ABSTRACT

THERESIA MARIANE DEBORA NATALIA LUMBAN TOBING. Dengue Fever (DF) Case Modelling in East Java with Poisson and Negative Binomial Models. Supervised by AUNUDDIN and LA ODE ABDUL RAHMAN.

The total number of dengue fever victims in East Java can be assumed to have a Poisson distribution. The Poisson regression method can be used to model the relationship of the environmental factors and dengue fevers incidents. The model of this method assumes equidispersion, that is the equality of mean and variance of the response variables. If variance of the response variable exceeds the mean, it is called overdispersion. Negative binomial regression model is used to overcome the overdispersion. Negative binomial regression model shows that the quantity of dengue fever victims in every kabupaten (district) is influenced by the quantity of flood and the quantity of malnutrition victims. Negative binomial regression shows that the increasing number of flood will enhance the quantity of dengue fever victims in East Java district whereas the increasing quantity of malnutrition victims will enhance the quantity of dengue fever victims in the same place district.

Keywords : Poisson regression, negative binomial regression, overdispersion