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**Fluvial export variability of limiting nutrient fluxes to the Indian ocean from selected rivers in the wet zone of Sri Lanka**

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The wet zone of Sri Lanka is a region where a number of major rivers and streams originate in the country and deliver land borne limiting nutrients to the Indian Ocean to facilitate marine productivity and carbon sequestration. A study was carried out to quantify the contribution of Kelani River, Kalu River and Gin River in exporting major limiting nutrient fluxes to the Indian Ocean during South West monsoons and second intermonsoons, to understand the significance in their variability patterns with rainfall and to trace the nature of the input sources of these nutrients. A three month study from late August to early November, 2015 was conducted at pre-decided three sampling locations for each river and water samples were collected for analysis of ammonia, nitrite, nitrate, orthophosphate, silica, sulfate and iron. Analysis was done by standard colorimetric spectroscopy methods. In addition, rainfall, stream discharge, pH, DO, salinity and temperature were measured at the site itself. Only orthophosphate ( $p < 0.01$ ), sulfate ( $p < 0.01$ ) and nitrite ( $p < 0.01$  for Kelani and Kalu;  $0.01 < p < 0.05$  for Gin) fluxes showed a significant relationship with the discharges showing that only less abundant nutrients are more affected to be dissolved in stream water with rising rainfall. None of the fluxes showed significant differences ( $p > 0.1$ ) in their temporal and spatial variability suggesting that studied rivers in the wet zone more or less behave equally in fluvial transportation owing to the similar rainfall intensities observed in both SW monsoons and second intermonsoons. Calculated N:P ratios with respect to natural ratio of N and P (16:1) suggested a possible increase in N inputs in the fluxes probably due to dominating anthropogenic sources in Kelani (72:1), Kalu (73:1) and Gin (92:1) rivers and a possibility of P limiting conditions for the marine productivity of the adjacent coastal environment. Si:N in Kelani (4:1), Kalu (4:1) and Gin (4:1) rivers suggested an equally possible Si imbalance but is believed to be under control due to their high removal rates from a system and the detected molecular ratios being more closer to natural Redfield ratios (1:1).

Key words: Nutrients, fluvial, fluxes, ratios