Research Paper Engineering

Rain Water Waterharvesting for Artificial Recharge of Groundwater

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ABSTRACT

In the present world scenario, In a progressive and developing society it is natural that demands of water always remain on the rise. Of all the planets known to man, Earth deserves to be called as the water planet. Fresh water is a gift of nature to living beings. Rain is the main source of fresh water. The world is passing through a critical phase with regard to water. And looking to the future trends, the picture regarding water is very gloomy. Rainwater harvesting and artificial recharge structure are innovative method to solve this demand.

Keywords :

INTRODUCTION.

"Water is a strange natural resource. It can unite a community as easily as it can divide it."

Of all the natural resources, water plays a vital role in the lives of human beings. Water is omnipresent and its existence is a fundamental assumption. The presence and absence of water clearly determines the culture and growth of a community and a healthy economy.

As rain is the main source of fresh water, any agent that threatens the downpour causes water scarcity. For most of the water problems among the people, the improper handling of irregular rainfall is a major cause. It is important to discover ways and means of saving water. The quantity of water that is actually recharged into the aquifer is very small than the requirement of water. As huge quantity of rainwater finds its way ultimately to sea through rivers, the only alternative is to harvest and conserve this precious gift of nature by Rainwater Harvesting. Artificial recharge is an innovative method of increasing the amount of water, which enters the ground water reservoirs. The concept has been widely spreading in the past few years. Artificial Recharge of surplus water and artificial storage of rainwater can modify the hydrological cycle.

RAINWATER HARVESTING AND ARTIFICAL RECHARGE

Rainwater harvesting is the accumulating and storing, of rainwater.

Artificial recharge is one method of modifying the hydrological cycle and providing ground water in excess of that available by natural processes

ADVANTAGE OF ARTIFICIAL RECHARGE

- Steam the Decline of water levels.
- Supplement existing supplies.
- Remove suspended solids by Filtration through soil.
- Store cycle water surplus for use in dry periods.
- Prevent seawater intrusion and salination of ground water.

STUDY AREA

Vadodara is located at22°18′N 73°11′E / 22.30°N 73.19°E / 22.30; 73.19 in western India at an elevation of 39 meters (123 feet). It is the 18th largest city in India with an area of 148.95 km² and a population of 4.1 million according to the 2010-11 censuses. The city sits on the banks of the River Vishwamitri, in central Gujarat. The Vishwamitri frequently dries up in the summer, leaving only a small stream of water. The city is located on the fertile plain between the Mahi & Narmada Rivers. According to the Bureau of Indian Standards, the town falls under seismic zone-III, in a scale of I to V.

METHODOLOGY

- Data Collection
- Field survey and investigation
- Detail topographic survey
- Meteorological/hydrological investigation
- Hydro-geological survey
- Economic survey

CONCLUSION

The study of this method clearly indicates that there is tremendous scope for implementing Rainwater Harvesting Systems for Artificial Recharge of Ground water. The quality and quantity of ground water of both the area under investigation and the vast surrounding area will improve to a considerable extent.

REFERENCES

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