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Ganga River Bank Filtration and Inovative solution for Safe Drinking Water

*Abhay Prakash**, *Mukesh Chandra Bos*** & *Saurav Kumar****

Senior Assistant Professor, Department of Geology, B.N. College, Patna *

Assistant Professor, Department of Physics, B.N.College, Patna**

Research Scholar, Department of Geology, Patna University***

ABSTRACT

River Ganga is major source of water supply for the recharge of an aquifer. Water play a important role for living organism, and it is use in the drinking water purpose. River Ganga is important source of water and today also it is used for the purpose for drinking and other household uses. The quality and quantity of water is very important so the method of filtration is very important for making water for as the drinking water uses. One such method is the bank Filtration method which comes under integrated water resource management programme (IWRM). Which help in aquifer recharge and improving quality of drinking water supply by removing biological and chemical contaminants of the water through channels of aquifer? In this topic we discuss the technique for filtration method of river Ganga for its utilisation and it become safe for the drinking purpose. We discuss a simple method for river bank filtration method of river Ganga.

Keywords : Rainwater, Filtration, Contamination, RBF.

Introduction

India with more than 1.21 billion people (COI 2011), faces significant challenge in meeting the growing water supply needs of an increasing population. Around 31.2% of the population are facing the problem of good quality water for the drinking purpose, so the method of river Ganga bank filtration plays a major role in filtration of water of river Ganga. River bank filtration process has been widely proved as domestic water pre-treatment technology to overcome various water quality problems. The concept of RBF developed in Germany and has widely been used in the other country like Europe for the public and industrial water supply, It is a well developed technique used in the filtration of water and it become safely for the drinking water condition. In the river Ganga filtration process this method is widely used and utilisation for water become as the river for good quality drinking purpose. Drinking water comes from RBF wells, 50%, in France, 48% in Finland, 40% in Hungary, 16% Germany, around 75% of the city Berlin depends on RBF, which in Düsseldorf, it is being used since 1870 as the main drinking water purpose. In India many city are uses the method of RBF for the drinking water purpose as for the example city like, Delhi, Ahmadabad, Patna, Mathura, Nainital, Kharagpur are use the RBF method of drinking water purpose.

METHODOLOGY :

River bank filtration :

In this method of filtration, water become good quality and utilise for the water for drinking purpose it's simply remove the harmful substance from the water and all the chemicals are remove from the the water. The aquifer serves as a natural filter and also biochemically attenuate potential contaminants present in the SW by overlapping physical chemical process it involve dispersion, transport, advection and dilution, other than mechanical process include alteration for the filtration of the water and small microbes are catch by the process also. The success of RBF depends upon the catchment of the microbes and filtration of the chemicals present in the water or the ground water. It depends the numerous factor include riverbed and Structure of the aquifer and mineralogy and, its components such as oxygen nitrate and particulate matters. The direct SW abstraction RBF is natural effective process for the Removable of the suspended particles, the harmful compound, bacteria, viruses removed by RBF method.

Affecting factors of riverbank filtration :

River bank filtration is mainly used for the pre-treatment of water to become it suitable for drinking water; it removes harmful pesticides, herbicides, oil sub-products and pharmaceuticals. This system creates the method action pressure between aquifer and river and induces the water from river it flow downward the porous media into the productive well.

The effective processes of RBF are as follow;

1. River level
2. Water quality of surface water
3. Variability of sediment transport

River bank filtration has been extensively used for the drinking water pre-treatment by removable of various harmful substances.

Riverbank filtration advantages :

1. Disinfected as a safety, measure is sufficient in most cases.
2. Natural sustainable and low cost technology.
3. Compensation of shock loads.
4. Effective elimination of pathogens and organics.

River bank filtration in Patna :

Patna, the capital city of Bihar is situated on the bank of river Ganga and bearing the population of 1.7 million has been depends on groundwater, which is recharge by the river Ganga. although Ganga is a major perennial river flowing close to the town, it has not been considered as a source of water supply primarily for two season , (i) the cost of infrastructure for diversion of water as well as of its treatment necessarily required for drinking purpose. (ii) Then reliable and adequate source of ground water of good quality. Water supply to Patna is done exclusively from ground water by 3 different agency (1) Patna water board under Patna municipal corporation (2) public health engineering department (3) Individual houses owner. The Patna city is considered to look for another suitable source of water supply. The oblivious source of water requirement is done by river Ganga, which is flow near by the city. It is in this context that the technique of river bank filtration (RBF) held attraction and promise to address the emerging needs to good quality water.

Conclusion

The riverbank filtration shows the major necessary source for filtration of water, and to provide good quality drinking water to the people. Now a day's river bank filtration is practise all over the world and easily utilised by the people. Riverbank filtration is very important method to clear the water and removing all the harmful substance from the water. There is an immense potential of RBF at suitable sites along the rivers in India. As mention earlier that multi institutional efforts were made to popularize the cost effective RBF technique in India.

References

1. D.P. Uniyal Et Al., River bank Filtration: An innovative solution for safe drinking water, Everyman's Science, June- July 2018.
2. Integrated Hydro Development Forum (2006). Final Report, EU-India Bank Filtration Network Project at Patna.
3. K.M. Hiscock, T. Grischek, journal of Hydrology 266, 139-144, 2002.
4. N.C. Ghosh et. al., Current Science, 301-302, 2015.
5. Patna water Board (2005). Annual report.
6. Public Health Engineering Department (2004). Annual report, Govt, of Bihar.
7. Public work Department (1966). Detailed Project Report of Ganga Bridge at Patna, Govt, of Bihar.
8. S.Tyagi et al., Springer, 141, September 2013.

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