PROCEEDINGS

Regional Geoheritage Conference 2016

THE 9TH INDONESIA-MALAYSIA CONFERENCE

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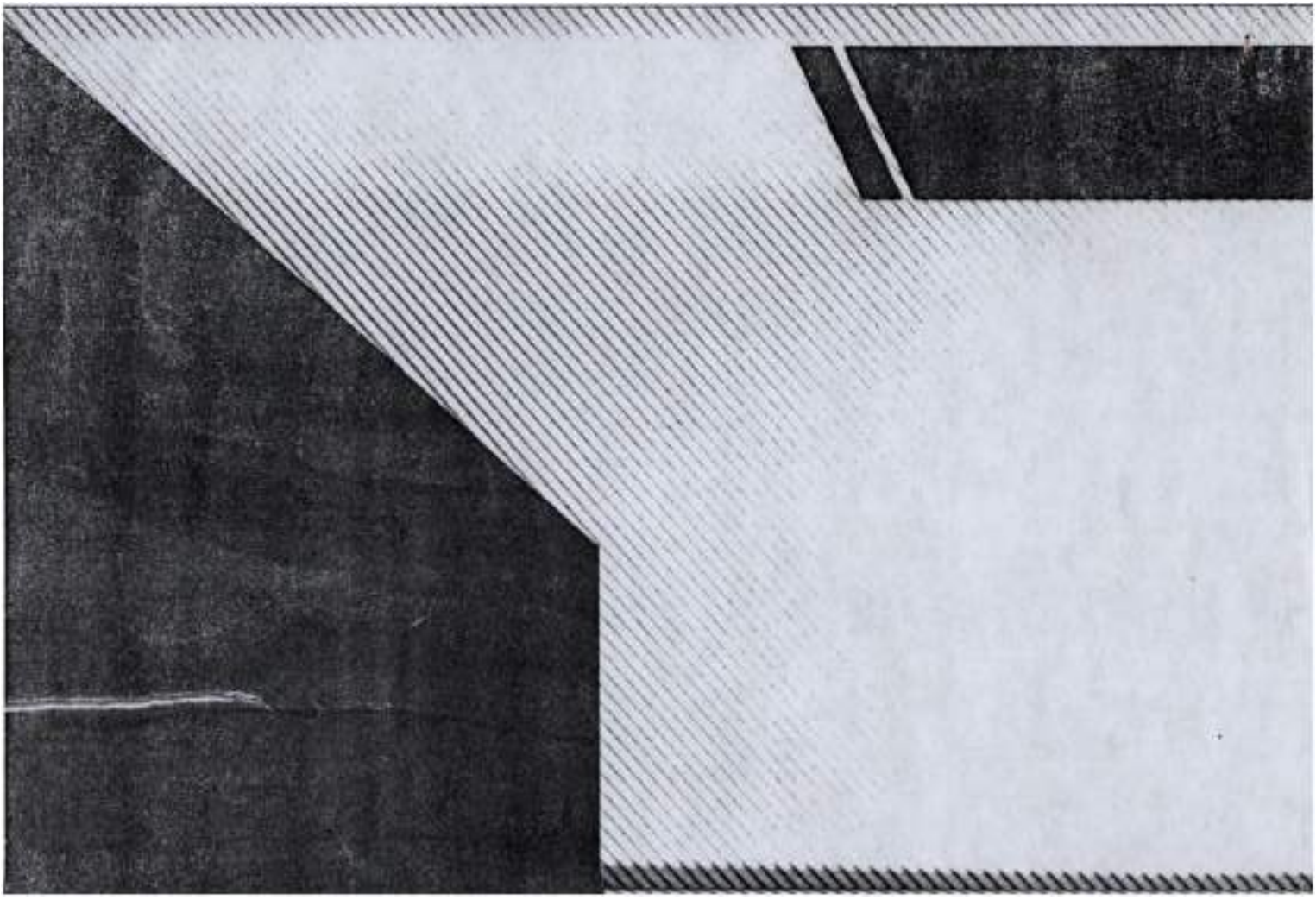
" Exotic Past For Our Future "

HYATT REGENCY HOTEL - YOGYAKARTA
24-25 NOVEMBER 2016



Proceedings

Regional Geoheritage Conference 2016

The 9Th Indonesia-Malaysia Conference

"Exotic Past for our Future"

Seminar Held on 24 November 2016
In Hotel Hyatt Regency Yogyakata, Indonesia

Field Trip Held on 25 November 2016

Proceedings

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The 9Th Indonesia-Malaysia Conference

FACULTY OF MINERAL TECHNOLOGY
UNIVERSITAS PEMBANGUNAN NASIONAL "VETERAN"
YOGYAKARTA
2016

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Preface

Bismilahirrahmanirrahim, Assalamu'alaikum wa rahmatullahi wa barokatuh.

Dear distinguished participants and committee.

In this nice opportunity, I appreciate to all of you for your considerable effort that made the Regional Geoheritage Conference 2016 or the 9th Joint Conference Indonesia – Malaysia Geoheritage Conference happened.

I really thankful to your participations for joining and attending the Conference in Yogyakarta. Special Region of Yogyakarta is well known as education and cultural city. Yogyakarta also become a considerable touristic region especially in cultural heritage. Right now geoheritage in Yogyakarta become more attractive.

In this occasion, the conference is very simple. Conference will be held over two days. First day we will held conference and geotrack in the second day.

There is two main speakers for RGC 2016. The first speaker is Mr. Ibrahim Komoo as Vice President Global Geoparks Network (GGN) and Mr. Yunus Kusumabbrata as Expert Staf Ministry of Energy and Mineral Resources of Indonesia Republic. For the next season, we also have speakers from Thailand and two speakers from Gunungsewu UGG and Batur UGG Indonesia. Moreover, we have 30 outstanding papers that will be presented in this conference. The papers are consist in 12 oral papers and 23 posters presentation with the same value.

In geotrack we will discover several geoheritage sites in Gunungsewu UGG, such as Miocene pillow lava of Berbah; ancient volcanic product of Nglanggeran; exciting bioturbation within shallow marine Sambipitu Formation; and Karst Museum of Indonesia at Wonogiri.

I wish this conference will give us inspirations and enhance the cooperation in Southeast Asia countries, especially in the field of geoheritage. Happy sharing for the progress of our region.

Finally, I would like to express my gratitude to Geological Agency – Ministry of Mineral Resources, especially Center of Geological Survey performa a booth concerning the wonderful of geoheritage and geopark of Indonesia.

Wassalamu'alaikum wa rahmatullahi wa barokatuh.

Prof. Dr. Ir.Bambang Prastistho, M.Sc.
Chairman
Regional Geoheritage Conference 2016

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RENEWABLE ENERGY ON NGENTAK-KUARU-SRANDAKAN-BANTUL AS INTERESTING TOURISM OBJECT

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ABSTRACT

This research are located at Ngentak, Kuwaru, Srandakan, Regency of Bantul. They have two kind of energy resources which is new energy like a wind energy and renewable energy like waste of cows. The new renewable energy in this area had transferred like as Liquid Natural Gas (LPG). Besides, this biogas is used at most of restuurant at Pantai Baru Kuwaru, Bantul. This purpose are to make Ngentak, Kuwaru as destination for energy tourism as geosite to support geology tourism at province D.I. Yogyakarta.

Key words : Ngentak-kuwaru, wind energy, Geosite, geology tourism,

INTRODUCTION

Pantai Baru, Dusun Ngentak, Srandakan, Bantul is one destination of several tourism place in Bantul. This area needs much improvements, especially electricity to support its tourism value.

Geographically, southern coast of Yogyakarta is open field, sun shines whole day, and wind speed is about 4 m/s (LAPAN). It is located directly facing Indies Ocean make it suitable for site of PLTH (Hybrid Power Generator) which using wind turbines and solar panels. Besides wind turbines and solar panels, Pantai Baru also utilizes biogas to substitute LPG gas usage. Main source of biogas are cow wastes from from "rancher group" Kelompok Ternak Sapi PandanMulyo which have more than 150 cows.

Figure 1 : Location Map of Pantai Baru, Dusun Ngentak, Srandakan,

Figure 2 : Panoramic View of Pantai Baru, Dusun Ngentak, Srandakan,

METHOD

Metodhology used in this research are observations and interview. Research was held at PLTH Pantai Baru Pandansimo, Ngentak,Srandakan, Bantul, DIY on September-Oktober 2016 by UPN research team.

RESULTS

Wind turbines and solar panels support each other on producing electricity. If sun shines brightly and wind blows with low speed, solar panel will be the ones which produces electricity and electricity will be stored in batteries/accu. So is wind turbines, if it is cloudy but it is windy, wind turbines will take charge to supply electricity.

1. Electricity produced by PLTH Pantai Baru has been used to support tourisme activities such as,:
2. providing electricity for nearby restaurants and household.
3. road lighthing
4. fresh water pump system for household, fishery, and sand based farming
5. ice cube makers, for food and beverages.

Biogas is mainly used as fuel in the nearby restaurant. Biogas is used to cook, to boil water, etc. Biogas is connected to network providing fuel for more tahn 50 restaurants and household.

Figure 3 : Diagram of Wind Turbine used at PLTH Pantai Baru Pandansimo, Ngentak, Srandakan, Bantul, DIY

Figure 4 : Wind Farm at Pantai Baru, Dusun Ngentak, Srandakan,

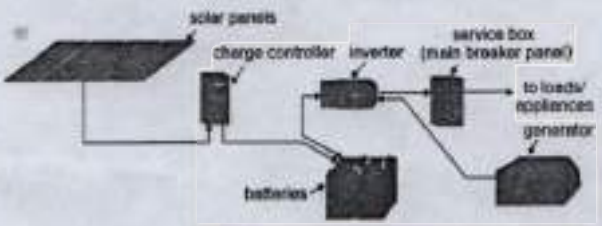

Figure 5 : Diagram of Solar Panel used at PLTH Pantai Baru Pandansimo, Ngentak, Srandakan, Bantul, DIY

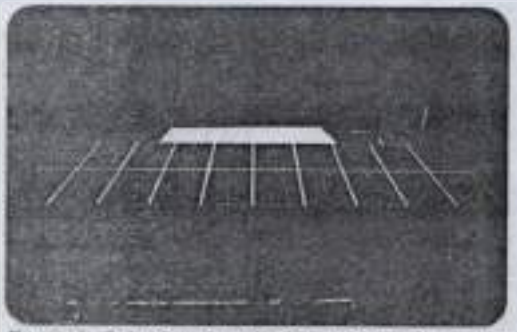

Figure 6 : Solar Panel used at Pantai Baru, Dusun Ngentak, Srandakan

Table 1 : Technical Data of PLTH (Hybrid Power Generator) Pantai Baru, Dusun Ngentak, Srandakan, Bantul

Generator Type			Number	Capacity
Eastern Group	48 V System	Wind Turbine 1 KW *(Triangle)*	4	4 KW
		Wind Turbine 1 KW *(Lattice)*	2	2 KW
	240 V System	Wind Turbine 2.5 KW *(Lattice)*	2	5 KW
		Wind Turbine 10 KW *(Lattice)*	1	10 KW
		Wind Turbine 10 KW *(Triangle)*	1	10 KW
		Wind Turbine 5 KW *(Lattice)*	1	5 KW
		Solar Panel 4 KW /140 V	40 @100W	4 KW
	120 V System	Wind Turbine 2 KW *(Lattice)*	2	4 KW
Western Group	240 V Sytem	Wind Turbine 1 KW *(Lattice)*	21	21 KW
	120V System	Solar Panel 15 KW *(Lattice)*	150 Unit @100 W/12 V	15 KW
KKP Group	48 V System	Panel Surya 10 KW	48 Unit @220W/24 V	10 KW
Total Electricity Generated				90 KW

CONCLUSION

Biogas produced from cow wastes and electricity produced by wind turbines and solar panels in PLTH Pantai Baru expected to support development of tourism sector and its supporting factor such as farming, fishery, and culinary enterprise.

REFERENCES

Direktorat Jendral Listrik dan Pemanfaatan Energi. *Rencana Induk Pengembangan Energi Baru dan Terbarukan 2010-2025*. 2010. Kementrian ESDM: Jakarta.

International Energy Agency ."Energy Technology Perspectives 2012 2012. nternational Energy Agency

Pengkajian Energi Universitas Indonesia. *Indonesia Energy Outlook and Statistics*. 2004. UI:Depok.

Sudarto, Aris. Saragih, Budiman. *Resume Pemanfaatan Energi Angin: Kebijakan Pengembangan Energi*. 2010. Kementerian ESDM-Dirjen EBTKE-Jakarta.

Suhascaryo, N., Hongky B., P., Anang, A. P., Sugeng, P, dan Hadi, P. 2015. *Pengaruh Penambahan Diethylene Glycol Terhadap Gas Hasil Fermentasi Limbah Peternakan Sapi Dusun Ngentak, Desa Poncosari, Kecamatan Srandakan, Kabupaten Bantul, DIY*. Jurnal Seminal Nasional Kejuangan Teknik Kimia. ISSN : 1693-4393