

JURIDICAL ANALYSIS ON KARST MINING IN GUNUNGKIDUL

REGENCY OF YOGYAKARTA SPECIAL REGION

UNDERGRADUATE THESIS



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ABSTRACT

Mining and conservation are two controversial issues related to the natural resources management as found in the case of karst mining zone at Gunungkidul regency, Yogyakarta special region. The rocky area of Gunungkidul which is mostly comprised of karst has supported its people economically and the ecologically. They have used the karst for three purposes: as raw material of home industries, as ecosystem buffering for clean water supply, and in general as controlling agent of climate change. This research was aimed at analysing law aspect of karst protection with the specific emphasis on the consistency and conformity of karst mining regulation in regard to its conservation. The research used empirical and normative legal research methods. The data were collected from in-depth interview and library research. The data were analyzed by using qualitative descriptive method. The research found that there were some particular karst zones that had been eliminated from karst protected zone in Gunungsewu, especially in Gunungkidul. Then the mining activities are still being conducted under the prevailing laws. The research also found a serious unconformity of karst mining regulations Law No. 23 of 2014 concerning the right of Local Government to issue mining permits and Law No. 4 Year 2009 on Mineral and Coal Mining which authorizes the regent/mayor to establish Regional Mining Business License (WIUP) and Mining Business License (IUP). The researcher concluded that there have been inconsistency and unconformity of laws in the mining of karst at Gunungkidul regency, Yogyakarta special region. As the results, its conservation purpose has not been reached at all.

Keyword: karst, mining, conservation, ecology

APPROVAL PAGE

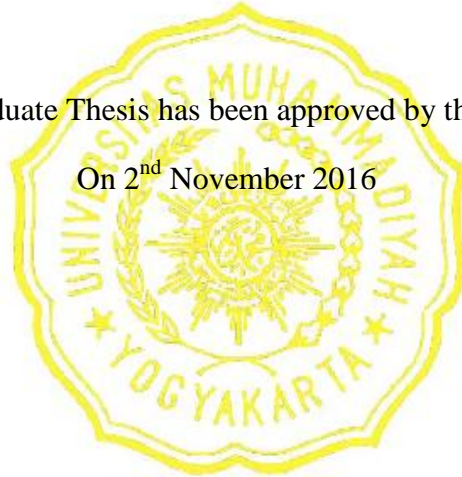
**JURIDICAL ANALYSIS ON KARST MINING IN GUNUNGKIDUL
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AUTHENTICITY DECLARATION OF RESEARCH

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I hereby declare that the thesis under entitled “**JURIDICAL ANALYSIS ON KARST MINING IN GUNUNGKIDUL REGENCY OF YOGYAKARTA SPECIAL REGION**” with its content is truly the work of my own and I did not do plagiarism or quotation in ways that are inconsistent with the prevailing ethic in the scientific community. On this statement, I am ready to bear the risk / any sanctions imposed to me in accordance with applicable regulations. If in the future it is found a breach of scientific ethics, I am willing to accept sanctions.

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MOTTO PAGE

**“God does not force anyone to do beyond what is within his capacity.
Everyone will get the reward he earns and will be responsible for the evil he
does” (Al-Baqarah 2:286)**

**“O you belived! Stand out firmly for justice, as witnesses to Alloh, even as
against yourselves, or your parents, or your kin, and whether it be (against)
rich or poor: For Alloh can best protect both” (An-Nisa 4:135)**

“Knowledge is that which benefits, not that which is memorized” (Imam Shafi'i)

***“Non scholae sed vitae discimus, We don't learn for school but for life” (Rene
Descrates)***

DEDICATION PAGE

This Undergraduate Thesis dedicate to

My Mother Suyati

My Wife Nur Wulandari, S.Si

Beloved Sister Raras Martya Utami

All Lectres and IPOLianS

FOREWORD

Alhamdulillahirabbil'alamin, all the praise be to Alloh, the Lord of the universe, the most gracious, the almighty, who has given me His blessing and guidance for accomplishing my undergraduate thesis under the title **“JURIDICAL ANALYSIS ON KARST MINING IN GUNUNGKIDUL REGENCY OF YOGYAKARTA SPECIAL REGION”**

My sincere thanks are addressed to both advisors, Bapak H. Nasrullah, S.H.,S.Ag.,MCL, and Bapak Sunarno, S.H, M.Hum., (Ph.D. Cand) who guided me with patient, wisdom, and compassion. I also exprees my deepest gratitude to all lectures at the Faculty of Law UMY who had inspired me to reach my future. My appreciations are also given to all staffs at the Faculty of Law for their assistance during my study at Universitas Muhammadiyah Yogyakarta

To my respectful mother Ibu Suyati and my beloved wife Nur Wulandari, S.Si, I owe your unlimited love and support without both of you this thesis will never be in its existence.

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Author

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- C. Government Regulation Number 23 Year 2010 on the Implementation of Business Activities of Mineral and Coal
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- E. The Regulation of Ministry of Energy and Natural Resousces No. 17 of 2012 on The Determination of Karst Landform Area
- F. Provincial Regulation of Yogyakarta Special Region No. 2 of 2012 on Spatial and Regional Province Planing on 2009-2029
- G. Governor Regulation No. 31 Year 2015 on The Procedures for Granting mining License Metals, non-Metals and Rocks.
- H. Regulation of Gunungkidul District No. 6 in 2011 concerning Spatial Plans (*Rencana Tata Ruang Wilayah/RTRW*) Gunungkidul district 2010-2030.

List of Abbreviations

AMDAL	: <i>Analisis Mengenai Dampak Lingkungan</i>
IPR	: <i>Izin Pertambangan Rakyat</i>
IUP	: <i>Izin Usaha Pertambangan</i>
IUP	: <i>Izin Usaha Pertambangan</i>
IUPK	: <i>Izin Usaha Pertambangan Khusus</i>
KPP	: <i>Kawasan Peruntukan Pertambangan</i>
RTRW	: <i>Rencana Tata Ruang Wilayah</i>
UKL	: <i>Upaya Pengelolaan Lingkungan</i>
UPL	: <i>Upaya Pemantauan Lingkungan</i>
WALHI	: <i>Wahana Lingkungan Hidup Indonesia</i>
WIUP	: <i>Wilayah Izin Usaha Pertambangan</i>
WIUPK	: <i>Wilayah Izin Usaha Pertambangan Khusus</i>

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CHAPTER 1

INTRODUCTION

A. Background

Gunungkidul is one of the districts in Special Region of Yogyakarta, with Wonosari as its capital. Its total land area is about 1.485,36 km² or 46,63 % of Yogyakarta.¹ Administratively, this regency consists of 18 subdistricts and 139 villages. In 2012 the population of Gunungkidul was approximately 684.740 comprising of 331.220 males and 353.520 females. It has hot temperature with the highest rainfall occurs on January (499.78 mm) and the lowest one is on August and September (0.06 mm).²

More than half of Gunungkidul land are in the rocky area with karts sediment (757,13Km²). This zone covers 14 sub-districts namely;

1. Karangmojo
2. Nglipar
3. Paliyan
4. Panggang
5. Playen
6. Ponjong
7. Purwosari
8. Rongkop

¹ Pemerintah Kabupaten Gunungkidul, Kondisi Umum, 2012, <http://www.gunungkidulkab.go.id/home.php?id=78&mode=content>, Accessed on November-06-2015 at 4.24 PM.

² Central Bureau of Statistics of Gunung Kidul Regency, "Profile of Regency of Gunungkidul", 13 Agust 2015, <http://regionalinvestment.bkpm.go.id/newsipid/en/displayprofil.php?ia=3403>, Accessed on November-06-2015 at 4.30 PM.

9. Girisubo
10. Saptosari
11. Semanu
12. Tanjungsari
13. Tepus
14. Wonosari

The Minister of Energy and Mineral Resources Decree Number 1456.K/20/MM/2000, stated that karst zone has some strategic values for the people and the nature it self such as:

- a. The economic values: related to agriculture, forestry, mining, water management and tourism.
- b. Scientific purposes: concerning geoscience, speleology, geology, archeology, paleontology .
- c. Humanity advantages: referring to the beauty, recreation, education, and spiritual elements of religion or belief.³

Karst zone has played very important role for sustaining natural environment with its several ecosystem functions as clean water reservoir, source of construction raw materials, and agent of climate-change controlling system. Moreover, the karst zone has some various potentials to be developed for future asset, e.g. underground resources, biological resources, and other things that can be used by the people. Karst zone also serves function as the ecosystem of the jungle which creates water reservoir, especially groundwater

³ Article 3, The Karst Region Value, The Decison of the Minister of Energy and Mineral Resources No. 1456 K/20/ MBM/2000 on Guidelines for the Management of Karts Area

and bedrock of carbon. Thus, when there is damage to the environmental in the karst zone like mining activities, the amount of underground water surely will decrease.⁴

Gunungsewu karst zone, part of Gunungkidul regency, has the most unique hydrogeologic structure since it is composed predominantly of reef limestone. Physically limestone can substitute karst and calcit layer as aquifers.⁵ Gunungsewu karst zone also has unique geological component which functions as a natural regulator of the water reservoir and has scientific purposes.⁶ It means that Karst zone is very important for the ecosystem and scientific research as well as for the tourism aspect of its outstanding scenic beauty.

Other karst zones also have highly economic value by exploiting their natural resources in a proper manner so as it brings benefit to mankind. Such view is in line with the idea proposed by David Ricardo that exploitation in perspective manner of the natural resources can make those resources become the engine of growth that are transforming resources into "*man-made capital*" which in turn will result higher productivity.⁷ In this regard, the people around karst zone have chosen mining activity for supporting their family as the area is not fertile enough for agriculture, it is very dried and barren.

⁴ Eko Budiyanto, "Peran Penting Kawasan Karst"
<http://geo.fis.unesa.ac.id/web/index.php/en/geomorfologi-karst/133-peran-penting-kawasan-karst>
Accessed on November-06-2015 at 06.26 AM.

⁵ Kusumayudha SB ,2004,*Intriduction to Karst Hydrogeology*, Karts Study Center UPN "Veteran" Yogyakarta, UPN "Veteran" Yogyakarta Publisher, Yogyakarta, p137 ⁵

⁶ The consideration point a Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia number 17 of 2012 on The Determination of Karst Landform Area.

⁷ Akhmad Fauzi, 2004, *Ekonomi Sumber Daya Alam dan Lingkungan: Teori dan Aplikasi*, Jakarta, PT Gramedia Pustaka Utama, hlm. 5

Based on the data from the Department of Industrial, Trade, Cooperative and Mining of Gunungkidul, there were more than 1884 people who work in karst mining sector.⁸This figure would be much higher if the government registered those of illegal miners. Officially, there are 19 mining companies registered in the local government while other companies remain illegal.⁹ This data proved that the mining sector in Gunungkidul has been the main sources of income for the people who live surrounding the karst zone and there is lack of law enforcement to the illegal mining companies.

The main threat in the conservation of karst zone is wrong mind-set of the people. They view the karst zone as “money maker”.¹⁰ The economic reasons have led them to exploit the area without considering its impact to the nature. They believe that the natural resources should be utilized for the benefit of mankind.¹¹As the results the conflict between economic interest and conservation purpose cannot be avoided. There should be serious effort to synchronize the economic interest and human life with the earth and the environment conservation.¹²

The protection and management of environment need to be developed with an integrated system, in the form of national protection policy and natural resources management which supported by legal enforcement form central

⁸ Departement of Industry, trade, cooperatives and mining energy and mineral resousces Gunungkidul region, 2013, the number of people dependent on the mining sector in Gunungkidul.

⁹ Ibid,

¹⁰Ning Fitri, “Darurat Air dan Terancamnya Kawasan Karst WALHI Jawa Tengah Menolak”, <http://www.walhi.or.id/darurat-air-dan-terancamnya-kawasan-karst-walhi-jawa-tengah-menolak.html>. Accessed on November-06-2015 06.02 AM.

¹¹ Samsul Wahidin, 2014, *Dimensi Hukum Perlindungan & Pengelolaan Lingkungan Hidup*, Yogyakarta, Pustaka Pelajar p.18.

¹² Ibid,

government and local authorities. Karst zone must be protected because karst has not only economic function as mining material but also plays the role as ecosystem chain for today and the future.

Through some efforts to conserve the karst zone has been made by local government and NGO, the impact of legal and illegal mining at Gunungkidul still can be avoided.

The followings are the regulations issued by central government regarding the karst zone mining activities:

1. The Decision of Minister of Energy and Mineral Resources No. 1456 of 2000 on the Guideline for The Management of Karst zone.
2. The Government Regulation No. 26 of 2008 on National Spatial Plan.
3. The Regulation of Minister of Energy and Natural Resources No. 17 of 2012 concerning The Determination of Karst Landform Area
4. The Decision of Minister of Energy and Mineral Resources No.3045 k/40/MEM/2014 on The Determination of Gunungsewu Karst Landform Area

In the decision of the Minister Energy and Mineral Resources No. 1456 of 2000 on the Guideline for The Management of Karst zone, it can be seen that karst zone is divided into three classifications. First, the protected area where all mining activities are strictly prohibited except non-mining activities which do not cause any damage to the karst. Second, the mining area where mining activity is allowed as long as the companies fulfil some prerequisites such as AMDAL, UKL, UPL analysis. The third is called main

karst zonemining activities where legal companies are allowed to do their mining as long as it is in accordance with prevailing legislation.¹³

The decrees No.1456 of 2000 can create multiple and different interpretation among the people and local authorities in which the protected area can be easily transferred into mining zone. It means local authorities can issue new mining permit on their own. This authority can be abused by shifting the classification types of mining zone from protected area into non protected/mining area.

The Government Regulation No. 26 of 2008 on National Spatial Plan supports the conservation of karst zone, because it has deleted the classification of karst zone. In this regulation the cave and karst zone are included into the geological natural preservation.¹⁴ The impact of this regulation makes karst zone become prohibited area to be mined.

Furthermore, the Minister of Energy and Mineral Resources issued the Minister of Energy and Mineral Resources Regulation No. 17 of 2012 that stated the karst zone as the National conservation area.¹⁵ To strengthen the regulation, The Minister of Energy and Mineral Resources also issued the Decision of Minister of Energy and Mineral Resources No. 3045/K/40/MEM/2014 which established Gunungsewu areas as national conservation of karst zone as well as other karst zones in 14 subdistricts of

¹³ The decision of ministry energy and Mineral Resources no. 1456 of 2000 on the Guideline for The Management of Karst Area section. 12

¹⁴ Government Regulation No. 26 of 2008 on National spatial land plan Article 60 paragraph 2 points C and F.

¹⁵ The Regulation of Ministry of Energy and Natural Resources No. 17 of 2012 on The Determination of Karst Landform Area, Article 3, Status and criteria of Karst Landform.

Gunungkidul. By this time, the struggle to protect or conserve the karst has come true.¹⁶

The environmental management does not mean to maintain the entire nature as natural circumstances but to control, save, and preserve the environment.¹⁷ With some consideration especially the highest regulation and the condition of mining activity that has been conducted from a long time and referring to the damage of karst zone, the Governor of Yogyakarta special region then issued the Governor Regulation No. 31 of 2015 regarding the Procedures for Giving Regional Mining Permit Mineral Metal, non-metal and Rocks.

The regulation above is clarified by the head of Energy and Mineral Resources and Public Work Service of Special Region of Yogyakarta Mr. Yunan (ESDM DPU DIY) that the legal basis for karst mining activities at Gunungkidul is the special Region Yogyakarta Regulation.¹⁸ The addendum of Ministry Regulation made by Governor/Local authorities then become interesting issue since both regulations deal with conservation area of mining zone.

¹⁶ The Decision of Ministry of Energy and Mineral Resources No.3045 k/40/MEM/2014 on The Determination of Gunungsewu Karst Landform Area.

¹⁷ Djanius Djamin, 2007, *Pengawasan & Pelaksanaan Undang-Undang Lingkungan Hidup*, suatu analisis social.

¹⁸ Tujuh anggota dewan tagih janji, <http://www.sorotgunungkidul.com/berita-gunungkidul-12532-tujuh-anggota-dewan-tagih-janji.html> accessed on 11-16-2015 at 12.48 AM

B. Research Questions

Based on the above background the research problem are formulated as follow;

1. What are the regulations of karst mining activities at Gunungkidul and how those regulation applied?
2. What are the obstacles in applying the conservation regulations on karst area in Gunungkidul?

C. The Objective of Study

The research objectives are;

1. To know what regulations have been issued in related to karts mining activities.
2. To find out the way how karst mining regulations are applied.
3. To analyze the obstacles in applying the karst conservation regulations.

D. The Advantages of Research

Among the advantages which could be reached from this research are:

1. Theoretical Advantages

This research provides depth information on the conformity of the regulation of karst protection with the regulation of karst mining at Gunungkidul Regency. It also evaluates all regulations related to legal issue that is being applied.¹⁹

¹⁹ ibid

It is also expected to produce an argument that will be used to resolve the related issue, and contribute some suggestions to the government for revising regulations on a related issue.

2. Practical Advantages

The research provides *ratio legis* and *ontological basis* of the regulation issues. By studying the *ratio legis* and *ontological basis*, the philosophical basis of a regulation will be found. Through reasoning and ontological treasuring, a clash between the philosophical basis of legislation and other regulations or with an issue that is being faced can be identified.²⁰ In this research there are two kinds of contradictory matters; the conservation and mining activity which occur at the same place.

This research develops the understanding on how the impact of karst mining regulation to the effort of the Indonesian government to establish the karst zone as a geological conservation area. This research also shares and improves the knowledge on the principle of management and protection of karst zone.

²⁰ Peter Mahmud Marzuki, 2005, *Penelitian Hukum*, Edisi Revisi, Jakarta, Prenadamadia Group, p.134.

CHAPTER II

LITERATURE REVIEW

A. Karst

The term "Karst" refers to a distinctive type of area that had developed from the dissolving action of water on soluble bedrock, primary limestone, and marble but also dolostone, gypsum and halite. Karst landscapes are characterized by fluted and pitted rock surface, shafts, sinkholes, sinking streams, spring, subsurface drainage systems, and caves. The unique features and three-dimensional nature of karst landscapes are the results of complex interplay between geology, climate, topography, hydrology, and biological factors over long time scale. Globally, examples of karst topography can be found at all latitudes and elevations, with rock types potentially containing karst covering approximately 20% of earth's land surface.²¹

Karst zone is an area that has characteristic typical relief and drainage, especially caused by intensive rocks dissolving. Limestone is a rock that often to the occurrence of karst, karst landscape has sinkholes, sinking streams, caves, and spring. The term "karst" is derived from a Slavic word that means barren, stony ground. It is also the name of a region in Slovenia near the border with Italy that is well known for its sinkholes and spring. Geologist has adopted karst as the term for all such

²¹ Tim Stokes, Paul Griffiths and Carol Ramsey, 2010, "Karst Geomorphology, Hydrology, and Management", https://www.for.gov.bc.ca/hfd/pubs/docs/lmh/Lmh66/Lmh66_ch11.pdf, Accessed on November-12-2015 at 6.55 AM.

terrain. The term "karst" refers to the whole landscape, not a single or spring. Karst landscape most commonly developed on limestone, but can develop into several other types of rocks, such as dolostone (Magnesium carbonate or the mineral dolomite) gypsum, and salt. Precipitation infiltrates into the soil and flows into the subsurface from higher elevation generally toward a lower elevation. Weak acid found naturally in rain and soil water slowly dissolve the tiny fractures in the soluble bedrock, enlarging the joint and bedding planes.²² Karst zone is the natural reservation area and has a potential as unrenewable natural resources and also has the unique natural phenomena and rare, thus the utilization of natural resources space for construction or mining must be carefully done to protect the environment and not causes some damage.²³

The karst region—landscape of the carbonate rocks (limestone and dolomite) which shows the morphological form of karst hills, valleys, dolina and cave—has quantitative economic values that derived from direct benefits, such as recreation activities, and from indirect benefits, such as the ecosystem services of water preservation, erosion control, biodiversity conservation, an agent of controlling the climate change.²⁴ Besides of that karst zones also have various potential resources for

²² Kenthuky Geological Survey, 2012, "Introduction to Karst Ground Water", https://www.uky.edu/KGS/water/general/karst/karst_landscape.htm Accessed on November-11-2015 at 10.00 AM

²³ Hatma Suryatmojo, 2002, "Konservasi tanah di kawasan karst Gunungkidul", http://www.mayong.staff.ugm.ac.id/artikel_pdf/konservasi%20tanah%20di%20kawasan%20karst%20gunung%20kidul.pdf Accessed November-11-2015 at 12.55 AM

²⁴ Brinkman, R., Garren, S., J., 2011. *Karst and Sustainability. Karst Management*. DOI : 10.1007/978-94-007-1207-2_16.

development such as land, biological resources, and landscape either at surface or subsurface.²⁵

The karst zone is very unfavorable to mostly plants as seen from the land condition, limited nutrient and water, and too hot weather especially during dry season. Plants that live in this area will undergo an adaptation on the environment. Here are the multi-functions of karst;

1. Water Resources

Without a doubt, water is the most commonly used resources in karst zones. Although the lack of surface water is commonly characteristic of karst zones, they also contain some of the largest water producing wells and springs in the world. Until the development of well-drilling technologies, communities generally inhabit along the margins of karst zones, down stream from large springs that provided water for drinking, agriculture, and other uses. The cavernous nature of karst aquifer allows considerable volumes of water to be stored underground. This is especially valuable in arid climates where evaporation is high.

2. Mineral Resources

Prehistoric people found shelter and mineral resources in caves for flint (also known as chert) to make stone tools and for sulfate minerals and clays for medicines and paint pigment. In Europe, a soft speleothem known as moonmilk was used as poultice,

²⁵ Suryatmojo, 2006. "Strategi Pengelolaan Ekosistem Karst di Kabupaten Gunungkidul." *Seminar Nasional Strategi Rehabilitasi Kawasan Konservasi di Daerah Padat Penduduk*. Fakultas Kehutanan UGM

an antacid, to induce mother milk, and to remedy other medical woes. The most common mineral resources extracted from karst zones is the quarried rock itself. Limestone, dolomite, marble, gypsum, travertine, and salt are all mined in large quantities throughout the world.

3. Earth History

Karst has an important role in increasing our understanding of the history of past climates and environments on earth. Sediments and speleothem or mineral deposit in caves are among the richest sources of paleoclimate information, providing a detailed record of fluctuations in regional temperature, atmospheric gasses, rainfall, ice ages, sea level changes, and plants and animals that once inhabited the areas during the past several hundred thousand years.

4. Ecology

Many species of bats, including those that form some of the world largest colonies, hang in the caves. Nectar-feeding bats are important pollinators, and a number of economical and ecologically important plants might not survive without them. Insectivorous bats makes up the largest known colonies of mammals in the world. Population from some of these colonies may far less complex than those on the surface, biologist study these animals for insights into evolution and ecosystem development.

5. Archaeology and Culture

From early times in human development, caves have served first as shelters, and later, as resources reservoirs and religious sites. Many of the world's greatest archaeological sites have been found in caves, where fragile materials that would easily be destroyed in other setting have been preserved.

6. Recreation

Karst zones provide three main types of recreational setting: commercial caves, wild caves, and scenic areas. For many people, their only exposure to the karst environment occurs when they visit commercial caves. There, they can view delicate and grand mineral displays, valuated chambers, hidden rivers, and other underground wonders.²⁶

B. Conservation

The main focus in the protection of natural areas across the globe has been in the context of preserving landscape beauty, natural heritage, unique biological habitat. More recently, geology has emerged at the forefront of interest for many protected areas (Eder and Patzak).²⁷ According to law No 4 of 1982, natural resource conservation is the management natural resources to ensure its use wisely and for renewable continuity of the stock

²⁶ American Geological Institute, 2001, "Living With Karst", <http://www.agiweb.org/environment/publications/karst.pdf> accessed November-11-2015 at 5.23 PM

²⁷ Eder, F.W., and Patzak, M., 2004. Geoparks Geological Attractions: A Tool for Public Education, Recreation and sustainable Economic Development, Episodes, 27, No.3., p.162-164

and to improve the quality of values and diversity.²⁸ Conservation also can be viewed from economical aspect and ecological where conservation from economical aspect means as that tempt to allocate natural resources. In term of ecology, conservation is the allocation of natural resources for now and future. Conservation also can be interpreted as the action to keep the existence of something which is available in continuously sustainable either quality and quantity.²⁹

In Indonesia, conservation activities should have been held in coordination with the government and society, including the communities, private organization or NGO, University, and others parties. Conservation national strategy was formulated into three implementation schemes;

1. The protection of life supporting system,
2. Preserving the diversity of plant species and animal and their ecosystem,
3. The use of sustainable organic resources and their ecosystem.

Conservation is regulating the use of the biosphere by human beings in order to obtain results that are sustainable for the present generation as well as to preserve the potential for the needs of future generations.³⁰

²⁸ Law no 4 of 1984 Article 1 Paragraph 4, concerning on The Principal Management of Environment.

²⁹ Mochamad Hadi, "Konservasi Sumberdaya Alam dan Lingkungan", <http://core.ac.uk/download/pdf/11702495.pdf> Accessed on November-11-2015 at 2.02 PM

³⁰ Ajie Rocan, 2014, "Pengertian konservasi", <http://birocan.dephut.go.id/ikk/webrocan/index.php/informasi/berita/42-pengertian-konservasi> Accessed on November-11-2015 at 1.53 AM

C. Geoconservation

Geoconservation, now a growing activity, is defined by Prosser (2013) as “action taken with the intent of conserving and enhancing geological, geomorphological and soil features, processes, sites and specimens, including associated promotional and awareness-raising activities, and the recording and rescue of data or specimens from features and sites threatened with loss or damage”.³¹Conserving geodiversity is part of the core business of nature conservation (understood as the protection, preservation, management or enchantment and the improvement of understanding and appreciation of flora, fauna, and geological and geomorphological features. Geodiversity is essentially the abiotic part of the natural world; it is intimately linked with biodiversity and is the physical setting for life itself. It may be defined as the natural range or diversity of geological features (Rock, mineral, fossil, structures), geomorphological features (landforms and process), soil and water that compose and shape the physical landscaping, concrete, or other human landform and products.

Earth heritage resources have been exploited by humans for thousand of years, but the integrity and accessibility of these resources may be threatened in various ways. The principal threats can be summarized as:

1. Loss of geological exposures and/or information,
2. Damage to the physical area and its geomorphological features and process,

³¹ Prosser, C.D., 2013. Our rich and varied geoconservation portfolio: the foundation for the future. *Proceedings of the Geologists' Association* 124, 568–580.

3. Damage to soil features and process,
4. Damage to groundwater and surface water,
5. Lack of public understanding about geodiversity, and why it is valuable to society for its contribution to economic life, science, wildlife, leisure, and recreation.³²

D. Mining

Mining could be interpreted as an activity, technology and business related to the mining industry ranging from prospecting, exploration, evaluation, mining, processing, refining, transportation to marketing. The mining business is a mineral or coal exploitation business covering some or all phases of activities in general inspection, exploration, feasibility study, construction, mining, processing and purification, transportation and sales as well as post-mining.³³ The legal basis on the mining sector is the 1945 constitutions article 33 paragraph 3 which stipulates that earth and water and natural resources are controlled by the state and used for the greatest prosperity of the people.³⁴

According to Law No. 11 of 1967, mining materials are classified into three types; Group A (the so-called strategic materials), Group B (vital ingredient), and Group C (material does not strategic and vital). Group A materials are goods that are essential for the defense, security and strategic to ensure the country's economy and mostly only allowed to be owned by

³² Tim Holt Wilson, 2015, "Introducing Geoconservation", <http://www.ukwildlife.com/index.php/conserving-geodiversity/introducing-geoconservation/> accessed November-11-2015 at 6.20 PM

³³ Article 1, Mineral and Coal Mining Act 2009

³⁴ 1945 Constitution Art. 33 paragraph 3

the government, such as oil, uranium, and plutonium. Meanwhile, the Class B material can guarantee the life of many people, for example, gold, silver, iron and copper. Group C materials are materials that do not belong to Group A and B³⁵.

Mineral mining is the mining of mineral groups in the form of ore or rocks outside geothermal, oil and gas as well as ground water.³⁶ There are four types of mineral mining groups, namely:

- a. Radioactive mineral mining
- b. Metal mineral mining
- c. Non-metal mineral mining
- d. Rock mining

The mining licensing system was regulated in Article 35 of Mineral and Coal Mining Act 2009. It is mentioned that there are three kinds of permit/licence in the mining business,³⁷ namely:

- a. *Izin Usaha Pertambangan* or Mining Business Permit hereinafter referred to as IUP, is a permit to carry on a mining business.
- b. *Izin Pertambangan Rakyat* or Smallholder mining permit hereinafter referred to as IPR, is a permit to carry on a mining business in the smallholder mining area with limited area and investment.

³⁵ Law no. 11 of 1967 on The Principal of Mining, section 3.

³⁶ Gatot Supramono, 2012, *Hukum Pertambangan Mineral dan Batubara di Indonesia*, Jakarta, PT. Rineka Cipta, p.16

³⁷ Article 35, Mineral and Coal Mining Act 2009

c. *Izin Usaha Pertambangan Khusus* or **Special Mining Business Permit** hereinafter referred to as **IUPK**, is business permit to carry on a mining business in the special mining business area.

CHAPTER III

RESEARCH METHOD

A. The type of research

This research uses empirical legal research and normative legal research. In the empirical legal research, the data of research are collected through interview namely the the head of village and the miners.

Then the normative legal research refers the library research, comparing the data with the regulations issued for karst protection, such as The Regulation of Ministry of Energy and Mineral Resources No. 17 of 2012 on The Determination of Karst Landform Area and The Decision of Minister of Energy and Mineral Resources No.3045 k/40/MEM/2014 on The Determination of Gunungsewu Karst Landform Area as the main regulation of karst conservation. Then comparing to the Governor Regulation No. 31 of 2015 on The Procedure for Giving Regional Permit as the legal basis of karst mining permit on Gunungkidul, Yogyakarta, and related information from books, journal, and other legal documents.

B. Types of data and Legal Material

In this research the primary data were collected through interview (local authorities, mining managers and workers, head of the village, and people living around the mining zone) then the findings were compared with secondary data or legal material. A legal material as research material was taken from the literature in the form of primary legal material, secondary legal material, and tertiary legal material.

1. Source of data:

- a. Primary Data: Interview the head of village and groups of people, mining manager, and mining workers who are closely bound with mining regulations in karst mining area.
- b. Secondary Data, consist of:
 - 1) Primary legal materials: legislation, ministry decree, and ministerial regulation:
 - a) The decision of Minister of Energy and Mineral Resources No. 1456 of 2000 on Guidelines for Management of Karst
 - b) Government Regulation No. 26 of 2008 on the National Spatial Plan
 - c) Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia Number 17 Of 2012 on Designation of Karst zone

- d) The decision of Minister of Energy and Mineral Resources no. 3045 K/ 40/ MEM/ 2014 on The Determination of Gunungsewu Karst Landform Area
 - e) Governor Regulation of Special Region of Yogyakarta No. 31 of 2015 on The Procedures for Giving Regional Mining Permit Mineral Metal, non-metal and Rocks
- 2) Secondary legal materials :
- a) The scientific books
 - b) Journals and related literature
 - c) The results of related studies
 - d) The doctrine, opinions and testimony from legal experts both written and unwritten
- 3) Tertiary legal Material: legal dictionary

C. Research Location and Informant/Respondent

This research was conducted at Gunungkidul, Yogyakarta. Gunungkidul has very widely potential karst zone. More than a half of Gunungkidul total area consists of Karst zone. In some area, there are so many massively mining activities. This research discusses the obstacle of the conservation effort made by the government, especially the challenge from the miners.

D. The legal research approaches

The research used statute approach that requires the researcher to investigate all regulations issued by central or local authorities. Within the statute approach, the researcher will examine not only the form of legislation but also cross check its material content. Researcher studied the ontological basis, the philosophical reason, the ratio legis for the issuing the rules and regulations. In the method of statute approach, the researcher should have the skill and thorough understanding on the hierarchy, and principles of the legislation.

E. Technique of Collecting Data

The data were collected through interview of local authorities, mining managers and workers, and people living around the mining zone, including the head of village. Library research was also used for data collecting related to the issue of rules and regulation of the mining, conservation, and the obstacles encountered during the implementation of the minister degrees or governor decisions.

F. Method of Data Analysis

The data were analyzed by using qualitative descriptive analysis namely: the collected data were classified and elaborated through descriptive qualitative analysis with the applicable law comprehensively. The qualitative descriptive is the research method based on the descriptive data either in verbal or written documents. In the qualitative method, the researcher role is very important as he/she involves directly

with the source of the data. His interpretations on the interview results or what was stated by the respondent in written should be cross examined with other data. In this method, the researcher is responsible not only to reveal and interpret the truth but also to explain the background of the problems.³⁸

G. Outline

In this undergraduate thesis, the author elaborates the topic systematically by dividing it into five chapters. Chapter one: introduction where the author elaborates pertinent information prelude to the topic such as background, problem formulation, research objective, research benefits, also an overview of the chapters.

Chapter two is a literature review. In this chapter the author presents library reviews. The definition of karst, function of karst, the definition of conservation, the definition of geodiversity, the definition of mining, and characteristic of mining are among the details given.

The next chapter is about research method. In this chapter, the author explains about type of research, types of data and material law, source of data, legal research approach, data collection, and data analysis.

Chapter four shows the result and discussion. The author first presents the results of the research then continues to the analysis of karst management regulation in Gunungkidul together with its obstacles

³⁸ Soerjono Soekanto, 2014 *Pengantar Penelitian Hukum*, Jakarta, Penerbit Universitas Indonesia, p250.

The last chapter is chapter five which contains the conclusion and suggestion for improvement of regulation application and for further research.

CHAPTER IV

FINDING AND ANALYSIS

A. The Development of Karst Management Regulation

The management of a karst zone has been main concern of authorities starting from local Governments up to the central Government. In order to harmonize between economic and conservation interests, they have issued several regulations as follows;

1. Law No. 26 of 2007 on The Spatial
2. The Decree of the Minister of Energy and Mineral Resources No. 1456 of 2000 On Guidelines for the Management of the Karst
3. Government Regulation No. 26 of 2008 on the National Spatial Plan
4. The Regulation of Ministry Energy and Mineral Resources of the Republic of Indonesia Number 17 of 2012 concerning on The Determination of Karst Landform Area
5. The Decree of the Minister of Energy and Mineral Resources Number 3045 k/40/MEM/2014 on The Determination Gunungsewu Landform Area

1. Law No. 26 Year 2007 on the Spatial

The Law Number 26 of 2007 on Spatial is juridical of spatial planning and determination of the region, including protected areas in Indonesia.³⁹

Referring to Article 4 of the Act, the classification of spatial planning is

³⁹ Rahayu Repindowati, "Perlindungan Hukum terhadap Geopark Merangin Jambi yang Berpotensi menjadi Anggota Global Geoparks Network (GGN) UNESCO, *Jurnal Inovatif*, Volume VII, Nomor III September 2014

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 first one is protected area (*kawasanlindung*). This is to protect the environmental sustainability including natural resources and artificial resources. Whereas, the cultivation area (*kawasan budidaya*) is an area categorized by its function as the primary site for cultivation 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. Such divisions are 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.⁴⁰

One of the interested provisions in this law is Article 73 regarding the imposing of criminal sanctions against officials who issued permit which is 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

⁴⁰Imam Koeswahyono. (2012). *Hukum Penatagunaan Tanah dan Penataan Ruang di Indonesia: Problematika Antara Teks dan Konteks*. Malang: UB Press. p.95

in the form of "*Freisermessen* or discretionary deed which became one of the legal instruments of government in executing its tasks and duties.⁴¹

2. The Decison of the Minister of Energy and Mineral Resources No. 1456 K/20/ MBM/2000 on Guidelines for the Management of Karts Area

Karst region has a huge potential, namely the potential of the unique biodiversity, distinctive and endemic. The karst zone has a strategic value, namely economic, ecological, humanitarian and scientific value. However, utilization of the karst zone in an uncontrolled manner may threaten the sustainability of the karst zone.⁴² Because of karst zone has some strategic value, the regulation stated that in Article 2, that the management of karst zone has objectives to improve the protection of karst zone and improve the lives of people in the karst zone. The livelihood of the community in the karst zone depends on two main sectors, namely mining and tourism. In some locations where there is tourism potential, people choose to modify it as a tourist destination. Whereas for the areas that do not have tourism potential, the people prefer to utilize it as mining site. Therefore in Article 3 point a, it was written that the karst zone has

⁴¹Juniarso Ridwan & Achmad Sodik. (2013). *Hukum Tata Ruang dalam Konsep Kebijakan Otonomi Daerah*, Bandung, Penerbit Nuansa. p.160

⁴² Kementrian Lingkungan Hidup, "Pengelolaan Kawasan Karst", 4-Agust-2004, <http://www.menlh.go.id/workshop-nasional-pengelolaan-kawasan-karst/> accessed on on November-11-2015 at 1.53

economic value, which is related to the agriculture, forestry, mining, water management and tourism.⁴³

In Article 11 it is stated that the classification division of karst zone is based on the function and its constituent elements. It is precisely categorized into zone I, II, III.⁴⁴

In Article 12, Paragraph 1 mentions that the first class karst zone is an area that contained one or more of the following criteria:

- a. Functioning as an aquifer, underground rivers, lake or underground lakes that to existence sufficient hydrologic function;
- b. Having the caves and underground rivers that set to active form either horizontal or vertical network that his system is adequate hydrologic function and science;
- c. Having active speleothem or historical relics, thus potentially to be developed into a tourist attraction and cultural;
- d. Home of typical flora and fauna forsocial, economic, cultural as well as scientific functions.⁴⁵

The utilisations mentioned in article 14 Paragraph 1 and 2 are;

- a. No mining activity in the first class karst zone,

⁴³ Article 3, The Karst Region Value, The Decison of the Minister of Energy and Mineral Resources No. 1456 K/20/ MBM/2000 on Guidelines for the Management of Karts Area

⁴⁴ Article 11, The Decison of the Minister of Energy and Mineral Resources No. 1456 K/20/ MBM/2000 on Guidelines for the Management of Karts Area

⁴⁵ Article 12, The Decison of the Minister of Energy and Mineral Resources No. 1456 K/20/ MBM/2000 on Guidelines for the Management of Karts Area

- b. Other activities done in the first zone should not potentially interfere the karstification process or damage the karst forms under and above the surface.

It is meant that in the first class karst zone all potentially endangered activities are prohibited, without any exception the mining activities. The second class karst zone according to article 11 paragraph 2 is an area that possesses one or all of the following criteria;

- a. Has function as a supplier of the underground water, rain water catchment areas which affect his ride down the face of the underground water in the region of kars, so still support general functions of hydrology:
- b. Has network of alleys formed by underground streams and caverns results that are already dry, have a speleothem that has been inactive or damaged, as well as a place of residence remains the fauna they give value and economic benefits.⁴⁶

For the utilization of the land, the people should refer to article 14 paragraph 3 regarding karst zone of class II. When the people want to use zone II, they should fulfill environmental analysis or AMDAL or UKL and UPL in accordance with the legislation guidelines. It means that in the karst zone class II mining activities are allowed after conducting several plausibility analysis to guarantee that the activities do not endanger the environment.

⁴⁶ Article 11, Paragraph 2, The Decision of the Minister of Energy and Mineral Resources No. 1456 K/20/ MBM/2000 on Guidelines for the Management of Karts Area

The third zone is the areas which do not belong to the first and the second categories. Its utilization is regulated under article 14 paragraph 4. In this region, the people can do activities with the provisions of the rules and regulations.

3. Regulation of The Government of The Republic of Indonesia Number 26 of 2008 on National Spatial Plan

The National Protected Area based on The Regulation of The Government of Republic Indonesia Number 26 of 2008 on National Spatial Plan covers the area:

- a. local protection area;
- b. the area of the sanctuary of nature, conservation, and cultural heritage;
- c. the region prone to natural disasters;
- d. protected areas of geology;
- e. other protected areas.

The karst zone is the area which has the karstification process. Karstification is a series of processes ranging from lifted up limestone into surface earth due to endogenous processes as well as dissolving occurs in geological time and space to finally produce a karst land.⁴⁷ Therefore, based on the Article 53 The Regulation of The Government of Republic Indonesia Number 26 of 2008, karst zone is defined as an area of the

⁴⁷Soerono, "Kawasan Karst di Gunung Kidul dan Kearifan Lokal", http://penataanruang.pu.go.id/bulletin/index.asp?mod=_fullart&idart=153

uniqueness of the area and geological processes⁴⁸ because it has a unique type of geology and has traces of past geological structure.⁴⁹ Therefore the area of karst zone is protected as national conservation area. This regulation comes into effect and changes the first, second, and third classification of zone. This rule affirms that the whole karst zones fall into national protection zones and mining activities are strictly prohibited.

To support this regulation, the local authority of Gunungkidul issued a circular to ban the entire mining in its 11 Sub-Districts. In compensation for the lost of mining work, District Government then gave fresh water fish farming to the people.⁵⁰ According to Executive Director of *Wahana Lingkungan Hidup Indonesia* (WALHI) DIY, Mr. Suparlan, the Regency Circular No 540/0196 dated February 7, 2011 was about the termination of mining activities in the Gunungkidul karst area and this has already been in accordance with government regulation No. 26 in 2008 on National Territory Spatial Plans⁵¹.

⁴⁸ Article 53, The Regulation of The Government Of Republic Indonesia Number 26 of 2008 of National Spatial Plan, the criteria of geological natural reserve Area.

⁴⁹ Article 60, The Regulation of The Government Of Republic Indonesia Number 26 of 2008 of National Spatial Plan, the criteria of uniqueness of the rocks and fossils.

⁵⁰ Markus Yuwono, "Gunungkidul Tertutup Untuk Pertambangan Karst", Okezone.news.com. Home, News, Nusantara, Minggu-13-Februari-2011, <http://news.okezone.com/read/2011/02/13/340/424342/gunungkidul-tertutup-untuk-pertambangan-karst>

⁵¹ Suryanto, "WALHI: Pertambangan Karst Rusak Pradaban Manusia" Antaranews.com, warta bumi, Selasa- 5-Juli-2011, <http://www.antaranews.com/berita/266060/walhi-penambangan-karst-rusak-peradaban-manusia>

4. The Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia No. 17 of 2012 on The determination karst landform area

The conservation effort of karst zone is reconfirmed by this regulation. Article 3, Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia No. 17 of 2012 stated the karst zone as geological protected area and became part of national protected area.⁵² This regulation clarifies the classification which karst can be cultivated or must be protected. Then Article 4 states that the karst protected area should have eksokarst (Karst on the surface) and endokarst (karst on the subsurface). This area has functions as the research site to develop the science, and also has the hydrological and ecological function to support the life around karst zone.⁵³ This regulation provides guidelines for the determination of the which karst can be cultivated and must be protected⁵⁴.

This regulation puts the authority to the Governor, Regent/Mayor to determine the karst zone. The area is divided into two ways, i.e. the

⁵² Article 3, The Regulation of the Minister of energy and Mineral Resources of the Republic of Indonesia No. 17 year 2012.

⁵³ Article 6, The Regulation of the Minister of energy and Mineral Resources of the Republic of Indonesia No. 17 year 2012, The criteria karst protected area.

⁵⁴ Rudy Suhendar, Kepala Pusat Sumber Daya Air Tanah dan Geologi Lingkungan (PAG), Badan Geologi, Kementerian Energi dan Sumber Daya Mineral (KESDM), "Kebijakan Pengelolaan karst di Indonesia", Geomagz, April-13-2015, <http://geomagz.geologi.esdm.go.id/kebijakan-pengelolaan-kars-di-indonesia/>

investigation and determination of the area of karst zone.⁵⁵ The investigation process can be carried out in several ways, namely:

- a. Inventory the form of eksokarst and endokarst
- b. Mapping the form of eksokarst and endokarst

It is found in Article 7 that the Governor with his authority is responsible for investigating the eksokarst and endokarst.⁵⁶ In doing his authority, the Governor can cooperate with:

- a. Government Research Agencies or local governments
- b. Colleges or universities
- c. Business entity⁵⁷

Based on the investigations by Public Works Housing and Energy and Mineral Resources Province, Governor submitted the proposal of determination of karst zone to the Minister of Energy and Mineral Resources.⁵⁸ Determination of karst landform zones were carried out by the appropriate Minister which is based on the proposal of the Governor of Yogyakarta Special Province.⁵⁹

⁵⁵ Article 5 Regulation of the Minister of energy and Mineral Resources of the Republic of Indonesia No. 17 year 2012

⁵⁶ Article 7, The Procedure for Determination Karst Landform, The Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia No. 17 of 2012

⁵⁷ Article 8, The Procedure for Determination Karst Landform, The Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia No. 17 of 2012

⁵⁸ Article 10, The Procedure for Determination Karst Landform, The Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia No. 17 of 2012

⁵⁹ Article 11, The Procedure for Determination Karst Landform, The Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia No. 17 of 2012

5. The Decision of the Minister of Energy and Mineral Resources of The Republic of Indonesia No. 3045 K/40/MEM/2014 on The Determination of The Gunungsewu Karst Landform Area.

To response Regulations of the Minister of Energy and Mineral resources No. 17 of 2012 on the Determination of the Karst zone, then the Government of the Special Region of Yogyakarta through Public Works Housing and Energy Mineral Resources made a map of the area of karst zone.

According to Puja Krismanto, The Head Division of General Mining, Energy and Mineral Resources field, Department Public Works, Housing, Energy and Mineral Resources Yogyakarta, in proposing the establishment of Karst zone Regions of Gunungkidul and Bantul Districts to the Minister, the Governor of Yogyakarta has eliminated the existing karst mining from the map of the Karst Region of Gunungsewu. The reason is that, the mining activities have been practiced since a long time ago and in a large scale it has changed the topography and disrupted the process of karstification and the subsurface water system of karst zone. The exception of the existing mining with some requirements make the mining area possible to be cultivated in limited time but the area should not be expanded.⁶⁰ Some of his considerations, among others;

⁶⁰ Interview with Mr. Puja Krismanto, April-17-2015, on the office of Departement Public Works, Housing, Energy and Mineral Resources Yogyakarta

- a. Area Giripanggung just has uniqueness criteria eksokarst, endokarst the uniqueness category include the existence of watery cave or underground rivers are not found in the area.
- b. Area Saptosari does not contain eksokarst or endokarst. Some caves are discovered by fossil or dry cave. In addition the caves do not have scientific value for the development of science in the future.

Because the eksokarts, endokarst and uniqueness karstification, as well as the potential of the watery cave or underground rivers were not found, then this blocks is not considered as significant for hydrogeological function. Hydro geological function referred to the regulation of the Minister of Energy and Mineral resources No. 17 of 2012 is as numerical groundwater.⁶¹

B. Karst Management in Local Regulation of Gunungkidul Regency and Yogyakarta Special Province.

1. Karst Management in Gunungkidul Spatial Plan Regulation

The local regulation of Gunungkidul district divides karst zone into protected area and cultivation area.

a. Government regulation of Gunungkidul Regency on protected area

Based on local regulations of Gunungkidul Regency No. 6 of 2011 on Spatial Plan Gunungkidul 2010-2030, the protected areas mentioned in Article 27 Paragraph (2) are as follows;

- 1) Spatial pattern plan areas including;

⁶¹ Dinas Pekerjaan Umum Perumahan dan Energi Sumberdaya Mineral DIY, "Laporan Revisi, Penyusunan Peta kawasan Bentang alam Karst Kabupaten Gunungkidul dan Bantul", 2014.

- a) The designation of protected areas
 - b) The determination of the area of cultivation
- 2) The protected area as referred to paragraph (1) consists of;
- a) The area of protected forest
 - b) The area which provides protection to the subsurface area.
 - c) Local Protection Area
 - d) The area of the sanctuary of nature, conservation and cultural heritage
 - e) The disaster-prone area
 - f) Protected areas of geology
 - g) Other protected areas

Article 29 explains that geological protected area refers to the explanation given in the Article 27 Paragraph (2) letter (b). The area covers;

- 1) Water reservoir area covers 6 subdistricts; Ponjong, Semin, Ngawen, Gedangsari, Nglipar, Patuk.
- 2) Hydro geological and ecological area lie in the karst hills of Gunungsewu covering an area of approximately 80.704 (eighty-four thousand seven hundred four) hectares. These zone are located in:
 - a) Ponjong
 - b) Semanu
 - c) Girisubo

- d) Rongkop
- e) Tepus
- f) Tanjungsari
- g) Saptosari
- h) Paliyan
- i) Panggang
- j) Purwosari
- k) Wonosari

The protection of karst zone as described in article 31 point (e) (1) is about the determination of natural conservation, nature sanctuary, and cultural heritage. The archaeological caves conservation zone in Gunungsewu cover the areas of Goa Seropan, Goa Bentar, Goa Braholo, Goa Tritis, Song Gupuh, Song Geplek, Goa Tabuhan.

The karst zone as a part of the geological protected area, in article 33 (b) is established by considering its geological unique processes such as;

- a. Karst zone as water reservoir for Ponjong subdistrict and surrounding areas;
- b. The area of Lake Girisubo doline in district and Purwosari subdistrict
- c. The area of the ancient volcano of Mount Nglanggeran in Patuk subdistrict

- d. Beach which is formed by lava flow located in the Girisubo Sub-district in Wediombo Beach and lava flows in the river Ngalangin Gedangsari Subdistrict
- e. Gunung Gambar mountain in Ngawen subdistrict
- f. Kali Suci river of Pacarejo, Semanu subdistrict
- g. The ancient Bengawan Solo River Area in Girisubo subdistrict

b. The Mining Allotment Areas In Spatial Plan on Gunungkidul

District

The mining allotment area (*Kawasan Peruntukan Pertambangan/KPP*) Gunungkidul district has been regulated in Local Regulation of Gunungkidul Regency No. 6 of 2011 concerning Spatial Plans (*Rencana Tata Ruang Wilayah/RTRW*) Gunungkidul 2010-2030. Article 39 paragraph (1) states that the mining allotment area plan (*Kawasan Peruntukan Pertambangan/KPP*) is referring to in article 27 paragraph (4) subparagraph (e) covering 2180 Ha (two thousand one hundred eighty-acre) mining area of which covers the limestone, among others;

- 1) KPP Karangmojo-Nglipar-Wonosari and its surroundings are one of the commoditieskalkarenit sandstone and limestone in the village of Bejiharjo, Karangmojo, Ngawis, Jatiayu, Ngipak, Nglipar,Kelor, Kedung Keris, Gari, Karangtengah.

- 2) KPP Panggang and surroundings with commodities limestone, Phospat, and Chalcedon in the village of Girijati, Giriasih, Giritirto, Giriharjo, Giripurwo, Giricahyo, Giriwungu, Girikarto, Girisekar, and Girisuko.
- 3) KPP Tepus and surrounding areas with limestone in the village of Sumberwungu
- 4) KPP Semanu and surroundings with commodities limestone in the village of Semanu and the village of Ngeposari
- 5) KPP Ponjong – South Semanu – Paliyan and surroundings with commodity limestone, chalcedony, and manganese located in di Jetis, Ngloro, Krambil Sawit, Krangduwet, Karangasem, Mulusan, Duwet, Mulo, Wunung, Pacarejo, Candirejo, Dadapayu, Sidorejo, Gombang, Bedoyo, Karangasem, Kenteng, Ponjong, Sumbergiri, Umbulrejo, Sawahan, Tambakromo.⁶²

2. The impact of Law No. 23 of 2014 on Regional Government

Law No. 23 of 2014 concerning Regional Government revoked the authority of District Government for issuing the mining permits. The Government authority is related to the energy and mineral resources, point A and D. Point (A) mentions that the authority of Provincial government

⁶² Local Regulation of Gunungkidul District No. 6 in 2011 concerning Spatial Plans (*Rencana Tata Ruang Wilayah/RTRW*) Gunungkidul district 2010-2030. On Article 39 paragraph (1), Mining Allotment Area.

are, to determine the licenses for mineral only instead of metal and rocks in (1) provincial and territorial sea area up to 12 miles. Point (D) Determination of mineral licenses region, non-metal and rocks in one (1) provincial and territorial sea Area up to 12 miles.⁶³

The Head of Department of Industry, Trade and Cooperatives Energy and Mineral Resources Mr. Hidayat SH. MSi, said that with the discharge of Act No. 23 of 2014 concerning Regional Government, the authority for giving the mining permit is given to Governor of Special Region of Yogyakarta.⁶⁴ Then the local government of Gunungkidul district no longer has authority to issue the mining permit in Gunungkidul.

The genesis of Law Number 23 of 2014 regarding Regional Government on 2nd October 2014 has 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 of 2004 on Regional Government, which means to withdraw 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/ mayor⁶⁵ (Billy

⁶³Law No 23 of 2014 on Local Government, The Division of Government Authority in the field of energy and mineral resources. The authority Provincial government

⁶⁴ Awa, Kedaulatan Rakyat, "HPMP Desak izin segera terbit", Jum'at-28-November-2014 http://www.krjogja.com/web/news/read/239099/hpmp_desak_izin_segera_terbit

⁶⁵Gatot Supramono, *Hukum Pertambangan Mineral dan Batubara di Indonesia*, Penerbit Rineka Cipta, Jakarta, 2002, p 13

Supramono, 2002: 13) based on Law Number 32 of 2004 and diverting it become 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 Mining⁶⁶ in conjunction with Article 20 paragraph (1), Article 28, Article 35 paragraph (1), Government Regulation Number 23 Year 2010 on the Implementation of Business Activities of Mineral and Coal.⁶⁷ It 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 has no longer authority to issue mining area permit under the provisions of Act No. 23 of 2014. They remain possible to issue the permit under the provisions of Article 8 (1) of Law No. 4 of 2009 on Mineral and Coal Mining which is conjunction with Article 11 paragraph (1) letter c of the Government Regulation No. 23 of 2010.

⁶⁶ Law No. 4 Year 2009 on Mineral and Coal Mining, Article 8, The Authority of District/City Government on Mineral and Coal Mining.

⁶⁷ Government Regulation Number 23 Year 2010 on the Implementation of Business Activities of Mineral and Coal, Article 28 and 35, The Business Mining Permit.

3. Spatial Plan Regulation of Yogyakarta Special Province.

Local government regulations do not manage the allotment areas that mining has been removed from the area of karst zone. The determination of the mining allotment was stated on Provincial Regulation of Yogyakarta Special Region No. 2 of 2012 on Spatial and Regional Province Planing on 2009-2029, Section (60) point (a). It is stated that Gunungkidul is special zone for limestone mining especially at Ponjong Subdistrict, Panggang Subdistrict, and Semin Subdistrict.⁶⁸ So the adjustments with the latest legislation is necessary to provide guidelines in issuing permits for mining activities.

To arrange the new Spatial Land Plan, a forum group discussion was held on Monday, June 15 2015 at the office of Planning Development Agency in Gunungkidul. This forum group discussion was held in order to discuss the draft of Karst ekogeowisata area plan.

The discussion was attended by participants from the Regional Development Planning Board Department of Gunungkidul Regency, Public Works Departement of Gunungkidul Regency, The Departement of Industry, Trade and Cooperative & Energy and Mineral Resources of Gunungkidul Regency, Culture & Tourism Departement of Gunungkidul Regency, and some people residing in the conservation area.

There are some agreements on the focus group discussion, among others:

- a. Restricting the opening of new mining activities, and direct mining only in the area of the enclave outside the area of karst zone.

⁶⁸ Provincial Regulation of Yogyakarta Special Region No. 2 of 2012 on Spatial and Regional Province Planing on 2009-2029, Section 60 Paragraph 2, Determination of Mining Allotment.

- 1) Karang asem village, Karang duwet village Paliyan Subdistrict;
 - 2) Giriwungu village, Girikarto village, Girisekar village, Girimulyo village Panggang Subdistrict;
 - 3) Giripurwo village, Purwosari Subdistrict
 - 4) Jetis village, Nglora village, Krambilsawit village, Kepek village, Saptosari Subdistrict;
 - 5) Dadapayu village, Candirejo village Semanu Subdistrict;
 - 6) Tepus village, Purwodadi village, Sumber wungu village, Giripanggung village, Tepus Subdistrict.
- b. Prohibit new mining activities at the inner area;
 - c. Stop the existence of the operation of the mining activity in the inner area;
 - d. Requires the permission of the environment for any kind of exploitation of karst activity; and
 - e. Restrict activity the natural and cultural heritage is protected.⁶⁹

C. Legal Basis of Karts Mining In Gunungkidul Regency

The basis of karst mining activities at Gunungkidul is the Governor Special Region of Yogyakarta Regulation No. 31 of 2015 on the Procedures for Giving Mining Permit either Metal, Non-metals or Rocks Minings. It was issued on May 2015 as a respond to the Act No. 23 of 2014 on Regional Government. The authority for issueing the mining permit is no longer in the

⁶⁹ Dinas Pekerjaan Umum Perumahan Energi dan Sumber Daya Mineral Pemerintah Daerah Istimewa Yogyakarta, “*Focus Group Discussion 2, rancangan peraturan daerah kawasan ekogeowisata karst*” <http://www.dpupesdm.jogjaprov.go.id/berita/423-tr-fgd-kws-karst.html> Accessed on April-04-06-2016

hand of the city major or district regency but full authority of the Provincial Government.⁷⁰

The general provisions of point 5 state that the mining area is the area that has the potential mineral which is not bound by the limits of government administration.⁷¹ It means the mining areas are allowed to be mined in Gunungkidul. Karst zone is removed from the area of karst protection that has been set through the map in the Decision of the Ministry of Energy and Mineral Resources of the Republic of Indonesia No. 3045 K/40/MEM/2014 on Determination of Karts Gunungsewu. This is because those areas do not consider as significant hydrogeological function for the surrounding area, where the function of hydrogeological become important criteria in determination the area of karst protection. Hydrogeological functions refer to Minister of Energy and Mineral Resources regulation No. 17 of 2012. It functions as groundwater reservoir. By having so, it will not damage the ecosystem of karst.

Procedures for permission area of karst Mining are regulated by Governor of Special Region of Yogyakarta Regulation No. 31 of 2015. It clarifies the Procedures for Granting Mining Permit either for Metal, Non-metal, and Rock minings as follows;

1. The Granting of Mining Business License non-metallic, minerals and rocks, carried out by the Regional Government through the regional work

⁷⁰ Pribadi Wicaksono, "Semua Pabrik Pengolahan Tambang di Gunungkidul Berhenti Beroperasi" Sabtu-15-Agustus-2015, <https://m.tempo.co/read/news/2015/08/15/078692211/semua-pabrik-pengolah-tambang-gunungkidul-berhenti-beroperasi>

⁷¹ PERATURAN GUBERNUR DIY No. 31 Tahun 2015 Tentang Tata Cara Pemberian Izin Usaha Pertambangan Mineral Logam, Non-logam dan Batuan, Ketentuan Umum, Point 5.

units Licensing based on Mining Business Area License Proposal (*Wilayah Izin Usaha Pertambangan/WIUP*).

2. The application of Mining Permit Area as referred to in paragraph (1) shall attach as follows:
 - a. The permit of mining business area shall attach the map with the border, and the geographic coordinates, and the type of mineral commodities and spacious area as requested;
 - b. Identity Card of the applicant; and
 - c. Tax ID number
3. The granting of Mining Business License nonmetallic minerals and rocks as referred to in paragraph (1) shall be done after getting a recommendation:
 - a. conformity with national integrated mining information system;
 - b. Space Utilization

D. The Obstacles of Karst Conservation in Gunungkidul.

Karst also has economic value, and most of people who live in the karst zone working as karst miners. The elimination of some karst zone from karst protected area based on some consideration. The main consideration is that karst zone does not have eksokarst and endokarst to support the hydrology function in karst zone and the area around it. Then there are some existing mining areas occurred in a long time in that area, which has changed the topography the karst zone in significantly. The Regulation of Minister of

Energy and Mineral Resources of the Republic of Indonesia No. 17 of 2012 is the guideline of determination process of karst protected area. Then the Government issued the map of karst zone in the decision of the Minister of Energy and Mineral Resources No. 3045 K/40/MEM/2014, which separated the area to karst protected area and non-protected area. That is the main reason why karst mining activity in Gunungkidul still exist legally. This is has a potential to disturb the karst protected area around the karst mining allotment areas.

In addition, there are some companies in Gunungkidul conducting karst mining activity. Based on the data obtained from the Office of Public Works Energy and Mining Mineral Resources, there are 31 mining companies at Gunungkidul, with 1884 workers. This number will be higher if those of illegal miners are registered by the Government.⁷²

Table 1 Number of karst mining Companies in Gunungkidul

No	COMPANY	LOCATION	WORKERS NUMBER
1	PT. Anindya	Bedoyo, Ponjong	66
2	UD. Mineral Persada	Bedoyo, Ponjong	93
3	CV. Merpati Jaya Mineralindo	Bedoyo, Ponjong	53
4	PT. Sugih Alamnugroho	Bedoyo, Ponjong	140
5	PB. Kembang	Karang Asem, Ponjong	16
6	PT. Panasonic Chemical Industri	Selang, Wonosari	190
7	PT. Selodwipo Nuswantoro	Baleharjo, Wonosari	40
8	PT. Dewata	Sumberwungu, Tepus	56

⁷² Dinas Pekerjaan Umum Pertambangan Energi dan Sumberdaya Mineral Yogyakarta, "Data Pertambangan di Gunungkidul"

9	PT. First Lime Indonesia	Sumberwungu, Tepus	15
10	UD. Gunung Gede	Sumberwungu, Tepus	25
11	Ningrat Jawa	Sumberwungu, Tepus	40
12	PT. Caldomill Indonesia	Pucanganom, Rongkop	50
13	UD. Mineral Persada	Pucanganom, Rongkop	25
14	UD. Sumber Makmur	Semanu, Semanu	25
15	PB. Gunung Makmur	Semanu. Semanu	40
16	PB. Pulung Jaya	Semanu, Semanu	26
17	Kelompok Giri Alam Sari	Bedoyo, Ponjong	200
18	Kelompok Argo Peni	Karang asem, Ponjong	13
19	Kelompok Cindelas	Karang asem, Ponjong	12
20	Kelompok Makmur Abadi	Karang asem, Ponjong	9
21	Kelompok Karangasem	Karang asem, Ponjong	19
22	Kelompok Ngabean Kidul	Karang asem, Ponjong	55
23	Kelompok Sari Bumi	Karang asem, Ponjong	9
24	Kelompok Jomblang Lor	Karang asem, Ponjong	9
25	Kelompok Deas Mandiri	Karang asem, Ponjong	10
26	Kelompok Desa Gombang	Gombang, Ponjong	102
27	Kelompok Kenteng	Kenteng, Ponjong	187
28	Kelompok Argo Turi- Nongko Sepet	Sidorejo, Ponjong	156
29	Kelompok Pacarejo	Pacarejo, Semanu	115
30	Kelompok Candirejo	Candirejo, Semanu	65
31	Kelompok Ngeposari	Ngeposari, Semanu	23
	Total		1884

Since the termination of the issuance of a mining permit and mining product process, however, then some other company stopped operating. Bedoyo village subdistrict of Ponjong, Gunungkidul is the one mining area which is still having activities after the termination of mining permit. In this village there are more than 528 residents as miners karst rock. They still do the mining activities and mineral processing because this is the only source of their income. Besides, their natural environment is not conducive for agricultural purposes. Their jobs as miners have been practiced since their ancestors. It takes time to train and change their jobs. Based on the interview done with Mr. Martono, the head of the village Bedoyo, subdistrict Ponjong, it is revealed that his people are not ready to change their job and the people have lack of skill in agriculture and livestock. It is also the cause of the failure of the government's efforts in converting the profession of the miners to other professions such as agriculture business and livestock because its not proper with the condition of the society.⁷³

Based on an interview with Mr. Suparjo the community leader in Nglombo, Bedoyo Village, Ponjong subdistrict, Gunungkidul, mining communities have been practiced in massive scale since 1980. At the moment, there are 13 factories belong to the people residing in the village. At each factory, there are about 10-17 workers. In Ngombro, out of 98

⁷³ Interview with Mr. Martono, The Head of Bedoyo Village, 05-22-2015, on Bedoyo Village administration office.

families only 5 persons who work as civil servants while the majority are working as miners.⁷⁴

Government efforts to change people's activity in karst mining have been done by giving some facilities such as giving livestock such as cow, sheep, fish and some agricultural material. However, all the government's efforts faced some problems, because their backgrounds are miners, and it took a long process to adapt to a new livelihood. In addition due to the mining activities, the government has changed the pattern of their lives become more consumptive than before. Then alternative jobs given by the government are less profitable, and many of these programs were unsuccessful due to lack of guidance and supervisions.

Social problems appeared in the karst ecosystem are:

- a) The condition of the karst region is critical and marginalized because the people are not able to utilize the existing resources so that most of their living conditions are under the poverty line.
- b) The Mobility resident and urbanization working age population led to shortages of productive labor in the countryside
- c) The natural condition is hilly led to more difficult access to the population outside this borders, thus impeding the economic development of society
- d) Low quality of human resources is characterized by low level of education.

⁷⁴ Interview with Mr. Suparjo, The Head of Ngombro Community, 05-22-2015, on Ngombro, Bedoyo Village

e) The level of labor productivity is low, especially in the agricultural sector which is the largest area of work for the community in the karst region, because the lack of skills, especially in agriculture for cultivating the land.⁷⁵

Gunungkidul Government has strong intention to terminate mining activity in karst zone. This is the effort of government to preserve karst zone as a natural geological area. The government of Gunungkidul has no law enforcement to illegal miners who are still doing mining activities in the karst zone so that damage karst zone still exists. The government programs need to be socialized and need plausible impletation steps. Those steps should be given by District Government of Gunungkidul. Then the ecotourism can be managed directly by the people in the karst region by assisting the district government of Gunungkidul.⁷⁶

⁷⁵ Hatma suryatmojo, 2006, "Strategi Pengelolaan Ekosistem Karst di Kabupaten Gunungkidul", http://www.mayong.staff.ugm.ac.id/artikel_pdf/strategi%20kawasan%20karst.pdf, Accessed on March-04-2016

⁷⁶ Retna Dewi Wuspada, Dkk, "Implementasi Kebijakan Pelarangan Penambangan Di Kawasan Karst Kabupaten Gunungkidul", Prosiding Seminar Nasional Pengelolaan Sumberdaya Alam dan Lingkungan, Semarang, 11 September 2012, <https://core.ac.uk/download/files/379/11735920.pdf>

CHAPTER V

CONCLUSION AND RECUMENDATION

A. Conclusion

1. There are the dualism of regulations for issuing the mining permit. The existence of Law no 23 of 2014 on The Regional Government revoke the authority the District Government to issuing the mining permit. On the other hand, the law No 4 of 2009 on Mineral and Coal Mining in conjunction with Government Regulation No 23 of 2010 on The Implementation of Business Activities of Mineral and Coal still exists. In this regulation, the District Government has authority for granting the mineral mining permit. This can cause of the legal uncertainty on issuing of the mining permit. In addition the Local Regulation on Yogyakarta Special Province concerning on spatial plan, does not accommodate the new regulation and the classification of karst in protected area and cultivation area.
2. The government effort to conserve the karst protected area has some problem; the main problem is the conversion of livelihood program for the miners in Gunungkidul is failed. The causes of the failure of this program because of the supervision from the government is very weak. There is no supervision and guidance from the government.

B. Recommendation

For giving the legal certainty on the issuing of karst mining permit in Gunungkidul, Yogyakarta special region, there is a need of harmonization of regulations on issuing the mineral mining permit. Because there is dualism of regulation regulated on the issuing mineral mining permit, The Government of Yogyakarta Special Province should immediately arrange the distribution of karst Gunungsewu area management, especially in Gunungkidul and adjusted its division in accordance with prevailing regulations. Regarding the karst zone, it must be protected. The karst protection effort must consider the readiness of society especially the community miners. Therefore the government should be more serious to do the conversion the livelihood of the society, from miners become interpreneurs, traders or food sellers.

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