

canal on groundwater quality. For agricultural purposes, the ground water in the study area is suitable for irrigation purposes in accordance with SAR, RSC and Na %.

Acknowledgments

The author would like to express their sincere appreciation to Benha University, Faculty of Science and Research institute for groundwater. Special thanks go to Prof. Mohamed El Fakharany, Head of Geology Department, Faculty of Science, Benha University who provided considerable support and encourages me during this work and to my family who support me.

REFERECNE

Abd Alrahman A, Embaby, Sofia Y. Afifi and Nagwa M. El Atabany (2014): hydrochemical evaluation of Belbies district groundwater, South El Sharkia governorate, Egypt. Life science journal 2014;11(12s):**1074-1092**.

Attia, F.A.R.(1985): Management of water systems in upper Egypt. PH.D. thesis, fac. Eng., Cairo Univ., Cairo, Egypt, 355p.

Eaton, F .M. (1950): Significance of carbonate in irrigation water. Soil Sci., Vol 69, No.2, pp. 127-128.

El Dairy, M.D. 1980:“Hydrogeological studies on the eastern part of Nile Delta using isotope techniques’, M.Sc. thesis, Fac. Of Sci. Zagazig Univ. 233p

EL Fayoumy, I. F.1968: “Geology of groundwater supplies in the region east of the Nile Delta “Ph.D. thesis, Fac. Sci. Cairo Univ. 201p.

El Shazly, E.M.; Abdel Hady, M. A.; El Shazly, M. M.; El Ghawabby, M. A.; El Kassas, L.A.; Salman, A. B.; and Morsi, M. A. :1975a):” Geological and groundwater potential studies of El Ismailia master plan study area” Romate Sensing research project, Academy of Scientific research and technology, Cairo, Egypt, 24p.

Gomaa M.A., El Naggat I.M., Ali I.M., Omar J.M., El Shahat M.F. “Effect of surface water system on groundwater composition using geochemical modeling and geostatistical techniques, East Nile Delta (case study)” international journal of Advanced Research (2014) V.2,Issue5,475-497.

Kotb, A.M. (1988): Geological, hydrogeological and geoelectrical studies on the Eastern portion of Delta. M.Sc. thesis, Fac. Sci., Al Azhar Univ., Cairo, Egypt, 120p

Probe, I. M., Bruce, B. W., and Hansen, C.V. (1999): Groundwater quality in Quaternary deposits of the central high plains aquifer, south central Kansas. U.S. Geol. Surv. Water resources investigations report 00-4259.

Raghunath, H.M. (1992): Groundwater 2nd ed. (Wiley Eastern Limited, New Delhi) pp.463-472.

Raju N.J (2007): Hydrogeochemical parameters for assessment of groundwater quality in the upper Gunjanaeru river basin, cuddapah district, Andhra Pradesh, south India. Environ geol 52:1067-1074

Research institute for water Resources, RIGW/IWACO. 1988b. Groundwater development in the eastern Nile Delta, identification of policy options, technical nota, 70-120-88-06, project ; development and management of groundwater resources in the Nile valley and delta, 134

Research institute for groundwater (RIGW) (1989):" Hydrogeological map of Egypt, scale 1:100,000, 1st edition, map sheet of Cairo

Raghunath H.M. (1987): Groundwater. Wily eastern ltd, New Delhi 563

Said, R. and Beheri, S. 1961: Quantitative geomorphology of the area east of Cairo.

Bull. Soc. Geographic, Egypt, pp.121-132

Said, R. 1991, The geology of Egypt :A Balkema, Rotterdam Pub., 734p.

Salah A, Al Ruwith F, Shehata, M. (1999): Hydrogeochemical process operating within the main aquifers of Kuwait. J arid environ 42: 195-209

Shata., A.A. 1965: Geological structure of the Nile Delta. joun. engin. Cairo Egypt (in Arabic) pp 1-3

Shata, A. and El Fayoumy, I.F. 1970. “Remarks on the hydrogeology of the Nile delta “. Proc. Sym. Hydrology of Deltas.UNESCO V.II. Pp. 35-46

Tijani M.N. (1994): Hydrochemical assessment of groundwater in Moro area, Kwara state, Nigeria. Environ geol 24:194-202

U.S. Environmental Protection Agency (USEPA), 2000a, *Drinking water regulations and health advisories*, Washington, D.C., Office of Water, 822-B-00-001, unnumbered

Who 1984, Guideline for drinking water quality. Vol.1; recommendations, who, Geneva, Switzerland,70p

Wilcox, L.V. (1955): Classification and uses of irrigation waters. U.S. Dept. Agric. Circular (969), Washington D.C., 19p.

World Health Organization (WHO), 1984, b, *International standards for drinking water*”. 3rd Ed., Vol.2, Health Criteria and other supporting information, WHO, Geneva, Switzerland

World Health Organization (W.H.O), 2004, *Guideline for drinking water quality*, 3rd edition, Vol. I recommendations, Geneva.