

## **SOIL NUTRIENT IMBALANCES IN VILLAGE TANK BASED PADDY FARMING AND POSSIBLE REMEDIAL MEASURES**

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Paddy farmers in Sri Lanka have enjoyed the fertilizer subsidy since 2005. Farmers often complain that, though fertilizer is applied continuously the yield increase is not significant. It is fact that root causes of many technical problems are embedded in socio-economic aspects. Therefore, this study was conducted to assess household characteristics of paddy farmers and soil nutrient status in their fields in *Halmillawewa*, located in the *Mihinthale* Divisional Secretariat Division. All the paddy farmers were included to the household survey and soil samples were drawn from their fields prior to land preparation for nutrient analysis.

The survey revealed that the average age of the farming community was 52 years. About 98% of the household heads had school education and nearly 50% of them have received formal education above year 8. In general, awareness on nutrient management of surveyed community was not satisfactory. Results of the nutrient analysis indicated that average available nitrogen, available phosphorus, exchangeable potassium and organic matter content of the soil were 765 mgkg<sup>-1</sup>, 27 mg kg<sup>-1</sup>, 19 mg kg<sup>-1</sup> and 1.4% respectively. All the fields showed both nitrogen and potassium contents below critical level while potassium was the most deficient. About 50% of the fields showed phosphorus content above the critical level.

Results suggest that potassium deficiency may be the most possible reason for yield reduction. Hence, soil test based fertilizer recommendation could be more economical to increase the production. It is recommended to apply adequate amount of nitrogen and potassium fertilizers at correct time. In general phosphorus fertilizer application can be reduced by 75%. It is important to motivate farmers to incorporate rice straw to increase organic matter and potassium content in the soil. Since majority of the farmers are in middle age with good education, it may easy to make them aware on field problems and possible remedial measures.

**Key words:** Household characteristics, Nutrient availability, Paddy soils