CHAPTER 5
CONCLUSION AND RECOMMENDATION

5.1 Conclusion

Some conclusions that can be taken from the previous chapter are:

1. Based on the water test result from some samples that was conducted on 9th November 2020 along the Cibarani irrigation channel, it was found that the water did not reach the class II raw water standard with averaged DO value of 2.6 mg/L.
2. Water quality test results showed the increase of DO concentrations after the water flows through a drop-structure at the downstream part near Siliwangi street. The DO concentration was increased from 0.9 to 2.8 mg/L.
3. Manning's coefficient values are 0.023 and 0.05 from the calibration process, with water depth's RMSE value of 0.06 and velocity's RMSE value of 0.24.
4. Drop-structure with a narrow-crested weir configuration produced a more reasonable result of the reaeration rate at 37.5 day^{-1} than the steep riverbed configuration and the vertical wall configuration.
5. The placement of a drop-structure with the same configuration at the upstream part of the channel could improve the averaged DO values to 3.47 mg/L. However, this value is still below the class II of raw water standard.
6. A combination of additional drop-structure at the upstream and flow discharge at 0.07 m^3/s could increase the DO values optimally to meet the class II of raw water standard with the DO ranged from 3.9 to 6.0 mg/L along the channel.

5.2 Recommendation

Some recommendations in this study are:

1. More data series are highly suggested to be included in order to get more reliable and accurate result.

2. Other water quality parameters, such as BOD, TN, and TP are advised to be further modelled to provide more adequate water quality analysis.

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