

INTISARI

Situs Candi Tinjon di perbukitan Baturagung mengalami deformasi struktural dan dislokasi batuan masif. Melalui pendekatan geoarkeologi bentuklahan (SIG dan observasi taponomi), penelitian ini mengkaji proses pembentukan situs pasca-pengendapan untuk mengidentifikasi agen transformasi alam (*N-Transforms*) dan budaya (*C-Transforms*) penyebab kerusakan monumen. Hasil analisis mengungkap bahwa kerusakan situs dikontrol oleh pergerakan tanah lambat berjenis nendatan rotasional (*slump*), bukan longsoran tebing katastropik. Kondisi ini bersumber dari pelapukan batuan dasar tufa menjadi lempung ekspansif. Saat jenuh air, lempung kehilangan daya dukung sehingga fondasi candi melesak (*differential settlement*), sekaligus memicu tekanan volume yang mendesak dinding batur ke luar (*outward tilting*). Deformasi ini secara persisten diakselerasi oleh guncangan seismik dangkal Sesar Opak yang meruntuhkan kohesi tanah, serta difasilitasi oleh rapuhnya sistem kuncian (*interlocking*) pada monumen yang belum selesai dibangun tersebut. Transformasi situs semakin diperparah oleh intervensi manusia (*C-Transforms*) modern berupa pembentukan kubah tanah buatan. Timbunan ini memberikan tekanan beban vertikal berlebih (*overburden weight*) pada bidang gelincir lereng, diperburuk oleh daya rusak baji akar (*root wedging*) pohon jati. Kesimpulannya, keruntuhan Candi Tinjon merupakan akumulasi dari interaksi dinamis antara kerentanan geologis-tektonik bentuklahan dengan rekayasa lanskap antropogenik lintas masa.

Kata Kunci: Geoarkeologi, Candi Tinjon, N-Transform, C-Transform, Transformasi Pasca-Pengendapan.

ABSTRACT

The Tinjon Temple Site in the Baturagung Hills has experienced massive structural deformation and rock dislocation. Through a landform geoarchaeological approach (GIS and taphonomic observation), this study examines the post-depositional site formation processes to identify the natural (N-Transforms) and cultural (C-Transforms) transformation agents responsible for the monument's deterioration. The analysis reveals that the site's damage is controlled by a slow mass movement classified as a rotational slump, rather than a catastrophic landslide. This condition originates from the weathering of the tuff bedrock into expansive clay. Upon water saturation, the clay loses its bearing capacity, causing the temple's foundation to subside (differential settlement) while triggering a volumetric pressure that pushes the base walls outward (outward tilting). This deformation is persistently accelerated by shallow seismic tremors from the Opak Fault, which destroy soil cohesion, and is further facilitated by the fragile interlocking system of the unfinished monument. The transformation of the site was further exacerbated by modern human interventions (C-Transforms) in the form of the construction of an artificial earthen dome. This earth fill exerts an overburden weight on the slope's slip surface, worsened by the destructive force of teak tree root wedging. In conclusion, the collapse of the Tinjon Temple is an accumulation of the dynamic interaction between the landform's inherent geological-tectonic vulnerabilities and anthropogenic landform engineering across periods.

Keywords: Geoarchaeology, Tinjon Temple, N-Transform, C-Transform, Post-depositional Transformation.