The Volcanic Occurrences in Relation to Tectonics, in Myanmar

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There are many volcanic occurrences in several areas of Myanmar and their linear distribution show that most of them are related with faults and folds. These faults trending in NE-SW, ENE-WSW, NW-SE, NNW-SSE and N-S direction and the folds in N-W, NNW-SSE direction are developed by the ductile extension mainly in the Miocene. The extensional deformation was followed by the compression in the Pliocene-Pleistocene. In this post-collision extensional setting, extension began in the north and in the south after 10 Ma, forming pull-apart basins from northernmost Myanmar on land to Andaman sea in the south. Central Myanmar Basin and Central Andaman Basin record an active extensional process that vary laterally from continental rifting in the north and sea-floor spreading in the south. In such setting, extension leads to magma generation from sub-continental lithosphere mantle which have been enriched in the alkalies. Majority of these volcanic rocks are volcanic ash, tuff, lava flow, different types of basalt, andesite, dolerite and rhyolite and associated intrusive rocks. Bimodal basalt-rhyolite eruption and compositional variations of volcanic rocks obtained from geochemical study indicate the assimilation of the crustal components and magma mixing. Associated sedimentary rocks with the volcanic material are shallow marine rocks of the Peguan (Miocene) and non-marine rocks of the Irrawaddian (Pliocene). Mode of occurrence and nature of emplacement into the rock unit show that much of the volcanic activity in Myanmar have been active since Miocene and ceased in Quaternary. Volcanic occurrences are mostly in the Central Myanmar Basin and in the Andaman Sea.

Key word: volcanic, fault, extension, basalt, sedimentary, mode, emplacement, assimilation.