

ABSTRACT

As the need for water is increasing in Palestine, and the available water resources are barely meeting the current quality of life and economy. Air conditioning condensate water could be explored as an alternative water source, which could be considered within the global calculations of the water supply. Recovering of the air conditioning condensate water has been recently developed as a new technology which efficiently contributed to the water resources management. The objective of this study is to better understand the potential for recovery of condensate water from air conditioning systems. In addition, this study also evaluated this water source in terms of quality and quantity.

Generally, it was found that the condensate water is at good water quality, which conforms to the Palestinian standards for reused water for irrigation, except for the turbidity measurements. Therefore, if uses for drinking purposes, it might create some concerns linked to taste and color. Reflecting the heavy metals occurrence in the collected condensate water, no particular risk was concluded for the drinking water and the reused irrigation standards comparison. From a single unit capacity high quantity of water was observed at approximately 258.9 L and 453.0 L per month in Ramallah and Jericho cities respectively. This research had outlook an overview about the quantity of water generally generated in Palestine, through the market survey for the units of conditioning system sold in the year 2011. The calculated water volume resulted that the total estimated water generated from the new installed units in the year 2012 is around 46,330 cubic meter. This quantity should draw the attention to the decision and policy makers to put in place strict technical guidelines to be followed the local level.