5. CONCLUSIONS AND RECOMMENDATIONS

5.1. CONCLUSIONS

From the 11 years of observation period (1996 – 2006) in 3 regencies of Karawang, Subang and Indramayu, the peak of the BPH attack had been occurred in 1998 reaching area of 39,497 ha about 14.5% of the total rice field areas of 273,420 ha. During a period of 1 year, the BPH attack was not occurred all over the year, but it generally occurred in January-February-March and July-August-September.

Climate parameters may contribute to the area of BPH attack when the climate anomaly occurred (La-Nina). Climate parameters that have significantly correlated with the log of the area of BPH attack, with \( r > |-0.4| \) were: rainfall, minimum temperature, minimum temperature lag 1 month, maximum temperature, maximum relative humidity, maximum relative humidity lag 2 weeks, mean relative humidity, and mean relative humidity lag 2 weeks.

The study has come up with the result that multiple regression model that can be used to predict the areas of BPH attack is

\[
\text{LOG}_{\text{LS}} = 10.44 - 0.32 \text{ Tmin-2} - 0.00112 \text{ CH} + 0.182 \text{ Tmax-1} - 0.27 \text{ Tmin}
\]

or

\[
\text{LOG}_{\text{LS}} = 11.05 - 0.32 \text{ Tmin-2} + 0.209 \text{ Tmax-1} - 0.33 \text{ Tmin}
\]

with R-square 0.33 meaning that climate factor contributes 33% to the determination of areas of BPH attack. This equation will very useful if the assessment area has available climate data.

The use of information system will help the user to easily obtain the information concerning the observation area of BPH attack and predicting potential area of BPH attack base on climate data prediction, so it can be determined the priority areas for BPH control. Thus the BPH attack can be anticipated and the lost of crops yield can be avoided. GIS application may easily be used for users to obtain information the areas of BPH attack as well as the future prediction of the areas of BPH attack, noted that there is available data of...
climate prediction. The known potential areas of BPH attack is valuable for designing an early warning system to anticipate the areas of BPH attack, thus the risk of felt harvest can be overcome.

5.2. RECOMMENDATIONS

1. Climate is not the only one determining the areas of BPH attack. There are many other factors that should be considered such as crop varietas and planting time. Those parameters can be included to develop this information system.

2. Appropriate GIS application is determined by the valid rainfall prediction that resulted from the application of rainfall prediction model and the software to generate rainfall data.

3. Data quality and model validation are determined very much on the validity of the model.

4. Limitation of query and model that have been developed provites insight that the information system still required to develop in the future.