



Coastal damage and casualties on Semeulue Island due to Earthquake 9 R and Tsunami, 26 December 2004: a lesson learned.

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Simeulue Island is small island located between 2° 15"-3°00" Latitude and 95°40" – 96°35" Longitude, approximately 130 km southwest of Sumatera island in Indian Ocean and about 50 km southeast of the earthquake Epicentre. The size of the island is approximately 96 km long and 24 km width with 78.000 people lived along the coastline on this island. Earthquake with magnitude on 9 Richter scale produced devastating effects with strong quake and tsunamis around Indian Ocean that cause death toll approximately 115.000 in Banda Aceh Province. However, in Semeulue Island based on surveyed that had been conducted, only 7 people death and 1 missing. The earthquake made this island uplifted at the northern part approximately in the order of 1,2 m and at south end of the Island approximately 0.5 m of subsidence's. The tsunami wave height varies between 2 – 15 meters and consists of 5-7 waves. It only takes 5-10 minutes after the receding of the sea levels, and the first tsunami waves coming follow by the second wave, which is the highest according to the witnesses that destroy the northeast coastal areas, and some other part of the island approximately between 20 minutes to 1 hours. All villages at Alafan district at the Northeast that facing to the source of the earthquake and tsunamis had been destroy by the second waves that reach maximum height 15 m and at Labuhan bakti villages at the south end of island, the maximum wave height had been measured is 4 m and destroy the whole villages. The tsunami waves phenomena at the shoutheast end of this island shown very interesting phenomena, the water level rise slowly but the rundown is very quickly, at this point mostly the villages damages due to the rundown. With death toll only 7 people and 1 missing compare with the main island (sumatera Island) with total death toll

115.000 people; people who lived on this island (total 78.000) apparently had a good knowledge on tsunami. There is a story that always been told to the people who lived on this island since they are childhood about “smong (semong)” a local word referring to tsunami that happened in year 07. They said if you feel the quake where you are on this island, and the sea levels dropped/receded, you should immediately run away to the higher place to save your life. This story had saved a life of people who lived on this island during the 26 december 2004. According to the historical tsunami databases, there was a tsunami occurred on this region in 1907 refer to local story with year 07.