



**ASSESSMENT OF GROUND WATER QUALITY
IN PARTS OF METTUPALAYAM TALUK**



A PROJECT REPORT

Submitted by

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in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

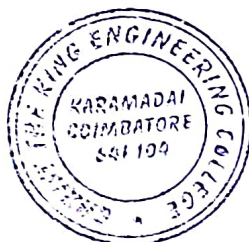
IN

CIVIL ENGINEERING

CHRIST THE KING ENGINEERING COLLEGE

ANNA UNIVERSITY: CHENNAI - 600 025

MAY - 2023

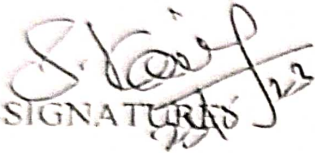


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BONAFIDE CERTIFICATE

Certified that this project report "ASSESSMENT OF GROUND WATERQUALITY IN PARTS OF METTUPALAYAMTALUK" is the bonafide work of "G.JAYASURYA(710419103010),M.LETCHANA (710419103014),S.TAMILSELVAN(710419103018), P.BANGARU SENTHIL KUMAR(710419103302) " Who carried out project work under my supervision.

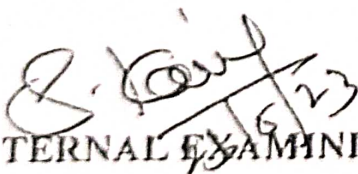

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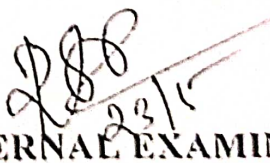
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INTERNAL EXAMINER

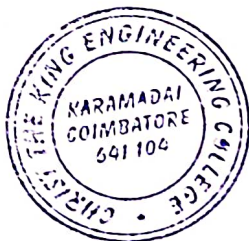

EXTERNAL EXAMINER





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ABSTRACT

The spatial variation of shallow ground water levels and quality data pertaining to Coimbatore district have been studied using geographic information system (GIS) technique. GIS is a tool which is used for storing, analyzing and displaying spatial data is also used for investigating ground water quality information. For this study the analyze water sample parameter like Ph, total dissolved solids, total suspended solids, sulphate, organic solids, inorganic solids, chloride, electrical conductivity. about 9 observation wells collected and utilized for this spatial analysis. This spatial analysis is then compared with standards . The ground water quality information maps of the entire study area have been prepared using GIS spatial interpolation technique for all the above parameters. The results obtained in this study and managing ground water pollution in the study area. Mapping was coded for potable zones, in the absence of better alternate source and non-potable in the study area in terms of water quality.

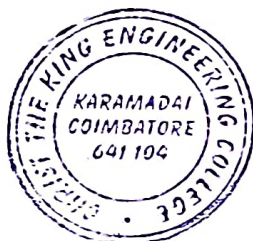



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CONCLUSION

It can be seen from the maps many regions have groundwater that is potable only after proper treatment in the part of Coimbatore district. However in nellithurai, marudhur and Coimbatore regions the water is non-portable. In this non-portable zone the parameters that are studied are above maximum acceptable limits for the majority of sample wells. The total dissolved solids for the most of the samples is above 500mg/l and the maximum value and minimum value observed are 394 and 3010mg/l respectively. The maximum desired limit for total dissolved solids is 500mg/l according to Indian standards. The TH is observed to be well above 200mg/l for majority of sample wells in this zone. The maximum and minimum levels observed are 680 and 200mg/l. The maximum desirable level for this parameter is 300mg/l in Indian Standards.

By analyzing overall villages in that part we came to know that Jadayampalayam, Sirumugai and near by regions having acceptable water quality than other regions. At the same time the groundwater quality is in very poor condition in nellithurai and its nearby regions. Ultimately, we came to know that the overall groundwater quality of part of Coimbatore district is chances to decreacing over a certain period. The results obtained gave the necessity of making the public, local administrator and the government to be aware on crisis of poor groundwater quality prevailing in the area. The government needs to make a scientific and feasible planning for identifying an effective groundwater quality management system and its implementation. For this, public awareness on the present quality crisis and their involvement and cooperation in the actions of local administrators are very important. Since, in future the groundwater will have the major share of water supply schemes, plans for the production of groundwater quality is needed. Present status of




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groundwater necessitates for the continuous monitoring and necessary groundwater quality improvement methodologies implementation.

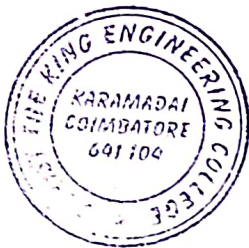
Following are the recommendations for preventing further groundwater quality deterioration and strategy for protecting the same in future.

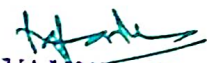
(i) Quantifying the domestic sewage that enters into the different water bodies located, will help in planning for effective sewage treatment plant and minimizing groundwater pollution by sewage

(ii) Groundwater recharging structures are to be formed at different parts of district to recharge the groundwater and to reduce the pollution levels. Formation of storm water drains leading to groundwater recharging structures, to increase their recharging potentials.

(iii) Continuous monitoring of groundwater table level along with quality study will minimize the chances of further deterioration.

(iv) Structural engineers, consultants, contractors and general public are to be addressed about the groundwater quality not satisfying the water quality requirements as per IS456- 2000 and advising them for avoiding the use of untreated groundwater.




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