



## EFFICIENT TRANSPORT AND DELIVERY OF WATER IN EGYPTIAN AGRICULTURE

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### ABSTRACT

The problem of research is limited to how to rationalize the use of water in the agricultural sector under the current situation, such as the construction of the Nahdha Dam, which will affect Egypt's share of the Nile River. On the other hand, the increase in water demand, the misuse of water resources in Egyptian agriculture and the inefficient use of water resources Which is reflected in the return of the water unit.

**The research aims at identifying the efficiency** of water transport and delivery in Egyptian agriculture from its main source in the southern region of Egypt at Aswan until it reaches the fields in all the governorates of the Republic. The research aims in particular to study the development of irrigation water quantities and their losses in Egyptian Agriculture The amount of water used on the waste.

**The study showed that the average amount** of irrigation water used in the field, at the completion of the canals, and in Aswan was about 36457, 41042 and 51515 million m<sup>3</sup> respectively during the study period. In the study of the general trend of the development of irrigation water used in the field, when the canal was completed, and in Aswan during the study period, the increase of these quantities was estimated at an annual average of 96.38, 46.3 and 73.9 million cubic meters respectively.

**The average annual loss** of water from Aswan to the field, from Aswan to the fins of the canals, and from the canal and field fillers reached 15057, 10477 and 4380 million cubic meters respectively during the study period. A study of the general trend of the development of water losses from As-

wan to the field, and from Aswan to the dams of the canals, showed that the water losses decreased by a statistically significant annual increase of about 21.9 , 273.9 million cubic meters respectively during the study period. While water losses from canal and field fill increased by a statistically significant annual increase of 272.0 million cubic meters during the study period (2002-2016).

**The results of the statistical** estimation of the relationship between the quantity of water losses as a dependent variable and the quantity of water used as an independent variable during the period: (2002-2016) indicate the following

**To study the effect** of the amount of water used in the field on water losses from Aswan to the field. It was found that by increasing the amount of water used in the field by one million cubic meters of water, the amount of losses from Aswan to the field increased by 0.77 million cubic meters.

**By studying the** effect of the amount of water used when watering the canal on water losses from Aswan to the field. It was found that by increasing the amount of water used at the completion of the canal by one million cubic meters of water, the amount of losses from Aswan to the field increased by 0.59 million cubic meters.-

**To study the effect of** the amount of water used in Aswan on water losses from Aswan to the field. It was found that by increasing the amount of water used in Aswan by 1million cubic meters, water increases the amount of losses from Aswan to the field by 0.47million cubic meters.

**Keywords:** Efficient transport; delivery of water