

**CONSERVATION AND LEGAL PROTECTION OF GUNUNGSEWU GLOBAL
GEOPARKS OF KARST AREAS IN GUNUNGKIDUL YOGYAKARTA**

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ABSTRACT

Mining and conservation are two contradict interests related to the natural resources management. This situation happens to the karst area in Gunungkidul, Yogyakarta. The landforms of Gunungkidul are mostly comprised of karst of Gunungsewu which has been acknowledged by UNESCO in September 2015 as part Global Geoparks Network that must be conserved. However, as basic material needed in some industries, karst becomes income generator for many people through rampant mining activities. This legal research will analyze the conformity of the regulations and their application on karst protection in Gunungkidul, Yogyakarta. The primary legal data are collected through observation and interview, while the secondary data are taken from the literatures in the form of primary legal material, secondary legal material and tertiary legal material. By means of qualitative descriptive analyses and comparative approach on existing regulations, this research comes to the conclusion that the issuance of The Governor of the Special Region Yogyakarta Regulation Number 31 of 2015 on The Procedures for Giving Regional Mining Permit on Mineral, Metal, Non-Metal and Rock has potentially opened mining activities within conservation areas, even though those areas have been conserved by other legislations such as The Regulation of The Minister of Energy and Mineral Resources of The Republic of Indonesia Number 17 of 2012 concerning The Karst as The Geological Conservation Area. In order to provide guidance for the provincial government in executing its authority to issue a mining permit in Gunungkidul, the clearer map excluded from conserved areas that allowed for existing and coming mining activities is suggested to be rigidly determined and legalized by the authorities with consideration of sustainable use principle.

Keywords: geopark, karst, mining, conservation, legal protection

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INTRODUCTION

Gunungkidul is one of regencies in Yogyakarta Special Region with the capital at Wonosari city. The total area of Gunungkidul Regency is 1,485.36 km² or approximately 46.63% of the area of Yogyakarta Special Region. More than half of the total area of Gunungkidul (757.13 km²) consist of karst area, which is part of the karst landscape area of Gunungsewu which covers 14 of the 18 sub-districts in Gunungkidul, namely: Karangmojo, Nglipar, Paliyan, Panggang, Playen, Ponjong, Purwosari, Rongkop, Girisubo, Saptosari, Semanu, Tanjungsari, Tepus, and Wonosari.

The karst region—is landscape of the carbonate rocks (limestone and dolomite) which shows the morphological form of karst hills, valleys, dolina and cave—has quantitative economic values have been derived for direct benefits, such as recreation activities, and for indirect benefits, such as the ecosystem services of water preservation, erosion control, biodiversity conservation (Heru Waluyo et al, 2005), an agent of controlling the climate change (Brinkman, R., Garren, S., J., 2011). Besides those benefits, karst areas also have various potential resources for development such as land, biological resources, and landscape either at surface or subsurface (Suryatmojo, 2006).

As a unique geological component that serves as a natural regulator of water system and storage of scientific values, the existence of karst areas are needed to be preserved and protected to prevent its damage and to support sustainable development and the development of science. Therefore, the Government of the Republic of Indonesia has determined the karst areas of Gunungsewu as geological protected area. Even, the United Nations for Educational, Scientific, and Cultural Organization (UNESCO) has officially announced Gunungsewu karst landscape region as part of the Global Geoparks Network (GGN) during the Asia Pacific Global Network Conference in Sanin, Kaigan, Japan on 19 September 2015 (Tempo.Co, n.d.). The aim of this international designation is to preserve this geological heritage for future generation, educate and

teach the public about issues in the geological science and environmental matters, and ensure sustainable tourism (Patzak and Eder, 1998).

As a member of the Global Geopark Network (GGN), Indonesia is obliged to manage the area of Gunungsewu global geopark in accordance with the criteria and allotment set by UNESCO. The UNESCO criteria of global geopark are stated in the *Statute of International Geoscience and Geoparks Programme/ Operational Guidelines for UNESCO Global Geoparks* numbers 3 and also listed in the *Guidelines and Criteria for National Geoparks Seeking UNESCO's Assistance to Join the Global Geoparks Network* (GNN, April 2010). Principally, both of these international guidelines demand the management and development of global geopark shall be integrated in terms of protection or conservation, education and sustainable development, considering global geopark as an area that has an outstanding geological values including the value of archeology, ecology and culture in it where the participatory of local people are invited to protect and improve the functions of the natural heritage.

The threat to the protection and conservation of the karst area in Gunungsewu emerged from the exploitative treatment of society against karst rocks since the karsts have a very high economic value. As a result, communities around the karst region are choosing to mine karst rock to be traded rather than benefit them productively and sustainably. Based on the data from the Office of Trade, Industry, Energy and Mineral Resources of Gunung Kidul District, there are 1,884 people working in the mining sector of karst (Dinas Perindagkop-ESDM Gunungkidul, 2013). This number does not include the other unobserved community miners in some areas of Gunungkidul.

To ensure the sustainable management of Gunungsewu karst landform area, especially in Gunungkidul District of Yogyakarta Special Region to be in line with the guidelines of UNESCO's Global Geoparks Network, it is necessary to have strong and adequate regulations. Accordingly, the question arises is whether the Government of the Republic of Indonesia and or the Local Government of Gunungkidul Regency or Yogyakarta Special Region already have the

appropriate legal framework to ensure the protection and conservation of Gunungsewu karst landform in Gunungkidul after it became a part of the UNESCO's Global Geoparks Network?

FINDINGS AND DISCUSSION

Global Geopark Network

UNESCO defines Global Geoparks as single, unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development. The concept global geopark has been introduced and promoted by UNESCO since 2004 with aims to protect a nationwide protected area which has wealth of geological heritage unique and aesthetic value that can be developed through the above mentioned holistic and integrated manners (UNESCO, 2006). The implementation of this world geopark will gain an immediate positive impact upon an area by improving living conditions of the rural environment, strengthening identification of the population within the area, and triggering a cultural renaissance (Camille Partin et al, 2010).

A UNESCO Global Geopark uses its geological heritage, in connection with all other aspects of the area's natural and cultural heritage, to enhance awareness and understanding of key issues facing by society, such as using our earth's resources sustainably, mitigating the effects of climate change and reducing natural disasters-related risks. By raising awareness of the importance of the area's geological heritage in history and society today, UNESCO Global Geoparks give local people a sense of pride in their region and strengthen their identification with the area. The creation of innovative local enterprises, new jobs and high quality training courses is stimulated as new sources of revenue are generated through geo-tourism, while the geological resources of the area are protected (UNESCO, 2016). Geoparks are very effective vehicles in promoting geotourism. (Sail, 2013: 12)

Based on the UNESCO GGN's guidelines (UNESCO, 2010), the global geoparks network members are required to: 1. preserve geological heritage for present and future generations; 2. educate the broad public about issues in geological sciences and their relation

with environmental matters; 3. ensure sustainable socio-economic and cultural development; 4. foster multi-cultural bridges for heritage and conservation and the maintenance of geological and cultural diversity, using participatory schemes and co-partnership; 5. stimulate research; 6. contribute actively to the life of the Network through joint collaborative initiatives such as publications, exchange of information, twinning, participation in meetings, etc.; 7. contribute articles to the GGN Newsletters, books and other publications (UNESCO, 2010).

The UNESCO's initiative in promoting and supporting the sustainable management and development of geoparks has been accepted by many countries which proven with the increase of attention to the elements of the natural heritage in their country and the intention to join the Global Geoparks Network (GGN). The first batch of members to the GGN were announced during the first International Conference on Geoparks in 2004. By late 2015, there were 120 geoparks from 33 countries had officially become part of the GGN family (www.globalgeopark.org). UNESCO Global Geopark status does not imply restrictions on any economic activity inside a UNESCO Global Geopark where that activity complies with local, regional or national legislation (UNESCO, 2016).

The Criteria of Global Geopark Network

To join the UNESCO's Global Geoparks Network, an interested country has to comply with guidelines and criteria as follow:

- 1. Size and setting:** A Geopark seeking to become a member of the GGN is an area with clearly defined boundaries and a large enough area for it to serve local economic and cultural development (particularly through tourism). A Geopark is a geographical area where geological heritage sites are part of a holistic concept of protection, education and sustainable development. In addition, those sites may be important from the point of view of science, rarity, education and/or aesthetics.
- 2. Management and local involvement:** The establishment of a Geopark should be based on strong community support and local involvement, developed through a "bottom-up" process.

3. **Economic development:** A Geopark seeking UNESCO's assistance serves to foster socio-economic development that is culturally and environmentally sustainable. It strengthens identification of the population with their area, and stimulates “pride of place” and cultural development, which in turn aids direct protection of geological heritage.
4. **Education:** A Geopark must provide and organize support, tools, and activities to communicate geoscientific knowledge and environmental and cultural concepts to the public such as through museums, interpretive and educational centers, trails, guided tours, popular literature and maps, and modern communication media.
5. **Protection and conservation:** The main focus in the protection of natural areas across globe has been in the context of preserving landscape beauty, natural heritage, unique biological habitat (Eder and Patzak, 2004). The branding of an area as global “geopark” does not necessarily affect the legal status of the land. It is the government of the country where the geopark is situated which decides on the level and measures of protection of certain sites or geological outcrops.
6. **The Global Network:** The GGN provides a platform of cooperation and exchange between experts and practitioners in geological heritage matters. Under the umbrella of UNESCO and through cooperation with the global network partners, important local, and national, geological sites gain worldwide recognition and benefit through the exchange of knowledge and expertise, experience and staff between other Geoparks.

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The branding of an area as global “geopark” does not necessarily affect the legal status of the land. Those sites remain under the sole jurisdiction of the country (or countries) in which the geopark is situated. It is each country’s responsibility to decide how to protect the particular sites or areas, in conformity with national legislation or regulations. UNESCO Global Geopark status

also does not imply restrictions on any economic activity inside a UNESCO Global Geopark where that activity complies with local, regional or national legislation (UNESCO, 2016).

The principle of non-interference of UNESCO towards the right to control over a global geopark which belongs to a particular member of GGN is in line with the concept of the right to state control over natural resources as stated in Article 33 paragraph (3) of the Constitution of the Republic of Indonesia which states: “the land, the water and the natural resources within shall be under control of the state and shall be used for the greatest benefit of the people”. The enactment of Article 33 paragraph (3) of the Constitution became the legal political milestone of the natural resources management in Indonesia (Marliang, 2012: 283).

Accordingly, it is the right of the Government of Indonesia (at central and/or local level) to manage the protection and conservation of Gunungsewu global geopark region. However, so far there is no a comprehensive legislation has been enacted either at local (regency)/ provincial level and nor at national level with regard to the protection and management of Gunungsewu karst landscape after its establishment as part of UNESCO's Global Geoparks Network in September 2015. Moreover, the existing arrangements are still scattered in various related legislations which are incomprehensive in matters, inconsistent and even tend to overlap one to another as described below:

1. Law No. 26 Year 2007 on the Spatial

The Act Number 26 of 2007 on Spatial is the juridical basis (Rahayu Repindowati, September 2014) of spatial planning and determination of the region, including protected areas in Indonesia. Referring to Article 4 of the Act, the classification of spatial planning is divided based on the system of main function area, administrative area, region activities and the strategic value of the regions. The spatial planning which is based on the main function of the region is differentiated into protected area and cultivation area.

The protected area (*kawasan lindung*) is an area defined by the primary function of protecting the environmental sustainability that includes natural resources and artificial resources. Whereas, the cultivation area (*kawasan budi daya*) is an area defined by the

primary function to be cultivated on the basis of conditions and the potential of natural resources, human resources, and artificial resources.

According to Article 5 paragraph (3) the administrative region consists of the arrangement of the national territory, the provincial spatial planning and managing of district/ city. That division in line with the paradigm adopted by this law i.e. decentralization in the arrangement of space, namely the granting the authority to define and design a system of spatial planning based on the situation and conditions of each region (Imam Koeswahyono, 2012: 95).

One of the interested provisions in this law is Article 73 regarding the imposing of criminal sanctions against officials who issued permit if not in accordance with the spatial plan. Although on the one hand these provision has positive impact, but on the other side the imposing of this punishment is precisely handcuff officials in performing their liberty in the form of "*Freis ermessen*" (Juniarso Ridwan & Achmad Sodik, 2013: 160) or discretionary deed which became one of the legal instruments of government in executing its tasks and duties.

2. The Indonesian Government Regulation No. 26 of 2008 on the National Spatial Plan

Karst landscape in the provisions of Article 51 of this government regulation was incorporated into a geological protected area (*kawasan cagar alam geologi*) within the national protected region (*kawasan lindung nasional*). This government regulation also defined that a geological reserved area is a region that has a unique rocks, unique landscapes, and unique geological process. Referring to this provision, the entire area of karst landscape is a geological nature reserved area that should be protected.

In response to this regulation, The Local Government of Gunungkidul has issued the Circular of Gunungkidul Regent No. 540/0196 dated 7 February 2011 which declared that the entire mining activities in the karst region are not allowed and the local government will not issue a permit for that and the existing miners are also prohibited to extend their mining license in the karst region of Gunungkidul (Tribun Jogja, October 30, 2012). Along with the

closure of these mines, the District Government of Gunungkidul has promised to open massive labor activities (*usaha padat karya*) for miners such as farming fresh fish (Mark Yuwono, 2011). According to the Executive Director of Forum for Environment (WALHI) of Yogyakarta, Suparlan, the issuance of the Regent of Gunungkidul Circular Letter No. 540/0196 has already in line with the Government Regulation No. 26 Year 2008 on the National Spatial Plan (RTRWN).

Unfortunately, the provisions of Regulation No. 26 Year 2008 on Spatial Planning of the National Territory—as an organic regulation of the Law Number 26 Year 2007 on Spatial—which stated that karst landscape region as a geological protected area within the national protected area unregulated further and consistently in the Provincial or District Regulation on the Provincial Spatial Planning (RTRW) and the District Spatial Planning. For example, the Gunungkidul District Regulation No. 6 of 2011 on Spatial Planning of Gunungkidul of Year 2010-2030 divided the karst region into two categories, as a protected area (11 sub-districts) and as a cultivation region (3 districts).

3. **The Minister of Energy and Mineral Resources Regulation No. 17 Year 2012 on the Establishment of Karst Landscape Region**

In determining the boundary of karst landforms region, the confusion was occurred about the references to be used to draw the karst boundaries, because most of karst areas have not yet classified into karst that can be exploited (mined) and karst that are needed to be protected. To assist the regions in spatial planning with regard to optimum utilization of karst areas, then in 2012 the Minister of Energy and Mineral Resources has issued the Minister of Energy and Mineral Resources Regulation No. 17 Year 2012 on the Establishment of Karst Landscape Region (*Kawasan Bentang Alam Karst*). This Ministerial Regulation contains guidelines for the determination of karst landscape region in order to accommodate the substance needed for spatial planning (Rudi Suhendar, 2015). This regulation provides that the determination of karst landscapes in the region done initially through the stage of investigation of karst landforms.

In the process of investigation, the Governor in accordance with his authority commissioned a provincial technical office in charge of geology to conduct an investigation to establish areas of karst landscape. Then from the results of the investigation the Governor has to prepare a report of investigation and karst landscape area maps with scale of 1: 50,000 that have to be proposed and submitted to the Minister of Energy and Mineral Resources. Based on the proposal, the Minister conduct an attestation to the proposed areas. The Geological Agency has the authority to conduct supervision and guidance to the karst landscape region organized by the governor.

Article 4 of the Regulation of the Minister explained that the area of landscape karst is the area that shows the shape *eksokarst* and *endokarst* on the surface and below the surface, and has the function of, among others, the scientific functions as the object of research and investigation for the development of science, and has a function as a region ground water recharge. Those are the requirements in determining the area of karst landscape that must be protected.

This provision opens the possibility to take out karst areas that do not fulfill the requirements above from the area of karst landscape. Whereas in the Government Regulation No. 26 of 2008 on the National Spatial Plan Article 53 paragraph (1) there is such requirements. The late regulation just states that the geological nature to become protected area is an area that has a unique rock, unique landscape, and unique regional geological processes. Accordingly, based on this Government Regulation, the whole of karst landscapes (*eksokarst* and *endokarst*) are to be protected.

4. The Minister of Energy and Mineral Resources Decree Number 3045 K/40/MEM/2014 on Stipulation of Karts Landscape Region of Gunungsewu

This decree contains the determination of the Karst Landscape Region of Gunungsewu as a geological protected area which is part of the national protected region as outlined in form of sheets of maps and digital maps with a scale of 1: 50,000. This map covers the area of karst landscape that must be protected in accordance with the instructions

of the Minister of Energy and Mineral Resources Regulation No. 17 Year 2012 on the Establishment of Landscape Karst Region. According to Edi Indrajaya, the Head of Energy and Natural Resources Office of Public Works, Housing, Energy and Mineral Resources Yogyakarta, in proposing the establishment of Karst Landscape Regions of Gunung Kidul and Bantul Districts to the Minister, the Governor of Yogyakarta has taken out the existing karst mining from the map of the Karst Landscape Region of Gunungsewu. The reason is that the mining activities that have occurred for long time and on a large scale has changed the topography and disrupt the process of karstification and the subsurface water system of karst landscape surrounding, but still serve as a cultivation area (mining) in protected areas. The exclusion of the existing mining with requirements and for a certain time and the mining area should not be expanded.

The regulation also established 14 sub-districts of Gunungkidul as mentioned above entered into the region of Karst Landscape of Gunungsewu. However, with the exclusion of the existing mining areas from the karst landscape of Gunungsewu, it will open back the opportunity for people to carry out mining activities in the area of karst landscape that has been banned by the Regional Government of Gunungkidul through Circular Letter No. 540/0196 that have been discussed previously.

The fourth dictum of this Ministerial Decree also confirms that the determination of Karst Landscape Region of Gunungsewu become the basis for the governor and regent/ mayor in accordance with their authority to draft provincial spatial plan, as well as district/ city one in the maps provided in the attachment of the decree.

5. Law Number 23 Year 2014 on Regional Government

The genesis of Law Number 23 Year 2014 regarding Regional Government on 2nd October 2014 has given rise to legal uncertainty and overlapping between the statutory provisions regarding the authority of district/ city affairs related to the energy and mineral resources management. Article 409 of Law No. 23 of 2014 clearly states the abolishment of the Law No. 32 Year 2004 on Regional Government, which means also unplugging the

regency and city's affairs in the field of energy and mineral resources especially in issuance of mining permits and zoning the mining areas which were originally became the authority of the regent/ mayor (Billy Supramono, 2002: 13) based on Law Number 32 of 2004 and diverting it become under the authority of the governor.

Meanwhile, Article 409 of Law No. 23 of 2014 did not revoke the application of Article 8 paragraph (1) of Law No. 4 Year 2009 on Mineral and Coal Mining in conjunction with Article 20 paragraph (1) and with Article 28 and with Article 35 paragraph (1) letter a of the Government Regulation Number 23 Year 2010 on the Implementation of Business Activities of Mineral and Coal which authorizes the regent/ mayor to establish the Regional Mining Business License (WIUP) and Mining Business License (IUP) on Exploration and Production Operation IUP of non-metal or rock, coaching, community conflict resolution, and supervision of mining business located in the district/ city or sea area of up to 4 miles of shoreline.

In the other words, there have been legal uncertainty and overlapping of legislations where the regent/ mayor no longer authorized to issue mining area permit under the provisions of Act No. 23 of 2014, but remains has that authority under the provisions of Article 8 (1) of Law No. 4 of 2009 on Mineral and Coal Mining in conjunction with Article 11 paragraph (1) letter c of the Government Regulation No. 23 of 2010 which are still in force.

6. The Governor of Yogyakarta Special Region Regulation Number 31 Year 2015 on Procedures for Granting of Mining Permit of Metals, Non-Metal and Rocks

As a follow up to the enactment of Law No. 23 of 2014 which has transferred the authority to grant a mining permit of non-metal minerals and rocks within 1 (one) province and sea region up to 5 miles, from a district/ city to the provincial government, the Governor of the Special Region of Yogyakarta has issued the Governor Regulation Number 31 of 2015 on Procedures for Granting mining permit of Metals, Non-Metal and Rock in May

2015. This Governor Regulation became the legal basis of provincial government authority to issue karst mining permit in Gunungkidul Regency.

Meanwhile, the Local Government Regulation of Yogyakarta Special Region Number 2 of 2012 on Spatial and Provincial Region Planning years 2009-2029 has not yet set the allotment of areas for mining which has been removed from the karst landscape region as meant by the Decree of the Minister of Energy and Mineral Resources No. 3045 K / 40 / MEM / 2014 on the Establishment of Karst Landscape Region of Gunungsewu. Whereas, the establishment of regional Gunungsewu karst landscape region was expected to become the basis for the governor in planning the provincial spatial of Yogyakarta. The vacuum of Regional Regulation on Spatial Planning which has adapted to the Ministerial Decree of Energy and Mineral Resources No.3045 K/ 40/MEM/2014 has opened the opportunity for the Provincial Government to grant the permit of karst mining in the area that should be protected, preserved and controlled based on the Ministerial Regulation of Energy and Mineral Resources of the Republic of Indonesia Number 17 Year 2012 concerning the Stipulation of Karst Landscape Region.

CONCLUSION

After Gunungsewu karst landscape has been selected to become a part of the Global Geoparks Network (GGN) under auspices of UNESCO in September 2015, Indonesia Government (at Central and Regional level) has an obligation to manage and conserve it to ensure this world heritage where sites and landscapes of international geological significance situated are managed with a holistic concept of protection, education and sustainable development. For that purpose, in line with the spirit of Article 33 paragraph (3) of the Constitution of the Republic of Indonesia and with UNESCO's guidelines and criteria of global geoparks, the Government of Indonesia has to legislate an adequate and comprehensive law or regulation as legal framework in managing and protecting this global geopark. Whatever, it is proven in the prior elaboration that the existing arrangements on Gunungsewu karst landscape

region are still scattered in various related legislations which are inappropriate, incomprehensive and inconsistent in contents, and even tend to overlap one to another.

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