

## ABSTRACT

### DETERMINING OF EFFECT UPON INVESTMENT COST OF THE OPEN CHANNEL AND SPRINKLER IRRIGATION SYSTEMS OF LAND CONSOLIDATION: CASE STUDY OF DENİZLİ-TAVAS- KIZILCABÖLÜK

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In this study, irrigated agricultural areas in Denizli-Tavas-Kızılcabölük neighborhood were chosen as the research area; the costs of open channel irrigation system and pressurized irrigation system were compared. The effect of the cost of both systems of land consolidation was investigated. According to the situation of before and after the consolidation, the projects of collective sprinkler and open channel irrigation system has been prepared. According to the prices of 2014, the investment costs of the irrigation system for the state of before and after the consolidation were compared.

In the research, it was determined that according to land consolidation prior for entire irrigated area in the open channel irrigation system; density of irrigation network decreased about 18% and density of the road network increased 72%. In addition, density of irrigation network decreased around 1% and density of the road network increased 33.7% in the sprinkler irrigation system.

It was determined that the average unit investment costs of the open channel and collective sprinkler irrigation systems prepared for the after consolidation were lower by 14% and 3.3% respectively according to the situation of before the consolidation.

According to these results, the effect of the land consolidation project on open channel and collective sprinkler irrigation projects was positive, especially system cost reduced.

**Key words:** Land consolidation, open channel, pressurized irrigation, investment costs, economic analysis