

## Intisari

Pulau Jawa secara geologi berpotensi tinggi terhadap bencana tsunami, namun catatan sejarah tsunami khususnya Pesisir Selatan Jawa jarang ditemukan. Penelitian ini dimaksudkan untuk mencari endapan paleotsunami serta mengetahui dampaknya terhadap Pesisir Cikembulan Pangandaran, sehingga dapat diketahui sejarah serta karakteristiknya untuk keperluan perentangan catatan sejarah tsunami lebih jauh ke masa lampau. Lokasi ini dipilih karena berkembang dengan baik sistem *beach ridge-swale* yang merupakan jenis konfigurasi cukup baik untuk menangkap dan mem-preservasi endapan paleotsunami.

Pengambilan sampel dibuat dalam bentuk lintasan tegak lurus maupun memanjang *swale*. Pada setiap sampel dilakukan deskripsi, penentuan fasies dan korelasi. Analisis teliti diambil dari dua jenis sampel paling representatif (CKBS-7.1 dan CKBN 09062015), meliputi analisis ukuran butir, foraminifera dan *loss on ignition* (LOI). Interpretasi lingkungan dilakukan berdasarkan atas keseluruhan hasil analisis. Identifikasi endapan tsunami dilakukan melalui identifikasi foraminifera, komparasi analisis *peakfit*, serta membandingkan dengan fitur-fitur endapan tsunami dan badai hasil studi pustaka. Karakter gelombang tsunami diinterpretasi dari data ukuran butir dengan bantuan Diagram Visher dan Passega.

Fasies endapan dibagi dua, yang pertama adalah fasies endapan *background* terbentuk pada lingkungan pengendapan normal energi sedang-rendah daerah *wetland* pesisir, diidentifikasi dari material penyusunnya dominan berukuran halus (lanau-lempung), banyak ditemukan sisa-sisa tumbuhan, dan kandungan organik tinggi (>18%) yang secara teliti terdiri atas 6 fasies yang menandakan pembentukan pada sub-lingkungan yang berbeda. Kedua adalah 4 fasies endapan *event* terbentuk akibat energi tinggi dalam waktu sangat singkat yang ditemukan menyisip di antara endapan-endapan *background*, diidentifikasi dari materialnya yang bersih dari sisa tumbuhan, kandungan organik rendah (<18%), ukuran butir relatif kasar (dominan pasir halus-sangat halus). Ditemukannya foraminifera asal *marine*, kemudian komparasi hasil *peakfit* modus utama menunjukkan arah sumber dari pantai hingga *shoreface*, komparasi dengan fitur-fitur hasil studi pustaka, serta ditemukannya perbedaan fasies antara bawah dan atasnya (indikasi perubahan lingkungan) menjadikan endapan *event* ini cukup yakin dikatakan sebagai endapan tsunami (paleotsunami).

**Kata kunci :** Cikembulan, *swale*, sedimentologi, granulometri, paleotsunami

## Abstract

*Java Island has geologically high potential for tsunami disaster, nonetheless the history of tsunami particularly in South Coast of Java is rarely found. This research was intended to search for paleotsunami deposit and its impact to The Cikembulan Coastal, Pangandaran, so the tsunami history and its deposit characteristic can be understood, hence the historical record of tsunami is allowed to be extended further into the past. This location was chosen in regards of the well-developed beach ridge-swale system which this configuration is quite favorable to capture and preserve paleotsunami deposits.*

*Sampling technique was designed in the form of perpendicular and parallel coastline transect. Each sample was described, facies was determined and correlated. Detailed analysis was conducted from two representative samples (CKBS-7.1 and CKBN 09062015), which was included grain sizes, foraminifera and loss on ignition (LOI) analysis. Interpretations of depositional environment was applied using all the resulting analysis. Identification of tsunami deposits was conducted by identification of foraminifera, comparative peakfit analysis, and comparing against the resulting literature review of tsunami and storm sediment features. Tsunami wave characteristic was interpreted from grain size data with the aid of Visher and Passega Diagrams.*

*Facies of the deposit was divided into two, first is facies of background deposit formed in the normal low-energy environments of the coastal wetland region, this was deducted by the composition dominantly fine material (clay), has many plant remains, and high organic content ( $> 18\%$ ) which was more detailed consists of 6 facies each signify the formation in different sub-environments. Second is event deposit fasies (there are 4 facies), deposited by high energy in a relatively short period, inserted in between the background deposit. This was deducted by coarse and relatively clean material (sand dominated low plant remains) and low organic content ( $<18\%$ ). By discovery of the foraminifera marine origin, then comparison study of the resulting main mode peakfit which was indicated the source came from beach to shoreface, comparison with the features from the literature reviews, and identification of different facies between underlying layer and overlying layer (indication of environmental changes) make i tis confidence to conclude that was formed by tsunami (paleotsunami) wave.*

**Key word:** *Cikembulan, swale, sedimentology, granulometri, paleotsunami*