**Nutrient cycling of the dry dipterocarp forest at Sakaerat**

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## ABSTRACT

Nutrient input by rainfall, stemflow, throughfall and litterfall of the dry dipterocarp forest dominanted by *Shorea obtusa* wall in the upperstory layer and *Arundinaria pusilla* Cheval. & A. Camus in the understory layer at Sakaerat were studied together with nutrient output by surface flow, nutrient accumulation in plant and soil system, annual nutrient uptake and retained. The study found that the annual input by rainfall, stemflow, throughfall and litterfall are composed of N, P, K, Ca, and Mg of 55.20, 4.26, 33.33, 76.13 and 17.78 kg/ha.yr. respectively. Output through the surface flow are 0.02, 0.02, 0.01, 0.06 and 0.03 kg/ha.yr. of N, P, K, Ca Mg respectively. Accumulation of nutrient in total vegetation are 3,672.80, 163.52, 2,438.58, 4,994.30 and 1,086.78 kg/ha. And in soil are 8,117.90, 22.77, 294.13, 293.04 and 173.83 kg/ha.(55 cm depth) respectively. Intrasystem circulation by the annual uptake are 416.46, 18.46, 261.00, 478.46 and 114.43 kg/ha.yr. and the annual return through litterfall are 42.92, 2.61, 20.67, 45.04 and 9.79 kg/ha.yr. of N, P, K, Ca and Mg respectively. The study concluded that the annual uptake, retained and accumulation of nutrient in plant-soil system of the dry dipterocarp forest are large while the return to soil is low and release through the surface flow is very low suggesting that the forest conserves much nutrient elements in plant and soil system.