

Payasan Temple and Surrounding Temples were affected by The Eruption of Mount Agung

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Abstract. Mount Agung is the highest mountain on the island of Bali today. So in some ancient manuscripts it is mentioned that the eruption was associated with the anger of the gods. Based on eruption data using modern scientific methods, it is known that Mount Agung erupted in 1843 by Fontjin and Karen in 2015 and previously erupted traced through ancient manuscripts until 1614. This data is very interesting to describe because it has a longer span along with the impact caused on the religious activities of the Balinese Hindu community. For the Balinese Hindu community, the Temple is a holy place to worship God. Through this research, several temples found in the field will be described, including the Payasan Temple, the Padang Kasna Temple and the Gunung Luhur Temple. Several of these temples were found and excavated by local residents and some parts have been renovated after the eruption.

Keywords: Pura Payasan, Eruption, Mount Agung

1 Introduction

There is Besakih Temple located on the slopes of Mount Agung. This temple is very famous even as a tourist destination. This temple is functional as a place to worship Hindus in Bali. This temple is said to be the forerunner of what is thought to be prehistoric times to the present. During the observation, it was discovered that another temple, although not as large as the Besakih Temple, was previously reported to have been affected by the eruption [1] [4]. The temple is Payasan Temple, and its surroundings are Padang Kasna Temple and Gunung Luhur Temple [5] [7]. Through studies carried out by researchers, it provides clues to previous eruptions, for example the 1963 and 1843 eruptions [2]. This research will describe some basic data found in the field and other information related to surrounding settlements that were affected by the eruption of Mount Agung [3] [6]. This research also shows how strong the faith of the Balinese Hindu community is by reviving the temple which was buried by the eruption of Mount Agung.

2 Methods

The method used in research is observation, namely by observing and documenting field data. Next, an interview method was carried out to obtain additional information about the incident and as a form of validation of the results obtained.

3 Result dan Discussion

Payasan Temple is located in a village. The village is called Temukus Besakih Village, Karangasem Regency, Bali. This temple is on the slopes of Mount Agung around 1330 above sea level. In one media it was stated that Payasan Temple is a 10th century heritage temple, during the era of the kingdom of King Marakata (Son of Sri Kesari Warmadewa). However, there is a main building that was rebuilt around the 15th century with Chinese plate markings on the ornaments. The following are several descriptions related to Payasan Temple that were documented during observations.



Figure 1. Main Building (Padmasana) and Front View of the Temple

Through an interview with Mr. Nyoman, who is one of the owners of Payasan Temple, he stated that initially only a few buildings in the temple were visible before the excavation was carried out. Then excavations were carried out independently by the community and the temple building was visible, complete with the temple gate, as in the picture above.



Figure 2. interview with resource person

The following are details of the ornaments from Payasan Temple from the documentation.



Figure 3. Material Structure Payasan Temple

Below we will show the materials and structure of the temple building.



Figure 4. Structure of the ancient Payasan Temple

The building material consists of pumice stone which was probably taken from eruption material that had been spewed by Mount Agung previously. If you hold it, it feels light. in their structures they use square and circle shapes and some of them combine them. The following is initial but untested evidence regarding the impacts experienced at Payasan Temple.



Figure 5. Ash layer of Agung Eruption in Payasan Temple

There is a thick layer of dust on the surface and on the ground floor there is charcoal which is the result of hot clouds that have burned vegetation or even parts of the temple. In the next section, observations at Padang Kasna Temple and Gunung Luhur Temple will be explained. The following is an association of locations between these three temples from the top of Mount Agung.

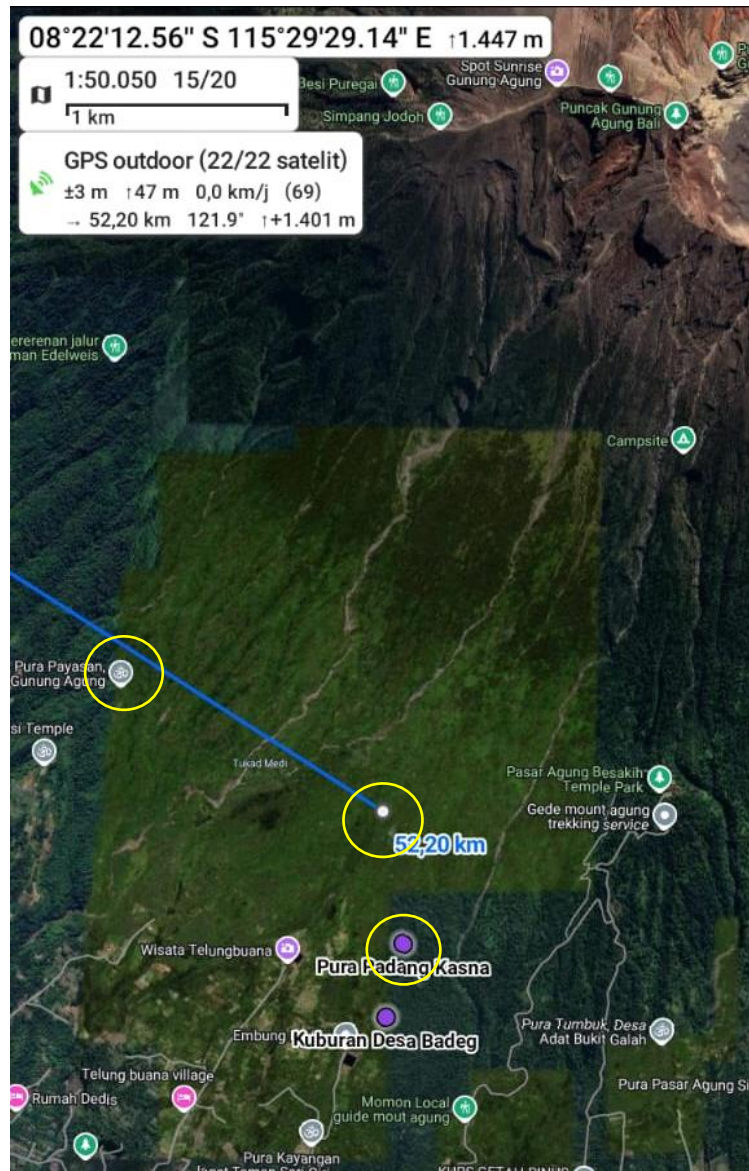


Figure 6. Association of the three temples to Mount Agung



Figure 7. Padang Kasna Temple

Padang Kasna Temple and Gunung Luhur Temple are located close to each other. The following is an overview obtained, some of which have undergone restoration/modernization.

The following is an overview of Gunung Luhur Temple



Figure 8. Gunung Luhur Temple

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References

- [1] Budiastira, P, Wardha, W, 1989. Babad Pasek Kayu Selem. Dinas Kebudayaan Provinsi bali
- [2] Fontijn, K., Costa, F., Sutawidjaja, I., Newhall, C.G., Herrin, J.S., 2015. A 5000-year record of multiple highly explosive mafic eruptions from Gunung Agung (Bali, Indonesia): implications for eruption frequency and volcanic hazards. *Bull. Volcanol.* 77. <https://doi.org/10.1007/s00445-015-0943-x>.
- [3] Geiger, H., Troll, V.R., Jolis, E.M., Deegan, F.M., Harris, C., Hilton, D.R., Freda, C., 2018. Multi-level magma plumbing at Agung and Batur volcanoes increases risk of hazardous eruptions. *Sci. Rep.* 1-14. <https://doi.org/10.1038/s41598-018-28125-2>.
- [4] Pratomo, I, 2006, Klasifikasi gunung api aktif Indonesia, studi kasus dari beberapa letusan gunung api dalam sejarah. *Jurnal Geologi Indonesia*, Vol. 1 No. 4 Desember 2006: 209-227.
- [5] Sastrawan, W.J.: *Portents of Power: Natural Disasters throughout Indonesian*. Cornell University Press. Indonesia, Number 113, April 2022, pp. 9-30 (2022).
- [6] Self, S., Rampino, M.R. 2018. The 1963-1964 Eruption of Agung Vulcano (Bali, Indonesia). *Buletin of Volcanology*. ISSN 0258-8900.
- [7] Zen, M.T., Hadikusumo, D. 1963. Preliminary Report on the 1963 Eruption of Mt. Agung in Bali (Indonesia). Institute of Technology Bandung.