Geophysical Research Abstracts,
Vol. 10, EGU2008-A-04908, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-04908
EGU General Assembly 2008

The Simulation Geological for water Shortage from Jifara Plain Basin Northwest of Libya

Fathi Elosta

Jganzor Academy Postgraduate Studies, General Education, Tripoli Libya
(Hmbstf@yahoo.co.uk)

Libya is among the countries suffering surface water supply shortage Due to scarcity of rain and snow era, and the formation mature, the vast Libyan lands (1.700.000km) of which 95% arid lands, in this study our focus will mainly be on Jifara blain basin with such a complicated geological formation higher to the south and lower to the north with extreme slop towards the sea, this area was exposed to cleave movement resulted in two fractures, the first fractures heading north-east toward Tunisia borders as for as Jabal Abu-kirsh , 100 to 200 meters , the second fracture is heading west and called , the greater Azizia elevate , such movement led to fold and slop towards the sea forming three Rock units : 1-Mountain front sequence extending from homes to missiles to the west where it includes gargarish formation constituting sand lime sediments, such sediments formed water reservoirs of great subterranean water reserves. 2-Mountain front sequence extending east and west to Tunisian borders, this line of sequence includes Abu-gailan and Abu-shaiba being covered by sand and limestone soil sedimentary containing underneath lime sediments it is around 700 meters over sea level, this formation also contains deep and wide gulfs including Mjineen and Es-sirt valleys being the main feeder to most north west area. 3-Hadba surface sequences include the 4th era formations scattered in most edges and centre of the area with rock masses in which much low water exists. It is believed that such rock units moved back to its present place by reason of different erosion factors, the basin is believed to be covered by lime and sand rock that led to the birth of lime water accumulations reaching 2.4x1610cubic km. Also the occurrence of low level water reservoirs scattered in the centre of the basin which was exposed to up and down and fracture movement

contributed to the lowering of the north part of the basin most parts of this basin have been flooded by sea water during the Miocene and Oligocene resulted in the formation of rock Hollows consisting large quantities of water most of which are accumulated in the sea it is also believed that there is a large water basin branching from Jifara plain, it is also believed that the low level in the underground reservoirs is attributed to the low level of the north part of the basin where water flows from the south part towards the lower north part to flow into the sea water forming fresh water reservoirs inside the sea if we examine the way taken by water during the water cycle we find the movement indicates that it originates from sea to land , then land to sea again , once again it is believed that most countries will produce fresh water from sea in future as a result of water cycle of water returning to its original source. The 4th era sediments are considered to have contributed to the basin surface and underground features formation during Holocene containing water carrying sediments such as Quaser El-haj formation consisting of lime and grain rocks where reservoirs of Al-Azizia Abushaibs and Abu-Ghailan are located where water is being pumped from Miocene layer as well as gargarish Formation which contains Ber El-Ghanam and kikla Reservoirs that are covered by lime sediments, water is being pumped towards south of the basin, the south area of the Jifara plain. there are also saline sediments being spread south and west of the basin such saline's were as result of dropping of Oligocene the matter which led to the salinity of the soil by effect of infiltration of salts contained in the rain water by this study we expect to find a trace of water flow from Jifara plain, towards sea, through a hollow in its north part, this matter resulted in creation of severe water shortage in the area. In this study, it is proposed that 3D three dimension surveys be carries out in the basin to find out the geological structure which led to this natural phenomena resulting in deformation to the installation of water distillation units for the purpose of refilling of such underground water reservoirs for the increase of its pressure and water reserve and increase of pressure.