VII. GENERAL CONCLUSION AND RECOMMENDATION

7.1. General Conclusion

District of Sukabumi is the biggest district in the West Java Province. Agricultural sector gives the biggest contribution to the economy of this district. This sector is the core business that has side impact on other sectors like trades and processing industry, which sector has several sub-sectors of food crops, plantation states, animals and their products, forestry and fishery. The policy conducted by the local government in pushing the agriculture sector among others are strengthening the farmer group institutional, dissemination of technology and development of agribusiness in the villages or rural areas. In order to push the economic development in this district, the agriculture sector should smartly make priority in developing commodities that have prospect and high economic value. One of the important commodities that could be developed further in this district is rice. Based on the potential agricultural resources, i.e., good water availability and management as well as suitable climate this district has a good opportunity to increase rice productivity with the application of new technology or new method available. One of the promising methods is the System of Rice Intensification (SRI) which is now being assessed internationally since it promises higher productivity as much as twice the conventional method in average. Furthermore, organic rice farming using SRI method is claimed to be environmentally friendly and have better rice taste and price.

Although SRI method in rice cultivation is a promising solution for the global food problem we are facing, especially in Asian countries, evaluation still has to be done in order to make sure about the dependability and sustainability of the system. If the method itself has been proven scientifically, the next question would be the sustainability of the system to be applied by farmers for improving the rice production, more importantly, to alleviate poverty of the farmer community in general.

A study was conducted in the District of Sukabumi as a case study with the objective to analyze the potential sustainability of organic rice farming using the SRI
method. Modeling approach was used in the analysis of the factors concerning the potential sustainability of organic farming in rice intensification. The models developed in this study were used to make calculation and prediction of some factors related to the potential sustainability. Other data and information especially related social aspect were obtained from literature review. The results of this study could be summarized into the following points:

1. The interest and awareness of farmers in the District of Sukabumi about the SRI organic rice farming was exceptional because of the training program available in the area. The uptake of SRI techniques was high after training, i.e., about 6% of trained farmers altered some aspect of their farming practice into the new method. Based on such condition, farmers in the district socially have the potential to support the development of sustainable organic rice farming with SRI.

2. Model development based on Cobb-Douglas function resulted in a production model: 
   \[ Y_{LD} = 2.664S^{-0.002}F^{0.00019}L^{0.002}W^{0.94} \] which could give values that were agreed nicely with the data values. A prediction model for productivity was also developed based on Verhulst growth model which indicated that the optimum sustainable yield of 10.4 ton/ha was reached after approximately four years starting from 6.2 ton/ha and level off at that optimum value afterward. The model could further be used to calculate the maximum profit that could be obtained.

3. Sensitivity analysis was conducted on the production model. Based on the tests conducted, the model was sensitive enough to changes in the value of the variables of the model especially fertilizer.

4. Concerning the profitability of organic rice farming with SRI, selling milled rice is more profitable rather than selling it directly after harvest as harvest-dry rough rice. Furthermore, the values of R/C Ratio of milled rice sale were somewhat higher than those of harvest-dry rice sale.

5. In general the result of this study indicates that the District of Sukabumi has the potential to develop a sustainable organic rice farming using SRI method.
7.2. General Recommendation

Research on SRI method for rice production in every aspect of social, economy and environment still needs to develop any further either in micro or macro level. All research should be lead to farming efficiency, which in turn to achieve maximum productivity with minimum cost. Since SRI method has the advantage of using less water by means of intermittent irrigation, it relies on good water management as well as good availability of the water itself at any time. Furthermore, the following themes of research or study are suggested in order that the SRI method can be practiced by farmers in sustainable way:

1) A mixed farming system of food crops and animals should be developed to ensure the sources of organic matters for the production of organic fertilizers,

3) Development of organic fertilizers industry of compost and bokashi for efficient and economic uses by farmers,

4) Development of new land consolidation and irrigation system appropriate for SRI farming method, and

5) More in-depth economic analysis for profitable organic rice farming using SRI.
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