

The Pendawa Hill, Jering, Sleman Is on of Geosite to Added Yogyakarta Geoheritage Very Interesting to Be Developed in to Geological Tourism Object

Jatmika Setiawan¹, Muhammad Nurjati Setiawan¹ and Alim Sugiantoro²

1. *Geology Department, Faculty of Mineral Technology, UPN Veteran Yogyakarta, Jl. SWK 104, Lingkar Utara, Condongcatu, Yogyakarta 55283, Indonesia*

2. *PT. Dewi Sri, Jl. Perumnas Mundu Saren, Ruko Beverly R1-R2, Caturtunggal, Depok, Sleman, Yogyakarta 55281, Indonesia*

Abstract: Pendawa Hill is located in Jering, Sleman, Yogyakarta. It is one of the hills that formed by diorite intrusion (Miocene) and intruded claystone of Nanggulan Formation Ages of Eocene. In this area will be built a simple housing and open some of the western side of the Pendawa Hill. So that exposes some of the lithology on the Pendawa Hill. The beauty of the rare outcrop in the Pendawa Hill, Jering, Sleman, than the authors proposes that some of the area has preserved to become the geoheritage. Then it will be planned that the construction of simple housing is integrated with geological tourism objects in this area. There are Yogyakarta Geoheritage areas, among others: pillow lava in Berbah-Sleman, tuff breccia in Candi Ijo-Sleman, Eocene Limestone in Sleman, Nglanggran Old Volcanic in Nglanggran-Gunungkidul, Batur old Volcanic in Gunungkidul, Burrow Fossils in Kali Ngalang-Gunungkidul, Barchan sand-dune in Bantul, Kiskendo Cave in Kulon Progo and Mangan mine in Kulon Progo.

Key words: Pendawa Hill, simple housing, geoheritage, geological tourism object.

1. Introduction

1.1 Location of Study

The location of this study is in Godean District and around, Sleman, Yogyakarta. The wide area of study is 3 km². Geographically the study area is in the Zone of UTM 49 (Universe Transverse Mercator), the position of coordinate X1: 420000, Y1: 9144500; X2: 421500, and Y2: 9143500. The study area can be reached by car or motorcycle. The study area is more than 15 km away from Yogyakarta City and can be reached for 45 min. (Fig. 1). This area belonged to Alim Sugiantoro.

1.2 The Method of Study

The method of study is detailed mapping in the Pendawa Hill and around.

1.3 Regional Stratigraphy

The stratigraphic units of Kulon Progo area and Yogyakarta from the oldest ages to the youngest can be seen in Fig. 2.

2. The Potential of Geological Tourism Objects

The geology potential is that natural geoheritage objects can be developed as geological tourism objects, can be developed as education object, with national and international value, having easy access, and improving the economy of the local community.

The development in the Pendawa Hill can be divided into two tourism objects:

- (1) geological tourism objects;
- (2) tourism supports.

2.1 Geological Tourism Objects

Geological tourism objects can be developed in

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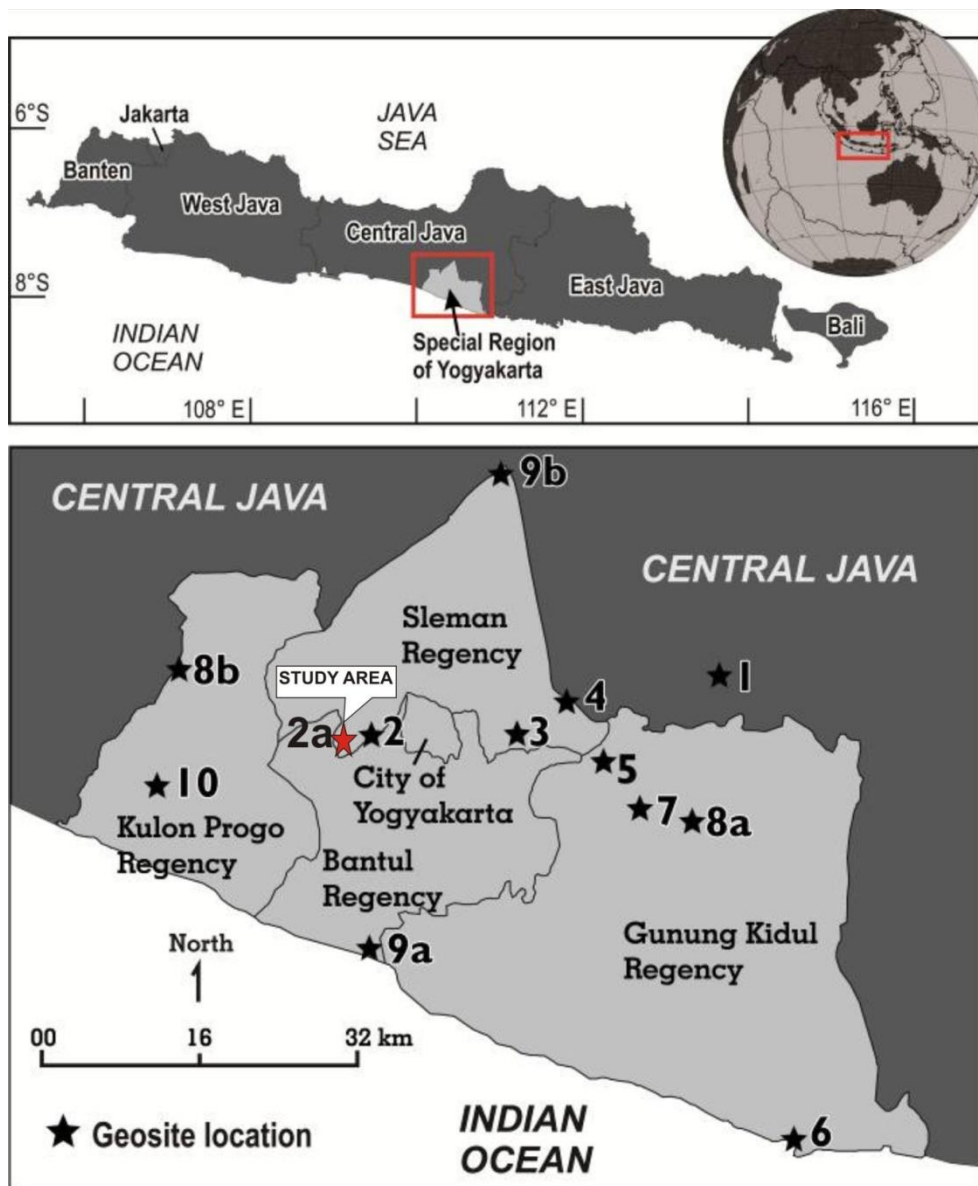


Fig. 1 The study area of Pendawa Hill-Sleman-Yogyakarta.

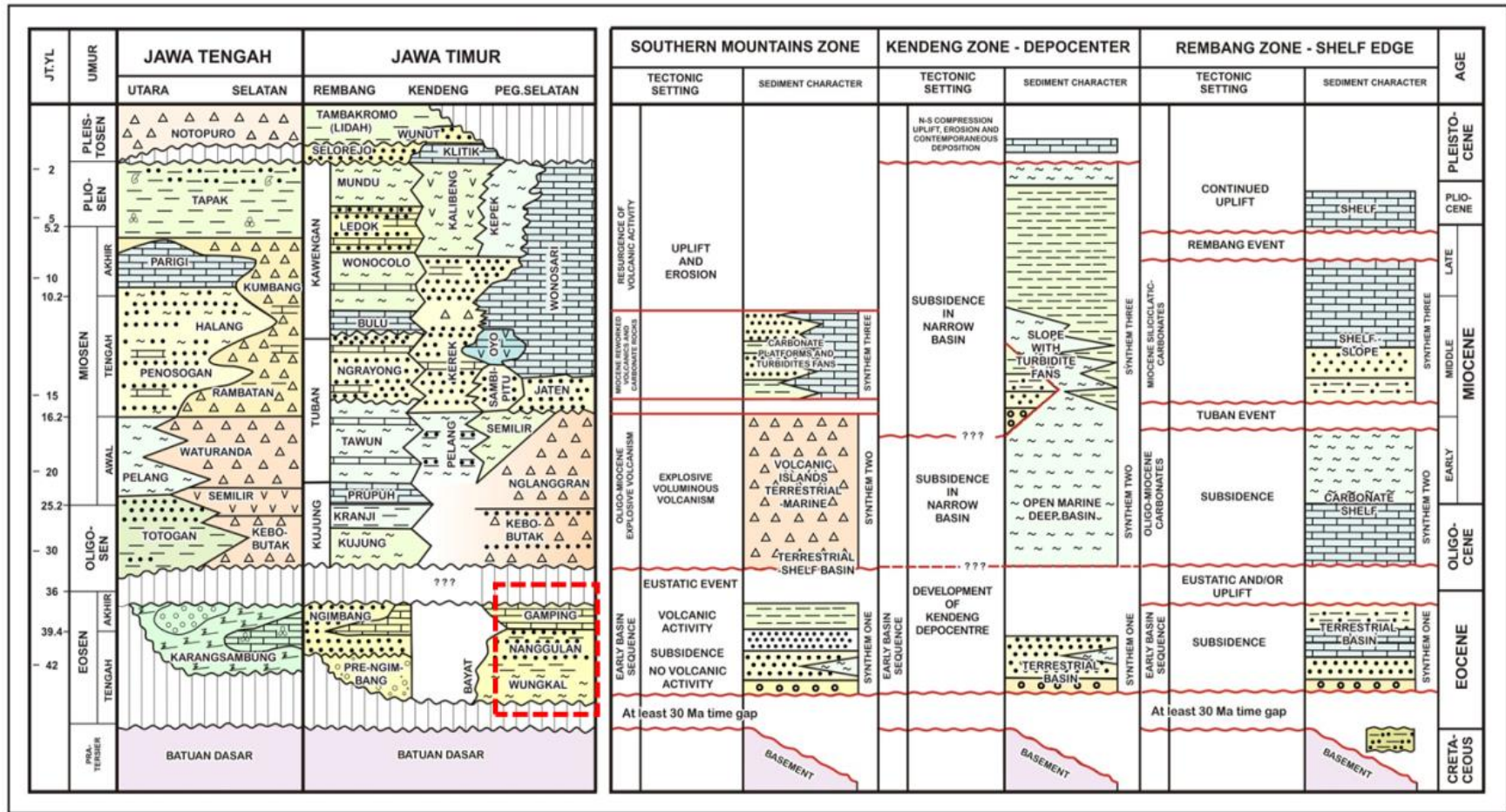


Fig. 2 Regional stratigraphic of Kulon Progo [1].

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Pendawa Hill-Godean-Sleman Yogyakarta, among others:

- (1) Nanggulan Formation as a bedrock of Yogyakarta (ages 42-39.4 jt) (Fig. 3);
- (2) Diorite intrusion (30-15jt) that intruded of Nanggulan Formation, it is approximately 250 m above sea level (Fig. 4);
- (3) Intrusion contact between diorite and Nanggulan Formation (Fig. 5);
- (4) Zenolith of Nanggulan Formation in the diorite (Fig. 6);
- (5) Systematic shear joint on Nanggulan Formation that can be used to determine the direction of the

maximum stress (Fig. 7);

- (6) The mineralization that can be seen on the fault zone (Fig. 8);
- (7) Hornfels of Nanggulan Formation (Fig. 9).

2.2 The Supported Tourism Objects

The supported tourism objects will be adjusted with geological tourism objects, among others:

- (1) The Geology Museum

The geology museum will be built in the form of Yogyakarta stile building (Joglo). It will be equipped with geological tourism object history, so tourist can see the various of geological knowledge:



Fig. 3 Nanggulan Form



Fig. 4 Diorite intrusion



Fig. 5 Intrusion contact between diorite and Nanggulan Formation.

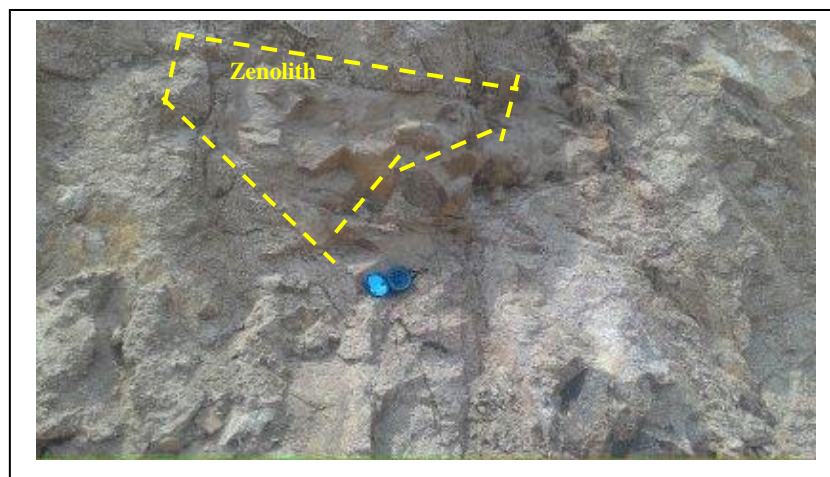


Fig. 6 Xenolith of Nanggulan Formation in the diorite.



Fig. 7 Systematic shear joint on Nanggulan Formation that can be used to determine the direction of the maximum stress.

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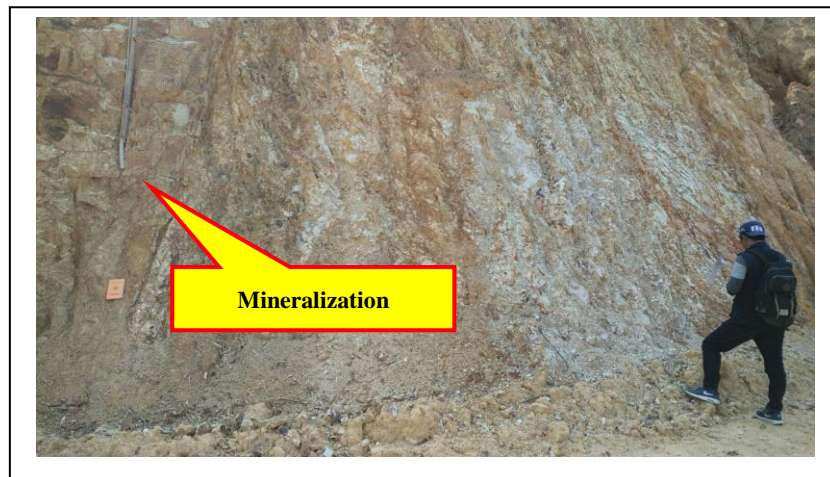


Fig. 8 The mineralization that can be seen on the fault zone.

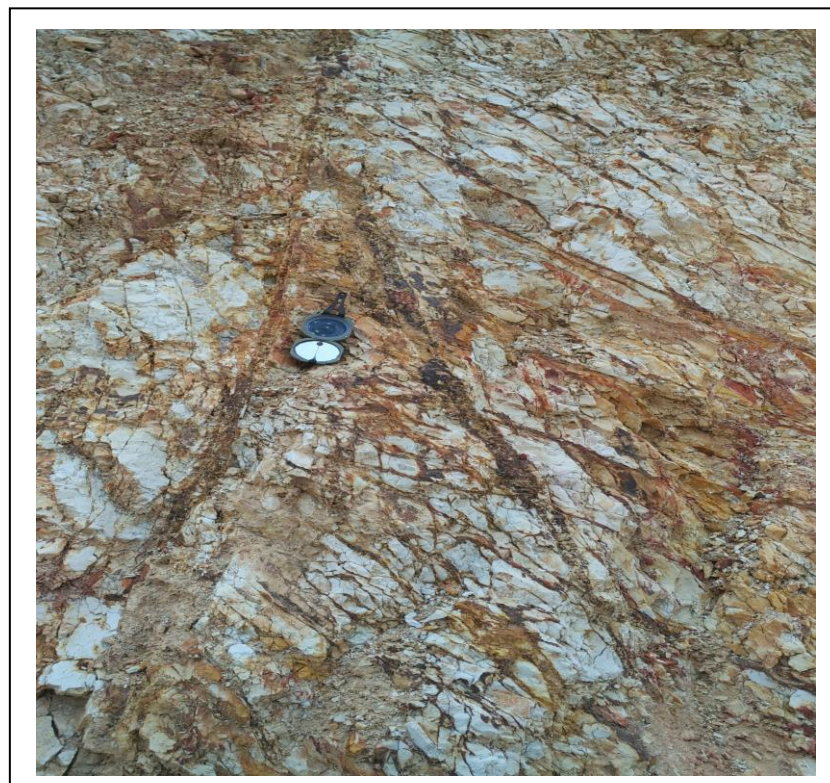


Fig. 9 Hornfels of Nanggulan Formation.

- The collection of rock types throughout of Java Island;
- The collection of rock types from outside of Java Island;
- Geological model;
- Collection of fossil;
- Collection of geological book;
- Film event of Java Island;

- Supported films.

(2) Meeting Room and Film Screening

In the buildings we can see audio visuals of the event of Java Island and others, as well as providing place of discussion (Figure Plant).

3. Conclusion

The simple housing development integrated with

development of geological tourism object in Pendawa Hill, Jering, Sleman is the first to do in Indonesia. This is done to save the beautiful rock outcrops and to be used as a science development, especially for students of earth science. Whereas simple housing is badly needed by poor population in Sleman, Yogyakarta, the development of geological tourism object in this area is useful to add one geosite in the Yogyakarta Geoheritage.

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