GEOG 27500 Geography of Sub-Saharan Africa
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Spring 2024
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Mid-term Exam - Q2 :

Write an essay in which you compare the availability of ground water in the Basement complex and the Nubian sandstone and show their effect on the environment. Give at least 4 examples from peer reviewed articles.

- Generally, the formation of the basement complex is poor of groundwater, while the formation of the Nubian Sandstone is rich of groundwater.
- Ironically, there is good environmental conservation in the basement complex areas, while areas of the Nubian sandstone suffer from environmental degradation.
- Basement complex is a poor aquifer (no ground water. water can only be found in fractures).
- People in the basement complex areas depend on surface water and rainwater harvesting.
- Surface water includes rivers, lakes, streams, marches, natural ponds, springs and artificial ponds such as hafirs and lakes behind the dams.
- Basement complex areas are endowed with rich soils; excellent grazing areas and good vegetation cover (Trees and bushes).
- The Nubian Sandstone is rich of ground water and it is part of the sedimentary rocks.
- Since the beginning of the 1960s and with the use of technical revolution (drilling machines) hundreds of thousands of wells were drilled and improved water supplies were provided to millions of people in the Sub-Saharan Africa.
- Provision of water helps African to settle. A large portion of the African people used to be mobile before drilling of groundwater from Nubian Sandstone. They live in small groups around small water points.
- At present, only 3% of African groundwater is used for agricultural production and drinking water supply.
- Provision of large quantities of water resulted in environmental degradation such as desertification (over-cultivation, over-grazing and deforestation).
- Africa is rich of groundwater. In the future there is a high demand for water because of the increasing number of population, climate change as well as economic development which needs utilization of new sources of water such as groundwater.

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