

A Study on Water Resources Management by Water Resources Department in Chhattisgarh

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Abstract— This paper is focused on water resource management(WRM) with particular reference to responsibility and function of water resource department(WRD) Water is becoming a central issue in this new periods through this paper researcher can make aware common people and asses the possibilities of water resource development in water productivity and to save water is more highlighted .Environment is affected due to growth of population and degrading through uncontrolled expansion of urbanization, industrialization, intensified agricultural activities of human being. In India, due to rapid growth of population and expansion of development activities, environment is adversely affected. India is the second most populous country in the world having over 1.271 billion population (17.5%) of world's total population determining that how much pressure of the population on environment and natural resources . There are many regions where our freshwater resources are inadequate to meet domestic needs, lack of adequate clean water to meet human drinking water. The role of storage of water by traditional and modern method to increase ground water level for irrigation purpose and solution of water crisis is discussed .From last 5 years, a crisis of water has been recorded in the state, in summer. This paper identifies those problems and try to solve them to create a more sustainable and desirable future. Few suggestions are given to common people through this paper. Data is collected with help of secondary method. Books, newspapers, magazines , journals and websites are used for data.

Keywords— *Water resources ,Water resource management ,water resource department*

I. INTRODUCTION

As it is known that India is a country of villages as its principal means of livelihood is still depend upon the agriculture and it is the one of the major part for the employment in India as it is said that agriculture is back bone for Indian economy. According to 2011 census around 1300 million estimated around 59% Indian population is based on agriculture the number of farming households is 159.6 million [11]. India, a south east Asian land known for its culture and traditions is build on 3,287,590 km² land with population of 1.26 billion [1]. This study is focused on water resources management for enough crop production sufficient water availability is needed and proper management of water is must for irrigation because it plays a very critical role in the human economic. India has GDP per capita 1,498.87 USD in 2013 and ranked 2nd by GDP contribution by 2015 [2]. According to world bank agriculture sector of India is contributes 16% -18% to GDP and 3.7% witnessed growth in 2013-2014 [1].

Chhattisgarh is a growing hub for industrialization , some of the industries are totally depend upon water .industries like hydrothermal plant ,salt industries etc .hence more and more water is required .Apart from that civilization is also developing in chhattisgarh so lots f of domestic needs are

increasing day by day. so water resource management (WRM) is must for optimum utilization of water.WRD plays important role in cropping effective policies for water resource management(WRM) [3], hence this theme has been selected to study the role of WRD in water management by which effective plans through suggestions can be given to common people of the city to contribute in water management.

II. NEED OF WATER RESOURCES DEPARTMENT

A. Over-Exploitation Of Ground Water

Due to the crisis of water and unreliable canal supplies have forcing farmer to use ground water to irrigate their land .The accessibility to ground water has helped farmers to improve crop yield .Irrigation needs more water for the production for crop but private sectors are using water without any limit and there is no restriction and control on their consumption [4]. However, present uncontrolled and unregulated use of ground water is became a serious issue for WRD

B. Natural Calamities and Sharp Decline in Water Table

Droughts coupled with erratic rainfall pattern are big cause for decline in water table in state. A report of central ground water board (CGWB) find out in last 10 years water table is

going down in larger area .Due to this systematic and proper management of water is needed [4].

C. Deforestation(loss of vegetation and wildlife habitat

“Deforestation” is directly related to clearing and cutting of forest cover or tree plantations in order to accommodate agricultural, industrial or urban use for residential and commercial purpose. So it involves permanent end of forest cover ^[5].

D. Over population

Human over population is most impressing issue and there is a great pressure in water and land and silently aggravating the force behind global warming ,water pollution and scarcity ,environmental pollution, intensive farming practices and consumption of more ground and fresh water. In an over populated environment ,the numbers of people might be increase than the availability of essential resources and material for survival such as transport, water, shalter ,food etc

III. LITERATURE REVIEW

Arlosorof (2007) in his paper on, —Water demand management – A strategy to deal with water scarcity in Israel: A case study|, found that to combat water scarcities in The Middle East, a condition which might accompany the Middle East socioeconomic policies for many years to come is ‘_Water Demand Management’, and/or ‘_Water Conservation’ as well as the ‘_Increase of Water Use Efficiency’. These is important from the conventional supply side management of water to the management of the demand side, producing additional quantities of water for the immediate needs of the society, through the creation of —Virtuall quantities of water, whether by conservation strategies or by increased agricultural and industrial production per unit of water, as well as the import of water intensive agricultural products and decreasing exports of such products ^[5] provide services of good quality for all. The urban poor suffer the most because of the inadequate water supply as they cannot afford the payments that have to be made as coping strategies and neither can they afford to spend time standing in lines. Among the various factors responsible for the poor service delivery the most important is the meager pricing of the water, which discourages investments in the system and prevents the municipalities from adopting any water saving schemes. Since the Governments are either unwilling or unable to raise tariffs and improve cost recovery, the only solution is allowing private participation in the sector. Privatization along with improving cost recovery and encouraging quality and cost innovations will also ensure a more efficient and accountable service delivery system. As for the arguments against privatization of the water sector: the perceived inability and unwillingness of the poor to pay the charges under the

privatized system, both are proven to be baseless. The poor do pay and often pay a lot more per liter than the well off even while they do not consume as much as the rest of the population do. Experience has shown that the poor would be willing to pay higher user charges if they were ensured a more adequate and efficient supply. Thus we have privatization as the model means to counter the deficiencies of the current water supply system.

Choudhury (2005) notes that community participation in water management is not new to the people of Bangladesh. Historically, people especially in the tidal flood plains of the south and haors (depressions) in the northeast of the country built small earthen dykes around their paddy fields or along riverbanks under the leadership of Zamindars (landlords). At that time, water management was confined to protecting land from monsoon and tidal floods by small dykes and limited irrigation with indigenou methods. Over time, the socio-economic scenario changed dramatically leading eventually to the growth of large scale state public investments in the shape of massive coastal polders and large irrigation projects. Modern WMOs in Bangladesh may be divided into two broad types: those adopting or adapting the Comilla model and those following other concepts. WMOs in the first category vastly outnumber those in the other category due to the government policy to expand irrigation coverage quickly through highly subsidized public sector programs during the initial years of the green revolution.^[6] The Bangladesh Agriculture Development Corporation (BADC) and the Bangladesh Water Development Board (BWDB) spearheaded this movement respectively for groundwater and surface water irrigation. Comilla type WMO were the principal institutional mechanism through which the expansion program was implemented (GOB 2006).

G.N.R. Prasad, Dr. A Vinaya Babu (2006)[5], discussed various Agricultural expert system. They said that in order to remain competitive, the modern farmers often relies on agricultural specialist and advisor to provide information for decision making. Unfortunately agricultural specialist assistance is not always available when the farmers need it. In order to solve this problem, expert systems were identified as powerful tool with extensive potential in agriculture. In this paper, author discusses some more expert system [7].

IV. METHODOLOGY

A research was intended to study the work of water resources department and its management with special reference to Chhattisgarh .This study was based on secondary data as it can be very useful to researcher in answering the questions about crisis of water and helpful in managing water resources .so many sources of secondary data is used .

V. FINDINGS

1. Now a days there is usually less rain in state .This makes rivers ,ponds ,lakes dry and do not have enough water for irrigation and domestic use. .People not using water wisely as it is found that they don't focuses on saving water. .They didn't try to alter their habits and lifestyle to save more than they use. An inefficient use of water not only an effect on water resources but it also effects our environment

2. Water catchment areas such as forests are continually being destroyed through deforestation to pave way for human settlement. This problem has been just because of raid population increase and thus it causes water shortage.

3. Water shortage makes it difficult to grow crops especially in state .In state paddy crop is principal crop which requires more water than any other crops ,when crops are not planted due to shortage of water ,there won't be enough food for people and it's also effects farmer's economy.

VI. SUGGESTIONS

1. Educate people on benefits of conserving water
2. Laws should be enacted to prevent water pollution .Those found polluting water should pay a fine or imprisonment
3. People should encouraged to recycle rain water.
4. Farmers should adopt those farming methods that uses less water.
5. People should contributes funds to support clean water initiatives especially those areas facing water crisis.

VII. CONCLUSION

Water crisis is lack of fresh water to meet the demands of water usage within a region .water shortage is caused by excessive use water due to increase of population and their demand ,urbanization and industrialization by clearing forest cover also destroying natural vegetation of environment . This all lead to main reason of water crisis .The major function of WRD is the implementation of irrigation projects consisting major ,medium and minor project and their purpose is to provide sufficient water for irrigation and multi-purposes like domestic and industrialization. To save water rain water harvesting method is used and that water will be used for out door purposes like washing car ,water out door plants and lawn .For indoor purposes like cleaning house,

washing, dishes and washing clothes .Close tap while washing your hands ,brushing your teeth, cut your showers short .Through this all small techniques ground water level will be maintained. it as needed to secure our health and economic and social well-being. Providing healthy and meaningful livelihoods for all of humanity is our major challenge in this century. Research will always be needed to identify and evaluate the impacts of alternative paths toward this future, to have a good life with the constraints imposed by the availability of a renewable, but limited, water resource. It can be done. Let our optimism be a torch to light the way forward!

REFERENCES

- [1] R.S Chowhan , P.Dayya ,U.N Shukla, "Sustainable E-Agriculture Knowledgebase for Information Dissemination to Develop Indian Agriculture Sector and Empower Rural Farmer" , International Journal of Advanced Research in Computer and Communication Engineering ,Vol. 7, Issue 4, PP 105-112, 2018
- [2] W.R Depietro , "GDP per capita and its challengers as a measures of happiness" ,International Journal of Social Economics, Vol. 33, Issue: 10, pp.698-709,2006.
- [3] Y. Liu, H .Gupta , E. Springer , T. Wagener , "Linking science with environmental decision making: Experiences from an integrated modelling approach to supporting sustainable water resources management" , Environmental Modelling & Software, Vol. 23, pp. 846-858, 2008.
- [4] H . Mehanuddin , G. R Nikhitha , K S Prapthishree , L B Praveen., H G Manasa, "Study on Water Requirement of Selected Crops and Irrigation Scheduling Using CROPWAT 8.0" , International Journal of Innovative Research in Science, Engineering and Technology, Vol. 7, Issue 4, pp. 3431-3436, 2018
- [5] S. Arlosoroff, "Israel – a case study of water-demand management" , International Rescue Committee, Vol. 22, No. 2, pp 4-7. , 2003.
- [6] S. D. Silva, "The experiences of Water Management Organizations in Bangladesh" , International Water Management Institute, pp. 1-50, 2102.
- [7] S. J. Yelapure 1 , Dr. R. V. Kulkarni, "Literature Review on Expert System in Agriculture" , (IJCSIT) International Journal of Computer Science and Information Technologies, Vol. 3 (5) , 2012,5086-5089

Authors Profile

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