INFORMATION ON RESEARCH RESULTS

1. General information:

Project title: **Technical, Allocative and Economic Efficiency of Rice Production in the Mekong River Delta**

Code number: B 2009-16-143

Coordinator: Pham Le Thong, Ph.D.

Implementing institution: Cantho University

Duration: from 1-2009 to 12-2010

2. Objective(s):

- To investigate the current situation of rice production in the Mekong River Delta.
- To estimate and examine the farm-specific technical, allocative and economic efficiency of rice production.
- To give recommendations to relevant authorities on improving the level of efficiency of rice production.

3. Creativeness and innovativeness:

The present study applies the stochastic production and profit frontier function to estimate the technical, allocative and economic efficiency of farm households. The farm-specific level is defined as the ratio of the actual output and profits that a farm achieves to the maximum output and profits attainable given the level of inputs and prices that the farm faces, and random factors that have impacts on the outcomes of the production. This is a modern and reliable approach since it eliminates random errors that confound the outcomes and control for the effects of each input on output and profits of farm households. It is the advantages that makes the approach be well known in studies on estimating the efficiency of agriultural and industrial production as well as banking

performance. This approach can be used in place of the method that applies financial indicators to estimate the efficiency of the production process.

4. Research results:

Using the data collected from 479 farm households in Hau Giang, Cantho, Vinh Long and Long An, the study shows that most of the farms obtain relatively high profits from rice production. In Winter-Spring crop, due to favorable farming conditions, farmers make the highest profits of around 20 million dongs per hectare. Almost all farms obtain profits. On the other hand, in Summer-Autumn and Autumn-Winter crop, farmers make lower profits, 7.7 million and 6.2 million dongs/ha, respectively. More farmers are losing in these two crops. The average revenues/costs ratios are relatively high, especially in Winter-Spring crop. However, due to relatively small land area and abundant family labor, average income over a labor is still low.

Farm-specific level of economic efficiency is generally low. It is the Winter-Spring crop that has the highest level. However, the average level is computed at about 72%. The average level of the Summer-Autumn and Autumn-Winter crop is 56% and 59%, respectively. Given the levels obtained, it is indicated that many farm households are not able to maximize profits. Reasons to explain this outcome are many, mostly due to controllable factors which constitute 90% of all factors. Since farmers are not likely to catch up with market information on input and output prices, they are not able to choose optimal input and output levels. In addition, a great part of farmers overuse inputs such as seeds, chemical fertilizers and family labor, leading to low marginal products of these inptus and hence, reduce the level of technical efficiency.

Given the low economic efficiency, the profit loss is considerable. In the Winter-Spring crop, the average loss is estimated at around 3 million dongs per hectare. This number for the Summer-Autumn and Autumn-Winter crop is 1.4 and 1 million dongs, respectively. Since the gap in the efficiency levels across farmers is significantly large, a big difference in the profit loss exists. This difference is chiefly due to the differences in farming practices, farming conditions and market information access among farmers. It is

the big difference that indicates a great potential to improve the efficiency of farmers at low levels by unifying farming practices and providing access to market information.

Participation in training programs plays important role in determining the efficiency obtained. Farmers with training are able to attain higher output by from 6% to 10% than others. In addition, they get more profits by 7 to 20%. The effects of training are higher in Summer-Autumn and Autumn-Winter crop. Although training can bring much benefits to farmer, the number of partipants is less than 50% of the sampled farmers. This shows a big chance to increase the efficiency level as giving worldwide extensive services to farmers.

5. Products:

- A primary dataset collected from a survey of 479 farm households in Cantho, Hau Giang, Vinh Long and Long An.
- 2 research reports: i) An overview of rice production in the Mekong River Delta, and ii) An analysis of the technical, allocative and economic efficiency of rice production in the delta.
- A policy implication brief.
- A complete research report.
- 1 master thesis in Agricultural Economics.
- 1 scientific paper published.

6. Effects, transfer alternatives of research results and applicability:

The study provides a detail picture on the efficiency and income of/from rice production. as well as determinants of these outcomes. They give a background for making policies aiming at increasing income and efficiency of rice production. Outputs of the study are transferred to concerned local authorities in the Mekong River delta. Of whom, the provincial Department of Agriculture and Rural Development and Center of Extensive Services are main targets.