

GEOG 371 Rural Water Supply and Sanitation

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Final exam Q(2)

Write an essay about the potentiality of groundwater in solving problems of development, mitigation of climate change and water scarcity in the developing countries. Give 4 examples from peer reviewed journals.

- Groundwater is a very important source of water supply which provides the majority of the rural population in the developing countries with drinking and irrigation water.
- Most important, it is the source that can solve problems of development, mitigation of climate change and water scarcity in the developing countries.
- Rural people get their water supply from groundwater through hand-dug wells and boreholes.

Hand-dug wells

- Traditional **hand-dug wells** are the most widely used method of well construction in the rural areas of the developing world to tap ground water.
- Some of them are lined with bricks and the majority is not.
- Although they are shallow wells ranging between one to 5 meters deep, but some of them penetrate to greater depths (60 meters).
- However, the depth of these wells depends on the depth of water tables and the geological formation.
- The most common hand –dug wells are only seasonal wells that provide water to farmers and pastoral nomads during the dry season.
- Others are providing a permanent source of water supply.

Drilling of boreholes from groundwater

- Drilling of boreholes and installing of hand pumps or pumps with diesel engine are considered an improved source of water supply in the rural areas of the developing countries since 1960's.
- Groundwater has not been fully utilized. For example, only 3% of groundwater has been used in Africa.
- Therefore, Groundwater is considered the main source of solving problems of **development**
- **Mitigation of climate change**
- And solving the problem of **water scarcity** in developing countries.
- However, boreholes suffer operation, maintenance and technical problems because of the lack of funding.
- Adoption of people participation policies has solved to a larger extent these problems.