



SOME INDICATORS FOR EFFICIENCY OF IRRIGATION WATER USE IN EGYPTIAN AGRICULTURE

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ABSTRACT

Egypt depends on the Nile River as a major source of water, it provides about 76.3% of its water requirements, other water sources provides about 23.7% of total water requirements. Agriculture sector is the main consumer of water in Egypt as it consumed about 85.9% of the total actual consumption of water in 2009. The main problem of the present paper is the decrease in the efficiency of water use in Egyptian agriculture. The objective of paper is to assess the efficiency of water use in agriculture in the old and new land Egypt through the use of partial efficiency measures.

Results showed that in average of the cost of irrigation per feddan during the period (1998-2009), that was for winter crops in the old lands as follows: 85.3, 105.8, 119.3, 127.3 pounds/feddan for faba bean, sugar beet, alfalfa sustained, wheat at a cost of irrigation per feddan of which respectively. For summer crops in old land cost was about 114.7, 129.5, 139.8, 156.2, 217.8, 606.1 pounds/ feddan at a cost of, sesame, soybean, peanut, corn, rice, sugar cane, respectively.

For the winter crops in the new lands irrigation cost per feddan was about L.E 99.3, 169.0 for garlic and onion respectively. Summer crops in the new lands irrigation costs for watermelon, cucumber, potatoes, eggplant, peppers, and tomatoes were as follows: L.E 92.4, 133, 138.7, 139.8, 157.7, 194.3 pounds/ feddan respectively.

The results of the statistical analysis of partial-efficiency measures showed that, according to the criterion of net revenue from the water unit - winter crops on the old land as follows: alfalfa, wheat, faba bean, and sugar beet. As for the summer crops of old land the results showed of the statistical estimate of the partial-efficiency measures that peanuts, corn, sesame, sugar cane, rice, soybeans respectively.

In the new lands the results of statistical analysis for the partial- efficiency measures, according to the standard net return of the water unit for winter crops were garlic followed by the first crop of onions. As for the summer crops, the results of statistical analysis of partial -efficiency measures, according to the standard net return of the water unit came summer crops in the new lands, were as follows: potatoes, tomatoes, watermelon, cucumber, eggplant, pepper. The results in general indicated the necessities of reconsidering the present structure of cropping pattern to increase the efficiency of irrigation water use.

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