CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Based on the data analysis that has been done, several key points that can be concluded are:

1. The significant deteroriation of Citepus River's water quality is caused by the wastewater from Ciroyom River.
2. The Decay rate coefficient (k1) and Reaeration coefficient (k2) that give a proper model are 1.4/day and 12/day.
3. The 1st case scenario and the 2nd case scenario are quite success in increasing the DO concentration in Citepus River. However, since the concentration of BOD_5 is too high, the water quality of Citepus River still cannot meet the criteria for water quality Class III.

5.2 Recommendations

1. The data availability and the quality of data for flow rate's time series data, meteorological data, water temperature, wastewater flow discharge, DO and BOD_5 concentration are needed in order to get the more accurate simulation result.
2. The BOD_5 testing need to be conducted with more than 3 duplicate / dilution in order to obtain the proper value for BOD_5 concentration.
3. It is better to measured the BOD_5 concentration directly with the BOD meter rather than calculating it by using the empirical formula.
4. The source of pollution from Ciroyom River need to be identified in order to determine the maximum permissible waste load to be disposed into the river.

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