

EFFICIENCY IN VEGETABLE PRODUCTION UNDER AGRO WELLS  
(A STUDY CONDUCTED IN RAMBEWA DIVISIONAL SECRETARIAT AREA,  
ANURADHAPURA DISTRICT)

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Agro-well farming system was introduced to Sri Lanka in 1960's as a remedy to water scarcity in the dry zone. Therefore, agro-wells are used as a source of supplementary irrigation. Most popular crops under agro-wells are vegetables.

A study was conducted to estimate technical efficiency, technical inefficiency and allocative efficiency in vegetable production under agro-wells in order to understand the efficiency with which farmers do exploit the production technology available to them. This study was carried out in Rambawewa divisional secretariat area because it is an area where a large number of agro-wells are found. Required data were collected through a field survey conducted in 2008.

Technical efficiencies and inefficiencies were estimated by the parametric approach using a stochastic frontier production function. The maximum likelihood estimates of the stochastic frontier model were used to estimate technical efficiency and inefficiency. Marginal Value Production (MVP) and Marginal factor costs (MFC) were the factors used in calculating allocative efficiencies. The ratio MVP/MFC was used as the indicator of allocative efficiency estimates.

Results indicated that cost of fertilizer was the only factor that has contributed significantly (at 5% level of probability) to technical efficiency. Age and level of education have contributed significantly (5% level of probability) to technical inefficiency. Results of allocative efficiency indicated that land has allocated near efficiency. In general, over allocation of production inputs was found.

As a remedy to overuse of fertilizers and agro chemicals, it is suggested to popularize the use of organic matter and integrated pest management among farmers who grow vegetables under agro-wells. At the same time, farmers should be encouraged to use soil and moisture conservation practices along with appropriate on farm water management practices.

*Key words:* Agro wells, Technical efficiency, Technical inefficiency, Allocative efficiency, Frontier production functions