

## ABSTRACT

Zakiyyah. Jazilatus. 2013. **The Test of Heavy Metal Content of Cadmium (Cd) to The Mangrove Plants in Tambaan Coast, Pasuruan Town.** Thesis of Department of Biology, Faculty of Sains and Technology, State Islamic University of Maulana Malik Ibrahim Malang. Advisors : (I) Dr. Evika Sandi Savitri, M.P, (II) A. Nasichuddin, M.Ag

Human's intensive life activity raises the bad effects to the human itself and environmental order. The environmental contamination comes from toxic wastes such as heavy metal of Cadmium (Cd). Therefore, mangrove which has good capability to absorb the heavy metal can be the one of best alternative to overcome the problem of water contamination.

This research is a kind of descriptive research containing about to know the property of mangrove plants (*Avicennia marina*, *Rhizophora apiculata*, *Sonneratia alba*) terhadap logam berat Cadmium (Cd). The writer determine one sample station. Moreover, the chosen samples were 3 sediment sample, 3 sea water sample and 3 mangrove sample from 3 different specieses (*Avicennia marina*, *Rhizophora apiculata* dan *Sonneratia alba*) covering roots and leaves on the stake phase. The taken sample was analyzed by *spektrofotometry* to know the content of heavy metal Cd. Afterwards, the obtainable data was analyzed by using Anova. If there was the significant result, then it will be analyzed by Duncan range test.

The result showed that mangrove plants (*Avicennia marina*, *Rhizophora apiculata*, *Sonneratia alba*) had capability to accumulate Cd, that was *Sonneratia alba*. It had average of 0,240 ppm. Furthermore, *Rhizophora apiculata* had average of 0,222 ppm and *Avicennia marina* with average of 0,194 ppm. The most plant organ having a capability to accumulate Cd is roots. Roots of *Sonneratia alba* can accumulate Cd up to 0, 425 ppm. Hereafter, the leafe of *Sonneratia alba* can accumulate up to 0,54 ppm. Then, roots of *Rhizophora apiculata* can accumulate Cd up to 0,393 ppm and its leaf can accumulate up to 0,050 ppm. In the other hand foots of *Avicennia marina* can accumulate Cd up to 0,341 ppm and its leaf can accumulate Cd up to 0,046 ppm. The mangrove plants were suspected of a mechanism of reduction of toxic materials. That was amelioration covering localization, dilution, excretion and also mechanism of tolerance toxic materials countermeasures.

Key Word :Contents of Heavy Metals, Mangrove Palnt (*Avicennia marina*, *Rhizophora apiculata*, *Sonneratia alba*), heavy metal of Cadmium (Cd).