REAL-TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSETEM

PROBLEM STATEMENT

- Available from 30 days graphs Monitor water quality on a near real-time basis with data.
- After each deployment, a brief report describing water quality events and condition at each side is prepared by the environmental scientists.
- We can maintain the quality of water resources by using a water filter, clean water aerators, proper disposal of hazardous wastes.
- The human activities that affect river water are river flow redistribution in time, river flow with-drawl pollution, thermal pollution, water clogging, physical disturbance of river beds.

IDEA/SOLUTION DESCRIPTION

- The traditional method for monitoring of the water quality is such that the water sample is taken and sent to the laboratory to be tested manually by analytical methods.
- Although by this method the chemical, physical, and biological agents of the water can be analyzed, it has several drawbacks.
- Firstly, it is time consuming and labor intensive. Secondly, the cost for this controlled, displayed, and transferred.

UNIQUENESS

- In this work, the design and demonstration of a prototype remote, automatic, portable, real time, and low cost water quality monitoring system is described. In this system, low cost components i.e. microcontroller, LCD screen and other components are used to achieve the objectives of the proposed design with acceptable accuracy.

- Compared to the previous related works, the cost of the system prototype is considerably low.

- Toensure the portability of the device, a self-made, small size Arduino microcontroller is used.

- The developed system was tested under different conditions, with solution of water with different impurities, and in different periods of time.

SOCIAL IMPACT

- The system was tested under different conditions and with different qualities of water. The output of the system was successful and in accordance with the research objectives.

- As mentioned, the sensor readings are obtained on an LCD screen on the device prototype itself.

- If there is any abnormal conditions are found in water buzzer will get alarm sound and lcd monitor will display water ph temperature, turbidity water level in tanks.

MODEL

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- Compared to the conventional water quality testing techniques, sensor based water quality testing has many advantages such as accurate, high sensitivity, good selectivity, speed, fast response, low cost etc.

SCALABILITY OF SOLUTION

- The results of the test for all times have been successful. We conclude that all the objectives of the proposed system have been achieved.
- To test more parameters of the water quality for some applications, other sensors can be included in the system.
- The system has wide application and it is usable and affordable by all categories of users.