VARIATION OF WATER LEVELS AND QUALITY OF AGRO-WELLS IN *THALAWA* BLOCK IN *MAHAWELI* SYSTEM-H IN ANURADHAPURA

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Large Agro-wells are the most valuable water resource for farmers in *Mahaweli* system H in Sri Lanka to sustain crop production during the dry spells. Deterioration of well water quality during the dry period has been reported in some areas of the dry zone. Therefore, the aim of this study was to investigate the variation of irrigation water quality of Agro-wells and their water levels in *Thalawa* irrigation block of *Mahaweli* system H. Water samples from 10 Agro-wells were collected during October 2016 to July 2017 once in a month and tested for irrigation water quality parameters, and few heavy metals Cd, As and Pb using standard methods. Water levels were recorded for each sampling dates. Based on the variation of EC (0.18 to 0.48 dS/m) and pH (6.82 to 7.19), 100 % of the well water were suitable for irrigation. Residual Sodium Carbonate (RSC) values of well water varied from 0.91 to 2.49 me/L and 50 % of the wells are safe (<1.25 me/L) and rest 50 % of the wells were within marginal range (1.25-2.50 me/L) in terms of RSC. However, higher RSC values were recorded only during January to February. Sodium Adsorption Ratio (SAR) of Agro-well water varied from 0.44 to 1.12, thus the water is highly suitable for irrigation in terms of SAR. Considering the combination of average EC, SAR, and RSC, water of all tested wells in *Thalawa* block can be characterized as good for irrigation. However, temporal distribution of Agro well water showed that two agro wells water were marginally alkali. Nutrient and heavy metal parameters tested were within acceptable range for irrigation water, except NO_3^--N (5.7 ppm) in one well. The study revealed that there is sufficient water levels in Agro wells even during the dry spells and it varies with both the variation of rainfall and canal water availability. In general, there is a higher potential to use this water for any crops and soil with very little danger of increasing exchangeable Na in soils.

Keywards: Agro-wells, Irrigation water quality,*Mahaweli* system H, Water levels