



Legal Protection of Ngurah Rai Mangrove Conservation Area on Liquefied Natural Gas (LNG) Project in Sanur Village

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Abstract. Ngurah Rai Mangrove Conservation Area is located in Badung Regency and Denpasar City, covering an area of 1,373.5 Ha. It has essential functions, one of which is to prevent abrasion that is likely to threaten Bali. On February 23, 2021, one of PLN's subsidiaries, PT PLN Gas & Geothermal (PLNGG), and PT Dewata Energi Bersih (DEB) signed a Memorandum of Understanding for a feasibility study for the development of the Bali LNG Terminal. This collaboration is part of the effort to manifest the commitment to increase the use of clean and environmentally friendly energy. They were referring to the vision of "Nangun Sat Kerthi Loka Bali", in which energy infrastructure development needs to be environmentally friendly and prioritize the value of local wisdom to maintain the sanctity and harmony of Bali's nature. In the future, it is expected that the construction of the LNG Terminal infrastructure will be able to supply gas to the Pesanggaran Diesel and Gas Power Plant (PLTDG) in early 2023. However, the residents of Intaran Village rejected this project because they were concerned it would destroy the Mangrove Forest ecosystem in the Ngurah Rai Mangrove Conservation area. Furthermore, the resident believes this project is not by the Regional Regulation (Perda) regarding the amendment to Regional Regulation No. 16 of 2009 concerning the Bali Province's Regional Spatial Plan (RTRW) for 2009–2029.

Keywords: Mangrove · Conservation · Energy

1 Introduction

The Mangrove Ecosystem, according to the Presidential Regulation of the Republic of Indonesia No. 73 of 2012 concerning the National Strategy for Mangrove Ecosystem Management, is a unity between mangrove vegetation communities associated with fauna and microorganisms so that they can grow and develop along the coast, particularly in tidal areas, lagoons, river estuaries protected with silt or sandy silt substrate to form a sustainable environment.

Ngurah Rai Mangrove Conservation Area of 1,373.50 Ha was established on September 25, 1993 by Forestry Decree No. 554/Ktps-II/1993. The Ngurah Rai Mangrove Conservation area, located in the Badung Regency area of 639 ha and Denpasar City area of

734.50 ha (Denpasar City Environmental Center, 2017), is rather important and placed in the heart of economic and tourism boom [1].

Nature preserve This conservation area is located in Denpasar City, in the South Denpasar District, and includes the villages of Pemogan, Pedungan, Sesetan, Serangan, Sidakarya, and Sanur Kauh. While there are two districts in Badung Regency, they are South Kuta District (Benoa, Tanjung Benoa, and Jimbaran Village) and Kuta District (Kedonganan, Tuban dan Kuta Village).

This location is strategically positioned in one of Bali's three tourism hotspots: Sanur, Kuta, and Bali Nusa Dua. As long as the conservation standards are followed, the Ngurah Rai Mangrove Conservation Area has a promising future as a prospective tourism destination.

Grand Forest Park is a nature conservation area to collect natural or artificial plants and/or animals, native and non-native species, which are used for research, scientific purposes, education, support cultivation, culture, tourism, and recreation, according to Law of Republic Indonesia No. 5 of 1990 concerning Conservation of Biological Natural Resources and Their Ecosystems, both on land and in waters that have the function of protecting life support systems, preserving the diversity of plant and animal species as well as sustainable use of living natural resources. And the ecosystem.

The community's dependence on mangrove forests requires protection and policies in managing Ngurah Rai Mangrove Conservation Area. One of the efforts made by the community is a group of Wanasari fishermen who utilize the Ngurah Rai Mangrove Conservation edge area in the form of silvofishery ponds and the development of ecotourism which has had a positive impact on its members and traditional villages. Meanwhile, the issuing of Presidential Regulation Number 73 of 2012 about the National Strategy for Mangrove Ecosystem Management, which controls the National Strategy for Mangrove Ecosystem Management, is one of the government's attempts to conserve and manage Mangrove Forests [2].

However, the main issue in preserving the Ngurah Rai Mangrove Conservation Area is the interests of certain parties. The interests of those who plan to develop the area around Ngurah Rai Mangrove Conservation Area may have a negative impact. It can reduce or even damage the existence and sustainability of the Ngurah Rai Mangrove Conservation Area.

Instanced construction of an LNG (Liquefied Natural Gas) terminal will be built in Sidakarya Village. The construction of this LNG terminal invites pros and cons, especially for the community.

2 Method

This paper is normative legal research, conducted through library research, to provide an overview of the basic regulations regarding mangrove conservation forests in Bali and the legal protection for the Ngurah Rai Mangrove Conservation Area on Liquefied Natural Gas (LNG) Project in Sanur Village.

3 Result and Discussion

Forests are classified into three types based on their principal function: conservation forests, protection forests, and production forests. This is specified in Article 6 paragraph (2) of Forestry Law Number 41 of 1991. Ngurah Rai Mangrove Conservation Area is the only mangrove forest designated as conservation forest, while the remainder are designated as protected forest or production forest.

The use of a section of a forest area for development reasons other than forest operations is specifically prohibited in: a. producing forest area; and/or b. protected forest area, according to Article 3 paragraph (1) of Government Regulation 24 of 2010. Furthermore, paragraph (2) specifies that the use of the forest area referred to in paragraph (1) be carried out without jeopardizing the forest area's primary function, while taking into account the area's and time constraints, as well as environmental sustainability [3].

Concerning the use of forest areas, it is also stated in Article 4 paragraph (1) of Government Regulation No. 61 of 2012 concerning Amendments to Government Regulation No. 24 of 2010 Concerning the Use of Forest Areas that the use of forest areas for development purposes other than forestry activities can only be carried out for forestry activities, which have an unavoidable strategic objective, as stated in paragraph (2), namely religion; mining; power generation, transportation, and tourism Public roads, toll roads, and railways; transportation facilities that are not classified as public transportation facilities to transport production products; water resources facilities and infrastructure, construction of water installation networks, and clean water and/or wastewater channels; public facilities; industries other than forest product primary industries; defense and security; public safety support Agriculture that is natural or particular in terms of food and energy security [4].

To preserve it, there is a new challenge at this time, and it is the existence of plans for constructing an LNG terminal project. The construction of the LNG Terminal infrastructure in Bali is a program realization of Bali Clean and Green Province as stated in Bali's Governor Regulation. Dewata Energi Bersih, through The LNG Terminal Bali – Sidakarya, provides a solution to fulfil the reliability of electricity on the Island so that the Province can meet its self electricity without relying on other energy supplies.

PT PLN (Persero), through its subsidiary PT PLN Gas & Geothermal (PLN GG) and the Regional Company of the Province of Bali, namely PT Dewata Energi Bersih (DEB), signed a memorandum of understanding on a feasibility study for the development of the LNG Terminal in Bali on February 24, 2022. Governor Koster conveyed that the agreement between Perusda Bali and PLNGG was a follow-up to the cooperation agreement between the Bali Provincial Government (Pemprov) and PT. PLN (Persero) in 2019. The goal is to Strengthen the Electricity System by Utilizing Clean Energy in the Province of Bali. This aim is consistent with the Bali Provincial Government's vision, "Nangun Sat Kerthi Loka Bali," as realized via the Planned Universal Development Pattern towards a New Era of Bali, which was carried out through 22 missions. The twenty-first goal is to promote Balinese manners and to organize a clean, green, and attractive environment. The goal of this project is to optimize the current power plant, the Pesanggaran PLTDG, which has a capacity of 200 megawatts (MW). PLN also intends to transfer the PLTG/GU, which has a capacity of 300 megawatts (MW), to

Pesanggaran. To fulfill the load in Bali and to develop the Bali power infrastructure in order to actualize Bali Mandiri Clean Energy [5].

Article 4 paragraph (1) of Government Regulation Number 61 of 2012 concerning Amendments to Government Regulation Number 24 of 2010, it is stated that mangrove forests may be used for development purposes other than forestry, and one of them is for energy and mining installations. However, referring to Article 33 paragraph (2) letter a of the Bali Provincial Regulation Number 3 of 2020, it is stated that for the stabilization of the development of the oil and gas infrastructure network specifically carried out at the Manggis Port, Karangasem Regency and at the Benoa Port, Denpasar City. What has been said previously, to minimize the negative of LNG development, it is better if the construction of this LNG project is carried out at Benoa Harbor because if it is built in Sidakarya village, Intaran Sanur village will have the potential for damage to Ngurah Rai Mangrove Conservation Area, damage to coral reefs, and the threat of abrasion.

Concerns regarding the negative impacts could be caused if the people conveyed the implementation of this LNG project from Sanur themselves, who objected to the location of the LNG project being close to the waters of marine tourism destinations because the environment and tourism could be damaged. In general, the community has been actively involved in efforts to preserve mangrove ecosystems, such as planting, maintaining, and managing mangrove ecosystems. This is supported by the willingness of the community to provide moral, material and energy support in this conservation effort. The community realizes that the increased coastal abrasion is due to the decrease in the mangrove ecosystem. This means that the community already understands how important the existence of mangrove ecosystems is for coastal areas.

Gr and Forest Park is a nature preserve that protects life support systems, preserves the diversity of plant and animal species, and encourages the sustainable use of biological natural resources and their ecosystems. Various activities must be carried out inside the Ngurah Rai Mangrove Conservation Region without affecting the primary functions of each region.

According to Article 33, paragraph (3) of Law Number 5 of 1990, everyone is forbidden from engaging in activities that are not in accordance with the role of the exploitation zone and other zones in Ngurah Rai Mangrove Conservation Area. As a result, management must be tailored to the functions of each zone. The government can award concession rights to the utilization zone in Ngurah Rai Mangrove Conservation Area for tourist and recreational amenities as long as the land use is within the Ngurah Rai Mangrove Conservation Area utilization zone and is based on a management plan. This is protected under Article 34 paragraphs (2) and (3) of Law No. 5 of 1990 [6].

This LNG project reaps pros and cons along with its development plan because the terminal construction location is problematic. After all, it is close to mangrove areas and tourist areas. The LNG terminal in this coastal area can potentially damage the environment and sacred areas. Starting from Sukamerta Temple, the distance is only approximately 286 m. There is also the Dalem Pengmbak Temple, the Campuhan Dalem Pangembak Temple, the Tirta Empul Temple, and the Mertasari Temple. The dredging of the sea channel of about 3.300.000 m³ is also expected to accelerate the abrasion of the affected coast [7].

4 Conclusion

In practice, it is nevertheless popular to use mangrove forest regions outside the legal limitations of mangrove forest exploitation. Land grabbing, for example, is occurring in the Ngurah Rai Mangrove Conservation Region, a mangrove forest area designated as a conservation forest. There is still some overlap between the National Land Agency's certifications, the breadth of the land utilized by third parties, and so on. Balinese indigenous peoples have been given the right to participate in overseeing the maintenance and exploitation of mangrove forests in Bali by Forestry Law No. 41 of 1999. Public knowledge about the existence of the mangrove ecosystem and the importance of legal protection for the mangrove ecosystem has become the essential capital for the preservation of the mangrove forest itself.

The Government and PT Dewata Energi Bersih should prepare an Environmental Impact Assessment and Corporate Social Responsibility to minimize environmental damage in this LNG terminal project and as a form of accountability and concern in improving welfare and having a positive impact on the environment.

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Authors' Contributions. To help the preservation of the mangrove ecosystem in Ngurah Rai Mangrove Conservation Area, in May 2021, the author helped the Wanasari fishing community by planting more than 100 mangrove trees. The authors hope this little action will help the sustainability of our mangrove ecosystem.

References

1. Bali and Nusa Tenggara Ecoregion Development Control Center. (2015). Bali Province Forestry Data Pocket Book. Bali and Nusa Tenggara Ecoregional Development Control Center, Denpasar http://bpkh8.menlhk.go.id/pdf/karya_tulis_mandiri/buklet_tahura.pdf
2. Abdullah K, A.M Said and D. Omar. 2014. Community-Based Conservation in Managing Mangrove Rehabilitation in Perak and Selangor. *J. Procedia-Social and Behavioral Science*, 153: 121–131.
3. Bengen D.G. 2001. Introduction and Management of Mangrove Ecosystems. PKSPL – IPB, Bogor.
4. Christiawan, P. I. (2017). The role of local wisdom in controlling deforestation. *International Journal of Development and Sustainability*, 6(8), 882.
5. Lugina, M., Alviya, I., Indartik, & Pribadi, M. A. (2017). Mangrove Forest Management Sustainability Strategy in Tahura Ngurah Rai. *Journal of Forestry Policy Analysis*, 14(1), 62.
6. Madjid, I., Al Muhdar, M. H. I., Rohman, F., & Syamsuri, I. (2016). Mangrove Forest Conservation on the coast of the city of Ternate is integrated with the school curriculum. *Journal of BIOeduCATION*, 4(2), p. 488.
7. Catarina Tenny Setiastri, I Wayan Windia, Ida Ayu Astarini. Perceptions and Behavior of Communities Around Mangrove Forests Against Conservation in the Forest Area of Ngurah Rai Grand Forest Park, Vol. 3, No. 2, Udayana University, p. 136.

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