

Forest Water Utilization by Buffer Villages in Bali Barat National Park

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Abstract. Water is one of the most important elements in human life. Water resources are the most valuable gift from God Almighty because they provide benefits in realizing prosperity for the entire community. No one can deny that water is a basic need for all life, whether human, animal or plant, which cannot be replaced by other substances. So it must receive special attention because it involves not only human life but also other creatures, especially if we are talking within the scope of natural resource conservation, which in this case is a National Park. All parties involved in the management of the National Park as a conservation area must have a systematic effort in managing the area which is carried out by planning, protecting, monitoring, controlling, and utilizing which is carried out without destroying the landscape and changing the function of the area. management and utilization of existing water resources in the national park area, especially those used by buffer villages. The results obtained are the problem of using zones that are not in accordance with the established zoning and to overcome this, it is necessary to change the zoning from the core zone to the utilization zone so that the utilization of ground water in the core zone can be utilized as well as possible.

Keywords: utilization; water; national park

1. Introduction

Water which is one of the most important elements of human life which is a direct gift by God, it must refer to the 1945 Constitution Article 33 paragraph (3) which states that “The earth, water and natural resources contained therein are controlled by the state. and used as much as possible for the prosperity of the people” which is the philosophical basis of the utilization of water resources for humans. It also gives responsibility to the state to manage the best use of water because water ownership rights are only with the state and so that it can guarantee life [1].

Who doesn't need water to live? all the necessities of human life, both essential and not requiring water for all activities and sources of life, in other words, water is a material that is needed for life on earth. Water resources are natural resources that have limited characteristics both in quality and quantity to meet human needs. Once the importance of water for human life, the use of water requires serious attention so that humans do not experience a water crisis [2].

Utilization of water resources for community life can be carried out if accompanied by good management. Management of water resources can be carried out by taking into account the principles regulated in UU No. 17 Tahun 2019 concerning Water Resources. In addition to

the use of water resources for the general public that must be considered, the use of water in national park areas which are conservation areas must also receive attention. This is because conservation areas sometimes escape the attention of the general public who do not participate in managing them. If we look at UU No. 5 Tahun 1990 concerning Conservation of Biological Natural Resources and Ecosystems, it divides conservation into two categories, namely Nature Reserve Areas (KSA) and Nature Conservation Areas (KPA), one of which includes National Parks [3].

In Bali Province has the only national park that has a variety of varied habitats equipped with mangroves, lowland rainforests, acacia bushes, savannas, and seasonal forests. In addition, there is Prapat Agung Beach to the north of Bali Barat National Park and also a tourist attraction that is very popular with tourists is the deer which is a favorite diving destination. In addition, the animals contained in the Bali Barat National Park are also very diverse, one of which can be categorized as rare, the Bali Starling.

Bali Barat National Park is located in two regencies, namely Buleleng Regency and Jembrana Regency, Bali Province. Bali Barat National Park is one of the nature conservation areas in Indonesia which was designated based on the Decree of the Minister of Forestry Number: 493/Kpts-II/1995 dated September 15, 1995 with an area of 19,002.89 Ha consisting of 15,587.89 Ha in the form of land area and 3,413 Ha. in the form of water. Then in 2014, TNBB was established based on the Decree of the Minister of Forestry Number: SK.2849/Menhut-VII/KUH/2014 concerning Forest Areas in the West Bali Forest Group (RTK 19), where the area of TNBB is 19,026.97 ha. TNBB is managed by zoning which according to the Regulation of the Minister of Environment and Forestry Number P.76/Menlhk-Setjen/2015 The division of National Park zones includes:

1. Core Zone;
2. Jungle Zone;
3. Utilization Zone; and/or
4. Other Zones according to needs which are divided into: Marine Protection Zones; Traditional Zone; Rehabilitation Zone; Zone of Religion, Culture and History; and/or Special Zones.

Some of the zones established in the Bali Barat National Park have their respective functions and uses, as well as the use of water resources within them. Water resources in several zones cannot be used arbitrarily because they are used for the sustainability of both flora and fauna habitats in the National Park. But in reality there are several communities in the buffer villages who use water resources for their personal interests from several zones that are prohibited for public use. The general prohibition on the use of water in certain zones is carried out so that the water resources in that zone do not shrink, causing water shortages for the conservation needs of natural resources in the national park. Based on this, this article will discuss how to manage water utilization in the core zone in the Bali Barat National Park?.

2. Method

This article using empirical research methods that are interesting according to Soerjono Soekanto that sociological legal research, which consists of research on legal identification (unwritten) and research on legal effectiveness [4]. In this study, a statutory approach, a conceptual approach and an analytical approach were used. The data collection techniques used in this study are: interview techniques, document study techniques and observation techniques.

3. Results and Discussion

3.1 Zoning Division in Bali Barat National Park

The foundation of national parks is UU No. 5 Tahun 1990 concerning the conservation of Natural Resources and Ecosystems which defines a national park as a nature conservation area that has native ecosystems, managed with a zoning system that is utilized for research, education, and recreation. Furthermore, the Government Regulation of the Republic of Indonesia Number 28 of 2011 describes that National Parks are one of the conservation areas that contain aspects of preservation and aspects of utilization so that they can be utilized as ecotourism development as well as special interests, both of which are very prospective in saving forest ecosystems.

Compared to other systems, national parks can be said to be formed with the aim of public interest because national parks must be beneficial to the community and must also get support from the community. The concept of conservation based on ecosystem protection is expected to be able to guarantee the existence of its constituent elements, and the advantage of a management system with a national park is that people can visit this national park so that it will provide education about the love of nature, recreational activities, and other functions. which can be developed effectively.

1. The purpose of the national park is divided into three maintenance concepts related to the development system both in terms of regional, social, and environmental management, namely:
2. Maintenance of samples that have the main biotic characteristics to preserve their function in the ecosystem;
3. Maintenance of ecological diversity and environmental law;
4. Maintenance of genetic resources or germplasm;
5. Maintenance, object structures, sites or cultural heritage relics;
6. Protection of the beauty of the natural panorama;
7. Provision of educational, research, and environmental monitoring facilities in natural areas;
8. Provision of recreational and tourism facilities;
9. Population of rural area development and marginal land use regionally;
10. Maintenance of watershed production, controlling erosion and deposition and protecting downstream inverters [5].

To achieve this goal, it must be supported by one of the most important elements in a national park, namely the existence of a buffer area that has a role in protecting the nature reserve area or nature conservation area from all forms of pressure and disturbance, both from outside or from within the area that result in changes. forestry structure or change in the function of the Area. The buffer blood is determined by taking into account that geographically it borders on the asylum area and or nature conservation area and ecologically still has influence from both nature and from outside the nature reserve area and or nature conservation area and is also able to ward off all kinds of nature. This is in accordance with Government Regulation of the Republic of Indonesia Number 68 of 1998.

1. The objectives of constructing a buffer zone in the National Park are:
2. Provide protection for National Parks and community life;
3. Develop the life of basic species originating from the National Park area by developing good cultivation patterns for animals, fish, and plants;
4. Develop a service system related to the activities of the management of the National Park;

5. Increasing land productivity through more intensive farming patterns;
6. Increase public awareness and participation in National Park development activities;
7. Increase the pattern of relations with the surrounding area.

In addition, the division of zoning in national parks is also an important matter in dividing zones so that there is no mixed use and management of the national park area. The division of zones within the national park area is regulated through Government Regulation no. 68 of 1998 concerning Nature Reserves and Nature Conservation Areas, which are divided into three zones, namely:

- a. The core zone, which in this zone has natural conditions that are still old and untouched or untouched by human hands, is protected for the original and distinctive diversity of flora and fauna. In this zone, activities that can be carried out are protection and security, inventory and monitoring of living natural resources and their ecosystems, as well as research and development of science and cultivation.
- b. Jungle Zone, which in this zone was formed with the aim of utilizing natural and environmental resources for research purposes, limited tourism and habitat for migratory animals. The jungle zone has criteria, among others, having an ecosystem that is useful for supporting the preservation of the core zone and utilization zone, roaming areas to protect and support the breeding of wild animals, and there are migratory animals.
- c. Utilization zone, which in this zone is part of a national park whose conditions, location and natural potential are utilized for nature tourism and other environmental services. The criteria for this zone are the construction of infrastructure facilities for the use of environmental services, tourism and education, a sufficient area to ensure the preservation of potential and attractiveness for tourism, natural attractions, and not directly adjacent to the core zone.

The division of zones in the Bali Barat National Park is in accordance with what is specified in PP No. 68 of 1968, namely the existence of a core zone, jungle zone, and utilization zone and there are also several additional zoning according to the situation and conditions in this National Park, including:

1. Traditional Zone, this part of the zone is designated for the benefit of traditional use by the community which due to history has depended on natural resources in the national park area.
2. Special Zone, is a zone which from the beginning has been occupied by community groups and there are also life-sustaining activities in it, besides that there are also life-sustaining facilities such as telecommunications facilities, transportation facilities, and electricity. This zone will not be removed because there are already buildings that are strategic in nature and have functions that cannot be avoided and meet the criteria as a strategic development area whose existence does not interfere with the main function of the area.
3. Religion, Culture and History Zone, is part of the nature reserve area/nature conservation area which is designated as an area that can be entered for religious activities, traditional cultural activities, and the protection of cultural values. Based on the zoning design of the West Bali National Park, it is explained that in the West Bali National Park area there are as many as 22 temples and historical sites.
4. Maritime Protection Zone is part of a national park area in the form of a marine water area designated as an area for the protection of plant, animal and ecosystem species as well as a life support system.

3.2 Water Utilization Management in the Core Zone of Bali Barat National Park

In managing and realizing the vision and mission proclaimed by the Bali Barat National Park, of course, there are several problems that occur in it. In RPJP, it can be seen that the problems and strategic issues that have developed are due to increased economic growth, human population, and the demand for biological resources. The problems and strategic issues faced in the Bali Barat National Park and its surroundings are as follows:

1. Unfinished TNBB area boundary arrangement, especially in water areas. Because the demarcation of boundaries has not been completed, the determination of the area has not yet been carried out. Thus, the legal status of the area is not final and in general the lay people do not understand the process of establishing forest areas (including some government officials). Some government officials think that in the absence of area determination, changes in function or even the release of areas can still be carried out.
2. There are still cases of forest fires in the TNBB area. The TNBB area has rainfall ranging from 1500 – 1050 mm/year with the highest rainfall occurring in the eastern part of the area and the lowest in the western part. Climatic conditions based on the Schmidt-Ferguson classification have climate classes D (Moderate), E (Slightly Dry), and F (Dry). In addition, forest fires can also be caused by people visiting TNBB, especially in public places.
3. The forest area of Bali Barat which consists of the Bali Barat National Park, Production Forest, and Protection Forest is an integrated ecosystem. Illegal logging of production plants in Production Forests significantly affects the balance of the ecosystem as a whole, which will lead to a decrease in the quality of potential biological natural resources.
4. With the potential possessed by TNBB and easy accessibility from various sides, problems arise which become important issues in TNBB, especially the utilization of natural resources (flora and fauna) of TNBB, such as taking *rencek* (dry twigs/branches) for firewood [5].

The problem regarding the absence of regional boundary demarcation in the Bali Barat National Park can be seen from the problem of water management in this national park. That there is no good management and there is no clear cooperation agreement in some of the buffer villages in managing this water problem. Yet as we know that water is one of the human needs in sustaining their daily activities. The absence of boundary arrangement causes the zoning that has been determined in accordance with the national park design not to run optimally.

If we look at the several zones designed, namely the zone which consists of the core zone, jungle zone, utilization zone, traditional zone, rehabilitation zone, religious cultural and historical zone and special zone, it is related to the use of water resources for the lives of people living in the area. Bali Barat National Park area is in the core zone even though it should be regarding the use of waters which is a function of the utilization zone. This has led to a request from the community to change the zone from the core zone to the utilization zone so that the community can use the water in the Bali Barat National Park to fulfill their daily needs considering that the livelihoods of the buffer village communities there are in the agricultural, fishery, and livestock sectors.

This lack of understanding of the limits of forest use has led to violations committed by the community, namely the community has begun to use water resources located in the core zone and even some people have brought water pipes into the core zone to drain water to their

environment, even though this core zone is a zone which should be sterile from human existence because this zone has natural conditions that are still old and untouched by human hands, which are protected for the diversity of flora and fauna that are original and unique. In this zone, activities that can be carried out are protection and security, inventory and monitoring of living natural resources and their ecosystems, as well as research and development of science and cultivation.

Seeing the information on changes in the function of this core zone, it leads us to look into the Regulation of the Minister of Environment and Forestry Number P.76/Menlhk-Setjen/2015 concerning the criteria for the management zone of National Parks and Block Management of Nature Reserves, Wildlife Sanctuaries, Hutan Raya Parks, and Natural Tourism Parks which explain that the activities that are permitted to be carried out in the core zone include:

1. Protection and Security
2. Inventory and monitoring of living natural resources and their ecosystems
3. Habitat and population development in order to maintain the existence of clay populations
4. Research and development of science
5. Education and awareness raising of nature conservation
6. Utilization of genetic resources and germplasm to support cultivation
7. Development of limited management facilities and infrastructure to support activities in points 1,2,3 and 4.
8. Storage and or carbon sequestration.

Given this, the management of the Bali Barat National Park cannot be separated from the community. The existence of the community around the Bali Barat National Park can be interpreted in two perspectives. On the one hand, the existence of a buffer community can be a potential threat to efforts to preserve the Bali Barat National Park area, but on the other hand it can be seen as a potential support in the management of the Bali Barat National Park area. In managing the potential of the surrounding community to become a supporter of the management of the Bali Barat National Park area, a community empowerment plan is needed which includes an empowerment strategy based on the conditions of each buffer village. And it is also necessary to give understanding to the community of the buffer villages related to the use of natural resources in the environment around their homes which incidentally is a National Park Area because if this understanding is not carried out, the management of the Bali Barat National Park using this zoning system will certainly not work. optimally according to what was planned.

4. Conclusion

So that the management of the National Park is in accordance with the expected vision, mission, and goals, in its implementation it is necessary to divide the zones. This is implemented in the Bali Barat National Park which in its management is divided into core zones, jungle zones, utilization zones, traditional zones, special zones, religious, cultural, and historical zones, and marine protection zones which have their respective functions implemented. The division of zones in the West Bali National Park is in accordance with Government Regulation no. 68 of 1998 concerning Nature Reserve Areas and Nature Conservation Areas.

The problem occurs in the Bali Barat National Park due to the use of forest water carried out by buffer village communities in the core zone area even though the core zone is required to be sterile from community activities because this zone has natural conditions that are still old and have not or have not been touched by human hands. protected for its original and distinctive flora and fauna diversity. The use of water resources for the community has actually been prepared in the utilization zone, only because there is still a lack of understanding given to the community regarding the boundaries of forest use. This shows the need for a zone change, namely from the core zina to the utilization zone so that the community can easily utilize the water resources in the core zone.

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