1. Shortage of fresh water sources for more than 10,000 people who live in Wadi Feiran watershed.

2. Unclear understanding of the structural control in the crystalline basement complex areas.

3. Same problem has been found in other areas with similar conditions Worldwide.


These findings will help in more understanding of the fractured basement aquifers.

INVESTIGATING THE IMPACT OF CONDUCTIVE FEATURES ON GROUNDWATER FLOW

Isotopic compositions of groundwater indicate the change in the water composition through the high angle shear zones. The red color represents the new groundwater that has isotopic composition similar to the current precipitation isotopic composition, while the blue color represents the fossil water, old water with isotopic composition similar to old precipitation isotopic composition.

GROUNDWATER POTENTIALITY

Finding: The S to N groundwater flow in the confined Nubian Sandstone Aquifer System (NSAS) in central Sinai is diverted by the high angle shear zones. These shear zones impede the groundwater flow causing considerable hydraulic head drop.

A dramatic change in the regional flow direction was observed from south-north trend towards the Mediterranean Sea to a southwest-northeast trend across the political boundaries. Isotopic composition indicates change in water source within the high angle shear zones.

The previous studies suggest the alluvium of Wadi Ginfai as a potential location for agricultural development.