CHOKPIPAT LERTPONGARAYA : THE STUDY OF INFLUENCES OF WAVE AND CURRENT ON THE CHANGES OF RIVER MOUTH BY HYDRAULIC MODEL : ASSI.PROF. DR. SUCHARIT KOONTANAKULVONG, 162 PP.

A river mouth, faced with an open sea, often confronts with the coastline change problem due to the influences of many factors, e.g.sea wave, littoral current and transport, river flow with suspended sediment and tidal flow etc. The sediment movement at the river mouth causes the change of sea bed and coastline which will hamper structure and navigation at a river mouth.

In this study, the influences of sea wave and river flow upon the change of sea bed at river mouth are studied with the use of a physical model. The Golok river mouth located at Amphoe Takbai Narathiwat Province, is selected as the study area since it is suffering from the river mouth instability problem.

From the experimental results, it is found that the breaking wave height can be determined by wave steepness, sea bed slope and breaking type. Breaking wave in the sea with mild slope trends to break in the deeper water than the theoretical depth. The wave inside surf zone attenuates in the direction towards the river mouth and the wave height depends on the bed slope and river discharge. Flow from the river makes the wave at the river mouth to be smaller. Wave inside surf zone influences the river flow direction and velocity during the low flow. The breaking wave causes wave setup and increases the water level at the river mouth. Wave in the surf zone erodes the sea bed in the deep zone and move the sediment to deposit in the shallow zone. The river flow can reduce the erosion rate caused by wave and accelerates the sediment deposition in the shore near the river mouth affected by the river flow and the river flow may accelerate the erosion if the river discharge increases.