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## MAJOR PLANT NUTRIENT LEVELS IN SOME WELLS ALONG A SOFT CATENA UNDER INTENSIVE VEGETABLE CULTIVATION

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Well water could be loaded with plant nutrients by over applications of fertilisers and manure. This could be perilous to the environment. Over applications of fertilisers and manure are very common in hill-country vegetable cropping systems of Sri Lanka.

In this study, major plant nutrient levels in 7 wells along a soil catena in Pattipola under intensive vegetable cultivation were monitored. A well in the forest of upper catena was selected in the control.

Water was sampled in weekly intervals for 3 months. pH of those was measured in -situ. K, Ca, Mg, PO<sub>4</sub>, P, NH<sub>4</sub>-N and NO<sub>3</sub>-N were determined in preserved samples. A quantification of the nutrients recycled through irrigation issues was also done.

pH-values of water in the cultivated segments were in moderately acidic range of 4.4 - 4.9 compared to 5.2 of the control. Ca, PO<sub>4</sub>-P and NH<sub>4</sub>-N levels were low in par with the correct due to the considerable adsorption by the soil.

However, K, Mg and NO<sub>3</sub>-N levels were contrastingly higher than that of the control indicating the influence of fertiliser and manure applied. Some wells of the lower slope showed > 28 ppm NO<sub>3</sub>-N compared to 2 ppm of the control.

4, 9, 1.5, 2 and 20 kg/ha of Ca, Mg, PO<sub>4</sub>-P and N were brought back to crops through an average irrigation issue showing a mild similarity to a foliar fertiliser applications.