

Farmland Inheritance, Transaction and Transference: A Case Study in the Southern Region of Thailand

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The purpose of this study is to contribute to the understanding of changing farm sizes under cultural farmland inheritance and transactions, in the context of succession decision. Results show that farmland inheritance strategies, involving the sharing of farmland amongst children, will not change from their parents and this will decrease farm sizes for the following farming households. In the past, farmers could enlarge farm sizes by purchasing farmland, but that shall become more difficult for future generations because of changing economic conditions. Farm training and providing suitable technology for small scale farms of the future is therefore required.

Key words: farmland inheritance, transaction, farmland transference, farmland holding history

1. Introduction

Over the last two decades, the agricultural sectors in Thailand have faced many challenges. Both the population and labor force of the agriculture sectors have declined from 26.4 to 22.7 million (or -1.90% p.a.), and from 18.8 to 15.8 million (or -1.90% p.a.), respectively (Office of Agricultural Economics [5]). Moreover, concerning the increasing age of farmers, whereby more than 65% of farmers are aged 50 and over (Office of Agricultural Economics [5]), Logindarat [7] stated that the ageing problem will become serious and affect the productivity of farms in the next 10 years. Meanwhile, the decline in the number of younger people who want to work on farm (Poapongsakorn et al. [10]), these situations raises concerns about the succession to farms and the agricultural sectors in the near future.

Even though succession decisions on family farms are important for farming sustainability, few studies of these matters have been conducted (Mishra and El-Osta [9]), and especially limited numbers of studies for the successor decisions in Thailand are found as I reviewed. In previous international succession decision studies about family farms, most authors only focused upon aspects of the probability of succession and the timing of such farm succession. For instance, Kimhi and Lopez [6] studied in Maryland, the USA, and found that: older farmers with a better education, the number of years spent working off-farm, upbringing on the farm, inheritance of the farm from parents and larger farms all raise the probability of farm succession within the family. Mishra and El-Osta [9] studied in the USA, revealed that succession decisions were significantly influenced by government farm policies, farm wealth and the age and

education of the head. Farm capital stock (measured by the value of farmland as a proxy of farm size) had positive effects upon succession. Glauben et al. [4] conducted a first simultaneous study about the probability of farming succession, and the timing of successions or closures in Germany. They found that larger, more profitable farms which were specialized in dairy farming were more likely to have a successor.

From the literature review about successor decisions it is identified that land or asset holding is an important factor of farming succession. However, land holding at certain times is derived from the initial holding (inherited land size), and associated land transactions of the past. The effects of both such aspects of endowment and transactions over time, concerning land holding distribution amongst households, is of practical concern, as examined by Burke and Jayne [1] in Kenya. At this point, my study first aims to identify features of both such aspects in Thailand, especially in the context of successor decisions, because of the concerns discussed above.

In a Thai context, succession within a family farm seems practical. In addition, the production of agriculture is dominated by family farms, and the majority of Thai farmers are small-scale. The average farm size was 3.6 hectares per household in 2009. However, the small scale farmer is not an issue but the issue is decreasing farm sizes over the last 2 decades; farm sizes have decreased by 0.87% per year in the whole country, with an annual decrease of 0.37% in the South from between 1986 and 2010 (Office of Agricultural Economics [5]). This trend may be a result of the tradition of succession within farm families, particularly with regard to farmland inheritance. According to several farmland inheritance studies throughout Thailand, it has been stated that farm property

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is distributed between all children. For instance, Charles B. Mehl [2] mentioned that the patterns of inheritance with equal shares by all children, regardless of sex, can be in part attributed to the nature of Thai Buddhism, and it is common in societies with kinship systems (Foster [3]). In addition, Thai formal inheritance law does not distinguish between gender, and supports equally shared land, because the law decrees that when a person dies intestate his or her spouse inherits first, followed by the children, who inherit equally (USAID country profile, Thailand [11]). Hence, such studies displayed evidence that cultural and legal inheritance systems can lead to the reduction of sizes of farmland during transitions in the inheritance of land between generations and this was consistent with studies by Mizuno [8]. However, it is not only farmland inheritance which may cause changes to farm sizes, but also the activities of farmland transactions. In Thailand, farmland is held in private ownership; farmers are free to sell, transfer and mortgage their farms (USAID country profile, Thailand [11]). Therefore, the decrease of farm size may relate to land inheritance and transactions concerning institutional issues, because farm size is not only related to the welfare of farm households in the context of subsistence farming for livelihood. Farm size is also an important determinant in the ways of succession, as smaller farmland is less likely to be able to support the successor.

Therefore, to observe the change of size of farmland which relate to succession on farm, it is important to identify features of initial size of farmland (inherited size) and inheritance manner, transaction history, and then reveal inheritance strategy for the next generation, in order to determine succession and situation of next farm household from these issues.

The research questions included: first, have the inheritance patterns changed from last (parent) to the present farmer?. Second, have the present farm households maintained/managed farm size under small inherited farmland for the next generation, and have size of inherited and transaction related to succession on farm?. In addition, I choose to study in upper south region because most of the literatures in Thailand mentioned in general of the custom of sharing farmland to all children, in south region where it has different kinds of cash crops from others and a limited research of inheritance and transaction have been done. Hence, whether it has the same manner to others still also needs to be proved.

Hence, this aims to contribute to understanding features of farmland inheritance and transaction, which relate to the

change of farm sizes in the context of succession decision in the Upper South of Thailand.

2. Methodology

For the purpose of study, a new approach is implemented as a farmland holding history analysis. Inclusive issues regarded the inheritance strategy from the last generation (farmers' initial land size), the history of land transactions, with all issues being observed in the context of changes of farm size. In order to identify successor and initial farm size of next generation, plans to transfer of farmland and inheritance strategy of present farmers to the child/children are also surveyed. Moreover, under farmland holding history, the sample farmers were classified into 6 groups, according to their length of time as a farming household head, using 10 year difference intervals of farming experience in order to observe ability of transaction over period of time. Hence, group 1 were those farmers who had 1-10 years experience at being the farming household head, group 2 had 11-20 years of experience, group 3 had 21-30 years, group 4 had 31- 40 years, group 5 had 41-50 years and group 6 had more than 50 years experience. Each group could also be represented by the household head's own generation. Then, the chi-square test is employed for correlation of inheritance strategy and succession decision. The relationship between succession decision and land size on both initial (inherited size) and changing holding over time (transaction size) is also analyzed by using t-test.

A survey by in-depth interview with head of farm was conducted in the 2013 crop year, using questionnaire sampling about family farms in 4 provinces in the Upper South of Thailand. In these provinces, the local economy depends chiefly upon the agricultural sector, which is dominated by perennial crops, such as: rubber, palm oil and fruit. Populations mostly consist of Thais, and the household samples were selected randomly, using stratified two-stage sampling. Hence, 33, 19, 17 and 5 samples investigated in Nakhon Si Thammarat, Surat Thani, Chumphon and Ranong provinces, respectively. In the final 74 sample of family farms, in which there were 44 households (59.46%), there was at least one child who would continue with inherited farmland, whilst 30 households (40.54%) had no potential successor for continued farmland inheritance.

3. Findings

An analysis of changes to the size/scale of farmland, by identifying the inheritance patterns and farmland transactions under farmland holding history, showed the following:

1) Farmland inheritance patterns

Changes in the size/scale of farmland in the farmland holding history, and the household characteristics of each group, are shown in Figures 1 and 2. In each group or generation, activities under farmland holding history are described by farm size per household, measured in Thai 'rai'¹⁾.

The starting point for the analysis of each group was the year in which they undertook farming as household head or as a farming career, and each activity was presented in a bar chart. The starting years for being a farming household head in groups 1-6 were the years 2003, 1993, 1983, 1973, 1963, and 1945, respectively.

Chart B (in figure1) presented the total farmland at the beginning of the household head's career, where farm households acquired farmland by: 1) inheriting from parents (chart b1), 2) marrying with a spouse who had farmland (chart b2), 3) bought farmland by themselves (chart b3), and 4) obtained farmland through other sources; from relatives and the clearance of forest lands (chart b4). Group1, with 10 years or less in farming, started working as farms only by inheriting farmland from parents, whilst for groups 2, 3 and 6 the majority of farm sizes at the beginning of the farming household head's career were also from the inheritance and from the property of the spouse. However, for groups 4 and 5 it was found that the size of inherited farmland from parents was less than the total size they obtained from other sources (from the occupation by clearing forests and from relatives who wanted close-by neighbors).

For the parental inheritance farmland strategy and size, which heads inherited from parents (chart b1), it is found that 72.9% of parental inheritance farmland strategies were mostly through the sharing of farmland to all children, rather than one successor in all groups (see PS1-PS3 in figure2). For this reason, total parental farmland in chart A was shared to each child and, hence, the size of inherited farmland from parents (chart b1) depended upon parent farmland size and the numbers of sibling they had to share with. Therefore, household heads started on farms of small sizes of inherited farmland. However, the inherited farmland received from parents was still the main proportion of farmland when children took the ownership of farm, particularly in the younger groups (1-3).

2) Farmland transactions

After farm households started working the land inherited, activities of selling and buying more land were analysed (Charts C and D in figure 1) by comparison of the transaction activities in each group. In groups 4, 5 and 6 (started being a farming household head in the years 1973, 1963 and 1945), or being a household head for 30 years or more, there are both the activities of buying and selling

farmland. The heads started to purchase more farmland on average 13.9, 20.5 and 20.8 years after becoming a farming household head. Some parcels of farmland were sold at an average of 18.1, 21.4 and 24.0 years after becoming a farming household head. There were 2 reasons for selling some parcels of farmland: First, they sold some parcels of farmland, particularly inherited farmland from parents, at a time when they started becoming a farming household head, in order to buy larger land at the same total cost or less than the lands they sold (to enlarge farm size). They then migrated from their parent's village to a new village where they could purchase more simply. At that time, vast land was available to clear for agriculture. The second reason was due to having no children to continue with the farm and financial problems of the household, and thus they decided to sell some parcels of farmland at older ages. However, within these 3 groups, not only was there capital from selling inherited land, some households also bought more farmland using capital from their farm incomes.

Since 1988, land markets have been rapidly changing, due to the increase in demand for land from not only the agriculture sectors, but also from the industrial sectors and, in addition, land available to clear became scarce, and the clearance of forests or deforestation for agriculture came to an abrupt end because of the strictly observed forestation laws, in 1989. For those reasons, younger farmers (groups 2 and 3, who became farm household heads in 1983 and 1993) tended to keep initial farmland at the start of their tenure as sources of income, and property for their children. In groups 2 and 3, the heads started to buy new farmland at an average of 6.3 and 13.7 years, after becoming the farming household head, using accumulated capital from farm income, using household savings and the borrowing of institutional credit, by considering if the land was affordable and at a reasonable price using their knowledge or experience of land markets which they faced; it is found that they were likely to buy after economic crises.

These transaction activities led to the summing up of total farmland at present (chart E in figure 1). Purchasing new farmland is an important activity to enlarge farm size in present farming households, and almost 10 years (of personal experience in farming) are required to be able to start enlarging farmland.

However, the size of farmland in each category in Figure 1 is analyzed, and displayed that on average, for all farm households, farm size increased in every group after commencing farming. When considering the changes to farm size for each household, it was found that there were 3 households in group 4 and 1 household in group 5 for which

¹⁾ 1 rai = 0.16 hectares

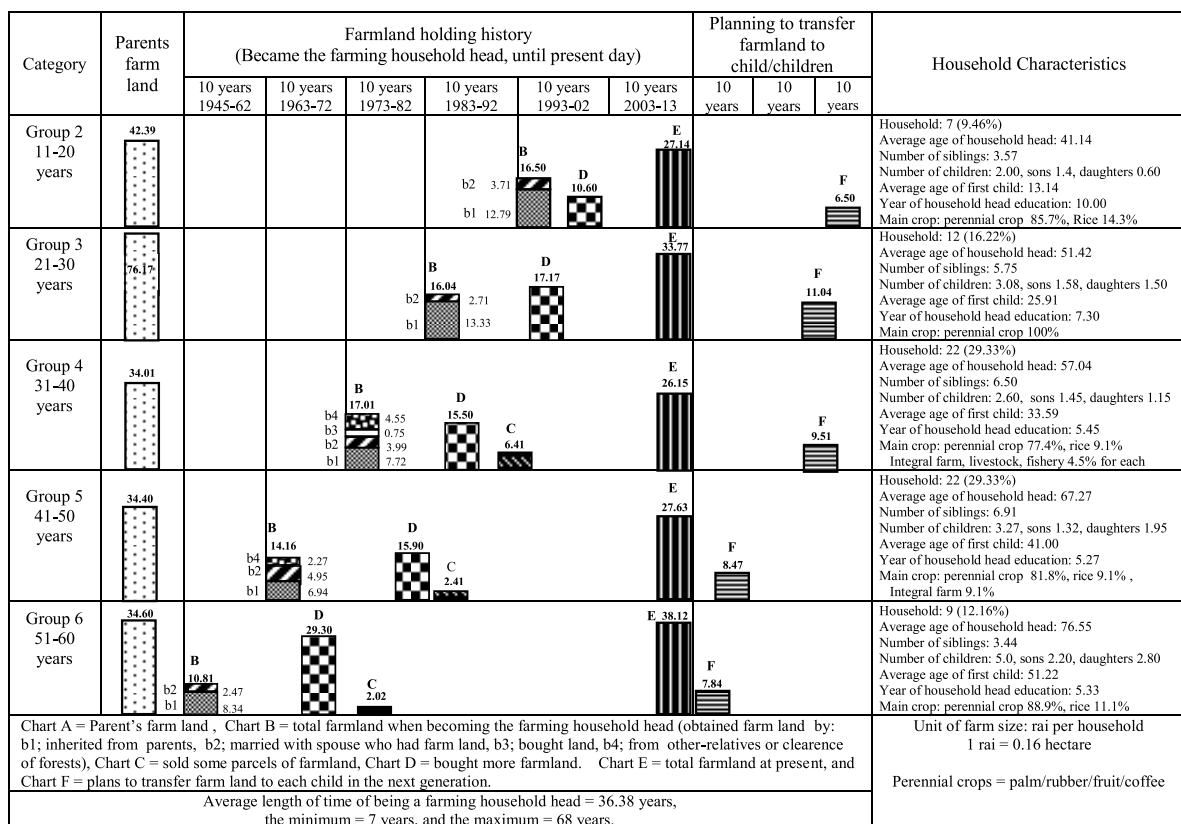


Figure 1. Farmland holding history between groups, according to length of time being a farm household head (years)

Notes: 1) Size of farmland in each bar chart for each group was represented by the average of all households.

2) Group 1, which had 1-10 years of being a farming household head (becoming a household head in 1993), is not shown in this figure because there were only 2 households, and they only started farming by inheriting farmland from parents and, in addition, because in 10 years of being a household head there were no transaction activities. Therefore, at present, they only have 10.63 rai per household.

the size of farmland decreased. This is because they sold some parts of farmland because they had no child to continue the farming. Meanwhile, younger groups tended to maintain and expand farmland, as explained above.

3) Transfer farmland to next generation

Household heads plan to inherit farmland to next generation was further investigated. Similar to parent's strategies, 71.62% respondents' inheritance strategies of transferring farmland is to share with all children than one successor (see PS2-RS2 in figure 2) (household heads who plan to transfer to one child because most of them have only one child in family).

Hence, the average size of farmland per child (see chart F in figure 1) they plan to transfer is small for the start of the generation's farming household head. However, there is no difference between sizes of their inherited land from parents (see chart b1) and of they plan to transfer to next generation (see chart F). In fact again, in group 4, 5 and 6 they can transfer farmland to each child more than they got from parent. It should be noted that ability to enlarge farmland is an important factor in order that they could

also increase the size of transfer farmland. The bar chart F is set on different period in each group due to the time they have planned to transfer farmland.



Figure 2. Parent's and respondent's strategy for inheritance of land

Notes: 1) Parental inheritance strategies were asked from the head of the farm, with regards to how parents allocated farmland. Parental inheritance can be classified into 3 types: PS1: transferred to only one successor, PS2: transferred to all children, PS3: others; (some sold parts or all of the farmland (16.2%), and 2.7% did not know how parents transferred farmland).

2) Respondents' inheritance strategies are classified into 3 types, using the household heads answers: RS1; transfer to only one successor, RS2; transfer to all children (in equal, or one part more to one child), and RS3 others (will transfer to a child, but not yet identified the strategy: hesitation).

4) Prospect for the number of new farm households in next generation

Table 1 shows the households who have successor of farming among their children, there are 44 farm households or 59.46% will be continued by child on inheritance farmland, in other words, these farm households can produce new farm households from the inheritance farmland in next generation. Meanwhile, 30 farm households or 40.54% who have no successor may stop farming career in their generation.

In terms of the possibility that a child will continue on inheritance farmland or successor²⁾, at the beginning of starting household head until year of 20 (group 1 and 2), farm household heads have not exactly pointed out the possibility of a child to continue on inheritance farmland due to the fact that children are still young (only 1 household in group 2 that 1 child helping in farming so that they point that this may continue on farm carrier).

The numbers of successor per household in group 3, 4, 5 and 6 are 0.58, 0.86, 1.36 and 1.89 respectively. This implies, for example, a present farm household can produce 1.89 new households in group 6. However, the ratios of the numbers of successors in numbers of children for groups 3, 4 and 5 were 18.83%, 33.07% and 41.59%, respectively. In group 6 the ratio was 37.8%, and that is smaller than group 5, because of the delay in transferring farmland, in that some children had already old to start a new life within a farming household.

Even though there was a 59.46% total sample of farmers with at least one successor, this could still increase new numbers of farming households in next generation, due to strategies involving the sharing of farmland between all children, but with small farm sizes started by farm household heads. However, at the same time, this strategy could be one reason for stopping some children continuing on farms because, for some, inheriting farmland is perceived as a low-value occupation.

Since the land inheritance is conducted in the manner of sharing farmland among all children; it is not directly related to succession on farm. Hence, Chi-square test was used for analyzing the independence between farm household with/without successor and inheritance strategy. The analysis of the association of the inheritance strategies and the succession (shown in table 2) finds that there are statistically significant differences between farm households that had successors and no successors to inheritance strategy. Farm households that had successors mostly planned to share farmland amongst all children, but with the larger part going to the one who helped with farm work or

helped to invest in more than one farm, or one who would take care of parents in old age. In this case, even though some farm households would have no successor, parents still planned to leave their farm to children as a future asset.

The differences between households with and without successor on inherited land size and changing of land size over time (transaction size) was also analyzed by mean comparison tests (t-test). The result in table 2 shown, there is no statistically significant difference in inherited land size between households with and without successor, but the size from transaction is found as a predictor of succession. Possible explanation for this finding could be due to the ability of farm management to enlarge farm size which can increase the sizes of transferred farmlands to the next generation and encourage some children to continue on farm.

4. Conclusion

1. Respondent's farmland inheritance strategies for future generations will not change from that of their parents; sharing farmland amongst all children. The rigidity of the inheritance patterns of present farmers will decrease initial farm sizes in future generations.

2. This inheritance strategy could discourage some children from starting new farm households since inheritance farmlands are too small to continue farming occupations. However, this sharing pattern could still increase the numbers of new farm households.

3. In the past, farmers could maintain their livelihood and sustain their small initial farm sizes when becoming a farming head, by enlarging farm sizes through the additional purchasing of farmland. From land transaction histories, it is found that many started to expand their land holdings at least ten years after the start of their farming careers. Moreover, the size of farmland from transaction (or net increasing in holding size) was found a predictor of succession, hence the ability to expand farmland has since become an important factor which can increase the sizes of transferred farmlands to future generations, and help sustain such farmlands for the future use.

5. Discussion

In the past, farmers could expand upon farm size by purchasing farmland. This can be understood as: 1) they needed accumulation of farming experience, and 2) they required more holdings due to family size increases, as more children were born. However, such transactions were realized under liquid land market situations, and thus it takes more time under uncertain and fluctuating markets, land prices and economic conditions of the future.

From the results, there are concerns about difficulty of land transactions in the future, because of changing industrial

²⁾ Household heads consider the successor upon inheritance of farmland by: the child's type of work, level of education, help or interest in the farm, child family situation, living place of the child and inherited farm size.

Table 1. Possibility of a child who will continue with the inheritance of farmland

Group/Issue	11-20 years (group2)	21-30 years (group3)	31-40 years (group4)	41-50 years (group5)	>50 years (group6)	Total
Number of households which can find a successor of farming within their children	1 (14.30)	5 (41.67)	13 (59.10)	16 (27.27)	9 (100.00)	44 (59.46)
Number of new farm households (Possibility of a child who continues with inheritance of farmland)						
- Number of children per household (1)	2.00	3.08	2.60	3.27	5.00	3.08
- Number of children who continue with inheritance of farmland (successors) (2)	0.14	0.58	0.86	1.36	1.89	1.00
- Ratio of number of children who continue with inheritance of farmland / Number of children per household (2)/(1)	7.00 %	18.83 %	33.07 %	41.59 %	37.8 %	32.5 %

Notes: 1) Data show the number of households and percentages of households (shown in parentheses).

2) Group1 is not include in this table, because farm household heads and children are still young, and the heads have not exactly pointed out a successor who will continue with the inheritance of farmland.

Table 2. The association of inheritance strategy and land holding to succession

Succession of Inheritance of Farmland	Inheritance strategy ¹⁾			Land holding (rai) ²⁾	
	To one child	Shares amongst all children		Inherited land	Net increase in holding after starting farmer (net transaction size)
		In equals	Not equal		
Farm households who has successor	1	9	29	1	7.9
Farm households who has no successor	4	11	7	2	10.6
Chi-Square Tests for the association of inheritance strategy to succession: Number of observations = 64 (excluding households with only 1 child) χ^2 squared = 12.563, df = 3, P-value = 0.005684 t-test: t = 0.992, df = 72, P-value = 0.324 t-test: t = 0.423, df = 72, P-value = 0.017					

Notes: 1) Chi-Square Tests for association of inheritance strategy to succession / Data for inheritance strategy show the numbers of households.

2) Mean comparison tests (t-test) between 2 aspects of land holding to succession (farm who has successor and no successor).

structure and increasing land prices, due to the fact that Thailand has been thriving land sales, land rental and land credit markets, and increasing land prices since 1997, or if there is an ASEAN wide economic crisis. These reasons may decrease the possibilities to purchase farmland for farmers of future generations.

As a result, and under such constraints, strategies for the sustainability of farmland and the livelihood of farmers in future generations are required, such as the ability to expand farmland (almost 10 years or more for next generations) which requires specific skills in farm management, especially for perennial crops, such as: rubber, palm oil and fruit. On-farm training and the provision of suitable technology for small scale perennial farms, to increase the productivity and incomes of farms, and special training to reduce costs and offer knowledge about changing crop types are also required. However, there are advantages in the newer generation's education level, as shown in figure 2, whereby the younger generations have attained longer terms of education than their elders. This implies that we have the capacity to improve productivity with some training and technological developments.

However, the result in table 2 shows that there is no statistically significant difference in inherited land size between households with and without successor, but the size from transactions is found a predictor of succession. In this point, a new analysis concluding these two aspects on succession in the future is needed; for instance, to identify factors affecting succession on family farm and factors affect farm size per child in case of Thailand especially in the same study area.

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