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Bioorganic overview of safe drinking water in UAE**Amer Almadidy, Alaa Abu Shawish and Tasnim Nabhan**
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Drinking water or alternatively called potable water is water that is safe to drink or to use at home for various purposes such as food preparation, washing, and irrigation. Typically in UAE, tap water meets drinking water quality standards. General criteria for safe Drinking Water (SDW) are tasteless, odorless, and colorless. In this review we aim to provide information about the characteristics of safe drinking water in UAE, identify the causes of water pollution, the treatment process of both waste water and water from natural resources, as well as, water and sustainability projects in the UAE. Using secondary data sources, we've found that UAE's water characteristics are classified into three main categories which are: Physical, chemical and biological characteristics that describe UAE's water using standards and parameters. In addition, it was found that pollutants can affect both ground water and surface water. The main sources of groundwater contamination are septic tanks effluents, over-pumping of wells, and agricultural activities. On the other hand, the main causes of marine water contamination are increased population and development which lead to increased wastes dumping in water, sediment dredge and fill operations and atmospheric deposition of pollutants. Wastewater treatment in UAE is illustrated by giving Al-Ruwais waste water treatment plant as an example in where wastewater undergoes screening, aeration, multiple types of filtration and disinfection to produce water suitable for irrigation and some industrial activities. For domestic purposes, water is pretreated, desalinated then enriched with essential minerals. It was found also that UAE has many projects to ensure sustainability as using clean renewable resources for water desalination, harnessing resulting brine to produce salts, completely relying on treated wastewater for industrial and agricultural activities, and projects for decreasing irrigation water demands and carbon footprints as Badia Farms and Porous Alpha technology. Finally, we recommend using an integrated water protection system where water is protected and controlled in catchments, treatment plants and distribution systems.

Biography

Almadidy has completed his PhD at the age of 30 years from Mississippi State University, appointed as a faculty member at international Universities; University of Toronto, University of Massachusetts and Mississippi State University. Dr. Almadidy had several research projects in affiliation with Stanford University, LG Caltex Oil Corporation and KAM Biotechnology. Currently Dr. Almadidy is the Director of the College of Health Sciences and Associate Professor. at Jumeira University He has published about 19 papers in reputed journals and has been a Keynote Speaker in international conferences.

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