

PRESENT STATUS OF AGRO-WELL USE IN MINOR IRRIGATION SYSTEMS IN MALWATHU OYA RIVER BASIN

D.G.P. Kumarasiri¹, S.P. Weligamage², S.N. Dissanayake¹

¹*Department of Agricultural Systems, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura, Sri Lanka.*

²*Department of Agricultural Economics & Business Management, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka*

This study was conducted to investigate the current patterns of use and economics of agro-wells and pump irrigation in the *Malwathu Oya* river basin, an area where well density is high. Based on details of agro-well density, four Grama Niladhari (GN) divisions representing four Divisional Secretariats (DS) in upper reaches of *Malwathu Oya* river basin were selected for the study. Fifteen farmers from one GN division were randomly selected and surveyed using a pre-tested questionnaire. Data were converted into per hectare basis and analyzed using descriptive statistical methods, cost benefit analysis, factor share analysis and gross margin analysis to understand the profitability and distribution of income among different factors of production. Results revealed that average land extent cultivated per agro-well is 0.462 ha. Chili is the crop with the highest extent followed by egg plant and onion. The source of capital for 75% of wells were own funds. Two-third of the agro-wells in the area is lined. Two-third of the farmers used diesel/kerosene as the source of power, while the rest used electric [pumps. Net](#) Present value (NPV) and Benefit Cost Ratio (BCR) values per ha of chili cultivation under lined-well with diesel pump for 15 years is 4.2 and 2.4 million LKR respectively while the respective values for unlined-well with diesel pump is 5.2 and 2.6 million. Internal Rate of Return (IRR) for both scenarios was greater than 100% indicating that the investment in both cases is profitable. Farmers received 661,277 LKR per ha of onion per season registering it as the most attractive crop to be grown under agro-well irrigation. Factor shares under lined-well with diesel pump for capital, labor and current inputs is 7%, 15%, and 18% respectively allocating 60% of gross revenue as returns for land and management of farmers.

Key words: Agro-well, Cost benefit analysis, Factor share, Gross margin