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DEPLETION OF GROUND WATER AND NEED OF SAVING

Dr.D.K.Awasthi[1]

[1]Associate Professor,
Department of Chemistry
Sri. J. N.P.G.College,
Lucknow, U.P.
India

Dr. Gyanendra Awasthi[2]

[2]Associate Professor
Department of Biochemistry
Dolphin Institute
Dehradoon,
U.K.,India

Dr. Jaya Panday[3]

[3]Assistant Professor
Amity School of Applied Sciences
Department of Chemistry
Amity University
Lucknow
U.P. India

ABSTRACT

Ground water can be explained as water which is found below the surface of earth, occupies all spaces of soil and rocks and also known as sub surface water. Sub surface water and surface water are related to each other through hydrological cycle. Ground water level is going down; therefore it is necessary to save rain water in huge quantity. A Government order was passed on 19th june2003 whether constructed private building on the area of 300 square meter or more to this having water recharge system or not. According to a survey 80 corers liters of ground water have been extracting every day from ground. According hydrological department and Geological Survey of India average 50 cm to 01 meter of ground water is being reduced every day. The capital of U.P. i.e.LUCKNOW, ground water level has reached to maximum lowest level in last 10 years. Ground water level in LUCKNOW was 35 meter in the area of three square kilometer now it has spreaded to 34square kilometer in last 10 years. Most of ground water comes from precipitations that percolate down. The process of precipitation replenishing the ground water supply is known as recharge. The ground water and rivers are the major sources of fresh water and both are passing through under great stress because of overuse .If utilization of ground water is not restricted, drinking water will not be available in future life.

KEYWORDS: *Ground Water, Rain Water, Hydrological Cycle, Drinking Water, Agriculture, Earth.*

INTRODUCTION

Groundwater is a highly vulnerable and important resource to both humans and the environment, therefore it is essential to understand the environmental implication of groundwater overexploitation. Expanding irrigated agriculture and world populations are having a pronounced effect on global water resources and the environment.

Ground water can be explained as water which is found below the surface of earth, occupies all spaces of soils and rocks. It can be differentiated from the surface water which is found in large water bodies like lakes, rivers and oceans. It is also called sub surface water .Sub surface water and surface water is related to each other through hydrological cycle. It has been proved by the scientific studies that forests increase the rain fall. The air above the forest remains relatively cool and humid especially on hot days, hence it showers frequently. Trees are also intercepts the water vapors from fog and increase the water yield. Water vapor condenses on tree leaves and falls as a drop. Winds flow from south to north during summer season i.e. hot season, April to May, creates low pressure in air in northern hemisphere. These winds are known as south-eastern trade winds. Such winds cross over Indian Ocean; they collect water vapours.Deflection winds from southerlies to the west over India are known as south west monsoon. Arabian seas monsoon in India can be known as in three branches southern, middle and northern. Southern is related to Western Ghats where excessive rain takes place and it is the area of rain of rain shadow, middle branch is associated with the Narbada and bring rain in M.P.The northern part is Gujarat and Rajasthan where much rain does not take place. The wettest period in India is July to August. Ground water level is going down; therefore it is necessary to save rain water in huge quantity. A Government order was passed on 19th June 2003whether constructed private building on the area of 3oosquare meter or more to this having water recharge system or not. But those department are having this responsibility, are not cautious**.**

Especially open areas of cities are very less. It is now very necessary to make the way for rain water of roof of the houses to reach the sources of ground water and provide relief to the earth. After all position of private houses is having worst conditions and rain water harvesting is on the margin in the capital of Uttar Pradesh i.e.LUCKNOW. Still Government order are not much effective.Inthe capital of Uttar Pradesh i.e. LUCKNOW, ground water levelwas35 meter in the area of three square Kilometer, now it has spreaded to 34 square kilometer in past10 years. Main areas of city as GomtiNagar, IndraNagar, Vikas Nagar, Aliganj, Triveni Nagar,Lalbag,Alambag, Jail Road and Cantt where ground water level has been reached tomaxmium lowest level in last 10 years.Lucknows ground water levels have fallen at an alarming rate between2012 and2014 with Hazratganj,HAL and Mahanagar recording a depletion in water table by an average of 2 meters over these two years. The pre and post-monsoon survey done in 2012, 2013and2014 shows 80cm to 1metre fall in groundwater level in Lucknow. Four blocks of Lucknow-Maal, Malihabad, Chinhat and Mohanlalganj have been declared critical. Lucknow gets at least 60% of its water supply from groundwater. The ground water level in expanding localities like Telibagh has dropped from28.30mt to30.15mt while at Kursi road it has fallen from11mt to14.80mt and Triveninagar from18.20mt to 21.25mt.

According to a survey 80 corers liter water has been extracting every day from ground. A report of hydrological department and Geological Survey of India average 50 cm to 01 meter of groundwater is being reduced every day. It is very important if extraction of ground water is not restricted, drinking water will not available in future time.

Freshwater is required for domestic, agricultural and industrial purposes. No life of living things without water on the earth. The supply of fresh water is absurd manner on the earth surface. The ground water and rivers are major sources of fresh water and both are passing through under great and great stress because of overuse. Pure water is tasteless and odureless. Amolecule of water contains only hydrogen and oxygen atoms. Waterisneverfoundinapurestateinnature.Groundwater andsurfacewatermaycontainmanyconstituents, including micro organisms, gases, inorganic and organic material. Water pollution and ecosystem degradation further increase the problem of fresh water supply.Inthe developing countries around 95% of the urban sewage is discharged untreated into the rivers. It is found around 65% of the fresh water is used in agriculture and25%in the industrial uses .Most of the groundwater comes from precipitation that percolate down. The process of precipitation replenishing the groundwater supply is known as recharge. Normally, the recharge occurs only during the rainy season. As per estimates around 10 to 20% precipitations enter the water bearing strata or aquifers. The rate of recharging is highest when rainfall input exceeds the evaporation loss. Some rocks do not allow water to percolate down. These are called impermeable rocks or aquicludes.Onthe other hand, permeable rocks allow water to pass through thus leading to considerable storage of water which becomes the major source of supply. Amount

of ground water depends upon the physical properties of soil, its depths and loss of water due to evaporation from the soil surface and due to transpiration from plants. Deep forest soils have large capacity to hold water. The water table generally rises during periods of low evaporatranspiration.When incoming precipitation exceeds the water storage capacity of soil, the excess water flows as stream flow.

RESULT AND DISCUSSIONS

Throughout the world, regions that have sustainable groundwater balance are shrinking by the day. Three main problems dominate ground water use:

1. Depletion due to overdraft
2. Water logging and ***salinization*** due mostly to inadequate drainage and insufficient conjunctive use
3. Pollution due to agricultural, industrial another human activities

Over50% of the world's population is estimated to be residing in urban areas, and almost50% of the mega-cities having population over 10 million are heavily depend on ground water, and all are in developing world. About 70 per cent of the world groundwater withdrawals are used for irrigation purposes. In India, there are over 20 million wells, in addition to the government tubewells.while urban clusters look for low to moderate volumes of highquailty water, rural clusters look for large quantity of high quality water, in inefficient field distribution and drainage system. Farmer adopts groundwater irrigation, they are not knowing, water quality becomes different.

It is very clear that intensive groundwater use and pollution in many regions of the world are threating ground water resources with serious consequences for human welfare and environmental degradation. Hence it is necessary for societies to recognize the finite limits of water availability and its vulnerability, and ways to reconcile of human development with the tolerance of nature.

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