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# **PROCEEDINGS**

**INTERNATIONAL CONFERENCE** 

2<sup>nd</sup> SHIELD 2017

52<sup>nd</sup> Dies Natalis Unila



Bandar Lampung - 18-20 September 2017 - 4 International Speakers

## **Organized by:**



Postgraduate Program and Institute for Research and Community Services University of Lampung

## **Supported by:**













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## Proceeding of International Conference 2nd SHIELD 2017 Bandar Lampung, September 18-20<sup>th</sup> 2017

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## **Foreword**

In this globalization era, advancement in science and technology has led to remarkable gains in life. However, despite the remarkable gains, many countries particularly Asian countries face inequalities and uneven progress. Even worse, these countries are facing many problems such as poverty, terrorism, drug abuse, and other social issues. These problems are complex and multidimensional. We should give a real contribution to solving these problems. Because the problems are multidimensional, we need people from cross-disciplinary interests to work hand in hand with strong commitment, not only to face, but also to change these problems into opportunities.

Therefore, the Postgraduate Program in collaboration with Institute of Research and Community Service of University of Lampung provides a place for academicians, practitioners, policy makers, researchers and professionals from multi-disciplines related to Social Sciences and Humanities, Economics, Education, Law, and Sustainable Development (SHIELD) to meet and interact with members inside and outside their own particular disciplines. All participants are challenged to give their real contribution to helping solve the real-world problems.

The authors of Proceeding of 2nd SHIELD International Conference come from academicians, practitioners, policy makers, researchers and professionals from multi-disciplines related to Social Sciences and Humanities, Economics, Education, Law, and Sustainable Development.

This conference aims to share information and discuss resent developments and innovations arising from research in a wide range of disciplines. Through this conference, it is expected that the research articles can be documented and communicated throughout the countries.

Head of Commite

Prof. Dr. Muhammad Akib, S.H., M.Hum.



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## Forest Health Monitoring And Its Implementation Possibility On Community Forest

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#### Abstract

Community forest is an Indonesia's government program accomadate local community to access state forests. In order to reach sustainable forest management, criteria and indicator of Forest Health Monitoring on community forest must be developed. The research's objective was to know the posibility of forest health monitoring implementation on community forest. Generally local community have not understood regarding to forest health yet. Training on methods and tools using should be provided to local communities in order to achieve the objectives of forest health monitoring.

Keywords: forest health monitoring, protection forest, community forest, criteria and indicator, state forest.

#### 1. Background

Indonesia has been implementing with various forms of Community Forestry, which include collaborative forest management (*Kemitraan Kehutanan*), Community Forest (*Hutan Kemasyarakatan/HKm*), village forest (*Hutan Desa/HD*), community plantations forest (*Hutan Tanaman Rakyat/HTR*), and customary forest (*Hutan Adat*) (Kaskoyo et al., 2014). Community Forest (*Hutan Kemasyarakatan/HKm*) is one of the Indonesian government programs to improve state forest condition by accommodating the interests of the people living in the forest and its livelihoods depending on the forest. This program has been implemented since the 1990's and continues to be developed again to this day. Although it has been developed for a long time, there are still many shortcomings of community forest programs in the field. One of them is related to monitoring of forest health.

The development of forest health science comes from the forest community's view of changing forest values, not only concerned with timber but also non-timber products and environmental services (Safe'i 2016). Forest health is an important part of forest management. Healthy forests show that forests are well managed and will then achieve sustainable management. Sustainable managed forests will be able to generate production benefits (timber, non-timber forest products and environmental services), ecological benefits (environmental services not consumed directly) and socio-economic benefits to local communities that can be enjoyed on an ongoing basis. Therefore, forest health should always be monitored periodically to evaluate whether sustainability in community forest management can be achieved.

Forest health monitoring has not been conducted in the community forest. This is because the attention to the health of forest ecosystems in Indonesia, especially Lampung Province is still low (Safe'i 2016). This can be attributed to the limited number of forest resources related to forest health, the unevenness of forest health science and technology, the unavailability of comprehensive data and information on the health status of forests and not all stakeholders understand the importance of forest health in realizing sustainable forest management (Harjanto and Safe'i, 2016). The introduction of forest monitoring methods is needed so that the management community can implement this method. The existence of various forest functions and community forest management community characteristics, causing the implementation of forest health monitoring methods to be adjusted in the field. This paper is intended to determine the possible application of forest health methods in community forest implemented in protection forests in Indonesia. Case studies were taken in communities forest in protection forest areas of forest management unit (*Kesatuan Pengelolaan Hutan/KPH*) IX Kota Agung Utara.

#### 2. Method

This research was conducted in one community forest group, Beringin Jaya, in *KPH* IX Kota Agung Utara. Location of *KPH* IX Kota Agung Utara is listed in Figure 1. Beringin Jaya farmer group got First National Champion on sustainable forest category on 2016 by the Ministry of Environment and Forestry (Radar Pembaharuan, 16 August 2017). The number of gapoktan members is 561 households. 42 households/samples were chosen randomly using a slovin formula. In addition the chairman and secretary of the farmer group were also selected as samples. Primary data was taken through interview. Secondary data is retrieved by searching libraries and data originating from relevant agencies. Data were analyzed descriptively to find out how many people have knowledge about forest health, forest health monitoring, criteria and indicators used in forest health monitoring and the community's desire to apply forest health monitoring methods.

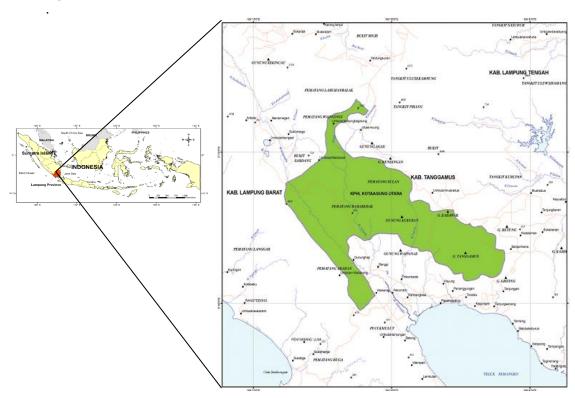


Fig 1. Research site (KPH IX Kota Agung Utara).

#### 3. Results

### **Community Forest in Protection Forest of Lampung Province**

State Forests of Indonesian are divided into 3 based on their functions ie conservation forest (*Hutan Konservasi*), protection forest (*Hutan Lindung*) and production forest (*Hutan Produksi*). Protection forests are those which have a strategic value because in addition to protecting life-support systems, they are a source of livelihood for the nearby communities (Kaskoyo et. al. 2014). These forests are managed by Provincial governance. Based on SK Menhutbun no. 256 / Kpts-II / 2000, the area of protection forests in Lampung Province is 317,615 ha. Some 60.5% of protection forests have been deforested. The presence of deforestation can cause floods and landslides in the rainy season and drought during the dry season. Various causes of deforestation include deforestation, illegal logging, forest fires, conversion of forests to other activities, changes in centralist to decentralized government systems and market failures (Nawir, 2008).

One way to reduce deforestation in protection forests is the launching of Community Forestry (Kehutanan Masyarakat) programs. Community forestry can be applied in all forest functions with schemes appropriate to the functions of the forest. Community forest (Hutan Kemasyarakatan/HKm) is one of the schemes of community forestry that can be applied in production forests and protection forests. Community forest is the state's forest, managed by people's group, mainly utilized for the empowerment of the local people as well as to practice sustainable forest management on production forest and protection forest lands (Arifin 2006; Pender et al. 2008; Nanang and Inoue 2000).

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Beringin Jaya forest farmer group is the name of one community forest group whose land is located in KPH XIV Kota Agung Utara. Beringin Jaya forest farmer group was established by local communities and granted community forest permits by the Ministry of Environment and Forestry in 2009. The Beringin Jaya forest farmer group manage 871 ha of land and managed by 564 families. In 2016 the Ministry of Environment and Forestry awarded the 1st winner as a sustainable forest manager to the Beringin Jaya group.

# Community Knowledge of Forest Health, Forest Health Monitoring Method and Criteria and Indicator

Community forest managers' knowledge about forest health is traced through several questions. The answers of the questions are analyzed descriptively. Community forestry community managers' knowledge about forest health is still low. Only a small percentage of farmers (17%) know about forest health. Most farmers (83%) are unaware of what healthy forest is. Some farmers (85%) stated that healthy forest conditions are needed in sustainable forest management.

In relation to the knowledge of forest health monitoring methods, all community forest farmers do not know the method properly. According to some respondents (16%), forest health monitoring is done by seeing many at least dead trees. Some respondents (22%) stated that forest health can be monitored by seeing the existence of damaged trees such as trunk / hole, the broken branches, the leaves of the disease. Most of respondents stated that they did not know about forest health monitoring. Respondents stated that KPH staff or extension workers have never provided knowledge on forest health monitoring. This is in accordance to Safe'i (2016) which states that the limited human resources related to the field of forest health.

In applying forest health monitoring methods, an understanding of prior forest health criteria and indicators is required. According to Supriyanto et. (2001), in Indonesia's tropical forests, there are 4 ecological indicators that can be used in forest health monitoring: productivity, vitality, site quality and biodiversity. Respondents who are aware of forest health monitoring indicators are few (10%) and that is only limited to productivity, site quality and biodiversity. Productivity is considered to be related to crops in the form of coffee and fruits that can be harvested in protection forests. The quality of the tread is generally associated with soil fertility. Biodiversity is related to the existence of animals such as birds, elephants and tigers. Vitality is not yet known as related to community forest management. This is understandable because the application of key ecological indicators has not been widely developed in various types and functions of forests (Safe'i, 2016).

The results of indicator measurements determine whether the forest is healthy or not. A healthy criterion of a forest is determined through the final value of the health condition of the forest ecosystem. The final value of the health of the forest ecosystem is the product of the multiplication of the weighted value with the parameter score value of each ecological indicator of forest health (Safe'i et al., 2014). If the measurement we do periodically then we can also know the status, changes and trends of forest health. Respondents are not yet aware of the criteria used in forest health monitoring.

### **Forest Health Monitoring in Protection Forest**

Forest health monitoring is a series of activities to determine the health condition of forest ecosystems. Monitoring is done by looking at changes in measurements of predetermined ecological indicators (Safe'i, 2016). Although tested in 1997 - 2000 in Indonesia, forest health monitoring in protection forests has not been done (ITTO and SEAMEO BIOTROP, 2001). The equipment used also continues to be developed for easy use by the community in the field.

Protection forests can be accessed by communities through community forest management permits. Communities are not allowed to harvest timber but may harvest non-timber forest products and environmental services. Forest health monitoring needs to be adjusted, especially in relation to the indicators to be measured. Because generally protection forest in Lampung Province has been managed by society in the form of HKm, then forest health monitoring must be introduced to the community. In addition, this method can be integrated into the monitoring and evaluation activities HKm conducted 5 years perriodically for sustainable forest management achieving.

### **Community Need on Implementation of Forest Health Monitoring**

Forest health monitoring is expected to be one of the factors supporting the success of community forest programs in improving the condition of protection forests. Therefore, in this paper, the community was asked the question of the need for the implementation of forest health monitoring activities at their land. Almost all respondents (78%) answered forest health monitoring is needed. Some respondents who answered were unnecessary (12%) stated that forest health monitoring activities are responsibility of KPH. Respondents who said they did not know were the respondents who did not know about forest health so they did not understand

what to do about forest health. Wahyuni (2010) states that if a person does not know something then the person will not be able to decide what will be done so there needs to be socialization activities

In relation to forest health monitoring activities, 95% of farmers state the need for forest health monitoring training. Training should be done gradually so that people can understand forest health monitoring methods. The community suggested that the training be given to teams from Beringin and KPH and to be selected by moderate-educated members (minimum junior high school). This is given that forest health monitoring methods have a high degree of difficulty especially for measuring ecological indicators and calculating forest health criteria.

#### 4. Conclusion

Forest Health Monitoring can be carried out at community forest sites in protection forests in Lampung Province despite the community has not understood them. Communities know that forest health monitoring methods can help them to achieve sustainable forest management. Communities want the forest health monitoring methods to be recognized gradually.

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