The Cognitive -Mental Skills Needs Regarding to the Drip Irrigation system Operation and Maintenance for the Citrus Trees Farmers in some Villages of Tiba Region in the New lands- Beheira Governorate

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ABSTRACT

This research aimed to identify the cognitive needs and the mental skills of the respondents with regard to the drip irrigation system operation and maintenance, as well as the level of their application of some technical recommendations related to raising the efficiency of the irrigation system, as two dependent variables, and study the correlation and regression between them with some social, economic, communication and psychological characteristics of the respondents. Lastly to identify the most important problems that are facing the respondents during the operation and maintenance of the drip irrigation system, and how to face them from their perspective.

The research was conducted in Tiba region of the new reclaimed lands in western Nubaria into three villages are: Suleiman, Adam and Elisha, and the population of the study was represented into 852 respondents from citrus farmers. A simple random sample was taken by the method of sequential analysis, the size of 103 respondents, representing 12% of the population. The data were quantitatively processed and used to describe it by the percentages, mean, standard deviation, frequencies, Pearson's simple correlation coefficient and multiple regression.

The results revealed that the majority of the respondents 91.3% have a high and medium of cognitive and mental skills level and also the majority of the respondents 90.3% have a high and medium of the technical application level. Regarding The most important reference sources for the respondents for their irrigation casual work were the traders of irrigation system supplies, then the experienced neighbors, then irrigation engineer in the region mentioned by 93.2%, 84.4% and 40.8% of the respondents respectively. The results of examining the Correlation also showed an inverse correlation at the probability level (0.05) between the cognitive needs level and mental

skills as the first dependent variable and the following independent variables: total area, citrus productivity per acre, the attitude towards drip irrigation, and the general irrigation awareness. However the results revealed that there is no significant correlation at neither probability level (0,01) nor (0.05) between the first dependent variable and age, family size, children education level, respondent education, agricultural respondents experience, citrus area, number of the trees per acre, total production, Training in the field of drip irrigation, the village residence, irrigation modernization, extension role in the village. Together these independent variables interpreted by 28 % of the first dependent variable variance. On the other hand the correlation between the technical application level as the second dependent variable of the respondents related to increase the efficiency of the irrigation system, the results showed that there was a positive correlation at the probability level (0.01) with the children education level, the respondents education, and a positive correlation at the probability level (0.05) with total area, and inverse correlation at the same probability level with the extension role. However, there was no a significant correlation at neither probability level (0.01) nor (0.05) with the remaining investigated independent variables, additionally, the independent variables all together interpreted the second dependent variable variance by 41 %

The most important problems were mentioned by the respondents respectively: high costs of the maintenance, lack of the irrigation spare parts availability, poor quality of irrigation hoses, few irrigation engineers available in the region to help, high costs of establishing a drip irrigation system, and The eighteenth problem is spreading out the weeds around the draw tube in the water well.

in the same context, the most important suggestions were mentioned by the respondents respectively: promote the farmers training on establishing, operating and maintaining the drip irrigation system, improving the quality of the drip irrigation hoses and providing them at affordable prices, governmental support to manufacture the drip irrigation systems components, and finally using the under soil plows to improve the drip irrigation.