1- **MAZIGHI, A., LOUNICI, H., DROUICHE, N., LEENAERTS, R., ABDI, N., GRIB, H., MAMERI, N.**

Economic study of groundwater defluoridation of the North African Sahara(2014) Desalination and Water Treatment, . Article in Press.

ABSTRACT:

The economic evaluation of defluoridation of Sahara groundwater is presented for three processes: electrodialysis, reverse osmosis and the electrochemical bipolar reactor (EBR). The economic study was accomplished for a drinking water unit production of 100 m3/h. One of the findings was that the costs per cubic metre of treated water obtained with different processes were not too costly for the states of the North African region. The results also indicated that the most efficient process uses the EBR, followed by the electrodialysis and reverse osmosis process. However, the water produced by the first process does not have the required quality for drinking water; therefore, it has to be utilized for agricultural purposes. On the other hand, the electrodialysis unit do produce quality drinking water and appears to be an interesting solution to the fluorisis disease. Reverse osmosis method technique provides higher quality of drinking water with a salinity not exceeding 0.1 g salts/l