

Modification of Farmers' Differentiation Process and Role of Farmers' Organizations: A case study in Hoa An village, Mekong delta of vietnam

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Received February 22, 1999

Abstract

This paper presents the results of a survey on about 350 households that reside in two hamlets in Hoa An village, Phung Hiep district, Can Tho province, in the Mekong Delta. The survey was carried out in 1993 and in 1997 to identify the changes in conditions of objective households. Generally speaking, an interval of four years might not be long enough to analyze structural changes. However, our analysis revealed the rapid development of the agricultural structure under the *Doi Moi* policy. Firstly, within four years, 46 households (13.5%) migrated from the surveyed area and 36 households (10.9%) migrated to the area, showing the high mobility of some households, especially in the case of small landowners and landless households. Secondly, the number of households in the medium-sized class (1.5-2.0 hectares) and total land area belonging to this class increased markedly. This class tended to adopt diversified farming systems as its technical basis of development and introduced mainly this technology into the surveyed area. Farmers' organizations contributed largely to this diversification through their activities like the introduction of new varieties, financing and dissemination of new technology.

Additional key words: agricultural structure, farming systems, diversification, medium-sized class, poverty alleviation

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Introduction

Hoa An village belongs to the Phung Hiep district, Can Tho province, Mekong Delta⁽¹⁾. It is located on the National Route number 61 at forty kilometer from Can Tho City to Long My and Vi Thanh districts.

It stretches over 5,777 hectares. It is located in a wetland dominated by acid sulfate soils and is flooded surly half a year. Agricultural production is the principal economic activity in the village. Sugarcane and rice are the major crops.

In 1993, the Hoa An research station, a branch of the Mekong Delta Farming Systems R&D Institute (MDFSRDI) of Can Tho University was established and then conducted research and extension activities targeting rural development in the acid sulfate soil areas. Hoa Duc and Bau Mon hamlets are two communities located around the research station. The research station took a census in the two hamlets in 1993, in order to collect basic information for the research activities and for rural development planning.

Series of research and of extension activities have been implemented during 1994-1996 in order to achieve the objectives. People who live there were impressed with the good results of research and of extension, but an investigation was necessary to provide sufficient data for the evaluation of the results and for further studies.

In 1997, the Hoa An research station and the present authors took again a census in the two hamlets in order to evaluate the effects of the activities by the station and to construct a data base for further studies on rural development. The activities were expected to contribute to the improvement of the living standards and changes in household economies.

They anticipated also that they would be able to describe the structural changes of agriculture in the surveyed area. However, the data used here deal only with a four-year period. It is considered that this interval is not long enough to observe the farmers' differentiation and that such an evaluation requires a twenty-year period. However, if the

agricultural structure changes very rapidly, farmers' differentiation during even such short period can be observed.

In fact, it has been often noted in the Mekong Delta that differentiation processes, not only among farmers but also among regions, occur rapidly under the newly established market-oriented economy⁽²⁾. One of the present authors detected also a rapid farmers' differentiation process based on empirical research in a site in the alluvial soil area (Yamazaki & Thanh chapter, Xuan *et al.*⁽⁶⁾). In contrast with these descriptions, this paper will describe a modified process of farmers' differentiation characterized by the increase in the number of medium-size farms as well as the contribution of farmers' organizations to this modification.

Research methodology

In 1993, the Hoa An research station conducted a survey on all farm households present in Hoa Duc and Bau Mon hamlets, Hoa An village. Thus 341 farm households were interviewed then. In June 1997, the station and the present authors tried to survey again all the farm households in the same hamlets as in 1993, but 27 households were absent then. They completed the interviews of these 27 households in February 1998. Thus 329 farm households were investigated during the period June 1997-February 1998. However, for convenience, we will refer to the year 1997 as the year of the second survey.

Our collected data have the following characteristics.

- 1) The data dealt with all the households in the two hamlets in 1993 and in 1997, so that we could identify the changes in the household conditions during the 1993-1997 through the analysis of the data.
- 2) The investigation conducted in 1993 covered family members, land resources, use of agricultural machinery, land use, livestock raising and household goods. The investigation of 1997 dealt with family members, hired labor,

buildings, houseware, land use, yield of crops, livestock raising, use of agricultural machinery, household goods, saving and credit and participation in farmers' organizations of the households. Although the subjects investigated in 1997 were more numerous than in 1993, some indicators are comparable between the two years.

Land size is the most important indicator for us, since we used it in order to classify households both in 1993 and in 1997. Land size is an indicator of economic scale of farm households in areas dominated by paddy cropping as a substitute for household income itself. We determined the land size of the surveyed households in a cumulative ways as follows:⁽³⁾

- (1) In 1993, in order to determine the land size of households, we added such components as "Home-Garden area", "Fruit tree area", "Mixed garden area", "Summer-autumn rice area", "Winter-spring rice area", "Traditional rice area", "Sugar cane area", "Cash crop area" and "Forest land area" in different ways according to the cropping patterns.
- (2) In 1997, the data that we used for determining the land size were "Land for living area", "Ponds with fish area", "Ponds without fish area", "Fruit tree area", "Mixed tree area", "Winter-spring rice area", "Summer-autumn rice area", "Sugar cane area", "Vegetables area", "*Melaleuca* area", "Bamboo area" and "*Eucalyptus* area". We computed here also the land size related to these items in different ways according to the cropping patterns of households.

Accordingly, the land size computed included not only the land area for productive activities but also the land area for living uses.

After computing the land size of all the households in such a cumulative way, we calculated the total sum of land area belonging to the surveyed hamlets by adding the land area of each household. It amounted to 270.2 hectare in 1993 and 272.0 hectare in 1997. Incidentally, there is a temple keeping land in the surveyed area. The

area changed from 4.0 hectare to 2.4 hectare between the two years. By adding the land area of the temple to the total sum of the household land area, we obtained 274.2 hectare in 1993 and 274.4 hectare in 1997 as the total land area belonging to the surveyed hamlets.

We classified households by their land size as follows:

- (1) Less than 0.1 hectare of land holding: Out of both 73 households in 1993 and 58 households in 1997 in this class, only two households each kept agricultural land. In this sense, most of the households belonging to this class became landless.
- (2) 0.1-0.5 hectare of land holding: Lower part of small landowners.
- (3) 0.5-1.0 hectare of land holding: Upper part of small landowners.
- (4) 1.0-1.5 hectare of land holding: Lower part of medium landowners.
- (5) 1.5-2.0 hectare of land holding: Upper part of medium landowners.
- (6) More than 2.0 hectare of land holding: Large landowners.

This classification is a formal one just for convenience for the analyses. The results of subsequent analyses will show the qualitative aspects of each class.⁽⁴⁾

Migration

In the beginning of the data analysis, we observed the transfer of households in the surveyed hamlets during the 1993-1997 period. The questions raised were as follows: How many households settled down there in the interval between the two years? How many households migrated from the hamlets or migrated to the hamlets⁽⁵⁾

Out of the 341 households in the surveyed hamlets in 1993, only 295 households (86.5%) continued to stay there in 1997. Other 46 households (13.5%) went somewhere else during the four-year period. Of the 295 households that remained in the surveyed hamlets in 1997, three

households joined other households. Thus six households became three households during the 1993-1997 period. On the other hand, two other families established new families by marriage. Therefore, the households that settled in the surveyed area numbered 294 in 1997.

The surveyed area received 36 migrants from other localities during the 1993-1997 period. Thus, in 1997, the households that residing in the surveyed area numbered 330. The number of resident households decreased by eleven during the 1993-1997 period. Of the residents in 1997, 10.9% were new-comers.

Table 1 shows the land size of the migrants to other areas and that of the migrants from other areas. Of 46 households who migrated from the surveyed hamlets during the 1993-1997 period, 25 households (54.4%) had a land size of less than 0.1 hectare in 1993. The three classes of less than 1.0 hectare, consisting of the class of less than 0.1, 0.1-0.5 and 0.5-1.0 hectare, accounted for the majority of the migrants from the hamlets, namely 43 households (93.5%). Incidentally, out of 36 households who migrated to the surveyed area during the period 1993-1997, 14 households (only 38.9%) had a land size of less than 0.1 hectare in 1997. The three classes with less than 1.0 hectare consisted of 28 migrants from other areas or 77.8%

of the total migrants from other areas. Some of them had even a large land size. For instance, one migrant owned more than 2.0 hectare in 1997.

Conclusions are as follows:

- 1) 13.5 % of the households left the surveyed hamlets during the four-year period. On the other hand, of 330 residents in 1997, 10.9% had migrated from other areas during the same period, which indicates that the mobility of the households from one site to another during such a short period of time was very high. The number of households in the surveyed area decreased from 341 to 330 (3.2 %)⁽⁶⁾.
- 2) The farm size of the households that migrated to or from other areas was centered on small classes or less than 0.5 ha. However, the latter had sometimes a medium-scaled farm (1.0~2.0 hectare) or even a large-scaled farm (more than 2.0 hectare) after migrating to the hamlets.

Differentiation of farmers

Among the households who remained in the surveyed hamlets during the four-year period, the differentiation of farmers will be outlined:

In Figure 1, the axes X and Y represent the land size in 1993 and in 1997, respectively, and each point corresponds to a household. Here, we

Table 1. Land size of migrants from the hamlets and migrants to the hamlets

Land size	Migrants from the hamlets		Migrants to the hamlets	
	Number	%	Number	%
< 0.1 ha	25	54.4	14	38.9
0.1-0.5	11	23.9	12	33.3
0.5-1.0	7	15.2	2	5.5
1.0-1.5	2	4.3	4	11.1
1.5-2.0	1	2.2	3	8.3
≥ 2.0	0	0	1	2.8
Total	46	100	36	100

Ex.) Of 46 households who migrated from the surveyed hamlets during the 1993-1997 period, the land size of 25 households (54.4%) was less than 0.1 ha in 1993.

Of 36 households who migrated to the surveyed hamlets during the same period, the land size of 14 households (38.9%) was less than 0.1 ha in 1997.

Source: Survey in two hamlets, Hoa An village, Phung Hiep district, Can Tho province, carried out in 1993 and 1997.

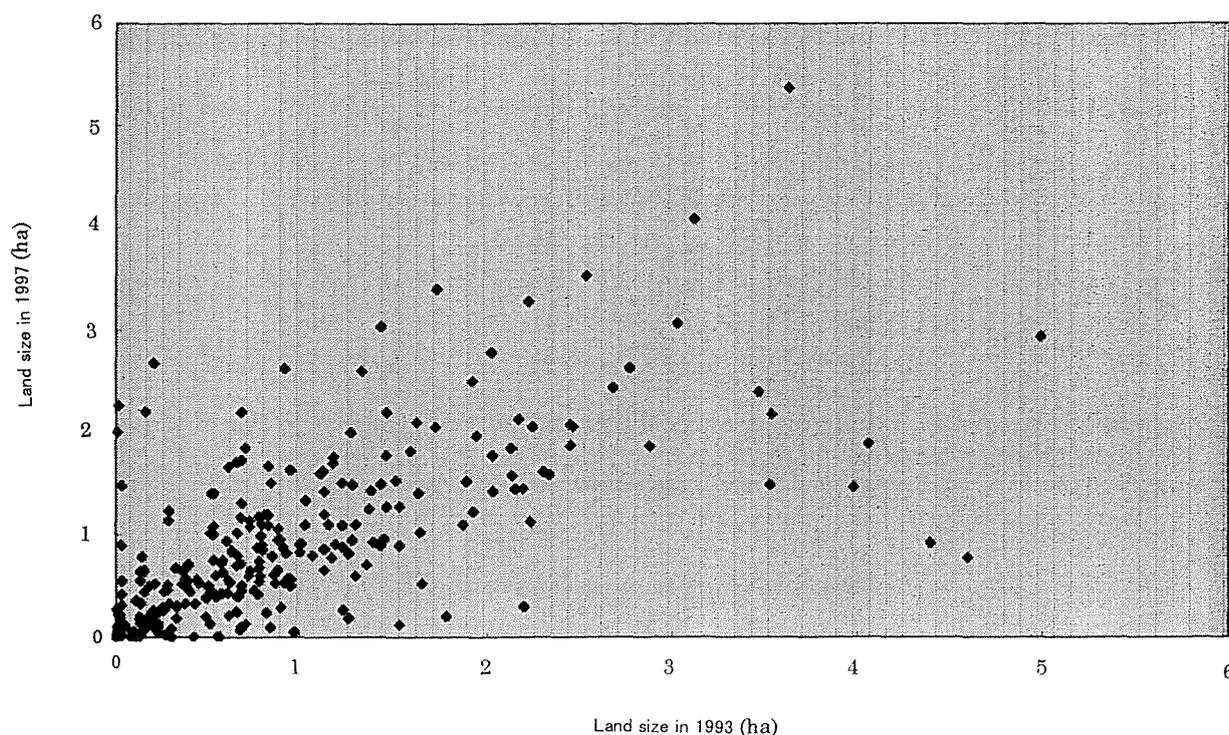


Fig. 1. Land size (1993-1997)

have 286 households and the same number of points. From 295 households in 1993, that remained in the surveyed area until 1997, we removed six households that joined other households as well as two other families which established new families by marriage. Moreover one household consisted of a single family and could not be interviewed easily in 1997 due to the advanced age of the household head. Thus a total of nine households were removed from 295 households before drawing the Figure.

At first, these two factors, the land size in 1993 and in 1997, were mutually correlated. The regression line between the two factors is as follows:

$$Y = 0.62X + 3,210 \quad R^2 = 0.45$$

X: Land size in 1993, Y: Land size in 1997

The lack of stability of the land size is a major characteristic.

Table 2 shows the number of households in each farm size class in 1993 and in 1997 as well as

the variation during the four-year period. According to the Table, in three classes the number of households decreased while in the other three classes it increased. The number of households in the smallest class (less than 0.1hectare) decreased by fifteen. An excess of migrants from this class over migrants to this class (11) largely affected the decrease. The household number in the 0.5-1.0hectare class and the largest class (more than two hectare) decreased. The household number in the former class decreased by fourteen, while in the latter by two. The household number in the three other classes, 0.1-0.5 hectare, 1.0-1.5 hectare and 1.5-2.0 hectare increased. The largest increase in the household number occurred in the 1.5-2.0 hectare class with an increase of ten during the four-year period. The increase in the other two classes was moderate. The household number in the 0.1-0.5hectare class and 1.0-1.5 hectare class increased by six and by three, respectively.

Table 3 gives the total land area of each land size class or the land distribution among land size

Table 2. Number of households by land size

	1993	1997	Variation
< 0.1 ha	73	58	-15
0.1-0.5	76	82	6
0.5-1.0	95	81	-14
1.0-1.5	44	47	3
1.5-2.0	20	30	10
≥ 2.0	33	31	-2
Total	341	329	-12

Ex.) The number of households who belonged to the class of more than two hectare ranged from 33 to 31 during the period 1993-97, representing a decrease of two.

Source: Survey in two hamlets, Hoa An village, Phung Hiep district, Can Tho province, carried out in 1993 and 1997.

Table 3. Land distribution among land size groups

(1993)				(1997)			
	Total (ha)	Average (ha)	%		Total (ha)	Average (ha)	%
<0.1 ha	1.0	0	0.4	< 0.1 ha	1.0	0	0.4±0
0.1-0.5	19.1	0.3	7.1	0.1-0.5	21.3	0.3	7.8△0.7
0.5-1.0	68.0	0.7	25.2	0.5-1.0	58.2	0.7	21.4▼3.8
1.0-1.5	54.6	1.2	20.2	1.0-1.5	57.9	1.2	21.3△1.1
1.5-2.0	34.3	1.7	12.7	1.5-2.0	51.5	1.7	18.9△6.2
≥ 2.0	93.1	2.8	34.5	≥ 2.0	82.1	2.6	30.2▼4.3
Total	270.2	0.8	100	Total	272.0	0.8	100

Ex.) In 1997, 82.1ha of land belonged to the class of more than 2ha, representing 30.2% of the total land area in the surveyed hamlets. Contribution of this class to the total land area decreased by 4.3% during the period 1993-1997.

Source: Survey in two hamlets, Hoa An village, Phung Hiep district, Can Tho province, carried out in 1993 and 1997.

classes, in 1993 and in 1997. This Table shows the same pattern as that observed in Table 2.

The total land area in the two classes, 0.1-0.5 hectare and more than 2.0 hectare, decreased by 9.8 hectare and by 11.0 hectare, respectively. As a result, the contribution of these classes to the total land area in the surveyed area also decreased by 3.8% and by 4.3%, respectively. On the other hand, in the 1.5-2.0 hectare class, the 0.1-0.5 hectare class and the 1.0-1.5 hectare class the total land area increased, but differently. The total land area in the 1.5-2.0 hectare class increased remarkably by 17.2 hectare, while the increase in the other two classes was moderate, 2.2 hectare and 3.3 hectare, respectively. Consequently, the contribution of the 1.5-2.0 hectare class to the total land area in the

surveyed area increased also largely by 6.2%, while that of the 0.1-0.5 hectare class and 1.0-1.5 hectare class increased by only 0.7% and 1.1%, respectively. The contribution of the smallest class to the total land area in the surveyed area remained identical (± 0), in spite of the largest decrease of the household number during the four-year period.

Conclusions are as follows:

- (1) Substantial changes in the land size during the four-year period were frequently observed in the surveyed areas.
- (2) The transfers of land among households showed a certain trend to differentiation. The main characteristics of this pattern are as follows: In the upper part of the small landowners (0.5-1.0 hectare class) and the large

landowners (more than 2.0 hectare class), the number of households and the total land area decreased. On the other hand, in the upper part of the medium landowners (1.5-2.0 hectare class) both the number of households and the total land area increased remarkably.

Figure 2 shows the Lorenz curve of land distribution in the surveyed area. The curve clearly shifted toward the left showing an improvement of equity in land distribution among the existing households during the four-year period, presumably due to the following factors; 1) decrease of the number of large landowners (more than 2.0 hectare class), 2) increase of the number of medium landowners in the upper part (1.5-2.0 hectare class) and 3) migration of landless households to other areas compared to that from other areas.

Family size

Alexander Tschajanov (1888-1932), a Russian agricultural economist, formulated a relationship between the farm size and labor structure or family cycle. According to his theory, farmers tend to increase their farm size when the number of their

family members or manpower increases. On the other hand, when they have a small family and a small manpower, they tend to decrease their farm size. If this holds true, we can anticipate that the number of family members or manpower is correlated with the farm size at a certain time.

This correlation could be verified in the modern Vietnamese countryside under the prevailing political conditions.

In April 1988, the Politburo of the Communist Party Central Committee issued the Resolution Number 10 on renovation of agricultural management. It confirmed that farm households were completely autonomous economic units, discontinuing the bureaucratic management mechanism in agricultural production. Cooperatives' land was assigned to farm households. Land area assigned to each farm household was determined according to the manpower available. Even land area was distributed to each farm household with some modifications based on the soil fertility and access to irrigation. (Yamazaki⁷⁾)

A regression analysis between the family size and the land size was as follows:

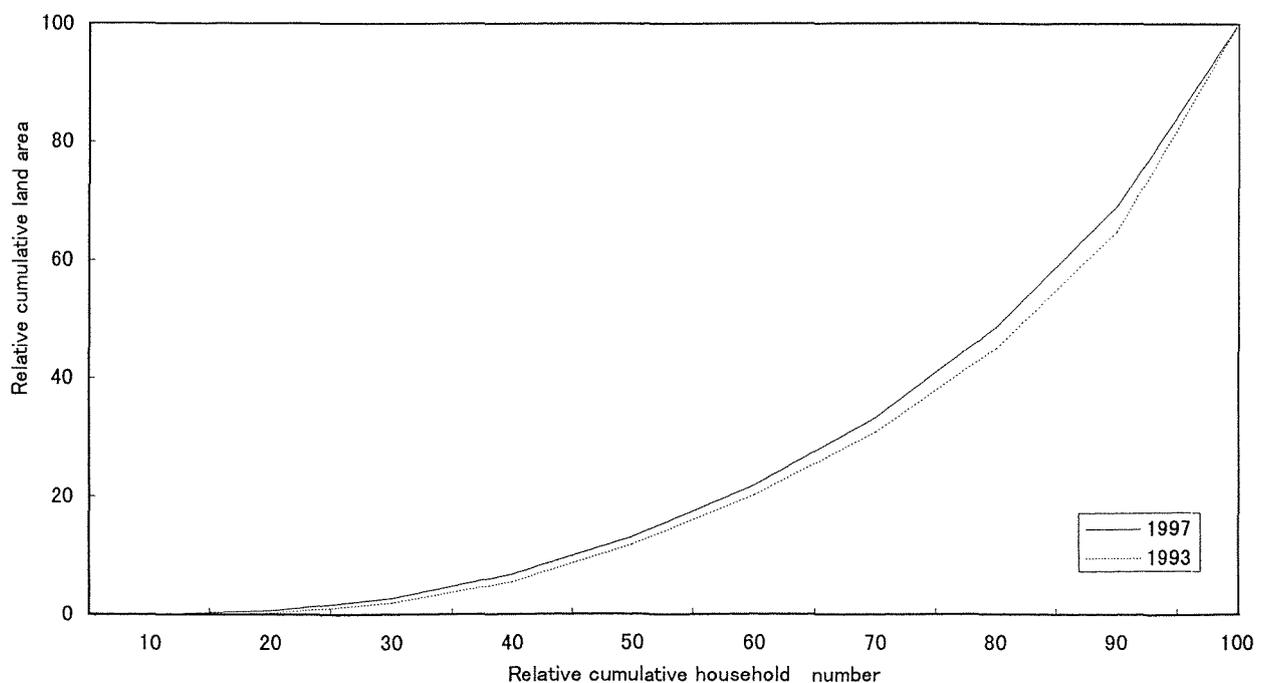


Fig. 2. Land distribution (Lorenz curve)

In 1993;

Variable: Land size in 1993

Independent variables: Number of main workers
in 1993

Number of total family
members in 1993

In 1997;

Variable: Land size in 1997

Independent variables: Number of main workers
in 1997

Number of persons aged
from 16 to 60 in 1997

Number of total family
members in 1997

In any case, t-value of the regression coefficient revealed a significant correlation between the indicator of manpower and land size with a risk of less than one percent both in 1993 and in 1997. However, the value of the determination coefficient was very small ranging from 0.02 to 0.13.

Next, can the changes in family size or manpower account for the changes in land size during the period 1993-97, even if partly? To answer this question, we conducted a single regression analysis between the indicators of family size or manpower change and land size change using the data of the same 286 households shown in Figure 1.

During 1993-1997;

Variable: Change in land size

Independent variables: Change in the number of
main workers

Change in the number of
total family members

When we used the "Change in the number of main workers" as an independent variable, t-value of the regression coefficient showed a significant correlation with a risk of less than one percent. However, the value of the coefficient was very small (0.03). There was a slightly significant correlation between the two indicators. On the other hand, when we used another independent

variable, t-value of the regression coefficient did not show any correlation.

Accordingly, the changes in the manpower did not account appreciably for the changes in the land size.

Cropping systems

The cropping systems observed in the surveyed area will be described. Are cropping systems different according to the land size? Does each land size class have its own characteristics in relation to agricultural diversification?

Table 4 shows the area planted with crops on agricultural land depending on the land size class in 1997. In relation to the land utilization rate, there was a gap between the lower two classes and the upper four classes. The land utilization rates of the < 0.1 hectare class and the 0.1-0.5 hectare class were 100% and 138%, respectively, while those of the upper four classes ranged from 143% to 151%. These findings indicate that the upper four classes not only owned a larger agricultural land area but also used the land better than the lower two classes. However, there were some differences in the components among the upper four classes. The 1.5-2.0 hectare class had the lowest paddy area ratio (59%) and the highest sugar cane area ratio (41%) among the upper four classes. The corresponding values of the other three classes ranged from 67% to 75% and from 24% to 32 %, respectively. Therefore the diversification of farming systems in the 1.5–2.0 hectare class seemed to be most developed among the upper four classes.

Table 5 shows the conditions of other crops depending on the land size classes in 1997. There was also a gap between the upper four classes and the lower two classes. For example, only 17.2% and 36.6% of the households raised pigs in the lower two classes, while the rates ranged from 51.6% to 66.7% among the upper four classes. Only 3.4% and 12.2% of the households raised fish in the lower two classes, while the rates ranged from 14.8% to 46.7% among the upper four classes. The

Table 4. Area planted with crops on agricultural land in 1997

Class		Paddy	Sugar cane	Vegetables	Total sown area	Agricultural land (ha)	Utilization rate (%)
< 0.1 ha	Average (ha)	0.0009	0.0009	0	0.0018	0.0018	100
	(%)	50	50	0	100		
0.1-0.5	Average (ha)	0.1035	0.0838	0.0073	0.1946	0.1411	138
	(%)	53	43	4	100		
0.5-1.0	Average (ha)	0.5122	0.2459	0.0056	0.7637	0.5315	144
	(%)	67	32	1.0	100		
1.0-1.5	Average (ha)	1.0806	0.3504	0.0128	1.4438	0.9551	151
	(%)	75	24	1	100		
1.5-2.0	Average (ha)	1.1603	0.8047	0.0043	1.9693	1.3767	143
	(%)	59	41	0	100		
≥ 2.0	Average (ha)	2.0513	0.7029	0.0290	2.7832	1.8609	150
	(%)	74	25	1	100		
Total	Average (ha)	0.6055	0.2712	0.0081	0.8848	0.6077	146
	(%)	68	31	1	100		

Ex.) On the average, the households in the ≥ 2.0ha class planted 2.0513 ha of paddy, 0.7029 ha of sugar cane and 0.029 ha of vegetables. The total planted area on their agricultural land was 2.7832 ha. The utilization rate of agricultural land was 150%.

Source: Survey in two hamlets, Hoa An village, Phung Hiep district, Can Tho province, carried out in 1997.

Table 5. Percentage of livestock-breeding, fish-breeding and fruit tree cultivation by land size class, 1997 (unit: percent)

	Pigs	Chickens	Ducks	Fish	Fruits
< 0.1 ha	17.2	17.2	13.8	3.4	27.6
0.1-0.5	36.6	34.1	25.6	12.2	57.3
0.5-1.0	51.9	46.9	43.2	14.8	79.0
1.0-1.5	66.0	66.0	40.4	25.5	87.2
1.5-2.0	66.7	60.0	43.3	46.7	83.3
≥ 2.0	51.6	67.7	38.7	38.7	80.6
Whole	45.3	44.4	32.8	18.8	66.3

Ex.) Among the households in more than 2 hectare class, 51.6% raised pigs.

Source: Survey in two hamlets, Hoa An village, Phung Hiep district, Can Tho province, carried out in 1997.

percentages of cultivation of any kinds of fruit trees were only 27.6% and 57.3% in the former, while they ranged from 79.0% to 87.2% in the latter.

The table also showed that the diversification of farming systems in the middle-scale classes, especially in the 1.5-2.0 hectare class was most developed among the classes. Rate of pig raising in the 1.5-2.0 hectare class was highest, 66.7%. Duck raising in this class was also high, as it was also highest among the classes, 43.3%. Fish breeding in the 1.5-2.0 hectare class was most

frequent among the classes. The 1.0-1.5hectare class showed the highest rate of fruit tree cultivation (87.2%), followed by the 1.5-2.0 hectare class (83.3%).

On the other hand, in the largest class (more than 2.0 hectare), diversification of farming systems was not prominent, except for the highest chicken raising rate (67.7%). The raising rates of pigs and ducks were the lowest among the upper four classes, 51.6% and 38.7%, respectively. This class ranked second in fish breeding (38.7 %) and

third in fruit tree cultivation (80.6 %).

In summary, the two major crops in the surveyed hamlets were rice and sugar cane. The diversification of farming systems was observed by the introduction of the "VAC" system-a Vietnamese acronym for the combination of gardening, fisheries and animal husbandry. The upper four classes developed these systems better than the others. Among the upper four classes, the middle-scale class, especially the 1.5-2.0 hectare class developed these systems more actively, based on livestock breeding, fish breeding and gardening. This class also introduced sugar cane, another component of diversified farming in this area. The largest class (more than 2.0 hectare) tended to rely on rice cropping compared with the 1.5-2.0 hectare class.

Household goods

The possession of some household goods may reflect differences in the living standards among households. Table 6 shows the rates of household goods owned by land size classes in 1997.

There was a gap between the lower two classes and the upper four classes. For instance, the ownership of television sets was 25.9% and 36.6%, respectively in the lower two classes, while it

Table 6. Ownership of household goods, by land size class, 1997 (unit: percent)

	Bicycle	Radio or Radio-cassette	TV
< 0.1 ha	37.9	24.1	25.9
0.1-0.5	36.6	36.6	36.6
0.5-1.0	65.4	46.9	42.0
1.0-1.5	61.7	59.6	53.2
1.5-2.0	76.7	56.7	86.7
≥ 2.0	74.2	51.6	61.3
Whole	54.7	43.5	45.3

Ex.) 61.3% of the households in the ≥ 2ha class owned television sets.

Source: Survey in two hamlets, Hoa An village, Phung Hiep district, Can Tho province, carried out in 1997.

ranged from 42.0% to 86.7% in the upper four classes. Meanwhile, among them, the 1.5-2.0 hectare class showed the highest ownership of these goods, reflecting the highest living standards among the classes.

During the period from 1993 to 1997, the ownership of television sets increased from 24.0% to 45.3%.

Borrowing

Table 7 shows the average loan size per household depending on the land size class in 1997. We can detect here also the gap between the lower two classes and the upper four classes. The loan amounts of the former were 1.2million dong and 1.5 million dong, respectively, while they ranged from 2.2 million dong to 3.3 million dong among the latter. Implication of borrowing money must be different depending on the cases and households. Some households must borrow due to their poverty and are indebted for livelihood, leading to the sale of assets. Some borrow money as working capital for the next crop. However, for others, debt has rather a positive meaning: They borrow to invest in intensive farming or other businesses. Considering the differences in the living standards among the classes shown in Table

Table 7. Average loan size of households by land size class in 1997 (unit: thousand VND)

< 0.1 ha	1,228
0.1-0.5	1,501
0.5-1.0	2,245
1.0-1.5	2,967
1.5-2.0	3,291
≥ 2.0	2,299
Whole	2,084

Ex.) Survey in two hamlets. Hoa An village, Phung Hiep district, Can Tho province, carried out in 1997.

6, it appears that households in the lower classes tended to borrow mainly for livelihood or working capital and that the upper classes did so for investment or working capital. Among the upper four classes, we find as before, the largest figure of 3.3million dong in the 1.5-2.0hectare class. The debt increased according to the land size until the 1.5-2.0 hectare class, except for the largest class (> 2.0 hectare class) which had a rather low debt of 2.3 million dong. How can we interpret this exception? Generally, the amount of debt of a farmer is conditioned by the relationship between the demand for funds and the way to raise them. As we observed before, the fact that the 1.5-2.0 hectare class developed more diversified farming systems than the other classes may account for the largest debt of this class. The fact that the largest class had a smaller debt than the 1.5-2.0 hectare class may be due to a rather conservative attitude for promoting diversified farming systems.

Table 8 shows the types of moneylenders from whom households borrowed based on the land size class in 1997. What is remarkable is that the lower two classes borrowed money more frequently from private moneylenders than the upper four, while the former had fewer opportunities to borrow from the government bank than the latter, probably due to the insufficiency of mortgage. Lack of or small land ownership among the lower classes may be directly related to this insufficiency. Only 6.9% and

29.3%, respectively, of the lower class households borrowed from the government bank, while the percentage ranged from 55.6% to 61.7% among the upper four classes. In the meantime, 41.4% and 36.6% of the former borrowed from private moneylenders, while the percentages among the latter ranged from 20.0% to 34.6%. Since some private moneylenders provide funds to households without any mortgage, it is easier for poor farmers or small landowners to obtain them than in the case of a government bank. However there is a problem of higher interest rate⁽⁷⁾. The average interest rate paid to the private moneylenders by households is much higher than that to the government bank: 16.1 percent per month to the former against 2.1 percent to the latter, in the case of money borrowed in cash.

Participation in farmers' organizations

Organizations under the umbrella of the Vietnam Fatherland Front (VFF) include Farmer Association (FA), Woman Union (WU), Youth Group (YG), Extension Club (EC), Retired Soldier Group (RSG), Elder Group (EG) and other local organizations. The popular and efficient organizations are the first three; FA, WU and YG. The EC plays also an important role in the field of agricultural technology transfer.

Table 8. Type of money lenders, by land size class, 1997 (unit: percent)

	Bank	Private	Relatives	Organization	Station	Others
< 0.1 ha	6.9	41.4	17.2	3.4	0	1.7
0.1-0.5	29.3	36.6	25.6	12.2	8.5	0
0.5-1.0	55.6	34.6	19.8	12.3	7.4	0
1.0-1.5	61.7	31.9	27.7	21.3	17.0	0
1.5-2.0	60.0	20.0	33.3	6.7	0	0
≥ 2.0	51.6	16.1	16.1	16.1	9.7	0
Whole	41.4	32.8	22.8	11.8	7.3	0.3

Abbreviations: Bank (Government bank), Private (Private moneylenders), Organization (Farmers' organizations), Station (Hoa An Research Station).

Ex.) 51.6% of the households in the ≥ 2ha class borrowed some amount of money from the government bank.

Source: Survey in two hamlets, Hoa An village, Phung Hiep district, Can Tho province, carried out in 1997.

The development of farmers' organizations in Hoa An village was similar to that in other parts of southern Vietnam. After the end of the war, the models of northern Vietnam were quickly transferred to the South. Under the renovation process after 1989, the traditional farmers' organizations in the South revived and started to promote farmers' production through the fostering of small groups.

We summarize here some recent activities of farmers' organizations in Hoa An village.

Management Group

After the survey conducted in 1993, a Management Group (MG) was established. It included researchers, leaders of Hoa An commune, heads of farmers' organizations and representatives from experienced farmers. The MG holds a meeting every two months and drafts a work plan on rural development.

The MG introduced a number of acid-tolerant rice varieties and rice-fish farming systems. Within the systems, fish plays a role in minimizing the insect population in the rice fields and the rice fields provide a good habitat for fish growth. The MG also introduced the raising of Muscovy ducks and new pig breeds. The new Muscovy duck breed (males were imported from France and crossed with local females) was tested in the local acid water environment. The results showed that the new breed was well adapted to the local environmental conditions. Feeding it with rice husks, rice bran and wild vegetables did not affect its weight. After 15 weeks of growth, a male could reach a weight of 3.5 kg and a female 2.8kg, values which were higher than those for the local breed by about 20-30%. After a year, there were 10 production groups for Muscovy ducks with 108 participants as a whole.

The benchmark survey showed that local pig breeds with low economic yields and long growth periods predominated. The MG introduced a new Yorkshire pig with a high yielding capacity. To develop successful pig production, a sequence of research, training, demonstration and excursion

activities was carried out. Farmers learned new techniques for pig production and how to make bio-gas by using pig manure as a fermentation source. The bio-gas could be used as an extra source of energy for cooking. (Ni & Xuan Chapter, Xuan *et al.*⁶⁾)

Production Groups

Farmers were encouraged to establish Production Groups (PGs): Piglet PGs, Fattening Pig PGs, Local Chicken PGs, Muscovy Duck PGs, New Variety Rice PGs, Rice-Fish PGs, Sugarcane PGs, Mushroom PGs, etc. Each group selects a group leader and a sub-leader. These two meet together to develop group's work plans. The work plans have to be submitted to the MG for getting comments and approvals in case credits are needed. Depending on the evaluation of the MG, PGs receive credits under the form of either training, excursion trips, seeds, breeders or cash. Money for credit is funded by a joint project of the Can Tho University and a NGO of UK, OXFAM (Ni & Xuan Chapter, Xuan *et al.*⁶⁾)

The questions raised are as follows: Are there differences in farmers' participation in these organizations depending on the land size classes? Table 9 shows the following three points: First, the lowest class clearly lagged in participation in the four organizations; FA, WU, YG and EC. Its participation rates were the lowest; 1.7%, 3.4%, 1.7% and 0%, respectively. Second, the participation rate in the four organizations by the medium two classes (1.0-1.5hectare class and 1.5-2.0 hectare class) was very high. More specifically, the participation rate in the FA by the 1.5-2.0 hectare class (13.3%) was the highest among the classes, followed by the 1.0-1.5 hectare class, (10.6%). Participation in the WU by the 1.0-1.5hectare class (19.1%) was the highest followed by the 0.5-1.0hectare class (17.3%) and the 1.5-2.0 hectare class (16.7%). Regarding the YG, the largest class showed the highest participation rate (9.7%) followed by the medium classes (6.7% and 6.4%, respectively). The participation rate in the EC by

Table 9. Participation in farmers' organizations in 1997 (unit: percent)

	FA	WU	YG	RSG	EG	EC
< 0.1 ha	1.7	3.4	1.7	1.7	0	0
0.1-0.5	4.9	9.8	6.1	7.3	3.7	7.3
0.5-1.0	4.9	17.3	6.2	1.2	1.2	11.1
1.0-1.5	10.6	19.1	6.4	4.3	6.4	27.7
1.5-2.0	13.3	16.7	6.7	6.7	3.3	20.0
≥ 2.0	6.5	6.5	9.7	6.5	12.9	16.1
Whole	6.1	12.2	5.8	4.3	3.6	11.9

Acronym: Farmer Association (FA), Woman Union (WU), Youth Group (YG), Retired Soldier Group (RSG), Elder Group (EG), Extension Club (EC).

Ex.) 6.5% of the households in the ≥2ha class participated in the FA.

Source: Survey in two hamlets, Hoa An village, Phung Hiep district, Can Tho province, carried out in 1997.

the 1.0-1.5 hectare class (27.7%) was the highest among the classes, followed by the 1.5-2.0 hectare class (20.0%). Thirdly, the participation of the largest class in the two organizations, FA and WV, was rather low.

Conclusion

Japanese agricultural economists so far have identified two types of peasants' differentiation processes; classical and modified. In the classical process, there are two poles of peasants' differentiation movement; enlargement and reduction of farm size. Here, the numbers of large-scale farmers and small-scale farmers or landless households increased while that of medium-scale farmers decreased. On the other hand, in the modified process, the numbers of large- and small-scale farmers decreased, while the number of medium-scale farmers increased. On the whole, the conversion of differentiation's configuration from the classical one to the other corresponds to the transition from the liberalism stage to the imperialism stage in the capitalist history⁽⁸⁾.

It is strongly argued that the land concentration process is inevitable after the introduction of the market mechanism to the countryside not only in the Mekong Delta but also throughout Vietnam. As a result, the market reforms allowed people to buy and sell land (under the appearance of ceding user rights). On the

other hand, the system itself created sellers: families who lacked the funds, the labor capacity and the management ability for successful farming. The market created also buyers for the land: the rich, those with capital, the labor capacity, the ability to manage large-scale farming, and the desire to expand production, since expansion of production is associated with the increase of income (Phong chapter, Kerkvliet *et al.*⁽⁴⁾). Those who lost land had to be hired to work in the fields of larger landowners or to become engaged in non-agricultural activities. The market-oriented economy has resulted in the rapid development of industries or services in the cities or in the countryside, particularly in the former. The development may provide new opportunities of work for farmers who abandon farming. However, it appears that the process is not always harmonious. In fact, it was reported that unemployment is increasing in the cities and in the countryside. Spontaneous migration of the poor to the cities or to the forests leads to some serious environmental and social problems, indicating that newly created non-agricultural employment opportunities are not sufficient and/or are not adopted to the newly emerged rural poor.⁽⁹⁾ The land concentration process is closely related to the increasing disparity between the rich and the poor.

Such process is now being observed in a large part of the countryside in the Mekong Delta since the promulgation of the renovation policy in 1989⁽¹⁰⁾.

However, in the area presently surveyed, we detected the latter type of modified differentiation movement as the number of households in the 1.5-2.0 hectare class increased most during the 1993-1997 period. Meanwhile, the trend to land concentration was weak, as evidenced by the decreasing number of the households in the larger class and by the reduction of the total land area in this class. The equity of land distribution was improved here as shown in the shift of Lorenz curve in Figure 2.

As important characteristic of the medium-scale class in the surveyed area, was the diversification of farming systems. The market economy in Vietnam began to create new sources of income for agricultural activities: urbanization and the increased level of consumption in the city increased the market for commercial commodities like fruits, vegetables, fish and meat. It opened possibilities for the intensification or the diversification of farming systems. The medium-scale farmers in the surveyed area seemed to use these newly emerging market opportunities and to adopt diversified farming systems as their technical basis for development. The Hoa An Station and other local farmers' organizations largely contributed to this modification process through their effort to introduce new agricultural technologies, varieties and crops. The participation in the farmers' organizations by the medium two classes was very high.

The activities of the organizations in the surveyed area were noticeable as agricultural extension system has much confusion under the renovation policy in Vietnam. Budget cuts reduced capacity of official agricultural services, and many agricultural technicians were dismissed. Government Decree No. 13 to set up a national extension service for agriculture was promulgated in 1993. It outlined a structure and functions of the official extension system from central to district level. However, it was not well implemented as evidenced by the fact that only a few official extension workers were employed in each province. On the other hand, many farmers are

facing both lacks of capital and knowledge to invest it efficiently. Therefore, there is a need to restructure an extension organization that conducts extension activity associated with credit service. It appears that the farmers' organizations in the surveyed area can be a good modal of such an extension organization.

However, the diversification promoted by the farmers' organizations modified only a part of the differentiation process in the surveyed area. Certainly, the structure of agricultural prosperity was modified as mentioned above, but we find here again a mass of peasants who reduced or lost their land. We consider that the beneficial effect of farmers' organizations on the agricultural development of lower classes is still limited, as their participation rates in the farmers' organizations were the lowest.⁽¹⁾

The farmers' organizations could play a beneficial role in supporting agriculture in the lower classes, by a modification of the differentiation process and alleviation of the gap between the poor and the rich in the surveyed area, in future. This would be conducive to social development, since equity is an important factor of sustainable social development, along with environmental harmony.

Notes

- (1) Hoa An village is presented in the following literature: Institute of agricultural science of South Vietnam *et al.*^{1), 2)}, Ni⁵⁾, Ni & Xuan Chapter of Xuan *et al.*⁶⁾.
- (2) Some articles of a book (B. J. T. Kerkvliet⁴⁾ deal with the differentiation process, but not always with empirical research.
- (3) The adoption of such a cumulative way can avoid confusion in the definition of "land size".
- (4) According to the Marxist concept, farmers are classified into rich, middle and poor, based on their income sources and hired labor use. We can not adopt here this standard due to the lack of information on these aspects.
- (5) The period of collectivization (1976-80 in the

South) involved moving families from very dense areas to build "New Economic Zones". However, those who left were not free to choose where they would go. They had to follow plans drafted by local authorities. Since 1981, and especially since 1988, people have become free to move as they wish. (Anh *et al.* Chapter, Kerkvliet *et al.*⁴⁾

- (6) In spite of the decreasing number of households, the population of the two hamlets increased somewhat from 1,727 to 1,749 (1.3%) during the 1993-1997 period. Accordingly, the average family size per household also increased from 5.1 to 5.3.
- (7) Loan term is another important factor that conditions the interest rate.
- (8) The Japanese discussion about peasants' differentiation is summarized in Kajii³⁾.
- (9) Recent Asian economic crisis, which started with the fall of the Thai currency in the summer of 1997 has markedly affected Vietnam labor market.
- (10) One of the present authors also detected such classical type of farmers' differentiation in Thot Not district, Can Tho province in the Mekong Delta (Yamazaki & Thanh chapter, Xuan *et al.*⁶⁾.
- (11) The organization of marketing activities and the establishment of self-financing for credit activities may represent two other future challenges for farmers' organizations in Hoa An.

Acknowledgement

The authors would like to express their

appreciation to all the staff members of MDFSRDI and JIRCAS for their cooperation in this research work.

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農業構造変動の形態変化における農民組織の役割;
ベトナム、メコンデルタのホアアン村における事例分析

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摘 要

ベトナム・メコンデルタの農村では、1989年以降にドイモイ政策が農業に適用されるなかで、農業構造変動が急速に進んでいることが、各種の報告の中で論じられてきた。だが、この点についての豊富な調査研究の蓄積が、従来はあったわけではない。本稿では、雨期洪水常襲・硫酸酸性土壌地帯と特徴づけられる、カントー省、フンヒエップ県、ホアアン村の2集落3百数十戸を対象とした1993年と1997年の2時点における調査結果の比較検討を行い、この間の農業の構造的な変化を明らかにしようとした。分析の結果、次の点が明らかになった。

1) 対象地における世帯の流動性は極めて高く、93年

時点で存在した世帯の1割以上が97年時点で対象集落の外へと転出しているのに対して、この間、ほぼ同数の外からの転入者を受け入れている。2) 農業構造の変動と関わっては、土地保有面積が1.5～2.0haの中間規模層が、農家戸数及びこの層の農家に帰属する総土地面積の面で、顕著な増加を示している。3) この層が農畜水複合経営方式を最も積極的に導入している。4) 対象地において農家世帯の構成員を組織化しているベトナム祖国戦線傘下の農民諸組織が、この複合経営方式を農家に導入するにあたり、資金融資や技術指導などの活動を通じて、大きく貢献している。

キーワード：ファーミングシステム、農畜水複合経営、中間規模層、貧困問題

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