

Abstract

At present treated wastewater is considered a new source of non-conventional water sources. Water shortage in the Palestinian territories, mainly resulting from the occupation control over water sources, makes it an urgent need to intensify the construction of wastewater treatment plants that produce treated effluent to be used in agricultural production and irrigation of public gardens and parks.

Socio-economic dimensions play an important role in the willingness of the rural population in the West Bank to accept the re-use of treated wastewater in agricultural production, which is related to the environmental awareness and the understanding of the population of wastewater treatment systems and re-use. This study is essentially based on a questionnaire discussing the re-use of treated wastewater in agricultural production, for that, a random sample of 33 treatment units owners has been selected, in addition to conducting personal interviews.

The study results showed that 60.6% of the correspondents accept the establishment of a treatment plant mainly to re-use treated wastewater in agriculture. The results also illustrated that the direct benefits of accepting the establishment of the treatment units and reuse in agriculture are classified orderly as follows: agricultural production, reduction of the water bill, reduction of cesspits evacuating cost and finally raise the level of health. Results reported that the statistical sample reveal that no problem in re-use of treated wastewater in agricultural production but rather agree to intensify efforts to increase such projects, and they expressed no hindrance from the purchase and consumption of crops irrigated with treated wastewater.

Results included in the study consist of two types of analysis; first is to analyze the social aspects of the study area and its impact on the receptivity of the population to re-use of treated wastewater. These results show the existence of a close relationship between the acceptance of the population to re-use treated water and the educational level, where people holding secondary degree or less are in favor of re-using treated wastewater. In addition the results of the quantitative analysis showed that there is no close relationship between gender, income, and the number of beneficiaries who with the acceptance of re-use of treated wastewater in agriculture. The second type of analysis is the economic analysis, which consist of cost - benefits and net present value analysis of re-use of treated wastewater in agriculture, where it showed that re-use for beneficiaries from treatment units is economically feasible, as well as if establishing of treatment units on their expense.

The results of the study confirmed that the establishment of wastewater treatment plants is protective of Palestinian environment from pollution caused by overflowing of cesspits or discharging wastewater in valleys and streets, as well as protective of groundwater and surface water sources. To this end, it was concluded that the establishment of wastewater treatment units is to a large extent acceptable to the population of the study.

The study finds that under the current water crisis re-use of produced treated wastewater should be valued in the Palestinian countryside, and efforts between institutions involved in wastewater management should be intensified in order to establish treatment plants at the community level in rural areas in the West Bank.