Groundwater Resources in North-East India: Strategic Evaluation

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The present research has attempted to unearth important outcome which includes present status of groundwater reserves in the country in general and in North-Eastern states in particular. The paper has reflected the usage pattern of groundwater in our day-to-day lives for domestic, agriculture as well as industrial purposes. The study has also highlighted the misusage or fluctuations of groundwater resources which could be detrimental for the very existence of citizens of the country. The growing demands of groundwater in proportion with population explosion, massive industrialization and urbanization have also been showcased. The paper has, eventually, suggested appropriate strategies to minimize the usage of groundwater in the spirit of sustainability. This study would essentially contribute to the academicians, researchers, policy makers, policy implementing agencies, industries and the people in general so that it could be the pathfinder for all the stakeholders in terms of formulating new policies and its meaningful implementation.

Keywords: Groundwater, sustainability, appropriate strategies and North-East India.

Introduction

Groundwater has become a focal point of global concern as far as water resources are concerned. Increasing population, growing needs for habitat, infrastructure development, rapid industrialization, agriculture etc., are responsible for exodus usage of groundwater around the world. It has reached at its critical limit. The greed of modern societies compels to create increasing number of aquifers for easily accessing groundwater. And the World Bank’s estimates forecast, if such trends are allowed to continue for next two decades, the availability of groundwater cease to exist. The story of India is more critical and detrimental. India happens to be the largest user of groundwater to the tune of 25% of the global use. In spite of adequate rainfall, most of the regions, still India depends on groundwater for 60% of irrigational purposes and it is also surprising that around 85% of our drinking water is collected from groundwater itself. Last few decades, there have been massive urbanizations across the length and breadth of the country. Adequate housing facilities have emerged real state sector in cities and urban areas. The local administration fails to meet the growing requirement of water. As a result, people are exploring and utilizing water aquifers indiscriminately. Moreover, rapid industrialization and infrastructural development have added flavor to this crisis. Uncontrolled deforestation and man-made constructions of concrete have made the situation vulnerable. The discharge area has been decreasing as the modern civilization are more fascinated on cementing, construction, as a result of that, the aquifers under the soil have not been adequately discharged by the rain water. This has been severely impacting on agriculture, food security, and livelihood and essentially poses serious threats to the essence of sustainability. The situation has been worsening day by day and it is crossing the threshold limit. If this is not resolved or immediately addressed, it might invite complete disaster of human races particularly in the study region. This paper has attempted to address all these aspects through logical and rational approaches.

The United Nations have identified 17 goals which are popularly known as Sustainable Development Goals (SDGs) that needs to be achieved by the year 2030. Among these 17 goals, Clean Water and Sanitation is one of the important agenda which deserves special attention to the world community.

Literature Review

Groundwater is the main source of fresh water in many parts of the world. Some regions are very much reliant on it as they consume groundwater faster than it is naturally restocked thereby resulting in decline in water tables (Roddell et al, 2009). Jha (2006) also found that groundwater is being overexploited which threatens our ecosystem and future generations. Agarwal et al. (2009) analyzed the problem of declining water table, possible factors responsible for this and suggested suitable strategies for arresting declining water table for

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