

# **Some Factors Affecting Water Conservation In the Agricultural Sector at Riyadh Region**

A Thesis Submitted in partial Fulfillment of the Requirements  
for the Degree of Master of Science in Agricultural Extension,  
Department of Agricultural Extension and Rural Sociology,  
College of Food and Agric .Sciences , King Saud University.

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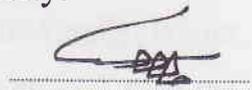
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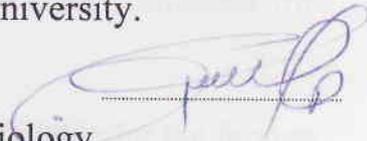
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### Abstract

The research basically aims at the studying some of the factors affecting rationalization of water use rationalizing at the agricultural sector in Riyadh, this is done through some of the secondary objectives including the identification of the information sources related to the water utilization at the farms, irrigation methods used, and attitudes toward the modern irrigation techniques and water usage reservation, as well as identifying the encouraging factors, in addition to defining the essential barriers that might confront the farms when implementing the modern irrigation methods. Also, the thesis includes the study of the personal, social and economical features of the farmers and their relations with the factors under survey.

Data was collected through questionnaire by personal interview satisfied from a random categorized sample totaling 440 farmers, representing 5% of the survey population volume.

The study data were analyzed using the percentage ratios, mathematical mean, Likert scale, Pearson correlation coefficient, and stepwise multiple regression analysis.

The main results of the study include :

It was illustrated by the results that 47% of the farmers belong to the age group (40-59 years), most of them (94%) are married; and which 51% of them were of rural origins. Their academic level varies, since 77% of them are literate, 37% of them completed the intermediate school agricultural was, 83% of them the agriculture is a secondary job for 83% of them. Most of them (73%) have large and medium size families and 80% of them depend on the foreign labour force. Most of the farmers (97%) depend on wells for irrigation. Also the study illustrates that the annual income from agriculture is low compared with other professions.

In spite of availability of various information sources available for the farmers, the study indicated that the relatives, friends and neighbor were the most

important as a sources of information for the farmer to obtain information related to water utilization for agricultural purposes, while the extension leaflets , and the agricultural leaflets and the radio & television programs of medium importance and were a source of information.

It was illustrated that the most used irrigation methods were the irrigation by inundation, surface dripping, pipelines and axial sprinkling. Also, it was clear that all of the users of the dripping irrigation method express their desire to continue using the same method; it is shown that the farmers desire to use the traditional irrigation methods besides the modern methods. It was noticed that 57% of the farmers don't use any of the modern irrigation method, while inundation irrigation method was prevalent compared to other techniques scoring 70% among the farmers, while 21% of them use only one modern irrigation method.

Furthermore, it was clear that the farmers trend toward the modern irrigation methods and water rationalization are generally positive, since 47% of the farmers have positive trends, 53% neutral, while onley 0.5% with negative trends.

Among the encouraging factors for the utilization of the modern irrigation methods, it was clear that most of the farmers approved the importance of using the same within the areas scarce with water, as well as providing the water and time required for irrigation, in comparison with the traditional irrigation method.

It was clear that the most important barriers confronting the farmers in utilizing the modern irrigation methods were high financial costs, lower experience, in addition to equipments for required pumping the water, lack of technical experience needed for its operation and maintenance, in addition to other problems related to accommodations of salts between the dripper units.

Modern irrigation techniques have an important role in saving irrigation water and time required for irrigation in addition to saving labor force compared to the traditional irrigation methods.

The thesis includes five chapters as follows: The first chapter covers the introduction, research problem, thesis objectives. Second chapter covers the theoretical framework and previous studies. Third chapter relates to the research technique. Chapter four includes a discussion of the thesis results. While chapter five includes the abstract, inferences, recommendations, appendices, references ; and a summary and abstract the thesis in English language.