

ABSTRACT

Humans have an obligation to conserve clean water as a precious resource, but there is often significant water wastage due to lack of supervision and efficient management. This can cause a waste of natural resources and increase operational costs, such as in the Bandung City View I (BCV I) housing complex located in Karang Pamulang Village, Mandalajati District, Bandung City. Clean water sources in the BCV I complex include two mountain springs and two groundwater drills. Clean water storage is stored with two water reservoirs located at the bottom near the groundwater drill with a capacity of 40 m³ and at the top near the security post with a capacity of 100 m³. The current problem in the BCV I complex is the overflow of water in the upper reservoir. This usually happens at night when residents are not using as much water. If the water usage is low, then the water in the upper reservoir, which serves to distribute water to residents' homes, will not decrease quickly. On the other hand, the pump in the lower reservoir continues to push water into the upper reservoir so that the water in the upper reservoir overflows.

Therefore, it is necessary to develop a water reservoir control system that is able to operate continuously for 24 hours every day at the BCV I complex. This is important to ensure continuous monitoring and control of the water reservoir. In addition, the hardware used will be securely stored in the control room and security post to ensure optimal security and availability. The control system can be accessed via web and mobile applications to simplify the process of monitoring and controlling the water reservoirs in the BCV I complex.

The development of this water reservoir control system is expected to be the best solution to overcome the problem of water wastage in the BCV I complex. The control system makes monitoring and control much easier and optimized because the BCV I complex manager no longer has to standby near the control room to control the water reservoir. This is because the monitoring and control process can be done remotely and in real-time through web platforms and mobile applications. In addition, operational costs will be much cheaper than before because the developed system will ensure effective and efficient water management in the BCV I complex.

Keywords: *Wastage, Reservoir, Water, IoT, Real-time, Efficient*