

Wise Calculation and Prediction based on Regulations to Predetermine Forest Protection Laws in Indonesia: A Structural Tool for Forestry Sustainability

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Abstract

In forest management, the determination of the area is a mandatory prerequisite for safe forest management in a structured, efficient, and sustainable manner. Therefore, for Indonesia management in forestry is a core activity needed to attain sustainability in its conservation and preservation. In the perspective of law, a forest reserve is an area designated and determined by the government to maintain its existence as a permanent forest. The research method used is normative legal research which is supported by field law research. The authors conducted a literature study by examining various literature regarding laws on forestry and the necessary regulations and in addition, field research was also carried out to support library research. The analysis of this research was carried out by analyzing the study of legal reasoning. The findings revealed that firstly, arrangements for forest land use areas are regulated as: conserved forested area consisting of reserves. Secondly, establishing the legality of forest land is necessary to ensure the forest's existence and establish a forest management section. There are three phases comprising the process of forest gazettement, they are the appointment phase, the inauguration phase, and confirmation phase. Conclusively, by confirming and determining forest regulations, change of forest land status and establishing the functions of the forest, there is maintenance and secure sustainability of forests, which in turn contribute to national sustainability, hence contributing to economic growth and development. With laws in place, government is able to establish and regulate forest management unit, which in turn provides a forum for efficient and sustainable implementation of forest activity management within the country.

Keywords: Legal Framework, Forest Areas, Sustainability.

1. Introduction

Forests can be developed for purposes other than forestry, such as tourism. In old English law, a forest is a certain area whose land is overgrown with trees, where wild animals and birds live (Kleinman, 2011; Brown, 2006). The forest was also used as a hunting ground, a place of rest, and a place for fun for the king and his servants, but in subsequent developments this characteristic was lost. (Kleinman, 2011; Young, 1972). For Indonesia, a forest or forestry is defined or described depending on the existing and established laws of the country.

In relation to the above brief description, there are several elements, making up forested land, including: a wide field of forest land, trees (wood, bamboo, palms etc.), flora and fauna, the natural environment and, elements of gazettement (Wollenberg & Kartodihardjo, 2010). Government legislation regarding forests is crucial strength to their protection and sustainability. There are two important meanings government gazettement of forests: so that forests are not arbitrarily cleared, occupied, and or exploited, and to regulate the planning, designation, provision, and use of forests according to their functions, as well as to maintain and protect forest areas. The purpose of forested land protection is to ensure sustainability and ensure the function of the forest, as well as to maintain the quality, value and use of forest products (Kaskoyo, Mohammed & Inoue, 2014).

Defining forestry as a management system related to forest land preservation, maintenance and sparingly putting to use the forest products in a sustainable manner to ensure sustainable forest product productivity leads to ensuring their policies that ensure sustainability. To ensure sustainability, forest land cover is regulated based on the constitution, such as in Article 1 point 4 of the Forestry Law, which states that "forests are basically land masses not limited by rights of individual ownership and which includes state forest qualified customary forests, village forests, and or community forests" (Siscawati et al., 2017) gazetted based on local initiatives. Customary forests are state forests whose management is handed over to communities, which administer them through villages (Djamhuri, 2012).

The political implication of a forest (in the Forestry Law) implies that the Indonesian people view the forest as an ecosystem. Moreover, that all forms of activity in the context of forest management in Indonesia must be based on the framework of an ecosystem approach. So, forest management must be based on the concept of forest ecosystem management and forest management must be based on the concept of forest ecosystem management. This way of thinking is very appropriate and in line with religious norms, cultural values, and the local wisdom of the Indonesian people, as well as scientific conceptions of the management of recoverable natural resources.

Such a policy approach is one of the causes of the increase in the destruction of forest resources. In addition, forest management is still weak in all functions of forest areas, so that state property rights to control forests are like open access forest resources, because the state is unable to manage forests properly. This reality, coupled with the problem that causes the lack of coherence in national policies across sectors, regions, and stakeholders, has made sustainable forest resource management not realized, because it does not have the ability to control forest damage. The space to make efforts to synergize across various interests becomes very small or even non-existent, because policies in forest resource management tend to be sectoral, partial, and for short-term interests.

The existence of the forest area is the result of the process of establishing a forest area, which includes stages starting from the designation of a forest area, structuring forest area boundaries, mapping forest areas and determining forest areas contains legal consequences. Change in forest area is a process of changing a certain forest area into a non-forest area or into a forest area with other forest functions. In maintaining the sustainability of the forest

that has been decreasing, it is necessary to regulate the determination of the status of forest areas that are effective in maintaining a sustainable forest, and the existence of legal certainty in the regulatory model, guaranteeing community rights in forest/forest product management, regulating forestry conflict resolution, and provide legal certainty in the determination of the area, how to manage, administer, and enforce the law.

2. Results and Discussion

Regulation on Forest Utilization and Use of Forest Areas

In Article 1 point 3 of Law Number: 41 of 1999 concerning forestry it is stated that "Forest areas are certain areas designated and or determined by the government to be maintained as permanent forests." From the main elements contained in the definition of forest area, it is used as the basis for consideration of the determination of certain areas as forest areas.

Then, to ensure that the maximum benefit is obtained from the forest and based on the socio-economic needs of the community, as well as various physical, hydrological and ecosystem considerations, the minimum area must be maintained as a forest area, which is 30 percent of the land area. Based on the criteria for considering the importance of forest areas, in accordance with their designation, the minister determines forest areas to be: a). forested areas that need to be maintained as permanent forests; b). non-forested areas that need to be reforested and maintained as permanent forest (Djamhuri, 2012).

The division of forest areas based on their functions with certain criteria and considerations is stipulated in Government Regulation Number 34 of 2002 concerning Forest Management and the Preparation of Forest Management Plans, Forest Utilization and Forest Area Use as regulated in Article 5 paragraph (2), as follows: a). Conservation Forest Area which consists of nature reserves (nature reserves and Wildlife Sanctuaries), Nature Conservation Areas (National Parks, Grand Forest Parks, and Nature Tourism Parks), and Buru Parks. b). Protected forest; and c). Production forest.

Forest Area Classification and Function

The definition of forest area in various regulations in Indonesia generally has several weaknesses or ambiguities (Riggs et al., 2016). The weakness or confusion lies in the definition, for example, the definition of a conservation area is less clear with differences between definitions. The category of protected area created by IUCN in 1978 after being evaluated was finally corrected in 1994. IUCN started the classification by first making a definition of protected area. All categories of protected areas must meet the criteria in this definition (Weeks & Mehta, 2004; Locke & Dearden, 2005). Then, the protected areas are grouped into several categories based on their main management objectives, as shown in Table 1.

Table 1. Categories of Protected Areas (Protected Areas) According to IUCN and their Brief Definitions

Category	Region Classification	Brief understanding
Category I	Nature Reserves / Wilderness Areas.	Protected Areas that are managed primarily for science or wilderness protection.
Category I a	Nature Reserve (Strict Nature Reserve).	Protected Areas that are managed primarily for science.
Category I b	Wilderness Area.	Protected Areas that are managed to protect the wilderness.
Category II	National Park (National Park).	Protected Areas that are managed primarily for ecosystem protection and recreation.
Category III	Natural Monument (Natural Monument).	Protected areas are managed primarily for the conservation of natural characteristics.
Category IV	Habitat/Species Management Area (Habitat/Species Management Area).	Protected areas managed primarily for conservation through management interventions.
Category V	Protected Landscapes/Seascapes.	Protected areas managed primarily for the conservation and recreation of landscapes/seascapes.
Category VI	Protected area of managed resources.	Protected areas are managed primarily for the sustainable use of natural ecosystems.

In Law No. 41/1999 on Forestry, the division consists of conservation forest, which consist the protection function separated from the conservation function. So, protected forest is not included as conservation forest (Brun et al., 2015). Law Numberm 5 of 1990 regarding Conservation of Biological Natural Resources and their Ecosystems does not mention the term conservation area (Maswita, 2021), but the international nature conservation agency IUCN (International Union for Conservation of the Nature and Natural Resources or often called the World Conservation Union), has done the same thing (Hanim et al., 2020).

Table 2. Category of Area According to Law Number: 41 of 1999

Forest Type	Location	Sub Location	Zone
Conservation Forest.	Nature Reserve Area.	Nature reserve. Wildlife reserve.	
	Nature conservation area.	National parks	<ul style="list-style-type: none"> • Core Zone. • Utilization Zone. • Another zone.

		Forest Park.	<ul style="list-style-type: none"> • Area of Use. • Plant Collection Area. • Protected Area. • Other Areas.
		Nature Park.	<ul style="list-style-type: none"> • Intensive Use Area. • Restricted Use Area. • Other Areas.
	Hunting Park.	<ul style="list-style-type: none"> • Hunting Area. • Area of Use. • Wildlife Catching Area. • Hunting Area. 	
Protected area.	<ul style="list-style-type: none"> • Protected area. • Area of Use. • Other Areas. 		

In Article 5 to Article 9 of Law 41 of 1999, it describes four types of forests, that is: the type of forest based on their status, their functions, special purposes, and regulation of microclimate, aesthetics, and water absorption.

Legal Status of Forest Land

To determine the legal status of the forest area, it is necessary to confirm the forest gazetting (Santoso, 2003). There are three stages in conducting forest gazettement, namely: the appointment stage, the inauguration stage, and the determination stage. The stage of determining the forest area is a very important momentum in determining the legal status of the forest area (Myers et al, 2017). The legal status of the forest area is stated in the Decree of the Minister of Forestry. The decree contains the legal status of the forest area, whether it is a protected forest, production forest, nature reserve forest, or tourism forest. In addition, it also contains the area, boundaries, and location of forest areas, where communities are required to take part in forest protection (Putraditama, 2019). Making use of forest areas, helps to optimize national, sectoral and regional development (Gellert, 2015; Sinabutar, 2015).

Looking at the process of inauguration of forest areas, until now the condition of forest areas in Indonesia can be categorized into several levels, including forest areas that have not been demarcated, forest areas that have been demarcated but are still in the process of ratification and determination, forest areas whose boundaries are partially Boundaries have been defined and ratified by the Minister of Forestry, forest areas have been determined by the Minister of

Forestry. In fact, this condition contains legal consequences for the existence of the forest area in question.

The pace of implementation of national development, the dynamics of population development that continues to increase and the existence of regional divisions, have increased the need for land because there is no other alternative, so many forest areas have been occupied illegally (Maryudi et al., 2016). The activities of occupying this forest area are very diverse in nature from clearing for cultivation, plantations, fisheries/aquaculture, food crop farming, road construction, village or city expansion and so on.

This need is of course taken from land that is not owned by an individual or group of people, but from forest areas which according to law are controlled by the state. On the other hand, to determine the definitive boundaries of forest areas in the situation of areas that are already open access (no man's land) is a very big job, because indications of various violations have occurred before our eyes. This condition also worsens the existence of forest areas, de jure forest areas are controlled by the state, but de facto people have lived and depended for their lives on forests and forest products for generations.

This condition certainly makes it difficult for forestry officials and law enforcement officers to completely resolve violations and crimes in forest area management, on the one hand the activity of occupying forest areas has a criminal dimension (Article 50 of Law Number 41 of 1999) on the other hand because it involves the interests of people's lives and so as not to indicate the deprivation of local rights, it provides an opportunity to be resolved through public, social and civil interests (Yasmi et al., 2009).

The scheme for shifting forest area conflict resolution from a repressive pattern to a non-repressive pattern through a civil construction mechanism can be seen from the existence of policies through evaluation and revision of spatial planning resulting in revisions to the designation of forest areas (Fisher et al., 2017). This is so that areas with indications of illegal permits, located in settlements, encroachment, illegal mining and other activities, are removed from forest areas to other use areas or non-forest areas.

In reviewing the issue of forest area management by relying on normative positive law alone, it is not wise, because the existing statutory provisions are full of duplication, weak in harmonization and are not contextual, so it is necessary to consider factors that have pragmatic, legal and realist dimensions. The partial legal settlement that has taken place so far has only been limited to mere statutory norms or is more about providing legal certainty than providing legal decisions that are solution-based, have benefits and the general benefit. The policy steps taken have never led to the deconstruction or reconstruction of the entire system, of course, this kind of reform will not succeed in transforming the configuration and function of facilitative and solution-based institutional law or law as a means of reform.

Determining the Legal Status of Forest Areas and Management of its Territories

Law can be used as a means or instrument to prevent forest area damage. Through the implementation of the principle or legal principle of preserving environmental functions

against changes in the designation, function, and use of forest areas, the rate of acceleration of forest area damage can be controlled. Through the law as a means of reform, synchronization and harmonization and integration of regulations and policies from various cross-interests, both cross-sectoral, cross-regional, and cross-stakeholder interests can be carried out in the utilization of forest areas, especially in the context of policies for implementing sustainable forest management (Firdaus & Hendra, 2020). Synchronization, harmonization and integration of policies is a must.

The law as a means of development can function as a tool (regulator) or a means of development in the sense of channeling the direction of human activities in the direction desired by development or renewal (Utari & Arifin, 2020). Indonesian people are developing and are constantly changing rapidly, so that for the sake of development, all potential natural resources, including forests, tend to be used optimally. However, in its use, it should always pay attention to or not ignore the legal principles of preserving environmental functions. Environmental development (eco-development) views that the environment is the basic capital of development that must be utilized and even legitimized to be utilized as much as possible.

To achieve a balance in terms of economic, social and ecological use of forest areas, a perspective on forest resource management is needed that is not only oriented to development itself, but also to conservation efforts and maintaining the quality of environmental functions. Therefore, the concept of sustainable development is an environmentally sound development concept, which is conceptually considered capable of bridging the achievement of a balanced forest area management that produces a balanced economic value, social value, and ecological value. It is also in this context that the law can play its role as a means of reform.

Implementation of Inauguration, Determination of Boundaries, Administration of Forest Areas

Forest gazettement activities are very important activities in the forestry sector. This activity is the basis for determining the legal status of the forest, whether it is a protected forest, production forest, nature reserve forest, or tourism forest. Forest gazettement is an activity related to structuring the boundaries of the forest land. In Article 15 paragraph (1) of Law Number 41 of 1999 it is stated that the designation of a forest area is an activity to prepare for the inauguration of a forest area, among others in the form of: (a) making a map of designation that is directive on the outer boundary, (b) erecting a temporary boundary equipped with with boundary passages, (c) making boundary ditches in vulnerable locations, and (d) announcements on forest area boundary plans, especially in locations bordering private land. Therefore, in determining the gazettement of the forest area, it still refers to the regional spatial plan (Toumbourou, 2020; Rustiadi et al., 2018). To make the implementation of forestry planning more effective, the activities that are most closely related to the implementation of forestry planning are the activities of designating forest areas.

The provisions for this inauguration are further elaborated in Article 16 of Government Regulation Number 44 of 2004 concerning Forestry Planning. Based on the results of the

forest inventory, the minister conducts the gazette of forest areas by taking into account the regional spatial plan. In Article 17 of Government Regulation Number 44 of 2004 concerning Forestry Planning, it is stated that the designation of the area as referred to in Article 16 paragraph (2) letter a is carried out as the initial process of a certain area becoming forestry land. The activity related to this is the designation of the forest area which is the initial process of a certain area becoming a forest area. Article 18 of Government Regulation Number 44 of 2004 states that the designation of forest areas includes: (a) provincial areas; and (b) certain areas partially (paragraph (1)). The designation of the provincial forest area, as referred to in paragraph (1) letter a, is carried out by the minister by taking into account the Provincial Spatial Planning (RTRWP) and/or the integration of the Agreement on Forest Utilization. Indonesia's forest area following provincial forest demarcations of 2009 covers 136,883,213.98 ha, as illustrated in table 3 below.

Table 3: Area of Forest and Waters per Province in Indonesia

No.	Province	SK number.	Area of Forest and Water (ha)		
			Forest Area	Water Area	Total
1	NAD	170/Kpts-II/00	33,35,713	2,14,100	35,49,813
2	North Sumatera	44/Ministry of Forestry II/05	37,42,120	-	37,42,120
3	West Sumatera	519/Ministry of Forestry-II/05	26,00,286	-	26,00,286
4	Riau (1)	173/Kpts-II/1986	94,56,160	-	94,56,160
5	Kep. Riau (2)	-	-	-	-
6	Jambi	421/Kpts-II/99	21,79,440	-	21,79,440
7	Bengkulu	420/Kpts-II/99	9,20,964	-	20,964
8	South Sumatera	76/Kpts-II/01	37,42,327	17,000	37,59,327
9	Bangka Belitung	357/Ministry of Forestry-II/04	6,57,510	-	6,57,510
10	Lampung	256/Kpts-II/00	10,04,735	-	10,04,735
11	DKI Jakarta	220/Kpts-II/00	475,45	1,08,000	108,475,45
12	West Java	195/Kpts-II/03	816,602,70	-	816,602,70
13	Banten (3)		2,01,787	51,467	2,53,254
14	Central Java	359/Ministry of Forestry-II/04	47,133	1,10,117	7,57,250
15	DI. Yogyakarta	171/Kpts-II/00	16,819,52	-	16,819,52
16	East Java	417/Kpts-II/99	1,357,206,30	-	1,357,206,30
17	Bali	433/Kpts-II/99	1,27,271.01	3,415	130,686,01
18	West Nusa Tenggara	598/Ministry of Forestry-II/09	10,35,838	11,121	10,46,959

19	East Nusa Tenggara (3)	423/Kpts-II/99	15,55,068	2,53,922	18,08,990
20	Kalimantan Barat	259/Kpts-II/00	91,01,760	77,000	91,78,760
21	Kalimantan Tengah (1)	759/Kpts/Um/10/82	1,53,00,000	-	1,53,00,000
22	Kalimantan Timur	79/Kpts-II/01	1,46,51,053	500	1,46,51,553
23	South Kalimantan	435/Ministry of Forestry-II/09	15,66,697	-	15,66,697
24	North Sulawesi	452/Kpts-II/99	15,26,005	89,065	16,15,070
25	Gorontalo ((2))	-	-	-	-
26	Sulawesi Tengah	757/Kpts-II/99	43,94,932	-	43,94,932
27	Sulawesi Tenggara	454/Kpts-II/99	25,18,337	81,800	26,00,137
28	South Sulawesi	890/Kpts-II/99	25,18,337	6,06,804	27,25,796
29	West Sulawesi 4)	-	11,85,666	8,458	-
30	Maluku	415/Kpts-II/99	71,46,109	1,18,598	72,64,707
31	North Maluku (2)	-	-	-	-
32	Papua	891/Kpts-II/99	4,05,46,360	16,78,480	4,22,24,840
33	West Irian Jaya (2)	-	-	-	-
	Total		13,34,53,366.98	34,29,847	13,68,83,213.98

Source: Directorate of Establishment and Administration of Forest Areas, 2009.

In addition to the activity of designating forest areas which are part of forestry planning activities, one of the activities that is no less important in conducting forestry planning is the demarcation of forest area boundaries. This is in accordance with Article 19 of Government Regulation Number 44 of 2004 which states that, based on the designation of forest areas, forest area boundaries are delineated. The stages of implementing forest area boundary delineation include the following activities: (a) erection of temporary boundary markers, (b) announcement of the results of erecting temporary boundary markers, (c) inventory and settlement of the rights of third parties along the boundary route and within the area, (d) preparation of Minutes of Recognition by the community around the upper boundary route resulting from the erection of temporary boundary markers, (e) preparation of Minutes of Temporary Boundary Piling accompanied by a map of boundary stake piling equipped with boundary tunnels, (f) installation boundary marker equipped with boundary passages. Based

on the criteria and standards for the gazettelement of forest areas as referred to in Article 16 paragraph (3), the governor shall stipulate guidelines for the implementation of boundary demarcation. Based on the guidelines for the implementation of boundary demarcation as referred to in the regent shall stipulate instructions for the implementation of boundary demarcation.

To explain Article 19 it is mentioned that, in locations that are prone to encroachment of forest areas, the construction of a dividing trench can be completed. The acknowledgment of the results of the erection of temporary boundary, which have accommodated land or land rights. The minutes are signed by a community leader who represents the community around the forest area boundary and is known or approved by the local village head or referred to by another name. The implementation regional boundary restructuring is needed to carry out the activities concerned. In the provisions of Article 20 of Government Regulation Number: 44 of 2004 it is stated that the implementation of the demarcation of forest area boundaries as referred to in Article 19 paragraph (3) is carried out by the Committee for Demarcation of Forest Areas.

Activities related to forest boundary demarcation are forest area mapping. This mapping of forest areas is regulated in Article 21 of Government Regulation Number: 44 of 2004 which states that mapping in the context of forest area gazettelement activities is carried out to establish temporary boundary stakes, and demarcate the forest area boundaries, and determine the forest areas. The authority to determine forest areas is the minister in accordance with the report submitted by the Committee on Forest Area Boundaries.

In Article 30 of Government Regulation Number: 15 of 2010 concerning the Implementation of Spatial Planning, in paragraph (1) it is stated that in the event that there is a part of forest area within a province that has not yet obtained approval for its spatial designation, the part of the forest area shall refer to the provisions on the allocation of forest area based on the previous provincial spatial plan. In paragraph (2) it is stated that the part of the forest area within the province which has not obtained approval for its spatial designation as referred to in paragraph (1) shall be integrated into the spatial plan of the province which will be determined by referring to the provisions on the allocation and function of the forest area as well as the use of the forest area. Based on the previous provincial spatial plan. Therefore, in determining the policy on the use and or utilization of forest areas, including changing the designation, function, and use of forest areas, it must be carried out very carefully, so as not to cause conflicts with the spatial planning that has been determined.

The current condition of forest areas in Indonesia can be categorized into several levels: a. Forest area that has not been demarcated b. forest area that has been demarcated but is still in the process of ratification and stipulation. c. Forest area whose boundaries have been partially demarcated and approved by the Minister of Forestry d. forest area that has been determined by the Minister of Forestry. The clear implication of the unfinished demarcation of forest area boundaries to date, which has also resulted in the delay in the appointment of the Provincial Forest Area (to replace the TGHK); 2). The occurrence of land conflicts in forest areas; 3). The process of establishing the smallest forest management unit in the form of a Forest

Management Unit (FMU) is hampered; 4). Weak policy basis in forest area management, as the basis for determining the utilization and use of forest areas; 5). It is not clear how much real data is on the actual potential of Indonesia's forest areas. This will result in difficulties in determining forestry development policies.

Development with the Establishment of Forest Management Areas in Indonesia

Development is not greedy for its own sake but pays attention to the interests of the future generation by trying to leave sufficient resources and a healthy environment that can support their lives in prosperity (Huber et al., 2017). In this case, it can be seen that environmentally sound development is the key in realizing sustainable development (Shugurov, 2018). The concept of sustainable development and the concept of environmental insight are two sides of the same coin, so they are interrelated. (Trindade et al., 2017). Through an ecological approach, the relationship between sustainable development and environmentally sound concepts requires us to manage natural resources as rationally as possible, this means that natural resources natural resources can be processed, as long as rationally and wisely (Polasky et al., 2019). For this, a development approach with environmental development is needed, namely eco-development. This approach does not refuse to change and process natural resources for development and human welfare. However, "human welfare" has a broader meaning, including not only material welfare, meeting the needs of today's generation, but also non-physical well-being, quality of life with a liveable environment and guarantees that welfare is maintained in a sustainable manner for future generations (Yan et al., 2018).

Thus, the essence of law conceptually will be seen from how the implementation of sustainable development provisions in sustainable forest area management policies, so as to better ensure legal certainty and justice for all current and future stakeholders in the utilization and use of forest areas. This is in line with the principles or principles as regulated in the Forestry Law, namely that forest management must be based on the principles of benefit and sustainability, democracy, justice, togetherness, openness, and integration. (Article 2 of Law No. 41 of 1999 concerning Forestry).

Based on the above principles, the International Tropical Timber Organization (ITTO) requires its members to implement sustainable forest management, which means: (Kadam et al., 2021). To achieve the goal of sustainable forest management, each country must determine the maximum sustainable harvest. This means that the state must not allow the use of its forests to exceed the forest's ability to regenerate. Therefore, the government must set the amount of forest that can be produced at a sustainable limit.

The essence of this law is also in line with the principles or principles as regulated in Law No. 32 of 2009 on Environmental Protection and Management, the state's responsibility, sustainability and sustainability, harmony and balance, integration, benefit, prudence, justice, ecoregion, biodiversity, polluter pays, participatory, local wisdom, good governance, and regional autonomy. In forestry planning, it must be carried out in a transparent, accountable, participatory, integrated manner, and pay attention to regional characteristics and aspirations.

In the future the concept of sustainable forest area management requires the development of an integrated system in the form of a national policy for the protection and management of forest areas that must be implemented in a consistent and consistent manner from the center to the regions and provide economic, social and environmental benefits in a balanced manner.

Formation of Forest Management Areas is a series of planning processes or designs of forest areas based on their main functions and designations aimed at realizing efficient and sustainable forest management. To realize sustainable forest management, all forest areas are divided into Forest Management Units, that are part of strengthening national, provincial and district or city forest management systems. The targets for the establishment of a Forest Management Unit include: a. provide certainty of forest management work areas to avoid open access; b. ensure the area of management responsibility of a particular management organization; c. ensure the unit of analysis in the preparation of development planning and forest management; d. become the basis for the preparation of business development plans; e. increasing status legitimacy as a means of obtaining legal certainty in forest management areas; f. implementation of the criteria and standards for sustainable forest management; g. the formation of an Forest Management Unit (Wahyudi et al., 2021).

The principles for establishing a Forest Management Unit include a. the principle of transparency, namely that the process of establishing FMUs must be based on the principle of openness, so that all forest management stakeholders get the widest possible information. b. the principle of full involvement of all related parties, namely all stakeholders must be involved in the process of its formation; and c. the principle of accountability, namely that the establishment of FMUs must be accountable to the public; d. the ecosystem principle, namely that the establishment of FMUs must take into account the boundaries of the ecosystem.

In forest management, area management is a mandatory prerequisite so that forest management can take place steadily and safely in the long term, while forest management is the core activity in realizing sustainable forest management, and institutional management is a prerequisite for adequacy so that forest management can take place and develop in accordance with established goals and objectives.

The principle of establishing a Production Forest Management Unit consists of: a. Policy principles, including: a). the criteria for the certainty of forest areas include the location, area and boundaries, status, and designation of forest areas as well as land cover conditions b). The criteria for the boundaries of government administration, namely that the FMU is limited by the administrative boundaries of the district/city government with clear boundaries and locations depicted on the map. c). The criteria for watersheds (DAS), namely the formation of FMUs is carried out by considering the conditions of the watershed. d). Institutional criteria include strengthening, structuring or improving institutions in production forest areas that have been encumbered with rights, are not encumbered with rights and or there are conflicts within HP areas, whether rights have been encumbered or not encumbered with rights. e). the criteria for forest management objectives are the ability to produce forest resources in the form of timber forest products, non-timber forest products and environmental services that can be managed sustainably. b. Ecological principles include: a). Forest function criteria are

areas that have the function of producing forest products (consisting of HP and HPT). b). Bio-geophysical criteria include geomorphology, soil type, topography, forest type, and land cover. c. Socio-cultural principles include: a). Criteria for local community rights, namely customary rights and traditional rights. b). The criteria for local community dependence are communities in and around the forest whose livelihoods depend on forest products and other services.

Standards for the establishment of a Production Forest Management Unit consist of: a. policy standards, including: a). forest area certainty standards, location and boundaries of forest areas are geographically compact and not scattered, their existence is permanent, has been appointed by the Minister of Forestry as HP or HPT, is a forest cultivation area, has not been established as FMU, has been encumbered or has not been encumbered with utilization rights/permits production forest. b). government administrative boundary standards, FMU is limited by the administrative boundaries of the district/city government as indicated by a topographic map, the RTRWP/RTRWK has been established, and a map on the formation of the district/city concerned. c). watershed standards FMU formation is carried out by taking into account the conditions of the watershed, the watershed must be used as a planning and management analysis unit for the FMU within the watershed. d). Institutional Standards, namely: (a) production forest that has been encumbered with rights/permits on it: establishes rights/permit holders as the core of the FMU and conducts institutional stabilization. (b). production forest which is not encumbered with rights/permits on it: undertake structuring or establishment of new institutions in accordance with applicable regulations. (c). production forest that has a conflict on it: institutional improvement for those who have been encumbered with rights/permits and the establishment/arrangement of new institutions for those who are not encumbered with rights/permits to seek conflict solutions. e). standard forest management objectives, including area utilization, utilization of environmental services, utilization of timber and non-timber forest products, collection of timber and non-timber forest products; b. ecological standards, including: a). forest function standards with the main function being the production of wood, non-timber forest products and environmental services. b). bio-geophysical standards, FMUP can be formed on all types of soil, topography and land cover; geomorphology, among others, in the lowlands, swamps, hills and highlands; Forest types include swamp forest, lowland forest, highland forest and mountain forest. To facilitate planning, planning and management as far as possible are in a homogeneous unit, if not, the homogeneity of geomorphology, topography and forest type is taken as the main consideration; c. socio-cultural standards, covering the territorial unit of the village legal community, especially those that have relations and dependencies with forests and forest management; d. economic standards, including: a compact territorial unit that has the same function in terms of the community's main economic activities and plays an important role in supporting the economy in its territory.

The business of forest utilization is intended to improve the welfare of the community as well as to raise public awareness to maintain and improve the protection function, as a mandate to realize the sustainability of natural resources and the environment for present and future generations. In reality, the implementation of protected areas in a sustainable manner often

collides with several things, including, community participation has not been fully involved, management plans still need to be improved, weak human resources, policies that are not fully consistent, the need for regional income is increasing, as well as funds and resources. Inadequate law enforcement (Wulandari, 2018). The private forest in the district/city, covering all forests within the district/city that can be managed sustainably (Wulandari, 2018). Policy of changing the designation, function and use of forest areas as reviewed by Salman et al. (2018) and Sahide et al (2020) explicitly state that forests are state assets and should be utilized as much as possible for the welfare of the Indonesian people.

3. Conclusion

Regulations on Forest Utilization and Use of Forest Areas are regulated as follows: a). Conservation Forest Area which consists of nature reserves (nature reserves and Wildlife Sanctuaries), Nature Conservation Areas (National Parks, Grand Forest Parks, and Nature Tourism Parks), and Buru Parks. In determining the legal status of the forest area, it is necessary to confirm the forest and the existence of a forest management area. There are three stages in conducting forest gazettement, namely: the appointment stage, the inauguration stage, and the determination stage. In Forest Management, the government establishes a Forest Management Unit, which is to provide a forum for the efficient and sustainable implementation of forest management activities. The law allows the conversion of forest functions on the condition that it is beneficial for sustainable national development. This is in accordance with the constitutional mandate regarding Article 33 which we often hear, namely that the earth and water are controlled by the state. In principle, for prosperity, the conversion of forest functions is allowed for development but is sustainable.”

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