West of Indonesia is region of the plate boundary between the Australia plate and Sunda plate is seismically highly active. Subduction of great tectonic plates continues further south and east/southeast along the great Sunda Trench. The normal subduction below Java is characterized by the development of typical fore-arc basins while oblique subduction beneath Sumatra results in partitioning of the convergent motion into thrust and strike-slip faulting.

We have conducted six times GPS campaign observation in West Java, 2006 (December), 2007 (August), 2008 (August), 2009 (June and August) and 2010 (August). The activity of local fault; sinistral motion of Cimandiri fault and dextral Lembang fault control the deformation pattern in West Java. Using simple elastic half-space model we estimate geodetic slip-rate of Cimandiri fault is 6mm/yr and 3mm/yr for Lembang fault. This result also suggest that the interplate coupling is very weak or if any it only extend at very shallow portion (less than 10 km) which is very diffult to be detected by inland GPS network that located 250 km away from the trench.