



Analysis of endangering Ground water levels in India.

- Ground water ko bachao(protect)

Introduction

Groundwater is the most preferred source of water in various user sectors in India on account of its near universal availability, dependability and low capital cost. The increasing dependence on ground water as a reliable source of water has resulted in indiscriminate extraction in various parts of the country without due regard to the recharging capacities of aquifers and other environmental factors.

- Management of ground water resources in the Indian context is an extremely complex proposition.
- Underground water tables are falling down rapidly.
- Necessary measures have to be taken by government authorities , NGO's , and all the citizens of India for restoration and balance of water levels.
- It's the responsibility of everyone to save our 'Mother Earth' and provide a better world for our future generations.

Recent research has revealed that two-thirds of the world's population currently lives in areas that experience water scarcity for at least 1 month a year. Noteworthy is that **about 50% of the people facing this level of water scarcity live in China and India (UN-Water 2017)**

- **This ground water analysis could also be helpful for the following aspects:**
 - States/ Areas that should be taken care about water levels
 - Feasible/ Suitable areas for proposal/installation of ground water projects
 - Suitable areas for setting up of industries and areas where industries should be controlled due to their excessive water usage.
 - Areas where 'Water awareness campaigns ' can be understood.
 - Identifying extremely high extraction zones (Risky)

Observations

Clustering while considering all the below parameters, the observations are very clear due to the below reasons

- Extraction, Restoration, Development stages of Ground water.
- This can be understood by 'Seven sisters of India' belonging to almost same cluster
- Andhra Pradesh and Telangana which are recently bifurcated came under the same cluster.

By this we can say that the above clustering worked well

- Ground water levels in few areas are very worse than expected.
- Punjab , Haryana & Punjab stood at the top in ground water consumption for irrigation purposes.
- Even though 'Uttar Pradesh' has a higher contribution in irrigation, its ground water utilization is less because it is located at the foot of himalayas , so they mainly depend on rain water itself for the irrigation purposes
- Punjab has a higher contribution in irrigation in india, still it remains top in our analysis of GW_Consumption per sq.km, by this we can say that punjab has more irrigation land

Conclusion

Initially when I was thinking of this problem statement, I didn't expect I could do this much out of it, and that too with decent outcomes. A lot of observations came out from hard work of around two weeks.

But One thing bothered me was that almost all the states are spending very less money on ground water restoration projects. If this wasn't taken seriously it could be a serious problem in the near future.

- More projects like ground water restoration, recharge/soak pits, rain water harvesting in each house should be made mandatory at least for new constructions.
- Campaigns should be organized for improving the awareness and importance of ground water

Finally its a great experience of putting all the skills that I learnt into this great capstone project.Thanks for IBM for providing this great opportunity for us.