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"Labor Contracts in Thai Agriculture"

"A preliminary investigation"

by

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## Introduction

Roumasset et. al propose a cross national study of agricultural organization, focussing on the production system and agricultural contracts (including land and labor) and demographic change. Their methodological innovations involve methods for measuring the costs and benefits of institutional change, the explanatory principle that institutions change to minimize the excess burden (derived from the notion of positive transaction cost). These concepts are derived from a relatively new approach called the new institutional economics. Since this approach is fairly new the purpose of this paper is to review the existing literature in this and related aspects and suggest further research so that redundancy is avoided. The paper will concentrate on the labor inputs derived from the normal production function and investigate the types of labor contracts, such as piece rate or time rate or team piece rate, "Long Kaek" or exchange labor and the explanation for the existence of different types of contracts (both by wage earners or family farm workers) and the implication these types of contracts have for the employment relation. The paper will undoubtedly not cover every dimension but enough to suggest an appropriate research proposal to be conducted for Thailand in the future.

## Background

From the outset, it is important to discuss briefly the salient features of the Thai rural labor market. Up until 20

years ago, given the abundance of land, population pressure was not too severe. One can say that the rural labor market in Thailand is one where the utilization of rural laborers consisted of family farm workers (in contrast to the Philippines where rural wage earners played an important role for a long time and plantation workers in Malaysia and Sri Lanka). However at the present time, the role of wage earners is becoming more and more important over time. In some crops wage earners are the most important type of labor supply, amounting to 55% for rubber and 92% for sugar cane (Bertrand, 1979).

Another feature is that many people believe that the rural labor market is a competitive market since workers are very mobile (evidence from the inter-changwat migration). Moreover the competitive nature of the labor market is empirically supported by the high agricultural wage rate during the peak season (Bertrand, 1979). The open unemployment rate is low and there exists rural under employment, largely because of seasonality in agricultural production. However the intensity of the labor utilization is demonstrated by the number of hours of work per week (70 hours) during the peak season.

### Labor Contracts

An extensive but by no means exhaustive search of the literature indicate that there exist different types of labor

contracts consistent with these stylized facts. However the previous researchers never consider explaining why certain types of labor contracts are chosen and other implications such as the relationship between land quality, farm size and other demographic variables to the choice of labor contracts and the existing data both collected by the government such as farm management studies and different surveys are not sufficient to test the new approach. In other words, there is a big hole left for us to pursue this new approach of new institutional economics-and new set of data will have to be collected. There is one exception, as Mary Mcfadden (Mcfadden 1980) tried to generate testable hypotheses concerning the choice of contract between piece rate and time rate in the tobacco curing activity in the Northeast of Thailand to be tested with empirical evidence from a small sample. Mcfadden's study is considered to be the pioneer in this field but because of her small sample property and other restriction such as that her study involves agricultural processing activity, more work is badly needed especially involving primary agricultural production of different crops such as rice, sugar cane rubber etc. Her study is not sufficient for the kinds of comparative studies that Roumasset has in mind.

Labor Contracts from the point of view of Anthropologists.

It is fair to say that many foreign scholars, mostly anthropologists, have done a great deal of research about the way agricultural production is organized at the village level

(Embree 1950, Sharp 1953, Phillips 1965, Piker 1969, Potter 1976). In general they described the Thai Social System which incorporated the economic system as a "Loosely structured Social system". However one important piece of research in anthropology touched briefly but rather significantly on labor contracts. The work belonged to Moerman (Moerman, 1968) who studied a rice village in Chiangrai Province. Moerman classified three type of labor contracts (1) fellowship or coj - it is a kind of work which reward does not exist (not in return of reciprocated work or payment of any kind). Normally coj is performed within the house-holds or among close relatives. This form of labor contract is done in order to maintain a close social relationship. It is a social norm to coj for your relatives or among your households. The coj system is very much similar to the work of Gary Becker on "The Theory of Social Interaction" (JPE, 1975). Moerman points out that coj system explicitly does not expect the return because it is not proper - but implicitly coj is one form of implicit exchange labor, dictated by the social norm of the society.

The second kind of labor contract is by exchange labor. According to Moerman there are three kinds of exchange labor, lo, term kan, and aw haeng. The first, lo, is a co-operative farming- it occurs when two or more households agree to work together according to the agreement. If they agree to lo, they keep no account of the number of days spent at each task and plat. The

second form of exchange labor is termkan which is a causal contract to return the labor-but there is no compulsion to return the same service that one has been given or return it immediately. The third form of exchange contract is Aw haeng which is like a formal contract in which the term of return labor is clearly specified and enforced. For example the work of 3 men from farm A harvesting rice for two dyas immediately to farm A.

Another labor contract is "pan" or goods which is different from wage (kla-cang). Kla-cang has a distinctive feature of an agreement before it is paid, while the pan is determined after performance and it depends a great deal (according to Moerman) on the generosity of the donors. The recipients will do the job without knowing what they will receive.

The important question posted by Moerman is that given these three types of labor contracts - how do farmers decide to choose between one another. Although without an elaborate hypothesis Moerman at least resembled some aspects of the new institutional economics advocated by Roumasset by citing reasons for farmers choosing different contracts such as degree of intimacy, task difficulty and the utility of cash or the degree of commercialization.

#### Evidence for Stylized Facts in Labor Contracts

One important benchmark study (Fuhs, Vingerhoets, 1971) did not mention anything about the types of labor contracts what-



soever which indicated that 9 years ago, the major study on rural employment never considered the aspect of labor contracts important at all. What is more important is that this study was done for the NESDB (Planing Board). However another benchmark study conducted for the world Bank (Betrand, 1979) touches briefly on the role of piece rate in the South. In citing reasons why wage rates in Thailand are not primary index of economic welfare, Betrand claims that piece rate is very important as he puts it.

"A fourth reason is that piece rate or share rates are used substantially in agriculture (especially in the South) so that daily wages have to be derived using data on productivity and prices. Piece rates also provide incentives often leading to astonishing work effort resulting in wage payments as high as four to five times average wage rates."

What is significant from Betrand's study is that he recognizes the importance of labor contract and claims without any evidence that piece rate is important for employment in rubber tapping and suggests a hypothesis why piece rate is chosen in term of incentive to increase work effort. The point is not to dispute that piece rate is important or not but where is the evidence ? The evidence should be based on solid research. Fortunately a long search literature on rubber tapping shows some strong evidence for the existence of piece rate (share) in the South.

Suwan and others in 1974 (Suwan, 1974) did an extensive survey of employment contracts in rubber agriculture for three Southern Provinces of Songkhla, Yala and Phuket. The study of three provinces shows that there are two kinds of employment contracts: piece rate or share and time rate (daily wage). What is important is that piece rate or share rate has two different versions: The first one is that the piece rate is determined by areas of the rubber trees and the second one is by the weight of the rubber (based on selling price for that day).

In Songkhla, at Patong and Pangla (sub-districts) the piece rate by areas account for 82.1 % , time rate based on daily wage is 7.2%, 10.7% is paid in piece through the weighting system. For these two subdistricts, the percentage share of piece rate is 50:50 percentage share accounting for 64.2%. In Khao Hong sub-district, 95.8% is done by piece rate based on the area covered and the sharing percentage is 50:50 accounting for 54%. In Yala province, piece rate based on the area covered accounting for 92.3% while 7.7% is done daily wage rate (time rate), and the percentage share is 50:50 accounting for 80.8%. In Phuket 59,7% is done by piece rate based on the area covered, 30.6% is piece rate based on the weight of the rubber and 3.2% is done for time rate (daily wage). It is clear that the study by Suwan shows that rubber tapping is predominantly piece rate based on the areas covered but at the same time there exist other types of labor contracts such

as time rate and piece rate based on weight. Moreover the percentage share varies from 30:70 to 60:50 (see appendix). The stylized fact indicates that more explanation is needed in terms of why certain contracts are chosen and other implications such as choice of contracts to quality and rubber trees. The aspect of quality of rubber trees is very important - since The Thai Government has launched the program for replanting with the loan from the World Bank in the last 10 Years.\*

Somchart (Somchart 1976) - discusses the labor problems in one of the Double Cropping projects. Although he discusses the role of hired labor he does not include the aspect of type of payment. However his discussion of the system of exchange labor Long Kaek is very interesting, a form of labor contract where labor is exchanged on the barter basis - namely a group of laborers spend certain time to do the work for the neighbourhood farms in return for them to return to work later on (on the assumption that they demand for labor different times). The Long Kaek system has been in existing for many years and the system is becoming obsolete for many reasons however in Somchart study - he finds that of 29 farmers surveyed, 19 still participated while the remaining 10 did not - compared to 1971 only 4 out of 21 did not participate - this indicates the decline in the popularity of exchange labor. Various reasons given in Somchart's study why

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\* According to the interview with official from Rubber Research Center at Haad Yai - the percentage share between tapper and owner is likely to change in the area where replanting is done, with the share to the owner getting higher.

the farmers did not participate were (1) large farm holdings (2) too busy to do so (3) no labor to return. It appears that more investigation is needed into the actual practice of this type of labor contracts since Long Kaek is done to capture the benefits and the decline in popularity means the relative benefit and cost has changed. It seems to me one of the major costs of Long Kaek is enforcement especially the cost of monitoring the output. Somchart's study confirms my belief since he found that most Long Kaek is done among relatives who live separately since relatives tend not to cheat one another like strangers therefore the Long Kaek system as an institution still performs an important role to capture the gain. However, we need a testable hypothesis to be confirmed or refuted by facts which requires a new set of data. Somchart also reports that the kind of piece rate determination (payment to Long Kaek) has undergone a significant change too - that is the contribution of exchange labor is used to be measured by number of labor-days - the present system of measuring in terms of size of the area basis has replaced the old system.

In connection with the hired labor in Somchart's Study, the study ignores most aspects of labor contracts but concentrates on other things such as the cost of transportation in cases when hired labor lives away from the farm. The practice is that if the hired labor lives nearby - the hiring farmers do not contribute

to the transport cost as the hired laborers either walk or bicycle or motor cycles. However if the laborers live farther than 5 kilometres, the farmer will hire a truck or use his tractor with a trailer. In case the farmers have to hire the truck, the cost of transport ranges between  $1/3$  to  $1/4$  of the daily wage. Therefore if the hired laborers come on their own they will get a higher wage. The transport cost is a significant margin both from the point of view of the farmers and from the point of view of the laborers. The interesting statement by Somchart is that the hired labor is paid by piece rate in cash at the end of the day based on the area covered. However, Somchart never considered asking the question why the farmers decide to do it this way (ignoring the principle of minimizing excess burden). In other words Somchart saw a certain fact but accepted it without trying to explain why it takes place, based on some kind of principle (a la Roumasset) which leaves room for future research.

Another important study done by NESDB this year \* has to do with wage rates in rice production from the so - called "Progressive Agricultural Zone" and the "Backward Agricultural

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\* The data are collected by Economic Studies Division, NESDB, Miss Suwanee from this Division is the project leader.

Zone." The "Progressive Agricultural Zone" is defined in terms of the availability of the irrigation system while the "Backward Agricultural Zone" is in rain-fed poor quality soil, areas and most land is rented. The preliminary data suggest that the type of labor contracts for both zones are piece rates but the wages derived from the piece rate are not the same, that is the wage rate (piece) is a function of the quality of land. For example for harvesting in the progressive zone the piece rate per rai ranges from 100 - 160 baht and it is paid for team piece rate - it is not piece rate by individual worker. The range of 100-160 is determined by productivity per rai if it is less than 30 tang/rai - it is 100 baht if it is more than 50 tang/rai it is 160 baht. While in the backward zone, the piece rate for harvesting (in team) is between 80 - 100 baht. The study shows that team piece rate exists but does not go into reason based on minimization of excess burden or even on the screening principle and based on the role of information cost. Another interesting finding here is that piece rate is employed both for high wage and low wage area while Roumasset and UY find (in Philippines) that piece rate is more common in the high wage areas. The study also suggests a hypothesis between the wage rate and quality of land to move positively together - but does not explain why it happens this way. However it indicates the interest of the NESDB in collecting this kind of data, therefore further work along this area

will complement the existing work at the Economic Studies Division: so that a better understanding of the way labor is paid can be obtained.

Mcfadden attempts to use the frame work of new institutional economics by Roumasset to set up a testable hypothesis and test the hypothesis with data. It is therefore safe to say that it is the only work in Thailand where someone attempts to explain the behavior of the tobacco farmers based on the principle of excess burden.

Her work deals with processing of tobacco leaves in Ban Phang, a small sub district in the Northeast of Thailand. She observed that up until recently the Thai Tobacco Monopoly (which is the big monopoly public enterprise firm) purchased green tobacco leaves from the farmers and cured the leaves in to own barns. The farmers previously were given a quota (the right to grow and sell tobacco to the TTM) while TTM was practicing the curing themselves (1943-1973), Mcfadden observed that the TTM hired laborers to work and the method of payment was daily wage rate (time rate). After 1973, the TTM decided to close the curing stations, but remained as a major buyers of cured leaves and left the curing of tobacco to the farmers themselves. What is interesting is that when the farmers have to cure the leaves themselves - they hired the workers on the piece rate basis. The Mcfadden hypothesis is to see why

(under the approach of new institutional economics) the switch from time rate to piece rate is justified.

Mcfadden starts explaining the role of quotas in connection with the production and employment contract. To her the quota is institutional arrangement where from the point of view of TTM it was to minimize quantity but maximize quality. From the point of view of farmers, the property right of a quota is a substitute for the property right in land. Without a quota they would not go into business of producing let alone curing. But why a sudden switch from time rate to piece rate? According to TTM it appeared that the TTM wanted to delegate the monitoring cost especially the quality control to individual farmers. In other words the TTM wanted a different kind of contractual arrangement or decentralizing arrangement since the TTM was concerned with quality. Without any economy of scale in curing tobacco, the cost of monitoring the quality of leaves and the transaction costs involved each year in rehiring workers the TTM was better off (i.e. they minimized the excess burden). The farmers accepted going into the business of curing only if they could sell cured tobacco with high quality and made more profit than before when they only grew the leaves. The only thing they could do is to make sure that the cost to reduce shrinking is less than the benefit and the only way this could be done is to lower the enforcement cost by employing the piece rate. Piece



rate ensured high quality leaves and the farmers were willing to do it. Consequently, the new contractual arrangement between the TTM and individual farmer took place where net gain from this institutional arrangements is maximized for both parties despite the positive transaction costs. This piece of research shows that a small case study like the tobacco industry offers an insight in the way contracts took place, a further study of this kind with larger samples and with other crops will be most welcome.

APPENDIX

Labor Contracts in Rubber

Source : Suwan Tippayakul, October 1974

| Payment type                      | Number of Big Rubber Farm |              |           |             |           |              |           |             |
|-----------------------------------|---------------------------|--------------|-----------|-------------|-----------|--------------|-----------|-------------|
|                                   | Patong, Pangla            | %            | Yala      | %           | Phuket    | %            | Khao Hong | %           |
| Percentage based on areas covered |                           |              |           |             |           |              |           |             |
| 30:70                             | -                         | -            | -         | -           | -         | -            | 1         |             |
| 40:60                             | -                         | -            | -         | -           | -         | -            | 3         | 12.6        |
| 45:55                             | -                         | -            | 1         | 3.8         | -         | -            | -         | -           |
| 50:50                             | 18                        | 64.2         | 21        | 80.8        | 34        | 54.8         | 13        | 54.2        |
| 55:45                             | 1                         | 3.6          | 1         | 3.8         | 1         | 1.6          | -         | -           |
| 60:40                             | 4                         | 14.2         | 1         | 3.8         | 2         | 3.2          | 6         | 25.0        |
| <b>total</b>                      | <b>23</b>                 | <b>82.1</b>  | <b>24</b> | <b>92.3</b> | <b>37</b> | <b>59.7</b>  | <b>23</b> | <b>95.8</b> |
| Cash                              |                           |              |           |             |           |              |           |             |
| 20 baht/day                       | 1                         | 3.6          | 2         | 7.7         | 1         | 1.6          | -         | -           |
| 28 baht/day                       | -                         | -            | -         | -           | 1         | 1.6          | 1         | 4.2         |
| 30 baht/day                       | 1                         | 3.6          | -         | -           | -         | -            | -         | -           |
| <b>Total</b>                      | <b>2</b>                  | <b>7.2</b>   | <b>2</b>  | <b>7.7</b>  | <b>2</b>  | <b>3.2</b>   | <b>1</b>  | <b>4.2</b>  |
| Piece rate by weight              |                           |              |           |             |           |              |           |             |
| 2.30 baht/k.g.                    | -                         | -            | -         | -           | 2         | 3.2          | -         | -           |
| 2.40 baht/k.g.                    | -                         | -            | -         | -           | 2         | 3.2          | -         | -           |
| 2.50 baht/k.g.                    | 1                         | 3.6          | -         | -           | 11        | 17.8         | -         | -           |
| 3.00 baht/k.g.                    | 1                         | 3.6          | -         | -           | 4         | 6.5          | -         | -           |
| 6 baht/ 100 trees                 | 1                         | 3.6          | -         | -           | -         | -            | -         | -           |
| <b>Total</b>                      | <b>3</b>                  | <b>10.7</b>  | <b>-</b>  | <b>-</b>    | <b>19</b> | <b>30.6</b>  | <b>-</b>  | <b>-</b>    |
| Others                            | -                         | -            | -         | -           | 4         | 6.5          | -         | -           |
| <b>Total</b>                      | <b>28</b>                 | <b>100.0</b> | <b>26</b> | <b>100</b>  | <b>62</b> | <b>100.0</b> | <b>24</b> | <b>100</b>  |

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