An integrated study was conducted using remote sensing, hydrological and geophysical methods to investigate the role of structural elements in controlling the groundwater accumulation and flow in fractured basement complex. This research shows that the structural elements (fault/shear zones and dikes) may act as a conduit or barrier for the groundwater depending on the direction of these elements with respect to the groundwater flow. These findings will help in more understanding of the fractured basement aquifers.

PROBLEM
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.

OBJECTIVES
1. What structural elements/features control the groundwater flow?
2. What is the nature of the structural control on groundwater accumulation and flow?
3. Identify new areas for digging potential well locations of high productivity.

MAIN RESULT
The adopted integrated methodologies could be readily applied to similar highly fractured basement arid terrains elsewhere.

METHODOLOGY
2. Hydrological Data.
4. Geophysical methods: Very Low Frequency method (VLF)
5. Stable isotopic analyses.

ABSTRACT
An integrated study was conducted using remote sensing, hydrological and geophysical methods to investigate the role of structural elements in controlling the groundwater accumulation and flow in fractured basement complex. This research shows that the structural elements (fault/shear zones and dikes) may act as a conduit or barrier for the groundwater depending on the direction of these elements with respect to the groundwater flow. These findings will help in more understanding of the fractured basement aquifers.

METHODOLOGY
- Remote Sensing Data
- Hydrological Data
- Structural Data
- Geophysical methods: Very Low Frequency method (VLF)
- Stable isotopic analyses

MAIN RESULT
The adopted integrated methodologies could be readily applied to similar highly fractured basement arid terrains elsewhere.

OBJECTIVES
1. What structural elements/features control the groundwater flow?
2. What is the nature of the structural control on groundwater accumulation and flow?
3. Identify new areas for digging potential well locations of high productivity.

ABSTRACT
An integrated study was conducted using remote sensing, hydrological and geophysical methods to investigate the role of structural elements in controlling the groundwater accumulation and flow in fractured basement complex. This research shows that the structural elements (fault/shear zones and dikes) may act as a conduit or barrier for the groundwater depending on the direction of these elements with respect to the groundwater flow. These findings will help in more understanding of the fractured basement aquifers.

METHODOLOGY
- Remote Sensing Data
- Hydrological Data
- Structural Data
- Geophysical methods: Very Low Frequency method (VLF)
- Stable isotopic analyses

MAIN RESULT
The adopted integrated methodologies could be readily applied to similar highly fractured basement arid terrains elsewhere.