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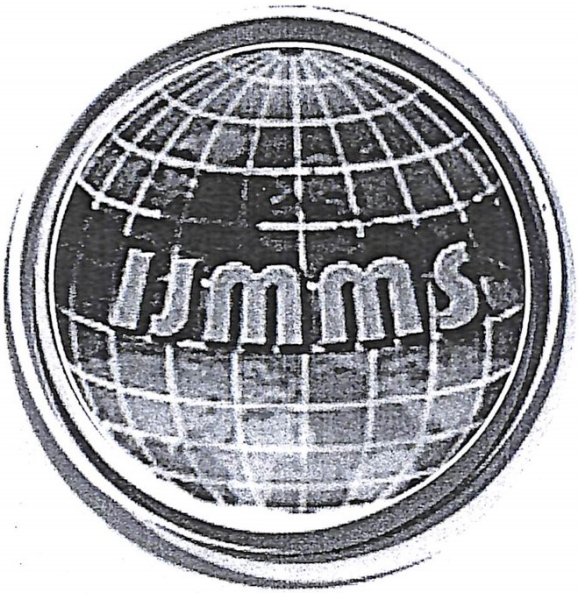


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# NEED OF STRONG POLICIES FOR USING THE AVAILAE GROUND WATER IN INDIA

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**ABSTRACT**

*Though India is blessed with a range of climates, our water management problems are grave. India is ce afflicted by wet or dry famines. Ground water levels have dropped to below 500 feet in the most of th Plateau and even other parts of India. If the ground water is not recharged on a regular, consistent and su basis, India will face a civil war for water which has already begun in a present situation. A fair amount done on this issue and solutions arrived by social workers and research scientists, what needs to be done i a consolidated effort as per the local requirements to achieve the necessary results.*

**KEYWORDS**-Ground Water Discharge, Cropping Pattern, Water Table.

**INTRODUCTION:** One thing is fit in every one's mind is that there is plenty of water planet. The total volume of water if seen is 1.4 Billion Cubic Kilometers which could be imag a 2650 meter deep layer of liquid evenly distributed over the entire surface of planet. In t really we do have ample of water on Earth.

But 98% of it is salty water, mainly in the oceans and seas. Most of the fresh water is trapped ice caps, less than 1% of it is available in lakes, rivers and shallow easily accessible aquifers. Water has an economic value in all its competing uses and should be recognized as an ec good. Agriculture will in future not any more get water free of charge as it did in the past. F will have to pay for the water and costs will be increasing steadily over the years to co population grow and water use per person rises demand for fresh water is soaring. Yet the su fresh water is finite and threatened by pollution. Effective strategies must consider nc managing the water supply better but also managing demand better. Urgently there is a n measures that ensure efficient water use in cities and on farms including regulation of groun withdrawal, restoration of traditional rain collecting reservoirs.In India we do not hav regulations to govern the amount of water, a farmer can withdraw from a well, and so under reserves are freely available on First-Come First-Served basis. As per the recent World Bank F water level in India has been going down consistently. In 1997, the water level in India wa Cubic Kilo Meters out of this, surface water was around 330 Cubic Kilo Meters and ground was around 240 Cubic Kilo Meters. The level has dropped down to 480 Cubic Kilo Meters in and is further going to drop down at 360 Cubic Kilo Meters in 2020 and less than 100 Cubic Meters in 2050.Ground water comes from the percolation of the precipitation and other su waters down through earth's soil and rock and accumulates in aquifers. The annual replenis ground water resource is mainly contributed by rainfall (67%) and other sources (33%) v include seepage from canal and return flow from irrigation and artificial recharge. Keeping 34 B Cubic Meters for natural discharge, the net ground water available for utilization for the c country is 399 Billion Cubic Meters.

The annual ground water draft is 231 Billion Cubic Meters out of which 213 Billion Cubic M (92%) is for irrigation use and 18 Billion Cubic Meters (8%) for domestic use. The trend in u ground water is increasing with more number of wells coming up every year due to increa population as well as increasing demand for food grains.

**METHODOLOGY:** This paper mainly focuses on the study of ground water discharge and to out the measures to maintain the ground water levels. The study is based on secondary source of collection.

**OBJECTIVES**

1. To study the ground water scenario in India
2. To elaborate the number of wells in uses having ground water extract in India.

**STATE/UT- WISE STATUS OF GROUND WATER MONITORING WELLS AS ON 31.03.2013**

| Sl No | Name of the State | Total No. of Ground Water Monitoring Wells (As on 31.03.2013) | | | | |
|---|---|---|---|---|---|---|
| | | DW | PZ | Total | Aquifer wise Piezometers | |
| | | | | | Unconfined | Confined/ Semi confined |
| 1 | Andhra Pradesh | 580 | 402 | 982 | 273 | 129 |
| 2 | Arunachal Pradesh | 12 | 0 | 12 | 0 | 0 |
| 3 | Assam | 292 | 10 | 302 | 0 | 10 |
| 4 | Bihar | 329 | 12 | 341 | 0 | 12 |
| 5 | Chhattisgarh | 461 | 248 | 709 | 170 | 78 |
| 6 | Delhi | 25 | 137 | 162 | 137 | 0 |
| 7 | Goa | 43 | 59 | 102 | 1 | 58 |
| 8 | Gujarat | 637 | 376 | 1013 | 218 | 158 |
| 9 | Haryana | 198 | 266 | 464 | 210 | 56 |
| 10 | Himachal Pradesh | 89 | 0 | 89 | 0 | 0 |
| 11 | Jammu & Kashmir | 178 | 19 | 197 | 19 | 0 |
| 12 | Jharkhand | 215 | 12 | 227 | 1 | 11 |
| 13 | Karnataka | 1134 | 373 | 1507 | 0 | 373 |
| 14 | Kerala | 658 | 267 | 925 | 79 | 188 |
| 15 | Madhya Pradesh | 870 | 376 | 1246 | 174 | 202 |
| 16 | Maharashtra | 1075 | 227 | 1302 | 161 | 66 |
| 17 | Manipur | 13 | 10 | 23 | 0 | 10 |
| 18 | Meghalaya | 31 | 5 | 36 | 0 | 5 |
| 19 | Nagaland | 12 | 7 | 19 | 0 | 7 |
| 20 | Orissa | 973 | 137 | 1110 | 50 | 87 |
| 21 | Punjab | 159 | 202 | 361 | 156 | 46 |
| 22 | Rajasthan | 722 | 396 | 1118 | 339 | 57 |

| Sl No | Name of the State | Total No. of Ground Water Monitoring Wells (As on 31.03.2013) | | | | |
|---|---|---|---|---|---|---|
| | | DW | PZ | Total | Aquifer wise Piezometers | |
| | | | | | Unconfined | Confined/ Semi confined |
| 23 | Tamil Nadu | 566 | 589 | 1155 | 218 | 371 |
| 24 | Tripura | 32 | 9 | 41 | 0 | 9 |
| 25 | Uttar Pradesh | 818 | 247 | 1065 | 239 | 8 |
| 26 | Uttarakhand | 39 | 94 | 133 | 91 | 3 |
| 27 | West Bengal | 468 | 420 | 888 | 281 | 139 |
| | UTs | | | 0 | | |
| 1 | Andaman & Nicobar | 64 | 0 | 64 | 0 | 0 |
| 2 | Chandigarh | 1 | 27 | 28 | 14 | 13 |
| 3 | Dadra & Nagar Haveli | 7 | 0 | 7 | 0 | 0 |
| 4 | Daman & Diu | 9 | 5 | 14 | 5 | 0 |
| 5 | Puducherry | 4 | 7 | 11 | 0 | 7 |
| | Total | 10714 | 4939 | 15653 | 2836 | 2103 |

**Source-:** Ground Water Year Book 2013-2014.

India is the world's largest user of ground water in agriculture in the world. India has over 20 Millions irrigation wells. We add 0.8 Million per year. Every fourth cultivator owns irrigation well; non owners depend on ground water markets. Increasing irrigation in canal and tank commands is with pumped water. Due to this unprecedented silent revolution, the water tables are declining fast (about 1 meter per year) in regions with intensive ground water use.

As per Central Ground Water Board (CGWB), Ministry Of Water Resources (2011), out of total about 15,640 monitored wells in the country. 4% wells are showing pre monsoon water level less than 2 meters below ground water level m bgl and 2% wells are showing water level more than 40 m bgl. Other wells have fallen in between.

It is a need of present stage to have a law deciding cropping patterns for farmers for particular areas. But the problem faced in this regulation is that farmers seem the ascertained cropping pattern by law as a burden on them and are not ready to follow. But the idea of Government behind having such a particular cropping pattern is as per available storage and ground water level in that particular area.

Again it is the matter of conflict that which crops are to be taken as water saver and which are more water consuming crops. It is being observed that sugarcane is the crop consuming more percentage of water but if watering of the crop like sugarcane will be done in a drip irrigation system, will help to save water and will help to maintain the ground water level.

Among the top 10 ground water abstracting countries as of 2010, India ranks FIRST. If committed measures are not taken to ensure sustainable ground water usage, severe shortage of domestic water supplies, increased conflicts water pollution and environmental degradation will become unavoidable problems.

The way India will manage its ground water resource in the future will clearly have very serious implications for the future growth in agriculture sector. Hence sustainable ground water management practices should be implemented strictly. Direct regulation of ground water control looks difficult due to the large number of pumps (25 Million or so), political influence and the huge transaction costs involved in implementing this.

Hence the following **SUGGESTIONS** are considered to be important-:

- Critical assessment of ground water availability, rates of extraction and rates of replenishment is important using GIS mapping.
- Once this is done, then it will be easier to implement and enforce the ascertained cropping pattern such as less water demanding crops in the areas having less ground water levels.

- Development of ground water potential in surface irrigation systems should be given priority.
- Drivers of ground water management programmes such as "SAVE WATER" for spreading the importance of water as an important but scarce resource.
- Establishing Water Users' Association (WUA's) to manage the proper allocation of available ground water resources.

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