clear boundaries. Ownership rights or at least permits to conduct CBFM activities are required for a long period of time so that local communities can invest their social and human capital into forest management with the confidence that they will benefit from increased flows of forest goods and services.

b. Existence of adequate regulations

A regulatory framework that contains balanced rights and responsibilities is important in the implementation of CBFM. The regulation is functioned to avoid fraud in the licensing process, management planning, reporting, and marketing of non-timber forest utilization products. In some countries, although community rights have been regulated, complex compliance procedures by forest management authorities and government agencies often hinder communities and smallholders in forest management. Therefore, preventive measures that can ensure the rights of communities in forest management are not burdened with responsibilities that are too restrictive are important to be contained in an implementing regulation.

c. Strong governance

Strong governance requires meaningful participation from local communities and other stakeholders such as state forest management institutions and government, transparency in decision-making as a form of accountability, and the rule of law.

d. Decent technology

The implementation of CBFM is not only carried out to conserve forests, but also leads to the commercialization of forest goods and services without damaging existing ecosystems. Thus, the application of appropriate technologies at the stages of production, harvesting, processing, and marketing of non-timber and timber forest products is becoming increasingly important. Community groups need technical skills and knowledge to manage forests and forest products independently and sustainably at every stage of the management chain.

e. Adequate market knowledge

Forest management by utilizing forest goods and services needs to be balanced with business skills and adequate market knowledge so that product quality and marketing can be carried out according to market needs. The community needs information about market trends, prices, increasing product value, and so on.

f. Supportive bureaucracy

Governments must ensure that stakeholders within government bodies can actively support communities to manage forests sustainably. Government officials must be able to shift from previously active forest management systems to participatory forest management that gives local community groups the opportunity to manage forests that can benefit those communities instead of handing them over to the government.

Ngadas Village, which is located in a mountainous area that is quite far from urban areas, makes the economy of its people dependent on the surrounding nature. Most of the people of Ngadas Village work as potato and cabbage farmers with a land area of approximately 348 ha managed by around 1,649 people in 2015, supported by Primasari [2]. Besides these agricultural lands, there is a conservation forest area because Ngadas Village itself is located in the Bromo Tengger Semeru National Park (BTSNP) area where forest management is carried out by the national park which is directly responsible to the Ministry of Environment and Forestry. Therefore, the community cannot just take natural resources in the forest without permission or agreement from the national park. This was conveyed by Demsi Danial as a social activist, environmental activist, and

community companion of Ngadas Village in forest management, where Demsi stated that in order for the community to carry out forest management, it is necessary to have permits and agreements between the village and the national park. Moreover, the BTSNP and Mount Arjuno areas have been designated as biosphere reserves by UNESCO at the International Coordinating Council of the Man and the Biosphere Programme, June 2015 in France. The determination has the consequence that the BTSNP and Mount Arjuno areas must implement sustainable development with better area management and encourage sustainable economic development, especially in communities living in the biosphere reserve area supported by Hakim [12]. One of the things that can strengthen the bargaining power of rural communities to be allowed by the national park to carry out forest management is the formation of community groups that will carry out forest management later. The formation of this community group was accompanied by preparation activities through the provision of guidelines, guidance, direction, and assistance by the village government, non-governmental organizations, experts, and the local Forestry Service. Thus, community groups will be ready to carry out local forest management and control, supported by Danial [13].

Forest management activities by the community are carried out by planning work programs in advance, then utilizing, rehabilitating, and protecting forest management areas. Forest utilization as intended is carried out by utilizing non-timber forest products, cultivating plants that do not damage the main vegetation of the forest, and can also carry out forest service development efforts with a firm record without damaging or exploiting forests. The hope is that through the use of non-timber forest products, it can be processed by the community to be developed into marketable products and improve the economy of rural communities. In addition to utilization, in the framework of CBFM activities, forest rehabilitation and forest protection are also carried out so that forest function and productivity are maintained and the ecosystems in them continue to function optimally and sustainably.

### ***3.2. Forms of arrangements that can be carried out in community empowerment through community-based forestry management activities in Ngadas Village as a cluster of East Java biosphere reserves***

In carrying out CBFM activities, it is necessary to have a regulation as a legal umbrella for communities who carry out forest management so that rights and obligations in the management process by the community can be fulfilled fairly. Government Regulation Number 23 of 2021 concerning Forestry Implementation in Article 126 paragraph (1) explains that forest utilization aims to obtain optimal, fair, and sustainable benefits of forest products and services for the welfare of the community. Community welfare as intended includes all circles of society including rural communities so that it is the right for rural communities, especially those living around forest areas to also feel the benefits of forest products and services through wise management, thus the function of forests to improve community welfare can be realized Utami [14].

People living in forest areas based on agreements with forest managers in this case are national parks should be allowed to manage forests by only taking forest products without logging, and are allowed to plant, so that forest products are called non-timber forest products. Forest management is carried out together with forest conservation, so it is necessary to form community groups with support from the government supported by Salim HS [15]. Moreover, after the determination of the BTSNP and Mount Arjuno areas as one of the biosphere reserves clusters in East Java which requires immediate sustainable management and utilization of natural resources by involving all stakeholders including rural communities in general. Community involvement is important in the management of biosphere reserves because the purpose of establishing biosphere reserves is to balance biodiversity, economic development, and community culture so that they can go hand in hand so that the community is important to be involved, supported by Hakim [16]. This is based on the mandate of Article 33 paragraph (3) of the Constitution of the Republic of Indonesia Year 1945 which states that the earth and water and the natural resources contained therein are controlled by the state and used for the greatest prosperity of the people. Another article in the 1945 NRI Constitution that can be the constitutional basis of the implementation of CBFM is Article 27 paragraph (2) which states that every citizen has the right to work and a decent living for humanity. Thus, the state should not limit the right of citizens to get work and livelihood by accessing natural resources available around them because these natural resources are intended for the prosperity of the people. Through CBFM, communities can be empowered to manage forests available in their environment to conserve while getting forest products and services to be processed and become a source of income.

Given that the rights and responsibilities in implementing CBFM are quite large, therefore arrangements related to CBFM activities are important to do. In the case of village communities who carry out forest management, arrangements can be made at the level of village regulations. This is due to the position of village regulations as legal instruments related to the implementation of village government. If the village

regulation regulates a legal material expressly and explicitly, then the position of the village regulation becomes stronger while strengthening the position of the village government to be able to carry out strategic policies supported by Luthfy [17]. If the village wants to implement CBFM, the village government must make regulations regarding CBFM activity plans as a legal basis so that the main licensing process from the forest manager becomes easy because the village already has an activity plan that will be carried out in detail along with the output targets of the activity. As stated by Demsi, with the establishment of village regulations on CBFM, it can prepare community groups in Ngadas Village who are ready to cooperate and enter into agreements with national parks to be able to carry out forest management. Village regulations that establish the existence of a community group that will conduct CBFM can be a bargaining power with the national park to approve forest management by village communities in conservation forest areas by asserting that the community will only manage non-timber forest products and carry out forest conservation supported by Danial [13].

The Ministry of Forestry (now the Ministry of Environment and Forestry) explains the important things to pay attention to in community empowerment through the implementation of forest management, namely policy, institutional, forest resources, human resources, and socio-economic issues supported by the Ministry of Forestry [18]. Therefore, the content material in village regulations related to CBFM must at least contain these issues so that the implementation of CBFM can run well and fulfill all important aspects related to the implementation of forest management. In an effort to establish a village regulation on CBFM in Ngadas Village, the author suggests a draft Ngadas Village Regulation on Community-Based Forest Management in Ngadas Village with a scope that includes the formation of community groups, forest management, forest control, and activity funding. The following is an outline of the content material in the Village Regulation on Community-Based Forest Management of Ngadas Village.

#### 1. Definition (General Provisions)

- a. Community-Based Forest Management is a system of forest resource management carried out by local communities in state forest areas based on their functions and designations.
- b. Forest Management Area is a unit of forest area in the village that can be managed by village institutions sustainably.
- c. Forest Products are biological, non-biological, and derivative objects and services derived from forests.
- d. Forest utilization is a form of activity to utilize forests so that environmental benefits, social benefits and economic benefits are obtained optimally by not reducing their main function.
- e. Utilization of Non-Timber Forest Products is an activity to utilize and cultivate non-timber forest products by not damaging the environment and not reducing their basic functions.
- f. Non-Timber Forest Product Collection is an activity to collect non-timber forest products with certain time, area and/or volume limits.
- g. Community Groups are groups of communities selected to implement CBFM in state forest areas in a sustainable manner.

#### 2. Community Group Formation

- a. Community preparation is an effort to empower communities in CBFM as preparation for the formation of community groups with voluntary community participation.
- b. Community preparation begins with the facilitation of community group formation.
- c. Community groups are formed on the initiative of the community through deliberation and consensus facilitated by the Village Government and/or Accompanying NGOs.
- d. Community preparation activities are carried out by providing guidelines, guidance, direction, and assistance, to community groups of prospective CBFM implementers.

#### 3. Management

- a. Community groups have the following duties: to demarcate forest management areas; prepare a forest management work plan for a certain period of time; utilize forest management areas; carry out rehabilitation of forest management areas; and carry out the protection of forest management areas.
- b. The use of non-timber forest products in forest management areas can be in the form of planting, maintenance, harvesting, security, and marketing activities.
- c. Rehabilitation of forest management areas is intended as an effort 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.

#### 4. Control

- a. CBFM control is intended to ensure the management of forest resources to be carried out accordance with the objectives.
- b. CBFM control is carried out through monitoring and evaluation of CBFM implementation.
- c. Internal control is carried out through participatory evaluation by involving all members of community group in the implementation of the management plan.
- d. Village communities other than members of community groups supervise the implementation and implementation of CBFM.

#### 5. Funding

Funding for the implementation of CBFM by community groups comes from: village revenue at expenditure budget; non-governmental organizations; other legitimate and non-binding sources.

Based on this description, the regulation on CBFM in village regulations focuses on the formation of community groups that will carry out forestry management activities with activities that include management with the use of non-timber forest products, rehabilitation, and forest protection; good control from the village government, internal groups, and village communities; and funding from the village budget, non-government organizations, and other legitimate and non-binding sources.

### 4. CONCLUSION

Community empowerment is an effort made by the community to improve their welfare independent through increasing awareness and mindset to maximize the potential that exists in the community, both natural and human potentials to be utilized sustainably. Community empowerment in forest management is a form of community participation in managing forests so that they get maximum benefits from forests by taking result planting, but not logging that can damage the ecological function of the forest. Ngadas Village which is traditional village whose people are very dependent on the forest in the village area to meet their daily needs for traditional ceremonies. Ngadas Village itself is located in the Bromo Tengger Semeru National Park (BTSNP) area where forest management is carried out by the national park which is directly responsible to the Ministry of Environment and Forestry. In 2015, the BTSNP and Mount Arjuno areas were designated as biosphere reserves by UNESCO. The determination has the consequence that the BTSNP and Mount Arjuno areas must implement sustainable development with better area management and encourage sustainable economic development. To maintain the availability of community needs derived from forests, community participation to preserve and maintain forest ecosystems is important to be improved. Community-based forest management is one method of increasing community participation in forest management by increasing public knowledge about good forest management. The purpose of CBFM is to improve forest conditions, increase social and institutional role of communities around forests, increase community income sources, and increase equity and reduce poverty. One of the things that can strengthen the bargaining power of rural communities is to carry out forest management by forming community groups that will carry out forest management later. The formation of this community group was accompanied by preparation activities through the provision of guidelines, guidance, direction, and assistance by the village government, non-governmental organization experts, and the local Forestry Service. Thus, community groups will be ready to carry out local forest management and control.

In carrying out CBFM activities, it is necessary to have a regulation as a legal umbrella for communities who carry out forest management so that rights and obligations in the management process by the community can be fulfilled fairly. People living in forest areas based on agreements with forest managers in the case of national parks should be allowed to manage forests by only taking forest products without logging, are allowed to plant, so that forest products are called non-timber forest products. Forest management is carried out together with forest conservation, so it is necessary to form community groups with support from the government. Moreover, after the determination of the BTSNP and Mount Arjuno areas as one of the biosphere reserves clusters in East Java which requires immediate sustainable management and utilization of natural resources by involving all stakeholders including rural communities in general. Given that the rights and responsibilities in implementing CBFM are quite large, therefore arrangements related to CBFM activities are important to do. In the case of village communities who carry out forest management, arrangements can be made at the level of village regulations. If the village wants to implement CBFM, the village government must make regulations regarding CBFM activity plans as a legal basis so that the main licensing process from the

forest manager becomes easy because the village already has an activity plan that will be carried out in detail along with the output targets of the activity. Therefore, the content material in village regulations related to CBFM must at least contain these issues so that the implementation of CBFM can run well and fulfill all important aspects related to the implementation of forest management. In an effort to establish a village regulation on CBFM in Ngadas Village, the author suggests a draft Ngadas Village Regulation on Community-Based Forest Management in Ngadas Village with a scope that includes the formation of community groups, forest management, forest control, and activity funding.

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