DEVELOPMENT OF AN INTEGRATED WATER MANAGEMENT STRATEGY FOR RAMALLAH RURAL AREAS

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The findings, interpretations and conclusions expressed in this study do not necessarily express the views of Birzeit University, the views of the individual members of the MSc Committee or the views of their respective employers.

ABSTRACT

The water shortage problem in Ramallah Area was the main issue studied in this research, in terms of quality, quantity, consumption rate and demand.

Palestine, like other semi-arid countries, suffers from water shortage due to increasing water demand for various uses. The available water resources, mostly groundwater, will not satisfy the increasing future demand, and experience gradual pollution, due to improper use and poor management.

Ramallah rural areas were chosen specifically for this study so as to introduce suitable solutions for the general water shortage problem. Thus increasing water availability by substituting the usage of fresh water resources in sectors were other available and adequate resources could be used, in addition a water management strategy could help emphasize the importance of fresh water availability.

The main goal of this study is to develop an integrated water management strategy for Ramallah rural areas. The strategy formulation is based on the results of various studies on water sector elements. The main water sector elements studied are water resources quality and quantities, rainwater harvesting and wastewater reuse option.

First, the research is started by collecting data from different water institutions, second by testing water quality of several springs and cisterns in the area, third, by a questioner distributing to four representative villages which included water use patterns and consumed quantities, waste water disposal, along with prevailing water problems. Finally, computer programs were utilized to analyze the data, the out come of the results was used to formulate a management strategy suitable specifically for rural areas.

The results of the study indicates that in the coming twenty years the area will be facing a sever water problems in the case of depending on the ground water resources only and keeping the current patterns of water uses. Furthermore, unconventional water resources; upon proper use and management; can supply two thirds of the domestic demand in the rural areas at half of the cost for the network water, in addition to supplying low cost water to be used for local agriculture.

In order to implement the proposals mentioned above, an integrated water management strategy was formulated for Ramallah area which concentrate on the rural areas. It depends on granting a major roll to local administrations and public, financial policy encourage the implementation of the proposals and a legislation plan related to water issues. A committee suggested to be established jointly from concerned Ministries, PWA, JWU and a representative of scientific research centers in the area. This committee will coordinate the efforts, propose plans and supported by a technical office and financial institution, which will implement and supervise the proposed plans.

Finally, the developed water strategy can be applied to enhance the development of water and wastewater infrastructures in other Palestinian rural communities. However other further detailed studies are recommended.