

Rinjani Global Geopark Education for Mataram Muhammadiyah Middle School Students

Syamsul Hidayat¹, Melinda Dwi Erintina², Aji Syailendra Ubaidillah³

^{1,2,3} Program Studi D3 Teknik Pertambangan, Fakultas Teknik, Universitas Muhammadiyah Mataram

Emai: syamsulhidayat@ummat.ac.id

Abstract

Management and utilization of Geoparks as a unity of geological, biological and cultural diversity will be achieved optimally if all stakeholders are involved. This service activity aims to provide Rinjani-Lombok Global Geopark (RLGG) education to Muhammadiyah Mataram Middle School students as an effort to help encourage the implementation of the RLGG educational mission to school-age youth in Mataram City. The methods applied in this service activity include needs analysis and location selection, presentation of material about RLGG to students as well as questions and answers or student responses related to educational material. In educational activities, it was conveyed that the richness/diversity in the geopark area is divided into 3 large elements, namely geological diversity, biodiversity and cultural diversity. Geoparks as a means of public education are carried out to provide an understanding of the unique geology, biology and culture as well as an understanding of the importance of conservation. Education about RLGG for junior high school students is carried out to provide understanding and give birth to a love of nature and its surroundings, a love of natural sciences and a medium for cultivating Tawheed towards Allah SWT. Sites (Geodiversity) in the RLGG Environment are sites that are associated with geological phenomena.

Keywords: Rinjani Geopark, Education, Geodiversity, Biodiversity, Cultural Diversity.

INTRODUCTION

Geoparks as a unity of geological, biological and cultural diversity require the involvement of all stakeholders for their management. Government commitment at all levels is certainly among the important factors in this regard. In specific cases, for example, the government's commitment is a significant determining factor in determining the success of the application for the Gunung Sewu geopark to become an International Geopark (1). Furthermore, for tourism and economic purposes, management of geopark sites has proven to be effective by involving the community and village government, thus contributing to improving the welfare of the surrounding community (2). The management of geotourism interpretation in the Rinjani Geopark area has been running since 2015. The implementation of the interpretation activities in question consists of design development activities, program development, promotion, operation and program maintenance activities (3).

Physical infrastructure and communication infrastructure are two derivative supporting factors for successful geopark management. In the case of the Sawahlunto Geopark, developing a website as a means of

publication can provide wider access to information, helping build an image as a location. tourism in geopark locations (4). In the management of the Ciletuh-Palabuhanratu Geopark, village, sub-district and district road infrastructure and internet access are key factors for geopark development (5).

The development of science and education is an important part of the goals of geopark management. A good geopark should provide supporting facilities for the development of science, especially geoscience and provide an understanding of the concept of environmental protection to the public (6). The implementation of education-based tourism in geopark areas can be beneficial to tourists and local communities and provide understanding to local communities and tourists about the importance of nature conservation (7). Implementing a curriculum related to geoparks in the world of education is a challenge in the future. The low level of implementation of a local culture-based curriculum and inadequate understanding of Geopark potential are challenges in implementing geopark education at Early Childhood Education institutions in Banyuwani (8). In connection with the involvement of the world of education and the wider community;

Rinjani Global Geopark has so far implemented programs such as the student movement to plant trees and sustainable natural resource management, Geopark goes to school and other training as well as the development of geotourism and empowerment of local communities (9). Based on the various backgrounds above, this service aims to provide Rinjani-Lombok Global Geopark (RLGG) education to Muhammadiyah Mataram Middle School students as an effort to help encourage the implementation of the RLGG educational mission to school-age youth in Mataram City.

IMPLEMENTATION METHOD

In this section, methods for implementing community service activities in the field will be presented. The method used in this service activity is as follows:

1. Analysis of needs and location selection, at this stage an analysis is carried out based on the goals and targets of service activities, namely providing education on the Rinjani-Lombok Global Geopark to school-aged people. Mataram City Muhammadiyah Junior High School is a location that suits the activity target and is considered possible as a location for community service activities.
2. Material Presentation, at this stage, educational material about the Rinjani-Lombok Global Geopark is delivered to students. The discussion, depth of material and language used are adjusted to the conditions of the participants who are still junior high school students.
3. Question and Answer, at this stage participants are asked to provide responses or questions related to the Rinjani-Lombok Global Geopark educational material.



Figure 1. Presentation of Service Materials

RESULTS AND DISCUSSION

This activity was held on Saturday 12 October 2024 at the Mataram Muhammadiyah Middle School Building, Muhammadiyah educational complex Jalan Anyeir No. 24 Gomong, Mataram City. The following are the main material presented in this community service activity:

1. UNESCO Global Geoparks (UNESCO Global Geoparks) are an integrated geographical area in the form of sites and landscapes of international geological significance which are managed with a holistic concept in the form of aspects of protection, education and sustainable development (10).
2. The richness/diversity in the geopark area is divided into 3 major elements, namely Geodiversity/geological diversity, Biodiversity/biological diversity, cultural diversity. Geological diversity is the richness or uniqueness of geological conditions in the geopark area which of course has its own characteristics in each region. Flora and fauna biodiversity is the flora and fauna that live and develop in a geopark area. In Indonesia, in general, there are differences in animal types between the West and East regions. Cultural diversity is practice culture passed down from generation to generation by local communities that can be differentiated from that in other places. The diversity of the three elements in the geopark above can be used as educational material for every age group. Understanding can encourage attention, and love so that It is hoped that it will raise awareness of conservation in the community.
3. Geoparks as a Public Education Facility. Rinjani-Lombok Global Geopark education to the public is generally carried out to achieve the following:
 - Understand the uniqueness and richness of geology. The uniqueness and richness of geology can provide additional information to the public's general knowledge, besides It can be a means of entertainment that is educational in nature when given while doing field *trips* in the field.

- Awareness of the impact of geological activity (earthquake, tsunami). Basic information regarding the relationship between geological activity and various natural disasters such as earthquakes and tsunamis will give rise to better disaster awareness among the public so that they can anticipate and deal with natural disasters based on scientific considerations.
 - Understand the environmental carrying capacity for survival. The geopark area holds diverse geological sites which also support the needs of human life so that geopark educational activities can be a means effective to provide an understanding regarding the carrying capacity of the environment to support human survival.
 - Awareness of the sustainable use of natural resources. Geological sites and the presence of flora and fauna in the Rinjani-Lombok Global Geopark area will remain and function as they should if maintained and utilized properly so that existence and the benefits can be felt on an ongoing basis.
 - Potential economic benefits of tourism based on geological and environmental tourism. Apart from educational purposes, geoparks can become tourist destinations, bringing economic benefits to local communities if they are managed well.
 - Maximizing the use of herbal plants for health. The flora and fauna in the Rinjani-Lombok Global Geopark area are a source of herbal plants that are beneficial for health. Local wisdom of herbal plants can help build community health resilience.
 - The emergence of conservation awareness. Conservation, education and economic paradigms are the main pillars of geopark area management. Conservation of geological resources is the antithesis of the exploitation paradigm, so it can guarantee *sustainability* management of geological wealth in the Rinjani-Lombok Global Geopark area.
4. Geopark as a means of education for secondary education school age children.
- Education Rinjani-Lombok Global Geopark for junior high school students is carried out to achieve the following things:
- Love for nature and its surroundings. Nature is a gift from Allah SWT for the benefit of humans. Geopark is a unity of geological and biological diversity which has unique elements in each location. Understanding the uniqueness and function of diversity will both foster a love of nature.
 - Love of natural sciences. An initial understanding of the unique diversity of geoparks and their function in a unified ecosystem can be explained using science knowledge). The scientific paradigm tries to understand and explain natural phenomena including geological and biological riches. When it can be explained to junior high school students, it is hoped that it will give rise to their love of natural science.
 - Planting monotheism towards Allah SWT. Muhammadiyah Middle School is a charity business of the Muhammadiyah association, so that the preaching of amar ma'ruf nahi mungkar to students has a correlation with Geopark's understanding that the universe includes diversity Geology and biology with all their uniqueness are the creation of Allah SWT. Good understanding based on fair science can be a medium for fostering monotheism in Muhammadiyah Middle School students.
5. Sites (Geodiversity) in the Rinjani Geopark Environment. In the Rinjani-Lombok Global Geopark environment, there are several sites Which protected which are located differently from each other. These sites include various natural riches, geological phenomena or sites that exist closely related to the surrounding geological conditions. Here is the list of sites-site which is in the Rinjani-Lombok Global Geopark area (Rinjani Lombok Unesco Global Geopark)
- [Kaldera Samalas](#)
 - Gunung api [Baru Jari](#)
 - Gunung Api [Rinjani](#)
 - Danau [Segara Anak](#)

- [Aik Kalaq](#)
- Gua [Susu](#)
- Gua [Payung](#)
- [Material letusan Samalas](#)
- Lembah [Sembalun](#)
- Mata air panas [Sebau](#)
- Pantai [Vulkanik](#)
- [Kepulauan Gili](#)
- Air terjun [Gangga](#)
- [Air terjun Kayangan](#)
- [Air terjun Bayan](#)
- [Air terjun Kerandangan dan Senggigi](#)
- [Air terjun Aik Berik](#)
- Air terjun [Joben](#)
- Air terjun [Jeruk Manis](#)
- Air terjun [Semporonan – Timba Nuh](#)
- [Mata air Narmada](#)
- Mata air [Lemor](#)

existence of natural wealth in the RLGG region will be put to good use if it is protected and used wisely. The existence of RLGG can also encourage the interest of school students, especially Mataram Muhammadiyah Middle School students, to continue their education so that in the future they can become Rinjani Global Geopark researchers as part of conservation efforts and sustainable use of RLGG.



Figure 2. *Geodiversity* Rinjani Global Geopark (Global Geopark Network)

6. Wisdom and Use of the Rinjani Global Geopark Site

We should be grateful for the existence of geological wealth (Geodiversity), rich flora and fauna (Biodiversity) as creations of Allah SWT which are valuable for us and must be utilized properly for today and the future. Each of us should be motivated to properly maintain or carry out conservation measures for the existence of the Rinjani-Lombok Global Geopark (RLGG) sites according to our respective capacities and abilities. The

CONCLUSION

Based on the existing discussion, the following conclusions can be drawn from this service activity:

1. The richness/diversity in the geopark area is divided into 3 major elements, namely Geodiversity/geological diversity, Biodiversity/biological diversity, Cultural diversity.
2. Geoparks as a means of public education are carried out to provide an understanding of the unique impacts of geological activities, environmental carrying capacity, sustainable use of natural resources, economic benefits of tourism, diversity flora and fauna and understanding the importance of conservation.
3. Education about Rinjani-Lombok Global Geopark on student Junior high school is done to provide understanding and foster love for nature and its surroundings, love for natural sciences as well as the media for cultivating Tawheed to Allah SWT.
4. Sites (Geodiversity) in the Rinjani-Lombok Global Geopark environment are sites such as active volcanoes, calderas, lakes, springs, waterfalls, valleys and caves that have unique characteristics. its existence associated with geological activity that needs to be preserved and utilized sustainably.

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BIBLIOGRAPHY

Journal

- [1] Amelia, D. F., & Pakpahan, S. (2016). *Upaya Pemerintah Indonesia Menjadikan Kawasan Gunung Sewu Sebagai Unesco Global Geopark Network (GGN) Tahun 2013-2015* (Doctoral dissertation, Riau University).
- [2] Kistiyah, S., Haryoto, S. S., & Andari, D. W. (2021, December). Penerapan Konsep Geopark Dalam Pembangunan Kawasan Berbasis Geokonservasi. In *Prosiding Forum Ilmiah Tahunan (FIT)-Ikatan Surveyor Indonesia (ISI)* (Vol. 1, pp. 355-360). Departemen Teknik Geodesi, Fakultas Teknik, Universitas Diponegoro.
- [3] Fajriasanti, R. (2023). Pelibatan Pemangku Kepentingan Lokal Dalam Pengembangan Dan Pengelolaan Interpretasi Geowisata Di Kawasan Geopark Dunia Rinjani-Lombok. *Journal of Innovation Research and Knowledge*, 3(2), 307-318.
- [4] Siswanto, A., Prayitno, B., Hanif, N., & Febrika, T. R. (2023). Strategi Peningkatan Branding Geopark Sawahlunto Berbasis Website, Sosial Media, dan Kerjasama Pendidikan. *Jurnal Pengabdian Masyarakat dan Penerapan Ilmu Pengetahuan*, 4(2), 14-21.
- [5] Yanuar, Y., Anna, Z., Rosana, M. F., Rizal, A., Sudrajat, A., & Zakaria, Z. (2018). Keberlanjutan Pengembangan Geopark Nasional Ciletuh-Palabuhan Ratu Dalam Perspektif Infrastruktur Sustainable Development of Geopark National Ciletuh-Palabuhanratu in the Infrastructure Perspective. *Jurnal Sosek Pekerjaan Umum*, 10(1), 64-76.
- [6] Sagala, A. F., Sinambela, C. F., & Fachrudin, H. T. (2022, September). Kajian Geopark sebagai Sarana Edukasi dengan Pendekatan Arsitektur Hijau. In *Talenta Conference Series: Energy and Engineering (EE)* (Vol. 5, No. 1, pp. 442-449).
- [7] Ibrahim, M. M., & Adiputra, A. (2023). Analisis Geopark Ciletuh-Palabuhanratu sebagai Daya Tarik Wisata Berbasis Edukasi. *Satwika: Kajian Ilmu Budaya dan Perubahan Sosial*, 7(2), 404-418.
- [8] Widayarsi, R., Santi, T. K., & Wahyudiono, A. (2024). Integration of Local Culture and Ijen Geopark in Early Childhood Education Student Learning in Banyuwangi. *Santhet (Jurnal Sejarah Pendidikan Dan Humaniora)*, 8(2), 2193-2203.

- [9] Karjaya, L. P., Sabilla, K. R., Husni, V., & Bustami, S. Y. (2024, January). The Implementation of Rinjani Lombok UNESCO Global Geopark's (RL-UGGp) Working Programs Based on Sustainable Development Goals in Sembalun Tourism Area. In *Southeast Asian Conference on Migration and Development (SEACMD 2023)* (pp. 233-250). Atlantis Press.
- [10] UNESCO. (2015). Statutes of the International Geoscience and Geoparks Programme (IGGP).

Internet

- Global Geopark Network:
<http://www.globalgeopark.org/GeoparkMap/geoparks/Indonesia/12542.htm>
(akses pada tanggal 21 Desember 2024)
- Rinjani Lombok Unesco Global Geopark:
<https://rinjanigeopark.com/> (akses pada tanggal 12 Desember 2024)