

**INTERNATIONAL SYMPOSIUM OF KARST WATER UNDER GLOBAL CHANGE
PRESSURE**

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**THE POTENCY OF KARST GEOTOURISM TO SUPPORT LOCAL COMMUNITY'S
ECONOMIC DEVELOPMENT IN GUNUNG KENDIL, PONJONG DISTRICT,
GUNUNG KIDUL REGENCY, YOGYAKARTA PROVINCE, INDONESIA**

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ABSTRACT

Gunungsewu is a karst area which is part of it situated in Ponjong district (including the study area Gunung Kendil). As a mountainous karst area Gunung Kidul always have classic problems, there is limited or difficulty to look for surface water. The issue of poverty became a prominent issue in Gunung Kidul. Life is hard. So, a lot's of habitant looking for job move out from their village. The rest of them struggle for a life in the village, even sometime they have to survive by illegal karst mining for living.

Gunung Kendil in Ponjong District, Gunung Kidul Regency is one area which is potencial to be developed as a tourist destination. As subsurface water was found in Gunung Kendil in the year 2008, there is a possibility that karst geotourism could be developed in this area. Water of Gunung Kendil is able to be use as a material for various economic activities to local community.

By developing Gunung Kendil's potencies as a tourist destination will stimulate people empowering as a strategy to support local community economic development. Synergies with local government and other stake holder is needed to optimize and accelerate the progress of economic development in Ponjong district, Gunung Kidul Regency.

Key Words: Gunung Kendil, Karst Geotourism, Economic Development

INTRODUCTION

Gunung Kendil is one of the karst hills located in Ponjong Village, Ponjong District, Gunung Kidul regency (8°00'56.64"S, 110°44'18.32"E). The hill is situated approximately 400 meters north of Ponjong District and about 30 km east of Yogyakarta. Gunung Kendil is composed of bedded-limestone in the bottom part, chalky limestone, massive limestone with conduits, and reef limestone at the top. These rocks are included in wonosari Formation, that I Middle Miocene age (10-16 million years). Ground water system beneath Gunung Kendil is controlled by fractures, faults and bedding. (Setiawan and Kusumayudha, 2011). Since the subsurface water found in 2008, many people came to Gunung Kendil, tasting the water therapy. Gunung Kendil became famous and the visitors comes from another province and even from foreign country. In 2011 Gunung Kendil have had contributed in winning The National Village Competition. In the same year Gunung Kendil was declared as Natural Laboratorium of Pembangunan Nasional "Veteran" University. Eventhough almost everyday people comes to this area but there is no Professional management to handle the visitors. I strongly believe if Gunung Kendil well managed professionally, Gunung Kendil can become Universal Unique Karst Geotourism. The consequences will be the local government political will in accelerating economic development by empowering local community to creates job in order to against the poverty .

The following paper is a proposal for The Study of Gunung Kendil as Green Touristic Area to support Sustainable Development in Frame of Indonesia's National Resilience

METHODS

This research conducted as Field Research. The definition of Field Research is any activities aimed at collecting primary (original or otherwise unavailable) data, using methods such as face to face interviewing, telephone and postal surveys and direct observation (www.Businessdictionary.com/definition/field-research.html). The data collecting by direct observation, informal interview and documentations.

PONJONG VILLAGE PROFILE

Ponjong subdistric surrounding by four territory subdistrict borders, there are Sumber Kidul in the west in the North: Sumber Lor; in the South: Tembesi and in the East: Duren. Gunung Kendil is in Ponjong subdistrict. Ponjong subdistrict's territory land about 51 Ha, consist of 3 Ha rice fields; 32 Ha terrain land, mountainous land 5 Ha and 11 Ha residents land. The soil is mediteran or lathosol in the karsts area. The altitude is about 300 meters above sea level, and the slope is about 50%.The average of daily temperature is 27,7° (the minimumis 23.2° and the maximum 32.4°) with rainfall annually average 3.500 mm. The population is 434 people (118 Family in 102 houses). 431 peoples are Moslem and another 3 are Christian. The education

data shows that 43 un educated, 196 primary school, 81 Junior High School, 132 High School, 7 University Graduate and 2 Master Degree. In this subdistrict there are 221 student (50.95%) and 4 teachers (0.92%). The occupation data shows: 142 Farmers, 5 traders, 52 workers and 4 local government's civilians. The farming food products is: rice, corn, soybean, peanut and cassava. There is a field farmers guide and there is a farmer group organization. The total production is about 10.4 ton per year (1.7 kg per 5 m²)

Gunung Kendil is composed of bedded-limestone in the bottom part, chalky limestone, massive limestone with conduits, and reef limestone at the top. These rocks are included in wonosari Formation, that I Middle Miocene age (10-16 million years) . This area has many kind rocks and various chalky limestone that may attracts geologists to come to do some researchs. And it is very feasible that gunung Kendil area becoming a geotourism object. The local wisdom is still a matter, Gunung Kendil is believed as "blessed Lands". Moreover when the water was found in this area. Foreigners whose come to Gunung Kendil should have registered. And it is forbidden to do such a things against the religy's norms. Certain people come to Gunung Kendil to looking for peacefullness and pray for successfulness.

GUNUNG KIDUL REGENCY ECONOMIC CONDITION

The territory of Gunung Kidul regency is 1.431,42 km² consist of 144 villages in 18 districts, The topography of Gunung Kidul is situated on various altitude from 0 to 700 meters above sea level. The climate daily temperature 27.7°C in average. The minimum temperature is 23.2°C and the maximum is 32.4°C. The relative humidity between 80% - 85% which is more influences by the season rather than the altitude. The highest humidity occurs on January – March, the lowest one is on September.

Based on data Statistic Center Beaureau (BPS, 2010) Gunung Kidul Regency in Middle Term Development Draft Plan 2010-2015, shown that the Brutto Regional Domestic Product is 5.5 trilyun rupiah based on 2008 common rates, increased 12,93% from the year before. In the year 2009 increased 8.72%. Based on the year 2000 constant rates, the economic growth of Gunung Kidul Regency positively raised up to 3.07 trilyun rupiahs in the year 2008. In the year 2009 economic growth 3.19 trilyun rupiahs. But its growths still under the growth rates of Yogyakarta Province. So, Gunung Kidul is categorized in under developed region.

Economic structure of Gunung Kidul regency shows that agriculture sector as main contributor in the year of 2005 to 2009. Following by Services Sector, Trading sector and manufacture industry sector. During that five years, the contribution of agriculture sector fluctuative between 34.03% and 35.82%. Ponjong is one of object areas settled in the first development priority in Yogyakarta Province in against the poverty. The percentage of poverty decreased in 2006 to 2010, but in 2011 increased 0.98%,it is from 22.5% to 23.03%. The job participation in 2011 is 69,11%.

The development performance in Gunung Kidul regency itself is not in the same growth rate among the districts. Some district still under developed mostly because of lack of water. According to the geographic factor, it is difficult to look for surface water in the south part of Gunung Kidul regency, some branch of river that appears to surface flows into land surface through the cave and reappears in the south beach area. Ground water can be found in 60 to more than 120 meters depth. This gap can be minimized by optimalization of natural resources management, empowering human resources and Finding Business Opportunity.

Considering to the geographic condition and as there are a lot of tourism potency that could be develop to support prosperity's appearance in the region, it is suggested to develop economic growth by managing natural tourism rather than let the illegal mining activities happens in this region just to make a living of the people.

The benefit of managing natural resources as a touristic area will be the sustainable development by sustainable economic growth, and natural conservation in the same time. The money comes and the natural resources are still exist

GUNUNG KIDUL REGENCY POLICY ON TOURISM SECTOR

Gunung Kidul Tourism Development still based on natural tourism and culture tourism. There are extraordinary various natural tourism such as Beachs, Mountains, Geology Rocks, Caves, Karst Hills and Forrest. As in the southern of Jogja, there is a range of mountain that called southern Mountain Ranges (6000) with its relief and morphology. There are specific Karst topography and some under water wonder such as underground river, dolena, uvala, polje (Sari et.al., 2000)

Meanwhile the Culture Tourism focused on Culture Situs Heritage and the living culture of local (indigenous) inhabitant or Ritual Tradition such as *Rosulan*(commemorate the phrophe), *Sadranan* (welcoming ramadhan fasting month) and *Merti Desa* (village purification).

As the landscape of Gunung Kidul is mountainous and most of it is rural area, so, the main constrain is the accessibility or transportation to reach the certain area . Tourist destination that should be united in one Tour package became attractiveless because of the lack of transportation lines.

The touristic Area in Gunung Kidul divided in five areas(Master Plan & Design of Economic Development of Gunung Kidul, 2013) there are:

1. Coastal Tourist Area
2. Cave Tourist Area
3. Historical Sites Tourist Area
4. Forest Tourist Area
5. Karst Hills Tourist Area

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GUNUNG KIDUL ECONOMIC DEVELOPMENT POLICY

Based on Gunung Kidul Medium Terms Development Plan Programme 2010 – 2015, one of the priority programme 2014 is Natural Resources Management and infrastructure development to support tourism Development. (BAPPEDA, March 6th 2013, Policy Direction and Development Priority of Gunung Kidul Regency for 2014).

GUNUNG KIDUL REGENCY POLICY TO SOLVE THE POVERTY PROBLEM

There are four agenda to strengthen and to develop living sustainable in order to fight against the poverty in Gunung Kidul, there are:

1. Push the villages industrialization based on assets and local potencies
2. Strengthen the local institutions using social and cultural capital and establish networking to push economic development by empowering local community in economic activities (Tourism Village, Cultural Village etc.)
3. Good governance management and sustainability of people's living
4. Strengthen local government and local development concern with local assets management, the resources of local community's living sustainability

THE POTENCY OF GUNUNG KENDIL AS TOURISTS DESTINATION

The Gunung Kendil's Water

Subsurface water was found in 2008 by Mbah Moyo the owner of Gunung Kendil's land.

The water was believed efficacious. It is feasible as drinking water (directly from the source) and also can be use for therapy. By the greatness of God, many suffer people got better after have water therapy. The Gunung Kendil water is a getting famous and famous day by day, and it is attracts people to come to Gunung Kendil and enjoy it. Gunung Kendil drinking water called *ARDO* means water prayer . Abundant water of Gunung Kendil irrigates surround area, and some accommodated in three swimming pool.

Gunung Kendil Natural Laboratory

July 25th 2011, Gunung Kendil was declared as Natural Laboratory of Pembangunan Nasional "Veteran" University. The vision of Gunung Kendil Natural Laboratory is Natural Conservation, Natural learning, Field research and as community service area. UPN "Veteran" Yogyakarta contributes designing the progress of Gunung Kendil as touristic and Natural Conservation area. The main task is empowering Gunung Kendil Natural resources and empowering local community to support economic development. In

the future Gunung Kendil will provide the Camping ground for the researcher, The Tropic plantation forest (which is also produce pure honey), Out Bond area and organic farming.

The Exotic View of Gunungsewu captured from Gunung Kendil

Indonesia is rich of carbonate rocks, the extent of which could reach 15.4 Ha. Some of them have been developed into karsts area, and became important karsts area in international level. Gunungsewu Karsts located on south of Central and East Java(include the study area) is one of them.

Gunungsewu Karst had been acclaimed as World National Heritage in 1994 by International Union of Speleology. The conical hills are a specific ecotype of wet-tropical karsts with thick and terraced limestone. Mac Donald & partners from British Cave Research Association stated that these karsts are one of the best conical karsts in the world (Paripurno,2003).

The exotic phenomenon of Gunungsewu karsts it self is very attractive for international tourism. The model of exokarst in general described as hills with varied size and height, in form of cone, dome,and dolena valley or polje. The distinctive characteristic of the landscape, near from hills, are the closed depressions with various size the drainage of disturbed surface, also the cave and underground drainage system. On the ground river, we could find much of interesting cave ornaments, which make a cave environment very unique and extreme. There are many caves located nearby Gunung Kendil area. So, Gunung Kendil potentially offered as the rest area after enjoying The Exotic Gunungsewu Karsts journey.

SUPPORTING FACTORS TO GUNUNG KENDIL AS TOURISTS DESTINATION:

LOCATION : Gunung Kendil relatively easy to find because it is located near to the District Business Center. It is about 400 meter from District Office and about 700 meter from Ponjong market which is the heart of economic local community activities.

ACCESSIBILITY: Gunung Kendil situated in along main road of the district. The road is in good condition pavement, but there is no public transportation lines passing through Gunung Kendil. It will be no problem to get there by private car or motorcycle. The vehicle must be in very good condition as it is in mountainous area.

Communication: Communication access is good as there are many signal provider in the area. The people mostly using mobile phone.

ACCOMODATION: There is one little house for rent in Gunung Kendil. And there is two simple building free for people whose come to Gunung Kendil for pray, meditation, therapy and sometime for have a meeting.

RESTAURANT: There is no restaurant in Gunung Kendil, but it is possible to serve. To order minimally 3 days before. The Exception is in special occasion when many people come to Gunung Kendil, like the day before fasting month come we call it Padusan, Idul Fitri holiday ect., there is a cafeteria, sales some snacks, instant noodle and soft drinks.

PARKING AREA: Gunung Kendil have extension parking area. In the future developed Gunung Kendil as touristic area, the parking area could be moved to the neighborhoods land, also means income for them.

VACANT AREA : There is many vacant area in Gunung Kendil, so it is possible to provide a camping ground and builds some simple traditional architecture houses for visitors whose need to stay for daily water therapy

GOVERNMENT POLICY : Gunung Kendil Touristic Area Design is in one line supporting to Government Policy. In order to minimize poverties Gunung Kendil is business opportunity option to be manage. Local community people participate on economic activities in Gunung Kendil, in the same time conserving the Natural Resources.

LOCAL COMMUNITY SUPPORTS: Local community strongly support the existence of Gunung Kendil yang semakin banyak dikunjungi orang. Selama ini mereka ikut menikmati fasilitas yang ada di Gunung Kendil dan ada semacam CSR yang diberikan kepada warga berupa air dan bantuan material & spiritual.

ACADEMICIANS AWARENESS: The government of Gunung Kidul regency and University of Pembangunan Nasional “Veteran” have signed a Memory of Understanding in 2011. Both are partnership in development. During this two years UPN”Veteran” Yogyakarta have been participating in regency development programme such as empowering Umbulrejo subdistrict Ponjong, as a tourism village in 2011, formulating specific local crispy cassava industry center in Bedoyo subdistrict Ponjong in 2012, many researchs in various discipline (Geology, Mining, Agriculture and Economic). And in 2011 Gunung Kendil was declared as Natural Laboratorium of UPN “Veteran” Yogyakarta.

CONCLUSION:

1. Gunung Kendil is available and feasible to be managed as a tourist destination.
2. Gunung Kendil offering various geological phenomenon
3. Gunung Kendil Karst Water is more than just water
4. Gunung Kendil will be universe unique Karst Geotourism
5. Gunung Kendil will be proof that not every development is destructive to the nature
6. Gunung Kendil is a living legend that should be protected
7. Gunung Kendil development platform will inspiring another place/aspect in facing The Global Change to fulfills the mens needs demand

RECOMENDATION: The Sinergy of Local Government, Local community, investors and Academicians are needed to establish sustainable development in karsts area which are mostly fights against the poverties.

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