

RESEARCH ON COMPONENTS OF RICE PRODUCTION COST & EFFICIENCY IN CASE OF HAU GIANG PROVINCE

Nguyen Cong Thanh

ABSTRACT

A survey on farmers' socio-economic characteristics, life conditions and rice production conducted in Hau Giang province are to suggest the suitable tackling problem strategies to enhance rice production for export as well as calculating its cost and profit. The results indicated that in the relatively normal conditions of three rice crops per year, the rice yield was highest in Winter-spring (ĐX) season (6.90 T/ha), followed by Summer-autumn (HT) (4.74 T/ha) and Autumn-winter (TĐ) (4.15 T/ha). Although farmers got highest profit in ĐX crop season, the productivity of 1 dong capital reached only 1.13. The productivity of 1 dong capital in TĐ crop season was lesser, only 0.44. This was the worst situation in HT crop season, farmers obtained only 0.34 dong of profit from investment of 1 dong capital. Analysis on cost components in rice production for export showed that there were 16 main items of cost in one rice crop season. In average, the data calculated from 8 crop seasons from 2005 to 2007 and then divided into 3 groups of cost: (i), input cost (as rice seeds, fertilizers, and pesticides) occupied more than half of the total cost in production (54,9%); (ii) hired labour cost (included land preparation, sowing, transplanting/gap filling, water pumping, weeding, fertilizer and pesticide application) occupied 15,8 %; and (iii) harvest and post harvest cost (included rice harvesting, threshing, transportation, drying and cleaning) reached nearly one-third of the total cost (29,4 %). Thus, this study has suggested the proper solutions aiming at reducing cost of rice production and increasing farmers' income.

INTRODUCTION

Cuu Long Delta is the important rice production region in Vietnam. With 2 million ha of rice land, and 4 million ha grown rice area (Bui Ba Bong 2000), it produces more than half of the total rice production of the nation (Bui Chi Buu and Nguyen Thi Lang 2007). The yearly rice export in this region occupies about 90 percent of the total national rice export. Therefore, rice production activity here is very important to contribute for the turnover of nearly 2 trillions USD yearly from 2006-2008 (about nearly 5 mil. tons), and it has the capacity to enhance more in the near future. In the year 2008, although it was adversely affected by weather, brown planthopper epidemic and its virus vector diseases, the rice export was obtained 4.8 million tons. An expectation this year (2009) rice export may reach 6 million tons due to the high demand of the international markets and the rice production increase from the harvests. In the achievements of production and export, Hau Giang province from the year of foundation (2004) up to

now with the area of 90,000 ha had contributed significantly to the total rice export of the country.

Nowadays, international agriculture is coming to the globalization and free trade. Vietnam has jointed the World Trade Organization (WTO) in November 2006. This event marks a new stage for the country and poses a lot of opportunities and challenges for the economy in general and for the agriculture in particular.

With this occasion, this study aims to evaluate current situation of rice production for export by farmers in Hau Giang province and help the policy makers and related organizations put more concerns in adjusting policies and activities to enhance rice production and export in the province as well as in the Mekong Delta in the coming time.

RESEARCH METHODOLOGY

- Collection of secondary data of area, yields, production, and export from the year in case of the Hau Giang province in addition of other related data.

- Collection of primary data through the interview schedules to get the information for the studied farmers, households, life conditions, production status, etc... Total interview schedules were 300 respondents, but the completed and recovering interview schedules were only 230.
- Surveying scope consisted of all the seven districts/towns of Hau Giang province, collecting information at rural household level in selected villages of each districts/towns.
- Data were processed, analyzed, and synthesized by using SPSS software programme.

RESULTS AND DISCUSSION

1. Components and characteristics of the surveyed farming households

1.1. Socio-economic characteristics of the farming households and respondent farmer

Regarding to Socio-economic characteristics, the ages of each group were not well arrangement due to randomly selection. The respondents mainly come from middle age people. The youngest farmer had 29 years old of age. Then the oldest

farmer had 71 years of age. In average, the age of respondent was 50 years of age. We temporarily arranged into three groups and labeled them as Young, Middle and Old group. There was no respondent had below 29 years of age. Young group (29-45 years of age) occupied 48.7 percent as compared to total respondents. Then, the Middle group (46-60 years of age) was 40.9 percent. Lastly, the Old group (61-71 years of age) had only 10.4 percent (Table 1).

About gender concern, due to the current custom, the heads of family mainly were the male farmers who control every farming activity in the households. Then, the respondents who gave information for this study were also male farmers with the dominant percentage of 94.8 percent, while, female respondents were only 5.2 percent.

The survey shows that in general, the farmer respondents had low level of education. Nearly half of farmer respondents had education level of Middle school (48.7%), number of farmers under Primary school was relatively high with 30.4 percent, and the remaining of only 20.9 percent reached High school.

Table 1: Characteristics of the farmers and the farming households (N = 230)

Characteristics	Classifications/Ranges	N	%
Ages (Min 29, Max 71, Mean 50)	Young group (29-45 years)	112	48.7
	Middle group (46-60)	94	40.9
	Old group (61-71)	24	10.4
Genders	Male	218	94.8
	Female	12	5.2
Education	Primary School (class 1-5)	70	30.4
	Middle School (class 6-9)	112	48.7
	High School (class 10-12)	48	20.9
Training attended - Husband	- 1 course	76	33.0
	- 2 courses	32	13.9
	- 3 courses	20	8.7
	- Unattended	102	44.3
Training attended - Wife	- 1 course	16	7.0
	- 2 courses	0	0
	- 3 courses	2	0.8
	- Unattended	212	92.2

Characteristics	Classifications/Ranges	N	%
No. of members/household (Min 2, Max 13, Mean 7.5)	2 – 4 members	120	52.2
	5 – 8 members	94	40.9
	9 – 13 members	14	6.1
Main labours (Min 1, Max 9, Mean 5)	1 – 3 labours	150	65.2
	4 – 6 labours	72	31.3
	7 – 9 labours	6	2.5
Sub labours (Min 0, Max 6, Mean 3)	0 – 2 labours	180	78.3
	3 – 4 labours	38	16.5
	5 – 6 labours	10	4.4

These results of the study pose the urgent demand in the human resource development strategy of Hau Giang province, in which, every level of government has to put more concern to enhance the capacity of human resources because of low rate of farmers attended technical training. Table 1 showed that in case of husband, the majority of them were not yet experienced any training course (44.3%). The farmers attended one course of training was still very low (33.0 %), followed by two courses (13.9%), and lastly 3 courses only 8.7 percent. In case of farmers with the role of wife, only 7 percent of them had experience 1 course of training and 0.8 percent attended 3 courses. There were very high number of female farmers (92.2 %) who were not yet attended any course of training. Therefore, to organize training course relating on

rice production and export for farmers in general, especially for the female farmers in particular are very important. Because of any technology transfer, we have to get the same agreement of both husband and wife in the farming households. If any male or female farmer (any husband and wife) is not yet changed their mind, the adoption of new technology will be difficult.

Family size from 2 to 4 members were dominant and occupied more than half of the total households (52.2%) followed by 5 – 8 (40.9%). The families with 9 to 13 members were only 6.1 percent (Table 1).

1.2. Housing status and life conditions of the farming households

Table 2: Housing status and life conditions of the farming households (% , N =230)

Housing status			Availability of fresh water	Availability of electricity	Availability of toilets	Cooking facilities			
Solid houses	Semi-solid houses	Temporary houses				Gas cookers	Electricity cookers	Fire-wood stoves	Rice husk stoves
22.6	46.1	27.0	60.9	94.0	43.5	41.7	16.5	73.9	9.6

Table 2 indicated the results of survey on life conditions of the farmers up to the late 2007. In the housing status, the number of households that had solid houses still very less (22.6%). There were 41.6 percent of respondents lived in the semi-solid houses (46.1%), and the respondents who lived in the temporary houses still relatively high with 27.0 percent.

Survey on utilization of fresh water, still remaining 39.1 percent of the farming households

lived without fresh water in daily life. Thus, the number of farming households that used fresh water at the time of survey was 60.9 percent.

In case of electricity utilization, the number of respondents who had electricity for using in daily life was relatively high with 94 percent and 6 percent of households were unavailable of electricity. This problem posed the concern to the local government and relating organizations to

create the availability of electricity for remaining 6 percent of farming households.

One concerning thing was the number of households which had toilets still very low (43.5%). Thus, there was relatively high number of farming households, which lived without toilets (56.5%). Since, it needs to have policy to help and support farmers for enough capacity to build the toilets to improve their life condition, to protect their health, and to keep the environment clean.

Survey on facilities served for the daily meals of the farmers indicated that the percentages of farmers with facility availability were still very low such as gas cooker with 41.7 percent and electricity cooker with 16.5 percent. Almost respondents used firewood stove (73.9 %), whereas the percentage of rice husk stove was very less (9.6%). In the situation that sometimes, we feel the pollution due to the rice millers who throw the extra quantity of rice husk into the rivers. Therefore, if we recommend the farmers to

increase using rice husk stove instead of firewood stove will be helpful.

With the above results of survey, there are many things to do for improving the life condition of farmers, to help for poverty reduction in the rural areas and to approach the living standards of the farming households.

1.3. Status on land holdings of the farming households

The results of research on this issue had presented in the Table 3. For the land ownership, in the 230 surveyed farming households, there was the large variation in the area, which owned by the farmers from 0.1 ha to 3.5 ha. In general, Hau Giang' farmers had very small land area. More than half of the farmers (50.4%) owned from 0.1 to one ha of land. The farmers with 1.1 to 2 ha occupied 35.7 percent. There was very low number of farmers who had land ownership from 2.1 to 3.0 ha (6.1%) and above (3.5%).

Table 3: Land holdings of the farming households (% , N=230)

Areas (ha)	%	No. of rice fields (plots)	%	Ownership status	%
0.1 – 1	50.4	1	65.2	Owners	94
1.1 - 2	35.7	2	18.3	Rents	2
2.1 – 3	6.1	3	12.2	Others	1
3.1 – 3.5	3.5	4	0.0	0	0

With these cultivated land areas, the farmers divided into 1 – 3 plots of rice fields, in which almost farmers had 1 plot (65.2%). The farmers who had two plots were 18.3 percent and lastly were three plots with 12.2 percent. Nobody had four plots of rice fields. Thus, signified that there were no high in dispersion but land holding was very small, so, it needs to be concentrated into larger areas by cooperation to ensure high production for export, applying agricultural mechanization and new technology to reduce input cost to match with competition in the international market, especially after the country has joined WTO.

1.4. Land use status of the farming households

Table 4 and 5 presented the surveying results on land use status of the farming households. There were 10 formulas/types of rotation/cultivation using for classification. The results indicated that almost farmers cultivating in the type of single-crop with the formula of 2 - 3 rice seasons per year (30.4 and 39.1 % respectively). The multiple-cultivation (rotation and inter cropping cultivation) with the upland crops, aquatic products, fruits...was no consideration yet. The multiple-cultivation was signified only 1 percent in the type of 2 seasons of rice plus upland crops; rice plus fishes was only 1.7 percent, and there was only about 6 percent of farmers who applied the cultivation of fruits in the combination with fish raising (Table 4).

Table 4: Land used status of the farming households (% , N= 230)

Classification on the types of cultivation by the farmers (%)									
Two seasons of rice	Three seasons of rice	Three seasons of rice combine upland crops	Two seasons of rice plus upland crops	One seasons of rice plus upland crops	Rice plus fishes	Fruit plus fishes	Mono-fruit	Poly-fruits	Others
1	2	3	4	5	6	7	8	9	10
30.4	39.1	1	1	1.7	1.7	6.1	6.1	3.5	1.7

Since, we have the remark that, in general, the current rice production for food security and for export of the Hau Giang farmer was not sustainable. This indicated high risk in production and the combination of all aspects such as land,

labours, natural resources for the diversification in productin has not exploited to gain high effectiveness and to form sustainable cultivation system.

Table 5: Irrigation status for the rice fileld of the farmers

Sources of the water for irrigation (% of households, N = 230)	
Rivers	52.2
Canals	39.1
Ditches	1.7

(không có số liệu = 7.8%)

For the water used in agriculture in general and for rice cultivation in particular, Table 5 showed that out of 230 respondents, 7.8 percent of them did not give informaton. Major sources of water for cultivation were from rivers, canals and ditches (52.2%, 39.1 %, and 1.7 % respectively). Since, the water for irrigation curently very active, low cost and almost available. So, to deal with the global warming, the danger of scarce water and the salty water penetrated too far into inland (like it happened in the early Summer-autums season 2009 (Minh Giang, 2009), or to takle the consequence of lack of water due to construction of too many dams in the Mekong river (Hieu

Trung, 2009), it needs to have long term strategy to do project for preventing salty water penetration, takle the lack of fresh water for irrigation, and improve water irrigation systems.

2. Production status of the farming households

2.1. Rice varieties for production over seasons in the year

In the study on rice production for export, the first data was the survey on rice variety utilization in production by farmers over seasons of ĐX, HT and TĐ of the year 2007 (Table 6).

Table 6: Status of rice varieties utilization for each season in the year 2007

ĐX 06-07	%	HT 07	%	TĐ 07	%
1. OM 576	38	1. OM 576	37	1. OM 576	33
2. OM 2395	19	2. IR 50404	11	2. OM 5930	23
3. OM 2718	9	3. OM 5930	10	3. OM 2395	11
4. OM 5930	6	4. OM 2395	4	4. OMCS 2000	9
5. OMCS2000	5	5. OMCS2000	4	5. IR 50404	7
6. IR 50404	4	6. OM 2718	3	6. OM 4498	4
7. OM 1490	4	7. OM 2717	2	7. OM 2514	3
8. OM 2517	4	8. OM 2514	2	8. OM 2718	2
9. OM 2517	3	9. OM 2492	2	9. OM 2717	2
10. OM 2514	3	10. OM 2517	2	10. MTL 466	2
11. OM 4498	3	11. IR 42	2	11. MTL 384	2
12. Lúa mùa	1	12. MTL 500	2	12. MTL 500	2
13. MTL 233	1	13. OM 4498	1	13. OM 4900	1
14. IR 42	1	14. OM 1490	1	14. OM 1490	1

Notes: ĐX=winter-spring season; HT=summer-awtumn season; TĐ=awntumn-winter season.

As a whole, up to the year 2007, the number of rice seeds used by Hau Giang farmers over seasons varied around 14 varieties. Therefore, it signified relatively proper and diversification without concentration in using too many resistant varieties or susceptible varieties, which might led to unbalance in ecosystem and affecting the natural enemies in the rice fields.

However, up to the year 2007, almost three seasons in the year farmers still used the varieties with low quality such as OM576 and IR50404 with the large percentage of area (from 30 – 40% for OM576 and about 10% for IR50404). These varieties have been affecting to export significantly in the year 2006 and 2007 leading to difficulty in farmers' daily life.

The use of high quality rice varieties such as OM2718, OM2514, OM2517, Jasmine 85... was still at low extent with only few percent of area and unstable over seasons and years. Through survey, farmers informed that the low quality rice varieties used by them had many advantages such as short duration, large adaptation, low input cost requirement and high yield as compared to high quality varieties. In the high quality rice varieties, there were some of them had low rice recovery after milling (*i.e.* OM4900). Thus, although it was very good rice taste but rice traders usually refused

to buy it with high price, even equal or lower price than low quality varieties such as OM576 or IR50404. In the late months after harvest of ĐX 2008-2009 season, rice traders had bought the low quality of rice equal to high quality of rice varieties. This problem led to difficulty in the recommendation the farmers to grow high quality of rice for export. Untill now (May 2009), although the recommendation from national media of information (Radio, TV, Newspapers) that these low quality varieties have the danger in consumption for export but the farmers in many provinces still grew it with high percentage of area. This problem posed the big threat for rice production and export of the country.

The core of the problem was from inconsistency in rice export policy and rice traders' activities. The rice buying for export of the exporting companies were not accompanied with the government policy, and this signified the inconsistency in rice export policy in general and lack of the policy with concern on encouraging farmers to grow more high quality rice for export.

The above results of survey posed the urgent need for adjustment in the exporting policy by regulation of price differently for every kind of rice quality. Regulating the exporting price depends on rice quality clearly for each importing

market. Planning the exporting zones with growing different rice quality for different markets and regulating the buying price consistently for them is needed. These solutions may help farmers feel more security. From which, they can reduce

percentage of low quality of rice and grow more high quality one for export to gain more income.

2.2. Levels of the adoption of innovation on rice varieties and sowing method

Table 7: Farmers' adoption of innovation on rice varieties and sowing method in Hau Giang (%), N=230)

With certified rice seeds (37.7%)		Without certified rice seeds (62.3%)		Cuu Long Delta level of adoption* of certified seeds	Row seeding method (to save rice seeds)	
Certificated seed	Foudation seed	Exchanges among farmers	Farmers self producing		Hau Giang province	Cuu Long delta region **
27.2	10.5	32.5	29.8	30.0	31.14	19.0

Notes: *source: Ministry of Agriculture and Rural Developmen, quotation from Vu Anh Phap, 2009

** source: Truong Thi Ngoc Chi, 2008

As we know rice variety contributed important role towards rice yield. According to IRRI (Nguyen Cong Thanh, 2008), if the farmers use improper varieties, the yield may reduce from 20 to 40 percent. This was not included the reduction in quality leading to low income or not enough value for export.

Based on the surveyed data of the CLRRI, 88 percent of the farmers had the demand of new varieties, 8 percent reposed that they did not concern, another 4 percent did not demand for new rice varieties. However, the adoption of new rice varieties faced some difficulties according to the farmers' opinion as follows: high cost (25%), not ensure in the quality (13%), spending more cost but selling at low price at harvest (4%) (Truong Thi Ngoc Chi, 2008).

The results of survey in this research indicated that in Hau Giang province, the farmers used clearly certified varieties about 37.7 percent (in which, 27.2 % for certificated seeds, and 10.5% for foundation seeds). However, this number was higher than the average number in the Cuu Long Delta region (30%) (Vu Anh Phap 2009). The data in Table 7 also indicated that high rate of farmers

(62.3%) used rice seeds without certification were 62.3 percent. In which, 32.5 percent exchanged among farmers and 29.8 percent of them self produced seeds.

For the adoption row sowing method to economize rice seeds, the data from scientist belonged to CLRRI, revealed that the rate of farmers applied row seeding was 19 percent in the Mekong delta. In case of Hau Giang farmers, this rate was 31.14 percent. Other related data from CLRRI in 2006 also showed that the rate of farmers adopting three reductions - three gains was highest (41%), followed by IPM (34%). The rates of farmers harvesting by combine harvesters (7%) and drying rice by dryers (only 5%) were very low (Truong Thi Ngoc Chi 2008). However, these percentages were still very low and they affected the rice production in general, the quality of rice seeds and the quality of rice for export in particular. Therefore, it calls for the concern of the government, scientists, and related organizations to increase these percentages to enhance rice production and export of the region.

2.3. Calculation income and cost of rice production per season in the year

Table 8. Calculating the efficacy on rice production of farming households (N = 230)

Items	ĐX 05-06	HT 06	TĐ 06	ĐX 06-07
Area (ha)	1	1	1	1
Yield (T/ha)	6.90	4.74	4.15	5.35
Price (đ/kg)	2261,86	2268,50	2584,40	2637,96
Income (đ/ha)	15,614,710	10,750,420	10,725,260	14,113,086
Cost (đ/ha)	7,345,005	8,048,308	7,464,064	7,682,119
Profit (đ/ha)	8,269,705	2,702,112	3,261,196	6,430,967
Prod. Cost (đ/kg)	1,065	1,698	1,799	1,436
Profit /cost (%)	113.0	33.6	43.7	83.7
Productivity of 1 dong capital	1.13	0.34	0.44	0.84

Notes: The calculation were not included family' labours, production facilities and the land available without rent and without interest of cost.

The calculation rice production cost, and farmer's income are very important to evaluate the effect of the production. The results of survey and analysis were shown in the Table 8. These data were calculated in average for 1 ha of rice production of all crop seasons in a year. The thing needed to be emphasised in the calculation was excluding family labours, land resources, facilities for production, and banking interest. If these variables were included in the calculation, the profit per ha of the farmers would be very low or unprofitable (Nguyen Ngoc De 2009).

Usually, the Winter-spring season was the main rice production season in the year of the Mekong Delta and it gave high yield along with high profit for the farmers. But in Table 8, the rice yield and profit in ĐX 2006-2007 was low due to brown planthopper attack along with virus diseases transmitted from them. In this season, about 20 percent of rice area were completely loss. The rice yield in this season was only 5.35 T/ha as compared to 6.90 T/ha in the previous season of ĐX 2005-2006 (Table 8).

In the normal condition, the comparison among 3 rice seasons in the year gave remark that the yield was highest in the ĐX 05-06, then HT 06, and lastly was TĐ 06. The yields arranging in the succession were 6.90, 4.74, and 4.15 T/ha, respectively.

At the time of survey, the selling price of rice in the average increased gradually with VND 2261,86 /kg in the season of ĐX 05-06; VND

2268,50 /kg in the season of HT 06, and reached VND 2637,96 /kg in the season of ĐX 2006-07.

The rice production costs clearly unequal in ĐX and HT seasons (ĐX was 7,345,005 dong as compared to HT with 8.048.308 dong/ha). In HT season, farmers faced not only low yield, but also high cost of production (production cost in the HT season higher than ĐX season nearly 1 million dong/ha!). The cost in TĐ season was also a little higher than ĐX season (7.464.064 dong/ha as compared to VND 7,345,005 /ha), furthermore, the yield in TĐ season was lowest among three rice seasons in the year 2006.

The profit per ha got highest in the ĐX season with more than 8 million dong, then, TĐ season with nearly VND 3.3 million /ha. In case of HT season. The profit was lowest with only VND 2.7 million /ha due to highest production cost. Since, almost of farmers were very depressed to do production in the HT season because of a lot of raining, high cost, low yield, and less profit as compared to ĐX season. Usually, in the HT season, there were a lot of farmers who lose their revenue or capital.

Although farmers got highest profit in ĐX crop season, the productivity of 1 dong capital reached only 1.13. The productivity of 1 dong capital in TĐ crop season was lesser, only 0.44. This was the worst situation in HT crop season, farmers obtained only 0.34 dong of profit from investment of 1 dong capital.

From the results, it needs to call for the support by Government, related exporting organizations, companies, the scientist and agricultural extension organizations to adjust the rice purchasing policy for export to ensure the profit of the farmers at least 30 percent in comparison to cost-price as it was mentioned in the Government policy. That is forming the rice consuming mechanism, reorganising the systems of buying, processing, marketing and exporting along with improving the management organizations, rice export associations, etc...to enhance the capacity of rice production and export and increasing farmers' income.

It is also needed to put more attention for increasing the effectiveness of all rice production seasons per year, through reducing input cost, and

implementing of modernization and mechanization in all rice production activities and using advance technologies from seed selection and preparation, cultural practices, fertilizer and pesticide application to post harvest technology. Increase rice yield of HT and TĐ seasons by growing in the intermittence/irregularity manner to foster the soil fertility. Thus, it should have planning to grow rice in rotation with upland crops (rice (ĐX) - upland crops (XH/HT) - rice (TĐ)). It should be strengthening the measures of preventing salty water to penetrate into the inland, washing the acid sulfate soils, exploiting the silt deposit every year, and increasing the effectiveness of fertilizer application.

2.4. Rice consumption tendency for export of the Hau Giang's farmers

Table 9: Rice consumption tendency for export of the farmers (N = 228)

Rice consumption tendency	No. of respondents	Variation		Mean	Standard deviation
		Min (%)	Max (%)		
Immediately after harvest	98/228	0	100	74.39	30.06
Waiting for high price	66/228	20	100	62.42	29.13
Time of money need	54/228	20	100	47.41	26.97
Times of purchase inputs	50/228	10	100	45.28	30.25
Others (seeds, consumption...)	44/228	8	100	28.77	19.85

Table 9 presented rice consumption tendency of the farmers. The selection types of rice consumption for export was very variation and complex, and it was not followed any principle. Even in a type of tendency, the variation was very large (from 0%, 8%, 10%, and 20% to 100%). The farmers also did not choose only one type of consumption, such as selling 100 percent of their product, but they combined many types of consumption. The tendency were multiple, for example, farmers selling rice immediately after harvest while waiting for high price, and selling at the times of purchase inputs while saving some seeds for the sowing next season, etc...

However, in the 228 respondents, there was the general point as the survey data indicated in the succession as shown in the Table 9: sold rice immediately after harvest (98 respondents), then sold when high price (66 respondents), sold when the family needed money (54 respondents), sold when they needed to buy inputs (50 respondents). Lastly, 44 farmers sold rice immediately after harvest along with saving the seeds, and reserving rice for family consumption.

2.5. Component classification of rice production cost

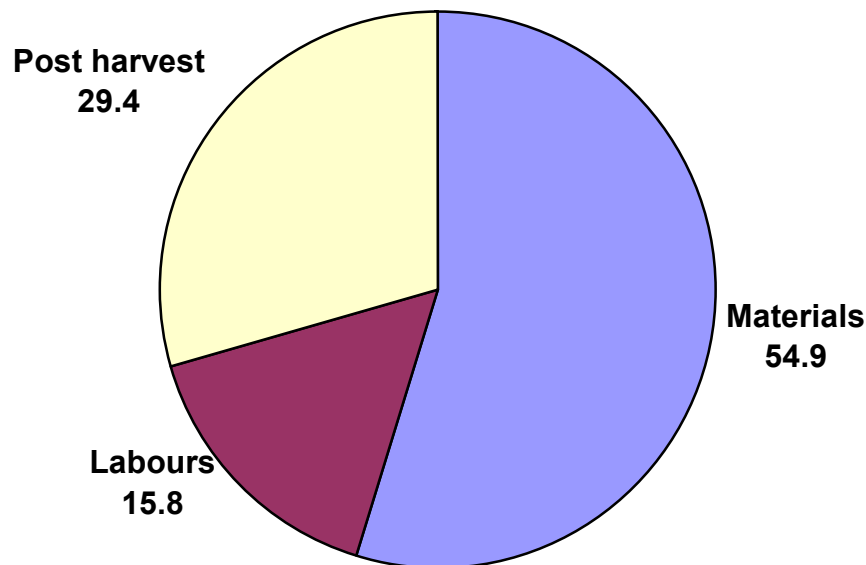


Figure 1. Three groups of rice production cost per season (%)

Analysis on cost components in rice production for export showed that there were 16 main items of cost in one rice crop season. In average, the data calculated from 8 crop seasons from 2005 to 2007 and then divided into three groups of cost: (i), material cost (as rice seeds, fertilizers, and pesticides) occupied more than half of the total cost in production (54.9%); (ii) hired labour cost (included land preparation, sowing, transplanting/gap filling, water pumping, weeding, fertilizer and pesticide application) occupied 15.8 %; and (iii) harvest and post harvest cost (included rice harvesting, threshing, transportation, drying and cleaning) reached nearly 1/3 of the total cost (29.4 %). These 3 groups of cost were presented in Figure 1. However, the cost may be changed due to the inputs suddenly changing as in the recent year 2008.

2.5.1. Material cost for one rice season (%)

In general, the results of the survey indicated that in the total cost of production, the cost of input

materials included rice seeds (8.4%), pesticides (12.8%) and fertilizers with the highest value (33.7%). The input materials occupied nearly two-third of the total production cost (54.9%).

In the cost for rice seeds, the survey mainly included the farmers who exchanged rice seeds among farmers and kept the seeds themselves for sowing next season. Therefore, the cost for rice seeds was not high. If we calculated basing on the price of certificated seeds or foundation seeds (VND 8 – 10 thousands per kg), the cost would be higher and it might become 16.7 percent instead of 8.4 percent. Then, the application of row seeding or three reductions, three gains to reduce the quantity of rice seeds were very important.

For the cost of pesticides, nowadays, we found that the farmers still did not consider applying the principle of “4 corrections” and Integrated Pest Management (IPM) in the true sense of the word, as they misused pesticides causing environmental pollution and increasing cost in the production.

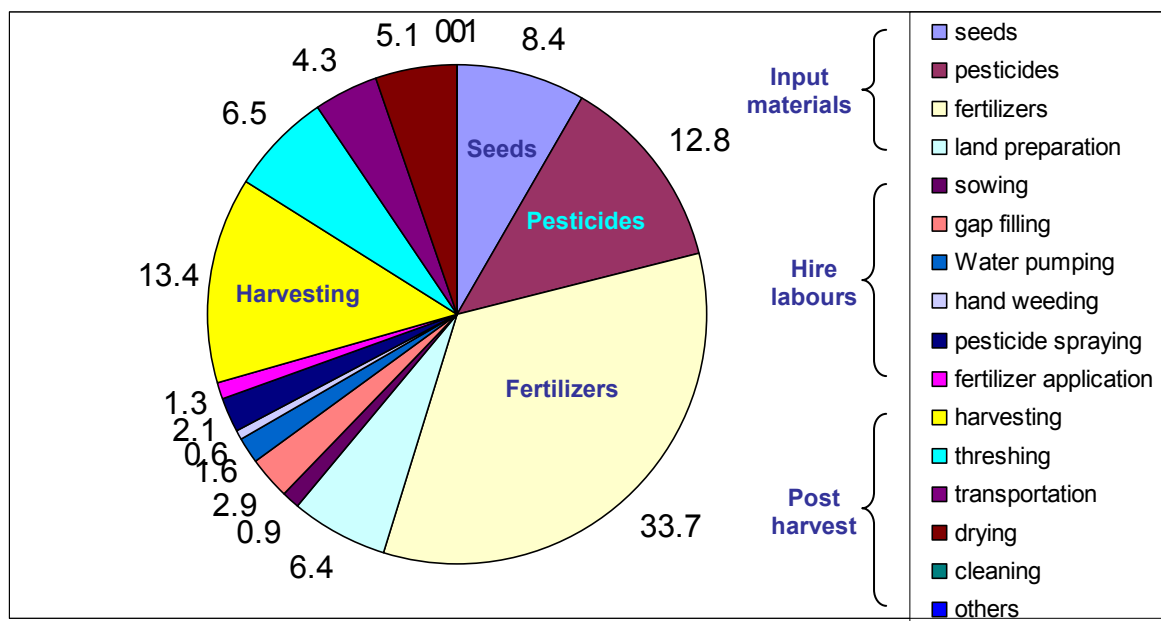


Figure 2. Components of cost for rice production per season (%)

In case of fertilizer application, although it was already recommended in many documents, however, the application of farmers were still arbitrary and not following the recommendation closely and in some cases contradictorily to the recent recommendation. According to the interview, farmers revealed that they had applied fertilizers in HT and TĐ seasons higher than in ĐX season due to a lot of raining and leaching, whereas, in the ĐX season, the fields have certain level of silt deposit in the fields.

From this result, it needs to call for the consideration from scientists to do more fertilizer trials in each ecology site in every season of Hau Giang province in particular and Mekong Delta region in general. In addition, conducting the evaluation on the quality of every kind of fertilizer present in the markets to ensure the effectiveness of fertilizer application and reducing the cost in rice production are necessary.

2.5.2. Cost of hired labour for one rice season (%)

The cost of hired labour was presented in the Figure 2. This cost occupied lowest percentage (15.8%) among three groups. In which, land preparation has highest percentage with 6.4

percent. Nevertheless, we do also have capacity to reduce this group of cost by equipping facilities and agricultural machines for the farmers, especially, at present, the Government announces the “demand stimulus” policy for the farmers to loan the capital with less interest to equip the facilities and machines for production mechanization. This policy is not only reducing cost, but also reducing hard working for the farmers, especially for the female laborers.

2.5.3. Cost of harvest and post harvest for one rice season (%)

The third group of cost in rice production was the cost for harvest and post harvest technology. This group was also occupied relatively high with nearly one – third (29.4%) of the total cost. Among which, the cost of hired labours for harvesting in Hau Giang was still relatively high (13.4%). At present, (5/2009) in Hau Giang province there were about 30 combine harvesters. This quantity was only double number as compared to one village such as Phu Loi village (13 combine harvesters) of Kien Luong district, Kien Giang province. This problem was due to the difficulty in rice field condition in Hau Giang as it was still remaining water in the time of harvest, so, the combine harvesters could not work properly.

Other problem contributed for high cost of this group was lack of dryers, and cost for drying was still high. However, if we have synchronous strategy, aiming at mechanization of rice harvesting and post harvest technology, we can solve these problem and enhance the application of combine harvesters, and dryers to reduce cost, post harvest loss, and to increase rice quality for export and farmers' income. This agricultural mechanization is also resolving the fatiguing works of the farmers and improving the farmers' life condition.

In addition, we can have capacity to organize good purchasing activities through "product consuming contract" after harvest by the linkage between "two partners" or "four partners" as it will help in reducing the cost of this group. In which, the items such as drying, transportation, cleaning...belong to the traders with the available modern facilities and synchronous working for reducing loss, increasing exporting rice quality, enhancing the profit for farmers, and the country.

CONCLUSION

A survey on farmers' socio-economic characteristics, life conditions and rice production conducted in Hau Giang province are to suggest the suitable tackling problem strategies to enhance rice production for export as well as calculating its cost and profit. The results indicated that in the relatively normal conditions of three rice crops per year, the rice yield was highest in Winter-spring (ĐX) season (6.90 T/ha), followed by Summer-autumn (HT) (4.74 T/ha) and Autumn-winter (TĐ) (4.15 T/ha). Although farmers got highest profit in ĐX crop season, the productivity of 1 dong capital reached only 1.13. The productivity of 1 dong capital in TĐ crop season was lesser, only 0.44. This was the worst situation in HT crop season, farmers obtained only 0.34 dong of profit from investment of 1 dong capital.

Analysis on cost components in rice production for export showed that there were 16 main items of cost in one rice crop season. In average, the data calculated from 8 crop seasons from 2005 to 2007 and then divided into 3 groups of cost: (i), material cost (as rice seeds, fertilizers, and pesticides) occupied more than half of the total cost in production (54,9%); (ii) hired labour cost

(included land preparation, sowing, transplanting/gap filling, water pumping, weeding, fertilizer and pesticide application) occupied 15,8 %; and (iii) harvest and post harvest cost (included rice harvesting, threshing, transportation, drying and cleaning) reached nearly one-third of the total cost (29,4 %). Thus, this study has suggested the proper solutions aiming at reducing cost of rice production and increasing farmers' income.

From the results of research, it also needs to call for the concern of the Government, related exporting organizations, companies, the scientist and agricultural extension organizations to adjust the rice purchasing policy for export to ensure the profit of the farmers at least 30 percent in comparison to cost-price as it was mentioned in the Government policy. That is forming the rice consuming mechanism, reorganising the systems of buying, processing, marketing and exporting along with improving the management organizations, rice export associations, etc...to enhance the capacity of rice production for export.

REFERENCE

- Bui Ba Bong. 2000. Genetic improvement of rice varieties for the Mekong Delta of Vietnam: current status and future approaches. Proceedings of the Conference on Rice Research and Development in Vietnam for the 21st century-aspects of Vietnam-India. Can Tho, Vietnam 18-19 September 2000. p. 123.
- Bui Chi Buu and Nguyen Thi Lang. 2007. Rice conventional and molecular breeding at CLRRRI (1977-2007). Proceedings of CLRRRI-IRRI International conference "Better Rice, Better Environment and Better Life". Venue: CLRRRI Meeting hall, Cantho, 7 September 2007. p.1.
- Hieu Trung. 2009. The Dams destroyed the Rivers. (Internationalriver.org, Wikipedia). Tuoi Tre Newspaper 27 May 2009. P6 (in Vietnamese)
- Minh Giang. 2009. The salty water penetrated deeply into the Inland. Tuoi Tre Newspaper 7 April 2009, P. 3 (in Vietnamese)
- Nguyen Cong Thanh. 2008. Rice Varieties – The things need to concern. The Sciences and

- Native land – Journal of Sciences and Technologies of Bac Lieu province, volume Mau Ty New Year 2008. P.6 (in Vietnamese)
- Nguyen Ngoc De. 2009. The rice value chain and cost in rice production in the Mekong Delta. Proceedings of the conference on “Evaluation the development of rice production and export in Hau Giang province and Mekong Delta”. Venue: Vi Thanh town, Hau Giang, 9 June 2009. pp.55-64 (in Vietnamese)
- Truong Thi Ngoc Chi. 2008. Study on Factors affecting rice farmers’ adoption of new technologies in the Mekong Delta. Scientific Report (unpublished). P. 24 (in Vietnamese)
- Vu Anh Phap. 2009. The rice varieties and production system for rice production and export in the Mekong Delta. Proceedings of the conference on “Evaluation the development of rice production and export in Hau Giang province and Mekong Delta”. Venue: Vi Thanh town, Hau Giang, 9 June 2009. pp.41-47 (in Vietnamese)

Một số kết quả điều tra về sản xuất lúa cho xuất khẩu của nông dân tỉnh Hậu Giang

Đề tài đã tiến hành khảo sát đặc điểm của nông hộ, nông dân ở tỉnh Hậu Giang, tình hình ăn ở, sinh hoạt và đời sống của họ nhằm thảo luận các biện pháp nâng cao điều kiện sống của nông hộ. Một nỗ lực khác của đề tài là điều tra, khảo sát tình hình sản xuất lúa cho xuất khẩu của nông dân qua đó hạch toán chi phí, lợi nhuận trong sản xuất lúa. Trong điều kiện tương đối bình thường của 3 vụ trong năm về năng suất lúa cao nhất là vụ ĐX, kế đến HT và TĐ lần lượt là 6.90, 4.74 và 4.15 T/ha. Mặc dầu có lãi cao nhất trong vụ ĐX 05-06 nhưng hiệu quả 1 đồng vốn chỉ có 1,13; hiệu quả 1 đồng vốn của vụ TĐ lại càng kém hơn chỉ đạt 0,44. Hiệu quả 1 đồng vốn vụ HT là kém nhất, một đồng vốn bỏ ra chỉ thu về được 0.34 đồng lời. Kết quả phân tích các thành phần trong chi phí sản xuất lúa cho xuất khẩu có tất cả 16 khoản chi phí chính cho sản xuất một vụ lúa. Số liệu bình quân từ 8 vụ trong 3 năm 2005, 2006 và 2007 chia thành 3 nhóm chi phí là (i), nhóm chi phí thuộc về vật tư, đó là: giống, phân bón và thuốc BVTV, chiếm hơn một nửa (54,9%), (ii) nhóm chi phí thuộc về thuê mướn và công lao động, gồm có: làm đất, gieo sạ, cấy dặm, bơm nước, làm cỏ, thuê công phun thuốc BVTV và thuê bón phân, chiếm 15,8 % và (iii) nhóm chi phí thuộc về thu hoạch và công nghệ sau thu hoạch, gồm có: cắt lúa, ra hạt, vận chuyển, phơi, làm sạch, chiếm gần 1/3 tổng chi phí (29,4 %). Từ đó, đề tài đã thảo luận và đề nghị các biện pháp nhằm hạ giá thành sản xuất lúa và nâng cao thu nhập cho nông dân.