

ABSTRACT

The regional scarcity of water in the Mediterranean and Middle East countries requires endorsement of sustainable wastewater management technologies. In Palestine, domestic and industrial wastewaters are collected mainly in cesspits or, to a much lesser extent, in sewerage networks. In some villages and refugee camps, black wastewater is collected in cesspits, while gray wastewater is discharged via open channels.

In rural areas water and money are not available to provide centralized conventional wastewater services. So, application of decentralized management approach within the water cycle and the use of low cost sewerage are more suited to the socio-cultural and environmental circumstances.

There is substantial need for more sophisticated management of both on-site septic systems and small community wastewater treatment and disposal systems. While these systems are fairly easy to maintain, it is clear from recent studies that these systems have not always been maintained properly. Better management should facilitate more extensive use of complex technological options. There are a number of institutional management entities that can be used depending upon the needs and desires of the county or local community.

The main goal of this research study is to develop a sustainable wastewater management for small communities in Ramallah-Albireh district. This research study is limited to those Palestinian rural communities, who have a population number of equal of less than 5000 residents.

The selection of adequate sanitation facilities, in this study, will take into account the environmental and socio-economical aspects of the residents in the small communities of Ramallah-AlBireh district. However, these aspects can be community specific and might vary from one district to another, a brief analysis of these aspects will be made for all districts. WAWTTAR software package will be used to assist in technology selection based on social and economical aspects.

The assumptions, justification and limits of this research study will be described. In addition, an overview of the research methodology applied is also presented.