Southeast Asian Studies, Vol. 33, No. 4, March 1996

When Does a Farmer Sell Rice?: A Case Study in a Village in Yasothon Province, Northeast Thailand

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I Introduction

Thailand is a big rice exporter, but the Northeast region, which accounts for more than one third of the country's total rice acreage, produces little surplus rice [Fukui 1993: 22, 52]. In the region, irrigated paddylands are limited and rice is mostly rainfed. Production fluctuates greatly from year to year, and this prevents farmers from producing a constant surplus [Kono 1991: 57, 63-65]. Recently, however, commercial cultivation of rice started in part of the region, including Yasothon Province [Kono and Nagata 1992: 242]. Na Hom village in Yasothon, which I studied in detail, sold about one half of the harvest in 1992, for example [Nakada 1995: 542, Fig. 8].

It is often reported that farmers in Thailand do not wait for a favorable price in future but sell rice immediately after the harvest [Horita 1991: 147], and this appears to be true in general. One study reported that 77-86% of rice for sale was sold just after harvest in the Central Region and the North, while in the Northeast, only 8% was sold immediately and the rest later: 58% within one month and 34% two to five months after harvest [Zenkoku Nogyo Kyodo Kumiai Chuokai 1987: 45, Table 19].[1)] Why farmers in the Northeast sell rice later is yet to be studied.

This paper searches for reasons for the delayed transaction of rice based on a case study of Na Hom Village in Kham Khuan Kaeo District in Yasothon Province (Fig. 1).

Selling is just one of many channels for disposal of rice. Within the village, rice is eaten by household members, used as seed, paid as rent, fed to poultry and animals, donated to monks and monasteries and served at rituals. It is conveyed out of the village through selling, bartering, being taken by household members who work away, and being given as gifts. And each of these channels of disposal more or less seasonally changes. The sale of rice and its seasonality must be studied in the framework of total disposal of rice and its seasonality in the village.

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1) The original data is from Thailand, Ministry of Agriculture and Cooperatives, 1976, *Survey of Post-Harvest Practice in Thailand*, Bangkok: Ministry of Agriculture and Cooperatives.

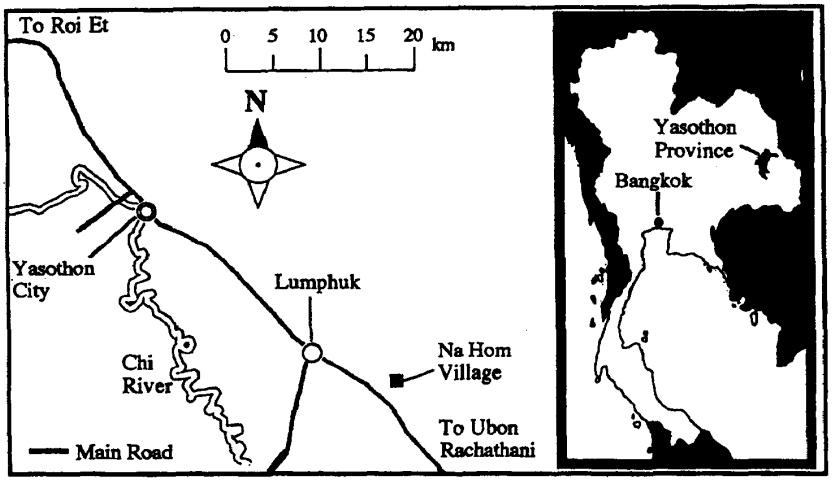

Fig. 1 Location of Yasothon Province and Na Hom Village

Note: I prepared this figure from [Kono and Nagata 1992: 243, Fig.1].

II Na Hom Village and the Method of Study

There were 186 households in Na Hom in 1992. They were Lao-speakers. Since there was no irrigation, they grew a single annual crop of rainfed rice. Both glutinous and nonglutinous types were cultivated: the former mainly for domestic consumption, and the latter, a high-grade variety called Khao Hoom Mali, mainly for sale.[2] One household in the village cultivated upland field crops and the rest only rice. Vegetables were grown for home consumption only [Nakada 1995: 524-525]. Many villagers temporarily migrated out of the village to work elsewhere.[3] The main sources of cash income in the village were the remittances from them and the sale of rice.[4]

Of the total of 186 households in the village, 79 households consisting of 554 persons were chosen for the present study. The interviews with and observations of them lasted for one year from September 1991 to August 1992, during which I lived in the

2) In some areas of Mainland Southeast Asia, people eat glutinous rice daily as a staple. They include North and Northeast Thailand, Laos, and parts of Myanmar, India, China and Vietnam. Watabe proposed the term "Glutinous Rice Zone" to encompass these areas [Watabe 1967].

3) Seventy-nine households were studied in detail. Of the total of 554 household members, 288 temporarily migrated out of the village during the year from September 1991 to August 1992. Of them, 228 worked: 186 in Bangkok and the rest elsewhere [Nakada 1995: 539, Table 1].

4) The average cash income of 64 households in 1992 was 21,765 baht, of which 13% came from the sale of rice, 46% from remittances and 19% from wage work. Three households earned wages from government institutions, which accounted for 86% of the total wage earnings by the 64 sample households [Nakada 1995: 544, Table 4].

village after December 1991. I was assisted by someone with a background of village life in Khon Kaen Province.

Of the 79 sample households, 6 were involved in inter-household cooperation in rice-growing and consumption.[5] They formed three pairs in such a relationship, and each pair was related by consanguinity and shared a rice granary. Sale or barter of rice was done by either partner and the remuneration was shared. The three pairs behaved like three households in terms of rice production, consumption and transaction. In the discussions which follow, therefore, they are counted as 3 instead of 6 households, which brings the total number of households in the sample down to 76.

The other details of the village and the methods of study can be found elsewhere [*ibid.*: 526-530]. The amount of rice is expressed as unhusked rough paddy throughout the paper. It can be converted to white rice by multiplying 0.7 [Miyagawa 1991 : 117].

III Disposal of Rice in the Village

Human Consumption

Of the 107 ton of rice eaten by the 76 households in 12 months, 91 ton was glutinous and 16 ton nonglutinous. Glutinous rice was eaten in every household except one.[6] Its dominance in the villagers' diet is evident. Except for two households, however, nonglutinous rice was also eaten. They ate 25 to 1,000 kg with an average of 217 kg per household per year.

Seed

Villagers did not buy seed of rice but supplied themselves. All but one household sowed seeds in 1992.[7] It amounted to 25 to 300 kg with an average of 97 kg per household.[8]

Donations and Rituals

Three monks and one servant resided in the village monastery in January 1992. The monks received cooked rice and other foods in the early morning and before noon everyday (*tham bun phra*). The amount of rice donated ranged between 12 and 150 kg with an average of 62 kg per household.

A large amount of rice was consumed on the occasion of various rituals. Seventeen

5) This is called *het nam kan, kin nam kan* ("work together, eat together") in the village of Don Daeng in Khon Kaen Province [Funahashi 1985 : 222-224].

6) In this household, only the head of household stayed in the village, the other members remaining in Bangkok almost throughout the year. He himself had also lived in Bangkok for many years since he was a teenager. He ate only nonglutinous rice.

7) One household did not cultivate rice that year. Most of the household members were in Bangkok.

8) Some villagers selected good seeds from their harvest and kept them separately in sacks, while others simply took paddy grains from the granaries just before sowing.

Table 1 Rice Consumed for Rituals

Ritual	No. of Households	Rice Consumed per Household (kg)	
		Range	Average
Marriage (*taeng gaan*)	8	34-200	109
Memorial service for dead husband (*tham bun haa saamii*)	2	140-180	160
Entering monkhood (*buat*)	4	0-100	78
Funeral (*phithi kaan sop*)	3	35-90	66
Total	17	0-200	100

Note: On one occasion of the entrance to the monkhood, no unusually large amount of rice was served. The amount consumed was assumed to be zero in this case.

Table 2 Numbers of Poultry Birds

		No. of Birds	No. of Households
Chickens	(*kai*)	3,181	63
Ducks	(*pet*)	195	21
Moscovy ducks	(*pet theet*)	104	13
Geese	(*haan*)	8	1
Turkeys	(*kai nguang*)	1	1

households organized rituals during the study period. They were as in Table 1. In addition, 71 households held a ritual for storing newly harvested rice in the granary (*bun boek baan*). On this occasion, they donated 10-24 kg of rice, 13 kg on average per household, to the monastery.

Feed

Of the sample households, 70 reared poultry. In April 1992, the numbers of birds were as in Table 2. These were consumed within the households or sold within the village. They were fed with 10-1,000 kg of rice, with an average of 162 kg per household in a year.[9)]

9) A villager started a large commercial chicken farm with 2,003 chickens in April 1992. Feed was bought outside of the village.

A villager started raising pigs in September 1991. When the price rose in the following year, eight others joined him. In April 1992, there were five households rearing 22 head in total. Boiled glutinous rice or leftover steamed glutinous rice were fed to the animals. In the 12 months from September 1991, 21-720 kg with an average of 168 kg of rice per household was fed to pigs.

Other Uses

Twelve households paid rent for paddy land in kind to the landlords in the village or returned seed which they had borrowed from other villagers. This amounted to 25-1,525 kg with an average of 488 kg each. Two households gave rice, 71 and 80 kg, as gift to their neighbors in the village.

IV Disposal of Rice Outside of the Village

Sale

Of the 76 households, 74 sold 1,933 kg of rice on average per household in the 12 months, the minimum and maximum being 240 kg and 6,300 kg, respectively. Most of it was nonglutinous rice, 123.5 ton in total, but 47 households also sold glutinous rice, 30.3 ton in total. These were not single sales: most households sold the former two to three times (2.5 times on average) and the latter once (0.9 time on average) in the same period.

There were six rice mills in the village, one public and five privately owned by Na Hom villagers. These mills did not buy rice, offering only milling service.[10] Villagers sold rice to a big miller in Lumphuk or a rice agent in Yasothon. Most villagers did so with help of middlemen who were fellow villagers.[11] There were two middlemen, here called A and B, in the village. Both of them cultivated rice themselves and worked as middlemen as a side-job. Each had over ten years of experience in this business and owned pickups.[12] They accompanied villagers who wished to sell rice, and this was appreciated by the villagers.

Middleman A shared ownership of a pickup with a friend in a neighboring village who assisted him. He delivered rice to Kitcharoen Rice Mill in Lumphuk, which in turn traded with merchants in Bangkok and Nakhon Ratchasima. Middleman B is the owner of a pickup and assisted by a fellow villager. He carried paddy to Erawan Rice Agent in

10) They did not charge for the service but kept the bran to feed pigs.

11) The role of middlemen is called "*rap suu khao.*" In the Central Region, farmers now tend to sell directly to merchants without the help of middlemen in villages, perhaps partly due to motorization [Yamao 1994 : 177]. Rice marketing in Thailand involves many steps and a very complex system. It is outside of government control, and statistics on rice marketing are available only in connection with rice mills [Mishima 1994 : 90-92].

12) In April 1992, there were 8 pickups owned by the same number of households, 54 motorcycles by 49, 1 auto-tricycle (*tuk tuk*) by 1, and 263 bicycles including some in disrepair by 172.

Yasothon City, who had no mill. The agent transferred the rice to merchants in Nakhon Pathom, Chachoengsao, and Saraburi in the Central. For every *mun* (12 kg of rough rice) delivered, Middlemen A and B were paid 0.5 and 1.0 baht, respectively, by the buyers. At the same time, they charged the villagers 5 baht for every bag of rice (*krasoop paan*, weighing about 80 kg) as transportation fee. Thus, a trip with 30 bags (equivalent to 200 *mun* or 2.4 ton) brought about them 250 or 350 baht (100 or 200 baht from the buyers and 150 baht from the sellers). Even after subtracting remuneration to the assistants and other expenses, the cash income appears to be handsome compared to the daily wage of 70 baht for transplanting rice in the village in 1992.

The buyers graded the paddy delivered by checking foreign matter (soil particles, straw and so on),[13] moisture, color, age and others. There was no standardized measure of grading.[14] Finally, the price was negotiated between the buyers and sellers, mediated by the middlemen.

Barter

A substantial amount of rice was bartered. People, mostly rural inhabitants who were short of rice, came to the village to barter.[15] They came from various places including distant villages in other provinces by pickups, trucks, motorcycles and bicycles.[16] Of the sample households, 72 bartered rice for goods the visitors brought. The total quantity of rice bartered amounted to 8,617 kg, about 3 percent of the total production of the sample

13) Traditionally, rice is threshed on a threshing ground prepared with mud and cattle dung. Some contamination by foreign matter is thus unavoidable. Of 151 households studied by Miyagawa Shuichi in 1991, 44 percent spread a fishing net on the threshing ground, which was effective in reducing the contamination.

14) According to Takizawa [1994 : 125-126], rice merchants in Thailand examine the quality of rice by moisture, percentage of broken or spoiled rice, grain length and so on. But judgement depends on the personal experience and preferences of the examiner. Lack of a standard procedure often favors the buyer. The Ministry of Industry made it obligatory for big millers to install a moisture gauge, but not for smaller traders. The percentage of broken rice is an important yardstick for grading. When rice is traded in the form of unhusked paddy, however, this is extremely difficult to estimate [Yamamoto 1995a : 90]. In recent years, the place of origin and the brand name are becoming recognized. Thus, "Khao Hoom Mali from Surin" has become widely known and fetches a good price [Yamamoto 1995b : 189]. Packed rice sold in big stores in cities carries brand names. An agricultural cooperative in Phimai District in Nakhon Ratchasima promoted the brand name Kao Taa Hen and was so successful that supply could not meet demand [Yamamoto 1994 : 143].

15) Barter of rice was also reported in Don Daeng in Khon Kaen Province [Miyagawa *et al.* 1983 : 155]. In years of drought, the villagers bartered chili and other vegetables for rice in neighboring villages [Fukui 1993 : 246-249].

16) From within the province, they came from neighboring villages in the same district and other districts such as Muang and Maha Chana Chai. From outside of the province, they were mostly from the two neighboring provinces of Roi Et (Selaphum and other districts) and Ubon Ratchathani (Khuang Nai District). Once a group of villagers from Kanchanaburi Province in Central Thailand came and bartered dried chili for nonglutinous rice. They were on their way to temporary jobs at a sugarcane plantation, and picked up some villagers from Na Hom.

Table 3 Items Bartered for Rice

Items	Amount of Rice Bartered (%)	No. of Households Bartering
Watermelon	26	64
Salt *	15	58
Coconut	9	57
Dried chili	8	35
Banana	7	40
Pumpkin	6	39
Sweetcorn	6	37
Muskmelon	3	16
Other 21 items	20	47
Total	100	72

Note: Total rice bartered was 8,617kg.

* Northeast Thailand is famous for inland salt-making. It is said that the salt of Northeast Thailand is superior in preparing fermented fish (*plaa dek* or *plaa raa*) and pickled vegetables (*phak doong*), which are favorite foods in the region.

households in the year. The bartered rice was mostly glutinous (97%) and unhusked.

The goods received in barter were diverse, numbering 29 items in total. Each of the villagers bartered rice for several items: 6.3 different items on average. It was similar to buying goods from peddlers. The nearest market to the village is 12 km away in Lumphuk, and the nearest provincial city is 32 km away. Convenience might be a reason for bartering from the point of view of Na Hom villagers.

In terms of the amount of rice bartered for them, the most important were food items. The eight most important items are listed in Table 3. The other 21 items were as follows in decreasing order of the equivalent volume of rice bartered for them: bamboo,[17] cucumber, sweet potato, shallot and garlic,[18] fish, peanut, pudding pine tree,[19] pineapple, portable earthen cooking stove (*tao fai* or *khrua*), papaya, tinplate bucket, clothes, *krabong*,[20] small earthen water jar (*oong din khanaad lek*), big aluminum water bowl (*khan khanaat yai*), tobacco, fermented fish sauce (*namplaa*), tinplate cover for big water (*fapp pit oong din khanaad yai*), plastic bucket, cabbage and plastic washtub (*kalamang*).

17) For threshing rice. Reaped plants are bundled with strings of bamboo and threshed.

18) Shallot and garlic were often bartered together.

19) *Cassia fistula; kaen khuun* in Thai. A substitute for betel nuts [Tomita 1990: 391]. For scientific names of plants, see Smitinand [1980].

20) A kindling made of sawdust imbued with resin from the *yaang naa* tree (*Dipterocarpus alatus*), packed with leaves of the *kung* tree (*Dipterocarpus tuberculatus; yaang phluang* in Thai).

Many of them were local products and some of them were speciality products of the home villages of the people who came to Na Hom to barter: e.g., bamboo baskets for cooked rice from a village in Muang District, Yasothon [Kono and Nagata 1992: 262, Fig. 8].

Other Uses

When villagers left the village for temporary work, they took rice with them for their own consumption. When members of their households visited them, rice was also taken as a present. Rice was taken away from the village in these ways by members of 54 households in the 12 months. The amount of rice taken was 7-600 kg per household with an average of 95 kg.

Rice was given as gift to relatives and friends living outside the village. Sixteen households gave 14-460 kg of rice (129 kg on average per household) to 17 relatives and 3 friends.[21)]

One household paid rent for paddyland in kind to a landlord living in a neighboring village. It was 100 kg.

V The Rice Balance

The balance of rice in Na Hom in the 12 months period is summarized in Table 4. It is shown in terms of percentages of the total production, which was 298,620 kg of unhusked paddy.

Table 4 Balance Sheet of Rice (79 Households from Sep. 1991 to Aug. 1992)

(unit: %)

Item		Total Rice	Non-glutinous Rice	Glutinous Rice
Acquired	Production	100.0	47.9	52.1
	Rent and gift	1.0	0.3	0.6
	Total	101.0	48.3	52.7
Used inside the village	Eaten	35.8	5.4	30.5
	Feed	4.3	-	4.3
	Seed	2.4	1.3	1.2
	Donations and rituals	2.5	0.0	2.5
	Others	2.1	0.9	1.2
	Total	47.0	7.5	39.5
Used outside the village	Sold	47.9	38.7	9.3
	Bartered	2.9	0.1	2.8
	Others	2.4	0.9	1.6
	Total	53.2	39.6	13.6

Note 1) Total rice produced was 298.6 ton.
2) White rice was converted to unhusked rough rice.

21) Of the 20 recipients, 6 lived in villages in the same district, 1 in the provincial capital, 8 in other provinces in the Northeast, 4 in the Central, and 1 in the North.

Of the total production, about one half each was glutinous and nonglutinous. Similarly, about one half each was disposed of inside and outside the village. The ratio of the two types of rice in different uses, however, was very much biased. Of the total rice disposed of within the village, 84% was glutinous, of which 77% eaten directly. Nonglutinous rice was dominant in the rice disposed of outside. It accounted for three quarters of that used outside and four fifths of the total sold.

VI Seasonality

Sale

Fig. 2 shows the sale of rice and the number of households involved in the sale by month during the period between September 1991 and October 1992.[22] The highest monthly sale was recorded in January, soon after harvest, but it accounted for only 22% of the total yearly sale. The second highest was in March and August and each accounted for 16%. After March, the monthly sale diminished gradually until July, and suddenly recovered in August. Little was sold in September and October of 1992 as well as during the last four months of the preceding year. The number of households selling rice changed over the year in parallel to the sale. The seasonal patterns of sale of glutinous and nonglutinous rice differed markedly. The former was sold later than the latter.

A large amount of rice for sale was held until as late as August. Rice for domestic consumption was also stored. These were stored in granaries in the village. Of the sample households, 77 had their own rice granaries.

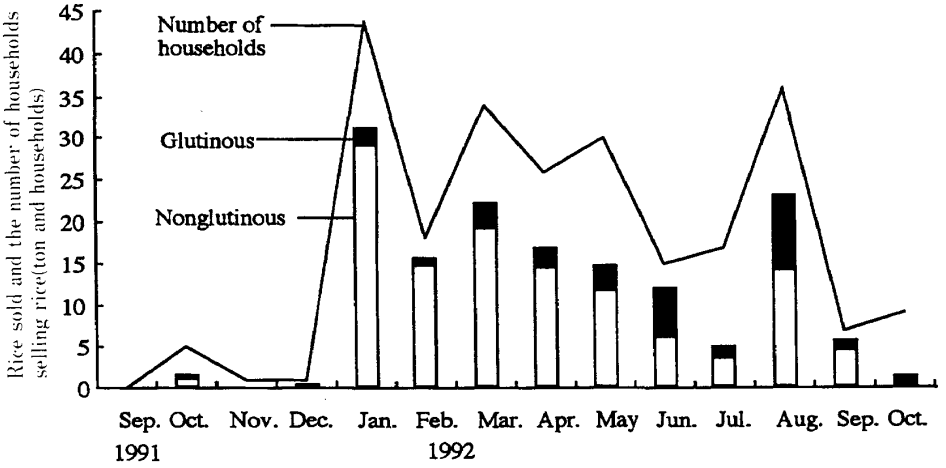

Fig. 2 Seasonal Change in the Sale of Rice

22) In the preceding sections of this paper, the period under discussion was 12 months from September 1991 to August 1992. In the following discussions on seasonality of the sale of rice, however, two more months of 1992 are included. The sample households remain unchanged.

Quality and Price

The selling prices in the total of 156 transactions by the sample households during the 15 months from October 1991 to December 1992 are shown in Fig. 3. In most cases, glutinous rice was sold cheaper than nonglutinous. The seasonal change in the price was also significantly different between them.

Nonglutinous rice was cheapest in January 1992: 44.1 baht per *mun* (12 kg) on average. The price subsequently rose and reached the maximum in September: 59.2 baht/*mun* or 134% on average of that in January. In October it dropped sharply, becoming nearly as low as the January price.

It was common knowledge among villagers that the price of nonglutinous rice would peak in August and September and drop thereafter, since they had experienced such a seasonal pattern in preceding years. The middlemen kept them informed about the prices offered by buyers in towns, and radio and TV programs also advised them.[23)]

In case of glutinous rice, the price was also low in January: 42.5 baht/*mun* on average. It rose to 49.3 baht in April but subsequently declined, while that of nonglutinous continued to rise till September. In October, the price of both kinds of rice dropped sharply. Villagers were also familiar with this seasonal pattern in the price of glutinous rice.

As stated earlier, the moisture content of rice was one of the yardsticks that buyers used to decide the grade and price. Since it was higher immediately after harvest, they Villagers tended to sell this from September to December. In this season, it was more difficult for the primary buyers to trade old rice with larger traders, and they therefore graded more strictly and bargained harder than during the rest of the year.

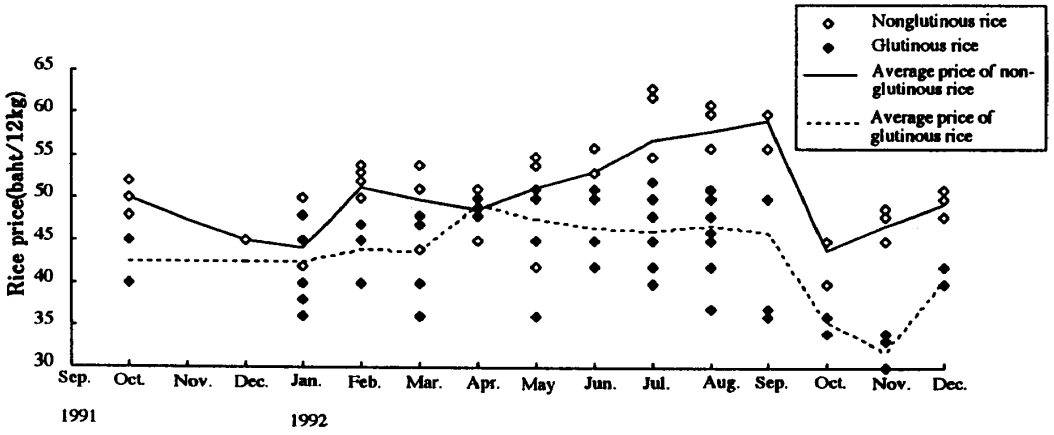

Fig. 3 Seasonal Change in the Famers' Selling Price of Rough Rice

Note: The interview covered 73 and 83 transactions of nonglutinous and glutinous rice, respectively.

23) A radio program advised on January 13, 1992 that the price would rise around the time of transplanting so that it would be better to wait for a while. In April 1992, of 186 households, 141 owned 152 radios or radio-casette players and 134 owned 164 TV sets.

Needs for Cash

On 41 occasions of selling rice by 23 households, the reasons for selling were asked. Forty-nine different reasons in total were given, of which 25 were for investment in agriculture (Table 5).

Harvesting finished in December. Cash was needed for payment of the hired labor for threshing.

Three organizations sold chemical fertilizers in advance.[24] The interest was 1% per month before 31 March and higher thereafter. Therefore, seven households sold rice before March. Chemical fertilizers were applied to nurseries prepared in May and June and to main fields after transplanting in June, July and August. Seven farmers sold rice in these months and bought fertilizers with the cash.

Cash is also needed for certain ritual occasions. Three kinds of rituals, that is, marriage, memorial service and entering monkhood, were held during the period from February to May. Two households sold rice in March for memorial services and one for marriage.

Table 5 Purposes of Selling Rice

(unit: No. of households)

	Purpose	1991			1992								Total
		Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	
For agri-culture	Deferred payment for chemical fertilizers					6		1						7
	Cash payment for chemical fertilizers									4	2	1		7
	Transporting rice husks for making stable manure					1	1							2
	Hired labor for transplanting										2			2
	Hired labor for threshing					1								1
	Liquidation of debt to Agricultural Co-op							1						1
	Building cattle farm							1						1
	Purchase of rice husks for making stable manure								1					1
	Hired labor for digging fish pond								1					1
	Transporting stable manure									1				1
	Purchase of cattle									1				1
	Subtotal					8	1	3	2	6	4	1		25
For non-agri-culture	Memorial services and marrige parties							3						3
	Purchase of durable consumer goods							4	2	3				9
	Savings					1		1	1	1	1			5
	Other uses							1	3	1			2	7
	Subtotal					1		9	6	5	1		2	24
	Total					9	1	12	8	11	5	1	2	49

Note: Based on 41 cases of selling by 23 households.
Some sold rice for more than one purpose.
The rice sold accounts for 18.5% of the total rice sold.

24) BAAC (Bank for Agriculture and Agricultural Cooperatives; *thanakhaan phua kaan kaset lae sahakon kaan kaset, tho ko so* for short), MOF (Marketing Organization for Farm-products; *oongkaan talaat phua kaan kaset, oo to ko* for short) and the village committee for the Developed Self-defended Village Project (*khroongkaan muu baan aasaa phatthanaa lae pongkaan ton eeng, oo pho po* for short).

Needs in Kind

Temporary migration of rural population to Bangkok and its environs is popular everywhere in Thailand. It is said to be most widespread in the Northeast and to have accelerated appreciably in the latter half of the 1980s. Na Hom is no exception to this. Fig. 4 shows the number of household members of the sample households residing in the village for at least one day per month in the 12 months from September 1991.

There were two peaks in the number: one in November and December and the other from May to August. During the peak periods, there were about 350–380 persons resident, but only around 300 in the other months. The peak periods evidently correspond to the busy seasons of rice cultivation. The highest number recorded for May, however, might have been less related to the farming calendar than to the festivity of that month: the rocket festival (*bun bang fai*). It is a well-known festival in the provinces of Yasothon and Ubon Ratchathani, and the one that attracted most people in the village.

The age and sex structure of the resident population is shown in Fig. 5. It indicates that the seasonal change of the total was mostly due to that of two age-sex groups: males aged 16–49 years, and females aged 16–29. Since most of the temporary migrants belonged to these age-sex groups, it is obvious that the seasonal fluctuation of the resident population as a whole was caused by the temporary work away.

Considering the seasonal change in the resident population and the fact that the age-sex groups which fluctuated were those with the highest per capita intake of food, there should have been a substantial fluctuation in the volume of rice eaten in households, particularly of the glutinous type.

The seasonal change in glutinous rice disposal is shown in Fig. 6. The rice was bartered mainly during the rainy season: 63% of the total glutinous rice bartered was

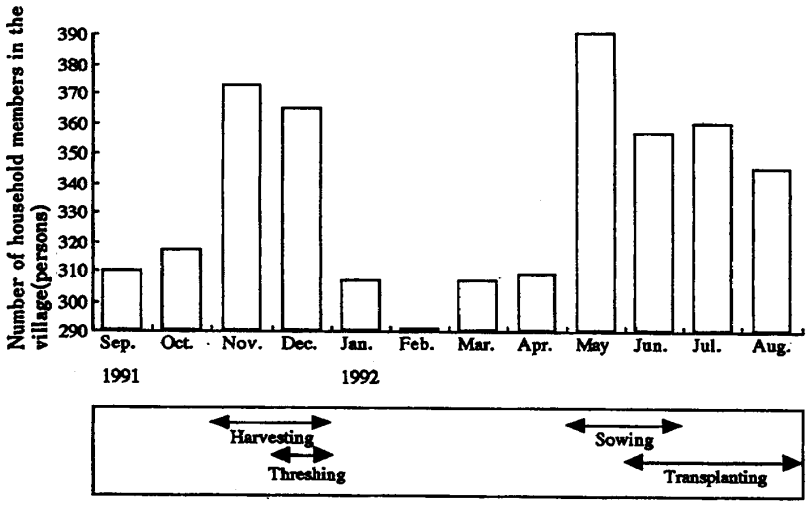

Fig. 4 Seasonal Change in the Number of Household Members Residing in the Village

Note: The cropping calender follows the advice of Dr. Miyagawa Shuichi.

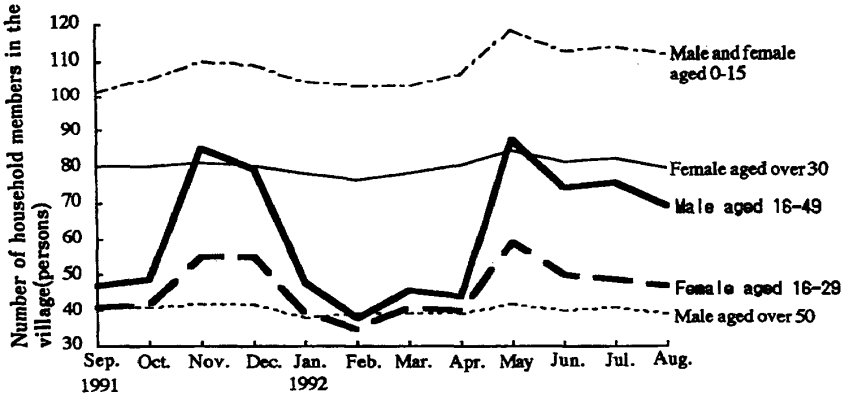

Fig. 5 The Age-Sex Structure of the Resident Population

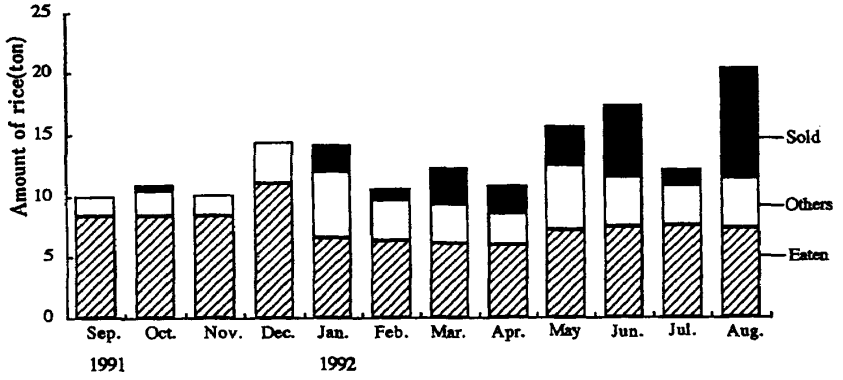

Fig. 6 Seasonal Change in Glutinous Rice Disposal

disposed of during the four months from May to August. Rice seeds were sown in May and June as mentioned before. Rent was paid in kind and rice was given as gifts in December and January. Rice taken away by and for the members of households who worked in towns was disposed of more in December/January and August as the seasonal pattern of the resident population suggested. More rice was consumed on ritual occasions from February to May, since many rituals were held in this period. An exception was the ritual of storing newly harvested rice, which was held mostly in February.

The disposal of glutinous rice by means other than eating and sale showed three peaks: the first in January, mainly for rent and take-away; the second in May and June for seed; and the third in July and August for barter.

VII Discussions and Conclusions

In terms of production, glutinous and nonglutinous types of rice were nearly equally important: 52 and 48 percent of the total, respectively. They were, however, disposed of quite differently and, hence, the seasonal pattern of disposal also differed greatly.

Only 11, 3 and 2 percent of nonglutinous rice was disposed of within the village as

food, seed and others, respectively. Most of the rest was sold. It can be said that this type of rice is produced primarily for cash income. In contrast, 75 percent of glutinous rice was consumed within the village as food in and outside of households, feed, and seed. The rest was either sold (18%), bartered (5%) or eaten by household members working away (3%). Thus, glutinous rice is produced primarily for direct consumption by villagers themselves.

As a result, nonglutinous rice accounted for 81 percent of the total sale, and glutinous for only 19 percent. The latter was also bartered, but this amounted to only 6 percent of the total sale of both kinds of rice.

Comparison of the figures showing the seasonal change in sales and prices (Figs. 2 and 3) reveals the effect of the rice price as a determinant of the time of sale: the peak sale in August coincided with the peak price and its fall thereafter. At the same time, the need for cash was a similarly important determinant, since the highest peak of the sale of nonglutinous rice was observed immediately after harvest, when the price was lowest but cash was badly needed for fertilizers purchased on credit, hired labor at harvest, and others.

It appears that, as far as possible, villagers tried to delay selling rice until August, depending on their need for cash. The diminishing monthly sale of nonglutinous rice in spite of the increasing price during May and July could be explained in this way. In other words, profit maximization is the principle as far as nonglutinous rice is concerned. But this is not necessarily the case for glutinous rice: its monthly sale tended to increase toward August while the price remained almost constant. It appears that the seasonal pattern of sale of glutinous rice might be more closely related to the need for this type of rice in kind.

By the time they have completed transplanting, villagers are more certain about how much glutinous rice they will harvest in December. They also know who in the household will go away to work this season and, hence, how much should be left in the granaries. Thus, with the progress of the rainy season, they become increasingly sure about how much they can sell. And the seasonal pattern of price of glutinous rice is such that they might lose nothing by selling at any time before the fall of the price in October. In other words, glutinous rice is used primarily for securing the basic minimum, and it can be sold only when the villagers are sure that this condition has been met.

At the outset, I asked why farmers in the Northeast sell rice later than those elsewhere in Thailand. The present case study alone cannot answer this question. But it has narrowed the range of possible answers to some extent. It appears pertinent to ask why they can afford to delay sale in the Northeast but not elsewhere, rather than why it is more profitable to sell rice just after harvest elsewhere. In any case, a comparative study of different regions is needed.

Two possible answers to the question come to mind. One is that rice production in the region had been almost entirely for subsistence until recently; and, therefore, there

are few tenants who have to cash their produce in a hurry. The other is that the volume of rice for sale by a household in the region is simply much less than elsewhere, so that the capacity of the producers' granaries is sufficient. The average sale per household in the village was only two tons.

Acknowledgments

I am grateful to people for helping me with this study. I wish to express my profound gratitude to Prof. Hayao Fukui, Center for Southeast Asian Studies, Kyoto University for his valuable guidance. Gratitude is also extended to Dr. Supamart Panichsakpatana, Fac. of Agriculture, Kasetsart University, Dr.Yasuyuki Kono, Center for Southeast Asian Studies, Kyoto University and Dr. Shuichi Miyagawa, Fac. of Agriculture, Gifu University for their suggestions and assistances. Thanks are also due to Yasothon Provincial Office, Kham Khuan Kaeo District Office, the Governors and Deputies, especially Mr. Prasit Pranpisut and his wife, and to the headman of Na Hom Village, Mr. Phimph Thoonghoom, and the villagers, especially Mr. Phoon Lekkla and his wife, Mrs. Noi. Mr. Phongsak Kaongiu helped me as an assistant in data collection. Without him, I could not have got good data. I collected data while studying in Kasetsart University with the financial support of the Asian Scholarship Program of the Ministry of Education of Japan for fiscal year 1990. And I used the office for research and a pickup truck, which were operated with funds for the "Integrated Study of Agriculture and Environment: For Structuring a Sustainable System," Special Research Program of Nippon Life Insurance Foundation, and the "Isan Research Program (Northeast Thailand Research Program)" of Ichikawa International Scholarship Foundation.

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