CHAPTER VII

CONCLUSION AND RECOMMENDATION

7.1. Summary and Conclusion

This study tried to evaluate and comparatively analyze economic efficiency of the production of two rice cultivation techniques, RCT and MMCT, in MHYV Spring rice crop and two rice varieties, MHYV and THQV, in RCT Autumn rice crop in the Red River Delta. The data and information of rice production year 1993 are collected by interview from 151 farm households located at five subdistricts in five provinces of the Red River Delta in April and May 1994 survey period.

According to high population pressure in the area, the average size of household farm is 8 sao (2880 m^2). Double-rice cropping pattern is the dominant farming systems of majority of farm households. Land preparation by bullock or hired tractor service and transplanting in crop establishment stage are the common practices for rice production in the region.

The MMCT modified from MCT is applied in the MHYV Spring rice crop beside the RCT, and THQV - Tam Thom is produced in the RCT Autumn rice crop beside MHYV. In MHYV Spring rice crops, the rates of seed, manure, chemical fertilizer, pesticide and labor use per sao for RCT are 3.730 kg, 0.308 tons, 5.924 kg NPK, 5313 Dong and 8.717 mandays respectively. For MMCT, the figure are 1.951 kg, 0.358 tons, 5.964 kg NPK, 6852 Dong and 10.530 mandays, respectively. In RCT Autumn rice crop, the rates of seed,

manure, chemical fertilizer, pesticide and labor use per sao for MHYV are 3.267 kg, 0.286 tons, 5.3 kg NPK, 5.277 Dong and 8.472 mandays, respectively. Similarly, for THQV in Hai Phong subdistrict these rates are 1.131 kg, 0.278 tons, 6.396 kg NPK, 8644 Dong and 7.425 mandays, respectively.

The average rice yield of RCT and MMCT in MHYV spring rice crop are 193.2 and 218.3 kg per sao, respectively. In Autumn rice crop under RCT the average rice yield for MHYV is 185.9 and for THYV in Hai Phong subdistrict is 163.3 kg per sao.

Rice price faced by sample farmers varied across locations, rice varieties and crop seasons. By locations, farmers in Hai Phong received higher rice price than other subdistricts, this may be because of their capital ability to store rice until high price occurred. By crop season, for the same MHYV rice output, Autumn rice crop receives higher price than Spring rice crop due to quality of rice in Autumn rice crop is higher. By varieties, THQV rice output has highest market price (2,721 Dong per kg) which is about 2.5 times larger than price of MHYV rice output.

Budgeting analysis is employed to examine the production costs and profitability of rice production in the region. The finding revealed that, in MHYV Spring rice crop, the total cost of production for MMCT (134,500 Dong per sao) is higher than that for RCT (130,700 Dong per sao), but the net return and gross margin from MMCT (119,400 and 195,300 Dong per sao) are higher than that from RCT (98,900 and 163,600 Dong per sao). Similarly, in RCT Autumn rice crop, the total cost of production for THQV in Hai Phong (134,100 Dong per sao) is higher than that for MHYV in all areas (124,800 Dong per sao). The net return and gross margin from THQV (310,100 and 367,700 Dong per sao) which are largest among studied cases are much higher than that from MHYV (105,500 and

168,200 Dong per sao). The high return from THQV may be due to the high demand and price of THQV rice output.

In MHYV Spring rice crop, return to labor is more or less same for RCT (3.10) and MMCT (3.13), while return to material input for MMCT (3.14) is greater than that for RCT (2.96). In RCT Autumn rice crop, both return to labor and material inputs for THQV (8.15 and 6.56, respectively) are much higher than that for MHYV (3.28 and 3.27).

Seemingly unrelated regression estimator (SURE) is applied to jointly estimate the systems of normalized restricted translog profit function and variable input share equations. For variable input demand elasticities, most of own-price elasticities of demands for labor and fertilizer are elastic, while all cross-price elasticities of demands are inelastic and most of them are with complementary situation except the substitution situation of labor and fertilizer for MHYV under RCT in Autumn rice crop. Elasticities of demand of fertilizer and labor input with respect to output price and rice cultivated land area are all positive. For output supply elasticities, all output supply elasticities with respect to labor and fertilizer input prices are negative and inelastic. While all output supply elasticities with respect to rice price and land area are positive as expected.

To study price-subsidy policies, the analysis procedure by Puapanichya and Panayotou (1985) is adopted. Seven alternative price-subsidy policy instruments are calculated separately for RCT and MMCT in MHYV Spring rice crop and for MHYV and THQV under RCT in Autumn rice crop, based on estimated price elasticities, base-line data of input utilization, output supply and production prices in rice production year 1993. The price-subsidy policy analysis from this study shows that, the policy makers have several choices in making decision of alternative price-subsidy policy selection. If the government

want to increase highest rice production and farmers' benefit, then, subsidy in rice price would be adopted. However, such subsidy causes highest cost burden to government. Therefore, at present conditions of limited government budget, government subsidy in fertilizer price for rice production in the Red River Delta might be appropriate to increase rice production and consequently to raise the income of the rural households, because the net impact of the policy is positive for the whole economy, based on the assumptions that the NHYV and THQV share 0.90 and 0.10 of the Autumn rice crop and that the RCT and MMCT account for 0.75 and 0.25 of the Spring rice crop, respectively, and also the quantity of rice production in Spring rice crop is greater than the Autumn's rice crop by 21.7 percents.

7.2. Recommendations

The presented information from the study would help to understand in more detail the rice production in Red River Delta, and comparable view on rice production between RCT and MMCT in MHYV Spring rice crop and between MHYV and THQV in RCT Autumn rice crop.

From the above results, it should be profitable to encourage to cultivate MHYV Spring rice crop production by MMCT because of its high productivity, which not only meet the rice demand but also provides surplus product for food security to the country. Moreover, because of its net return and economic efficiency to producers is also higher than from RCT.

In short-run as well as in long-run strategies, production of THQV should be expanded to improve farmers' income as well as to meet increased volume of high quality

rice demand for domestic consumption and to improve the competition of Viet Nam rice in world rice market.

At present, most of farmers are very poor and have limited access to off-farm employment. Therefore, formal credit systems with low interest and long term loan could be help farmers to diversify their farming activities such as planting non-rice crops, animal husbandry, aquaculture and other off-farm works in order to increase farmers' income level and for a sustainable agriculture development.

7.3. Further Areas of Research

This study included the data of "Tam Thom" THQV rice production only from one location of Hai Phong subdistrict. In order to have more clear and intergrated information of the profitability and economic efficiency of the THQV rice production in the Red River Delta, further study for this traditional high quality rice production should be conducted in the future, so that could find out the more appropriate policy recommendations and as the result to improve the rice production in the region.