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Overview of Ground Water Decline Situation in Perspective of Current Policy in India

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ABSTRACT

India is largest food producers in the world, making the sustainability of its agricultural system need of vast amount of groundwater is needed. Saltwater encroachment, drying of aquifers, Depletion of water tables, aqua pollution, logging and salinity, etc. are major issues leads to overexploitation of groundwater. Intensive irrigation has posed serious problems for groundwater status in India. It has been estimated that drastic declines in water table threatening to push this vital resource out of reach for millions of small-scale farmers. Over exploitation of groundwater reduce the fresh water availability for irrigation, domestic and industrial uses, has decreased agricultural production and increased poverty in India. There has need of various laws and regulation to protective the groundwater management, due to the lack of awareness and without intervention, poverty and food insecurity in India is likely to worsen.

Keywords: *Groundwater, Agricultural, Policy.*

INTRODUCTION

Ground water is the water that seeps through rocks and soil and is stored below the ground. The rocks in which ground water is stored are called aquifers. Aquifers are typically made up of gravel, sand, sandstone or limestone. The water table may be deep or shallow and may rise or fall depending on many factors. In India Groundwater is used for drinking water is50% of urban water requirements and 85% of rural domestic water requirements are also fulfilled by ground water.

The largest use for groundwater is to irrigate crops. Rains or melting snow may cause the water table to rise, or heavy pumping of groundwater supplies may cause the water table to fall.
In India people faces water shortages because groundwater is used faster than it is naturally replenished. In many areas groundwater is polluted by human activities.

Pollutants can readily sink into groundwater supplies. In India Groundwater polluted by landfills, septic tanks, leaky underground gas tanks, and from overuse of fertilizers and pesticides. If groundwater becomes polluted, it will no longer be safe to drink.

Water moves through these rocks because they have large connected spaces that make them permeable. The area where water fills the aquifer is called the saturated zone. The depth from the surface at which ground water is found is called the water table. The water table can be as shallow as a foot below the ground or it can be a few hundred meters deep. Heavy rains can cause the water table to rise and conversely, continuous extraction of ground water can cause the level to fall.

GROUND WATER CONTAMINATION

Ground water contamination is the presence of certain pollutants in ground water that are in excess of the limits prescribed for drinking water. The commonly contaminants include arsenic, fluoride, nitrate and iron, bacteria, phosphates and heavy metals which are a result of human activities including domestic sewage, agricultural practices and industrial effluents. The sources of contamination include pollution by landfills, septic tanks, leaky underground gas tanks, and from overuse of fertilizers and pesticides.

CPCB and CGWB do not carry out regular monitoring of water pollution in aquatic resources. Indian government need to take measures for source control of pollutants through sewage and agriculture runoff entering water bodies for conservation and restoration of water bodies.

The Comptroller and Auditor General of India in its performance audit of water pollution in India, 2011-12 observed that despite increasing pollution of ground water sources and presence of contaminants like arsenic, nitrate, fluoride, salinity, etc., no program at the central or state level is being implemented for control of pollution and restoration of groundwater.

It has been pointed out that nearly 62% of all districts in the country have issues related to either availability of ground water, or quality of ground water, or both.

Legislative and Policy Framework

Water falls under the State List of the Constitution. Fundamental right to water has been evolved by the Supreme Court as part of 'Right to Life' under Article 21 of the Constitution. Courts have delivered verdicts on concerns such as access to drinking water and on the right to safe drinking water as a fundamental right.

The government, has stated that ground water needs to be managed as a community resource. Easement Act, 1882 gives landowners immense power over ground water every landowner with the right to collect and dispose, within his own limits, all water under the land and on the surface. The legal consequence of this law is that the owner of the land can dig wells in his land and extract water based on availability and his discretion. This makes it difficult to regulate extraction of ground water as it is owned by the person to whom the land belongs.

Landowners are not legally liable for any damage caused to the water resources as a result of over extraction. For broad guidelines to state governments to frame their own laws relating to sustainable water usage, the central government has published certain framework laws.

In 2011, the government published a Model Bill for Ground Water Management based on which states could choose to enact their laws. cgwb does not have the power to stop ground water extraction in such areas and can only notify the owners. In National Water Policy in 2012 articulating key principles relating to demand management, usage efficiencies, infrastructure and pricing aspects of water.

The government of India published a National Water Framework Bill in 2013. The Model Bills and National Water Policy address the governance of ground water under the public trust doctrine. The concept of public trust doctrine ensures that resources meant for public use cannot be converted into private ownership.

Institutional Framework

Ministry of Water Resources, River Development and Ganga Rejuvenation is responsible for the conservation and management of water in the country. The Ministry of Rural Development also implements certain program related to ground water management.

Ministry of Environment, Forests and Climate Change is partially responsible for the prevention and control of pollution, including water pollution, and ground water contamination.

In the last four decades, roughly 84% of the total addition to the net irrigated area has come through ground water.

The primary cause of over-exploitation has been the rising demand for ground water from agriculture. Further, decisions such as cropping pattern and cropping intensity are taken independent of the ground water availability in most areas.

The High-Level Committee on restructuring of the Food Corporation of India in 2014 observed that even though Minimum Support Prices (MSPs) are currently announced for 23 crops, the effective price support is for wheat and rice. This creates highly skewed incentive structures in favour of wheat and paddy, which are water intensive crops and depend heavily on ground water for their growth. Average amount of water (in cubic meters/tonne) needed to grow different crops.

Result and Conclusion

The CAG has made the following recommendations with regard to the prevention and control of pollution of groundwater: the Ministry of Environment, Forests, and Climate Change needs to establish enforceable water quality standards for lakes, rivers and ground water to help protect ecosystem and human health, penalties need to be levied for violations of water quality standards. The Planning Commission recommended that local planners take the following steps while planning for ground water management: Determining the relationship between surface hydrological units such as watershed or river basins, and hydrological units below the ground such as aquifers, Identification of ground water recharge areas, Maintaining ground water balance at the level of the village or the watershed, and

Creating regulatory options at the community level such as panchayat.

REFERENCES

[1] Deep Wells and Prudence: Towards Pragmatic Action for Addressing Ground water Overexploitation in India, The World Bank, March 2010, http://siteresources.worldbank.org/INDIAEXTN/Resources

[2] Water and Related Statistics, April 2015, Central Water Commission, http://www.cwc.gov.in/main/downloads/Water%20&%20Related%20Statistics%202015.pdf.

[3] Central Ground Water Board website, FAQs, http://www.cgwb.gov.in/faq.html.

[4] Ground Water Yearbook 2013-14, July 2014, Central Ground Water Board, http://www.cgwb.gov.in/documents/Ground%20Water%20Year%20Book%202013-14.pdf.

[5] Roopal Suhag, 2016, Overview of Ground Water in India, http://www.prsindia.org/administrator/uploads/general/1455682937~~Overview%20of%20Ground%20Water%20in%20India.pdf

[6] Assessment of Physico-Chemical Quality of Groundwater in rural area nearby Sagar city, MP, India, Advances in Applied Science Research (Pelagia Research Library) , 2012, vol. 3 (1), pp. 555-562, ISSN: 0976-8610

[7] Studies on the physico-chemical status of two water bodies at Sagar city under anthropogenic Influences, Advances in Applied Science Research (Pelagia Research Library), 2012, vol. 3 (1), pp. 31-44, ISSN: 0976-8610

[8] Multivariate evaluation of fluoride contamination in ground water samples of Sagar city, M.P., India: A case study, Instasci Journal of Chemistry, 2012, 2(1), ISSN: 2277-6931

[9] 9. Ground and Tap water Quality assessment of Sagar city especially in terms of saturation index, The Bulletin of the **Polytechnic Institute of IAŞI,** 2012, vol. 2, Fasc. 4. ISSN: 0254 – 7104

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