

ABSTRACT

The focus of the West Java Government in 2021 is increasing regional competitiveness through accelerating economic recovery and strengthening the regional health system. With the use of the Citarum river as a research area, it is hoped that it can help accelerate the economic development of West Java, especially in Citarum Sector 7, besides that the current condition of the Citarum river is being implemented by the Citarum Harum project, but there is no internet communication for sensors in its operations.

In order for the communication between each study to be connected, the author uses WiFi technology with unlicensed frequencies because the technology that is most widely used in the community and for its deployment is relatively cheaper than cellular technology with spectrum licensed, the authors integrate WiFi communication with multihop technique for connections between access points.

The simulation results show that the total number of WiFi access points in Sector 7 Citarum is 26 sites, with 14 Multihops. Geographical conditions in Citarum Sector 7, which are relatively uneven, greatly affect the results of the coverage of the access points, so the authors need to adjust the location, height and magnitude of the transmit power so that the coverage results can be optimal.

Kata Kunci : *WiFi, Internet of Things, Citarum, Unlicensed Spectrum.*