

## **CHAPTER 2**

### **CONDITIONS OF AGRARIAN TRANSITION FROM CONVENTIONAL TO ORGANIC AGRICULTURE**

#### **2.1 Introduction**

This chapter examines conditions of agrarian transition from conventional to organic agriculture in northeastern Thailand. The conditions of agrarian transformation help to understand why northeastern Thai farmers have been incorporated into global organic food networks for fair trade and organic rice. This chapter is divided into four parts. The first part examines socio and economic development in northeastern Thailand. The second part examines trend of global agro-food network which has focused on the environmentally-friendly agriculture and the production of high valued foods to serve niche markets. The third part examines Thailand agricultural restructuring's policy which contributes to the growth of organic agriculture in the Northeast. Lastly, historical aspects of farmers' settlement in study site and socio-economic status of farmers engaged in organic rice farming in Na Sawan sub-district is illustrated.

#### **2.2 Social and Economic Development in Northeastern Thailand**

The economic and social development of each region contributes to the creation of competitiveness in agro-food trade (Schoenberger 1994). To understand the creation of flexible specialization and competitiveness in the export-oriented organic jasmine rice production; therefore, it is necessary to examine the socio-economic development in northeastern Thailand which is closely linked to agrarian transition.

The Northeast has long been engaged in commercialized agriculture and production of non-organic rice for export. The expansion of the state's authority in the Northeast began due to the threat of French colonization. The ruling class of Siam felt

at risk of losing territory and influence to a great power. It led King Chulalongkorn to act in various ways to consolidate control over the Northeast, positioning the region within Siam's borders more clearly. For example, the "regional provincial unit" for the Northeast was established to centralize power. This involved the sending of royal servants or bureaucrats from the center to administer the localities in place of local leaders, establishing the royal servant or bureaucratic system, promulgating new laws, and the provision of basic public services. Nation-state building caused the Northeast to be pulled into the political entity of the center. However, this process was met with resistance all over the Northeast by local leaders who lost power during the administrative consolidation and the farmers who felt exploited for taxes and tribute. The state called this movement "Holy Men's Rebellion" (Nartsupha 1981).

The implementation of economic development schemes has subordinated northeastern Thai population under the control of the central Thai state. The Northeast was neglected by the Thai government in terms of economic investment until after the World War II. It was only during the 1960s when, due to the spread of Thai communist party influence into the Northeast, the region became perceived as a potential threat to national security. Hence, the military-bureaucratic elite, aided by the United States, invested large amounts in infrastructure development and social services in the region. Road construction throughout the region served a strategic purpose, facilitating military access to remote areas. At the same time, programs which aimed to accelerate economic development and cultural incorporation of the region were stepped up. Therefore, the development scheme was used as a mechanism of social control, designed to ameliorate conditions of poverty, and legitimate the role of the state in a region where there were potential threats.

The extension of infrastructure, especially the development of railway and road networks, facilitated the production of rice for sale, cash crops and transported forest products to central Thailand. For instance, in 1926 the northeastern railway line was built from Nakhon Ratchasima province to Ubon Ratchatani province, this transformed the region from the fringe to an important node within the economic and political system of the Siamese state. The railway brought Chinese merchants and new industrial goods to the farmers, spurring the expansion of the cash economy.



Under this strategy, the building of roads provided the basic structure of the market economy. The Friendship Highway was the strategic road from Bangkok to Nakhon Ratchasima built from 1955 to 1957, and it was expanded to Khon Kaen in 1960. From there, it continued to Nong Khai and provinces bordering Laos to the northeast, branching rapidly off into a network of linking roads all over the region. Roads were an important transport method for economic products to reach the central region. At the same time, they allowed for greater control of the area in order to prevent the penetration of Communism effectively (Thongyou 2002: 86-91).

The shift in production of northeastern farmer from subsistence to commercial production took place under the territorial and administrative consolidation described above and this modernization process produced marked change. Whereas northeastern Thai farmers grew glutinous rice for own consumption, they began to set aside a portion of their land to grow non-glutinous rice for commercial sale. Commercial rice production advanced in the post-war period (Thongyou 2002: 86-91).

The expansion of the road network in the Northeast was coincident with the recovery of the European market after the Second World War, and with the strong American economy, there was a large, growing market for Thailand's agricultural produce. According to Ingram (Thongyou 2002: 82-83), in 1905 there were roughly 200,000 loads<sup>6</sup> of unhusked rice sent from the central distributor in Nakhon Ratchasima province to Bangkok. In 1925, this figure reached 1,700,000 loads of unhusked rice or comprised only ten percent of the rice produced in the country, and by 1935, it reached 4,600,000 loads of unhusked rice or comprised 42 percent of the national output. The area under cultivation in the Northeast increased to 3,900,000 rai per year from 1893 to 1924, to 12,000,000 rai from 1948 to 1950. At the same time of this expansion, many rice mills were established all over the country, including the Northeast. Chinese operated the rice mills, which usually were built near the railway stations. These stations became centers of rice trade (Thongyou 2002: 83).

The increase in cash crops produced in the Northeast mostly resulted from the process of territorial expansion rather than intensification, due to limitations of poor soil and irrigation system. For example, in 1959 72 percent of the planted areas in the Northeast were used to grow glutinous rice, and 28 percent of planted areas were used

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<sup>6</sup> One load equals 133.33 pounds or 60.48 kilograms.

to grow non-glutinous rice. During the following ten years, the expansion of non-glutinous rice has increased by 54 percent, taking up 33 percent of the total area. Other cash crops also expanded after the post-war years in response to international demand. Five important cash crops<sup>7</sup> such as hemp, cassava, corn, and sugar cane were produced in the Northeast (see details in Appendix A). In addition, in 1989, the *corvée* labor was replaced by head taxes paid in cash. This motivated farmers to increase rice production for commercial. Therefore, it increasingly tied northeastern Thai farmers to the national and international economies (Thongyou 2002: 89).

Moreover, after logging was legalized, with the support from the state which believed logging would facilitate its victory over communist insurgents. By 1987, 19 years after the opening of concessions, 38.6 million rai of land had been deforested, an average of 3.5 million rai per year. This was a very rapid rate (Prayong and Bantorn 1992: 178-182). The deforestation had a direct relationship with the expansion of commercial agriculture. After forests were cleared, squatting to plant various crops took occurred. This foundation changed the face of the Northeast indelibly.

The loss of forests and the expansion of cash cropping have caused widespread natural and social degradation throughout the Northeast. The cash crops that have been grown in Northeast have resulted in declines in soil fertility. The natural degradation is a major cause of poverty and debt that forces northeastern Thai farmers to rely increasingly on chemical fertilizer to recuperate declining yields. Throughout the twentieth century, average agricultural yields in the Northeast have steadily decreased, due to encroachment onto more marginal land and soil degradation.

This trend was reversed with the introduction of the green revolution into the Northeast, which resulted in a short-term increase in yields. However, later there has been a continued decline. The spread of salinity into the soil is also a severe problem.

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<sup>7</sup> In the mid 1960s, the hemp growing area expanded to 1.1 million rai. Afterwards, hemp production decreased and was replaced by cassava, which is the most widely planted crop in the region. Demand for cassava was driven by European demand for animal feed, of which cassava is a component. In the mid 1960s, cassava was cultivated on 77,000 rai in northeastern Thailand. By the early 1980s, this reached 4.6 million rai, and in by the late 1980s, it grew to 5.9 million rai. As for corn and sugar cane, they were also important crops. Corn is also used in industrial animal feed production in Europe. Sugar cane was used in sugar factories, and sugar factories sprouted up all over the Northeast (Thongyou 2002: 89)

The construction of a large number of dams and irrigation systems has contributed to the problem of salinity in many areas. The “Green Isan” (*Isan Kaew*) project was initiated in 1987 by the army to cope with the region’s constant environmental problems of deforestation and lack of water by improving small-scale water resources and promoting reforestation, mainly through commercial plantations of eucalyptus. This Project ended in 1991 and fell far short of its goal of greening Isan (Missingham 1996).

### ***2.2.1 Demographic and Socio-Economic Status of Rural Households in the Northeast***

Compared to other regions, the Northeast has the lowest per capita income and lowest share of GDP. For instance, in 1998 the Northeast had the output about 537,967.52 millions baht, and had the per capita income about 25,947 baht while Bangkok and surrounding areas had the output about 2,215,542.12 million baht, and had the per capita income about 203,373 baht in the same year (see details in Appendix B) (Thongyou 2002: 92).

Additionally, the Northeast had the highest population of the country’s population. A survey conducted in 2000 by the National Statistical Office found that the Northeast had a population of 20,759,890 or 34.24 percent of the country’s population of 60,617,230. The region is the country’s most populous. Eighty percent of the households in the region (2.9 million of 3.6 million total households) are engaged in the agricultural sector. Nonetheless, the agricultural sector accounts for only 20.5 percent of gross domestic product. Even if most families in the Northeast are engaged in agricultural production, a national income survey in 2000 shows that income from agricultural activities comprises only ten percent of household income. Most income from agricultural activities goes towards household consumption. Non-cash income of northeasterners is over 25 percent of their total income, higher than in other regions. Income from hired labor wages and other income account for 31 percent, and remittances account for 13 percent of total income. This statistic is illustrated in Appendix C (Thongyou 2002: 94-95) .

A survey of households in 2004 shows that the average income of northeasterners was 1,078 baht per month per person, the proportion of those considered as poor was about 17.16 percent and the number of poor was 3,650,000 people. In contrast, average income in central Thailand at that time was 1,339 baht per month per person, the proportion of poor people was 5.09 percent and the number of poor was 757,000 people<sup>8</sup>. The poverty, plus the proportion and actual number of the poor found in the Northeast in 2004 are shown in Appendix D. Moreover, another report cited that 24.53 percent of farmer families were landless, and had problems in terms of a lack of stable land tenure. In addition, at that time about 4.86 million farmer families (or 86.4 percent) were indebted to an average amount of 24,700 baht (US\$642.7) per family<sup>9</sup>.

The Northeast is known for being the largest source of migrant labor. From the study of Suwit Teerasasawat (2003) of twelve villages in ten northeastern provinces (1,574 households), finds that nearly half (48.4 percent) of all the region's labor is engaged in migrant labor, as there are little year-round, full-time employment in the region. The fact proves that non-agricultural income is greater than agricultural income and that agricultural income is insufficient to meet total household expenses. Of the 1,574 households surveyed, 710 households had migrant laborers remitting funds. The total remitted income was 1.8 million baht per month, which was 19.7 percent of the total income of all households surveyed, or 32.6 percent of total non-agricultural income. Remitted wages per household make up 43.6 percent of the average monthly income per household. They make up 72.3 percent of average non-agricultural income per household. Male and female wage labor remittances are nearly equivalent; 95.1 percent of males and 96.6 percent of females work outside the locality and send waged remittance to their families in rural communities of the Northeast (see details in Appendix E). These figures indicate the importance of migrant wage labor to northeasterners.

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<sup>8</sup> A survey conducted by the Office of National Statistics, calculated by Office of the National Economics and Social Development Board in 2004.

<sup>9</sup> The Bank of Agriculture and Cooperatives reported in 2004.

### *2.2.2 Green Revolution and Its Impact on Agriculture and Environment in the Northeast*

The socio-economic development in the Northeast has contributed economic growth and created industrial growth in Central Thailand at the expense of the Northeast. The socio-economic development in the Northeast has led to the deterioration of soil fertility and environment in the region. However, the deterioration of soil fertility and environment in the region sets a limitation for the green revolution. Pingali argues that the introduction of high yields varieties (HYVs) alone was not enough to create the beneficial green revolution effects. But, the use of full package approach of the green revolution is needed (Pingali 1997).

The effective of the use of HYVs depends on a combination of adequate synthetic fertilizer and insecticide usage, and an adequate water supply, in order to allow the rice to mature and ripen. However, Northeastern Thailand has few major rivers and an insufficient irrigation system, factors which generally lead to severe drought and placed a limitation on the effects of the green revolution. Therefore, the attempts to modernize agriculture in northeastern Thailand did not meet with total success.

Additionally, many writers argued that the impacts of the green revolution varied across different regions of the country. Such variations were the result of variations in the environmental conditions under which rice was grown, rather than variations in technological access (Hseith 1967; Silcock 1970). A closer examination of the regional yield data in Thailand highlights the impact of environmental conditions on the yields, including the proportion of paddy land under irrigation in different regions and the occurrence of floods or droughts, which damaged the harvested areas and reduced yields.

Central Thailand had fairly high rice yields, due to a larger proportion of planted areas with access to irrigation systems. In contrast, rice yields in the Northeast were only about two-thirds of those in the central plains, due to poor weather and soil conditions (Silcock 1970). Kolseus studied the early stages of the green revolution in the Northeast; he argues that northeastern Thai farmers had no confidence in the

effects of chemical synthetic fertilizers, for two reasons. First, the farmers could not access micro-credit, so they could not afford expensive synthetic chemical fertilizers. Secondly, the farmers were not convinced about the use of synthetic chemical fertilizers in their paddy fields, because, in general, chemical fertilizers did not generate dramatic yield increases and profitability in that area, as was frequently claimed (Kolseus 1972). A survey from the Office of Agricultural Economics during the three-year period 2003 to 2005 found that Central Thailand had fairly high yields, at about 571 kg, 584 kg and 594 kg per rai respectively, but yields in northeastern Thailand were only 333 kg, 329 kg and 340 kg per rai for the same period.

The introduction of one single technological element of the green revolution into the traditional cultivation system of the Northeast, at the personal discretion and initiative of the farmers and under certain limited environmental and socio-economic conditions, only had a partial effect. The partial effects of the green revolution in northeastern Thailand, in turn, create a comparative advantage in terms of the conversion to organic agriculture, as the potential risk of waterborne and airborne contaminations in the Northeast is perceived as less than in other regions.

Jasmine rice<sup>10</sup> is a photo-period sensitive rice variety and can be grown in the wet season in every region of the country, but jasmine rice is well grown in the place whereby drought and soil salinity is common. Northeastern Thailand is the most suitable place for growing jasmine rice compared to other regions of the country, because of its rainfall pattern and soil salinity (Isvilanonda 2005).

### **2.3 Trend of Global-Agro Food Networks**

The introduction of green revolution in the 1970s onwards is an important form of modernization in agriculture, at the same time it is a result of the capitalists' attempt to solve problems associated with labor recruitment and high wages in agricultural sector. However, the introduction of green revolution has created

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<sup>10</sup> Jasmine rice is known for specific characteristics, particularly its aroma and low amylase content, which makes the cooking of Hom Mali rice different from other rice grains. These special characteristics can be distinguished among Asian consumers and help generate a premium price. The aroma and grain quality of Hom Mali rice grown in different geographical regions are not uniform, due to the production environment, soil nutrient levels and cultural management practices (Isvilanonda and Seiichi 2005).

considerable negative impacts both on environment and on local economy of communities in developing countries, as it was criticized by many writers such as James C. Scott (1998) argues against the logic of modernization in agriculture which rests on simplification by creating uniformity in crops on the one hand and maximization of crop yields to make more profit on the other. The use of fertilizers and pesticides are always claimed as medicine for the soil, however, it is an implicit form of simplification because it overlook variation by farm and field and tend to neglect alternate approaches to control pest and to enhance soil fertility (Scott 1998).

De Koninck (1992) argues that distribution of high yield rice seeds to farmers is uneven, so it cannot create substantial improvements in productivity and in living conditions for all peasants (De Koninck 1992). Since the mid-1980s onwards the use of high yield rice seeds is compatible with the over-use of fertilizers and pesticides cannot generate dramatic yields, but causes increasing production cost at the expense of the farmers (Goodman 2001; Pingali 1997). Moreover, social impacts of green revolution in India include the displacement of millions of farm populations, growing influence of large corporate interests in agriculture, rural differentiation among different scales of farmers (Gupta 2000). The coincidence of cost-price squeeze and relatively higher incomes of non-agricultural activities forces the poor and landless to migrate out of the village to earn wages from urban-based activities (Elson 1997).

The negative outcomes of the green revolution have led to the capitalists' attempt to avoid environmental problems and natural constraints in agriculture. Hence, emergence of global agro-food networks in the twentieth century focuses on the alternative agriculture and alternative food trade (Goodman 2004). Alternative agri-food networks (AFNs) are considered as alternative' because these networks have distinctive characteristics in relation to locality, specialty, quality, trust, embeddedness, sustainability, tradition, nature, artisanal quality, and diversity (Ilbery 2005; Maye 2007).

Alternative agri-food networks (AFNs) are regarded as new social movements that have potential capacity to forestall globalizing foods; the globalizing foods are characterized by reference to modern, large-scale production, manufacturing, long food supply chains, standardization, intensity, monoculture, homogenization, supermarkets, fast food, quantity and dis-embeddedness (Stringer 2008 ). Some

theorists of food studies alternative agri-food networks attempt to capture the ways in which AFNs contribute to negotiating space against retailers' domination. For instance, a re-conceptualization of the AFNs is made on the basis of re-making connections between place, process, and food products to add value to agricultural products (Marsden 2000; Maye 2007; Watts 2005). These connections are re-made through face-to-face interactions, re-localization or a process in which local quality food products are transferred to regional and national markets through the use of food labeling, emphasis on quality, and changes in policy which encourage short food supply chains (Marsden 2000).

Central to the re-making of connections between food products and place are the claims of "quality". However, quality here is constructed through the process of food qualification; different qualities reflect differences in farming systems, cultural traditions, organizational structures, consumer perceptions, and institutional and policy support. The essential feature of AFNs is the concept of "embeddedness" which means economic relations are embedded in complex webs of social relations and are seen to be vital for success (Sonnino 2006). Raynolds considers organic and fair trade food networks are always challenging exploitative relations in agri-food systems (Raynolds 2004).

However, labeling schemes such as fair trade reflects private forms of governance used to re-shape producer behavior (Hendrickson 2002; Hinrichs 2000; Raynolds 2000). However, labeling schemes cannot reflect the real conditions of production and the problems met by organic producers (Guthman 1998; Mutersbaugh 2005). Once alternative agro-food networks are developed toward conventionalization and increase in scale, they gradually become embedded in the conventional food system, due to the process of standardization and codification (Guthman 2004a; Guthman 2004c).

Organic agriculture was firstly introduced by a local NGO in Central Thailand<sup>11</sup> in the late 1970s as a radical form of alternative agriculture, due to the

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<sup>11</sup> Annop Tansakul is a representative of first group of organic growers in Thailand. He graduated from Kasetsart University in Bangkok and has been engaged in conventional agriculture since 1978. His orange orchard in Patumtani province was destroyed by the spread of pests. He viewed the accumulated use of chemical synthetic pesticides as useless and leads to increased reliance on synthetic pesticides and environmental contamination. Hence, he decided to permanently stop using chemical

prohibition of synthetic fertilizer and pesticide use. However, organic agriculture does not belong to the traditional way of agriculture as it is often assumed; organic agriculture initially relied on knowledge imported from other countries (Panyakul 1982).

The establishment of the Alternative Agriculture Network in 1978 was significant, because the Alternative Agriculture Network played a key role in mobilizing cooperation among NGOs concerning alternative agriculture throughout the whole country. Many NGOs adopted alternative agriculture as a primary focus of their work, at the same time they critiqued monoculture, industrially-oriented cash cropping, green revolution technologies and export markets (Panyakul 1982). Nevertheless, the integration of alternative agriculture into the government policy about “sustainable development” in the 1990s signified mainstreaming alternative agriculture.

A survey conducted by the Ministry of Agriculture found that there are two groups involved in organic agriculture in Thailand. The first group is the farmers who adopt the principle of sufficiency economy after having not been able to turn a profit from conventional agriculture. The second group is agribusiness that has contracted with farms to produce a variety of organic products<sup>12</sup>. The growth of organic food supplies in Thailand resulted from the engagement of agribusiness in organic production, not NGO initiatives (Panyakul 2004). It is difficult to determine the impact of agribusiness on organic agriculture due to a lack of data. However, estimation by the Earth Net Foundation in 2002<sup>13</sup> clearly indicated the relatively limited amount of certified land used for organic production and concentration of certified land in the hands of agribusiness than in the hands of smallholders (Panyakul 2002). Transaction costs, the length of the conversion period and inadequate knowledge were all identified as major barriers to small-scale organic farmers entering this niche market (Panyakul 2002).

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synthetic pesticides and turn to organic farming. Since his story was broadcasted on television, he has become a prominent figure who inspired many groups of people to convert to organic farming (Witton et al. 1982).

<sup>12</sup> Bangkok Post Newspaper, 9 Jan 2008.

<sup>13</sup> Such estimation cited that total the agricultural area used for organic production in the country was 35,000 rai (5600 hectares). From the total agricultural land used for organic production, non-certified land made up 14,000 rai (2240 hectares), whilst certified land made up 21,000 rai (3360 hectares) or about 0.01784 percent (Panyakul and Sukjirattikan 2002).

Organizations like ACT and a local NGO like GreenNet<sup>14</sup> strongly encourage commercialized certified organic agriculture to the majority of farmers for believing that it would help to improve their incomes and livelihoods. However, some NGOs activists were concerned that the government's promotion of market-oriented organic agriculture would encourage the abandonment of sufficiency economy and ecological sustainability which has led to an increasing dependency on external inputs and knowledge<sup>15</sup> and has led to the blunted capacity of alternative agriculture to challenge the industrialization in agriculture (Aunno 2003; Bunchai 2004).

Apart from the concern about conventionalization, there was a concern about the appropriation of organic farming by agribusiness, through the process of input-substitution, such as the use of organic fertilizers produced by industrial factories, instead of home-produced organic fertilizer (Yaimuang 2000). There was a clear tendency towards a greater number of organic farmers in Thailand relying on industrially bio-fertilizers, instead of on-farm organic fertilizers<sup>16</sup>, in spite of the fact that sustainable agriculture is supposed to minimize energy and resource use, by recycling resources within the farming system, or at least by using resources found near the farm. Hence, the instance of substitution of on-farm organic fertilizers for industrially ones in Thailand calls into doubt whether organic farming in Thailand has been appropriated by agribusiness.

It is correct that we cannot see conventionalization and appropriation of organic agriculture as a universal tendency. Thus what happens in the development of organic farming in North America (Guthman 2004b), might be different from what goes on in other regions like Australia (Campbell 2001) and Thailand. As such, a fundamental issue to be concern is the autonomy of small-scale farmers in Thailand integrated into global agro-food networks.



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<sup>14</sup> GreenNet is a local NGO which has a significant role in supporting commercialized certified organic agriculture.

<sup>15</sup> [http://www.sathai.org/knowledge/01\\_policy/A03Comment\\_SUPA.htm](http://www.sathai.org/knowledge/01_policy/A03Comment_SUPA.htm).

<sup>16</sup> Krungthep Turakij Newspaper, 9<sup>th</sup> September 2004.

## 2.4 Thailand Agricultural Restructuring Policy

Thailand has been the number one rice exporter over the last two decades. However, there have been some fairly important changes in the position of agriculture in the Thai national development plans. The first three consecutive years of national development plans did not show any significant change in agricultural policy. In contrast, the changes introduced in the second three consecutive years decreased relative expenditure on agricultural promotion. Such policy seemed to contradict to the aims of the policy which was to place increasing emphasis on improving agricultural yields per rai and to discourage rapid expansion of new agricultural land (Petchprasert 2006).

The agricultural sector has lost its importance in the Thai economy, as its growth rates have followed a downward trend since the beginning of the Fourth National Plan (1977-1981). The problem of cost-price squeeze in conventional agriculture is identified as the most critical problem confronted by Thai farmers. The production costs for rice farming constantly increased over the previous decade. The increasing poverty among farmers came from two contrasting trends. The first trend is increasing production costs. The second trend is unpredictable and fluctuating rice prices. The production costs for rice farming constantly increased from 1995 to 2005 but the incomes of farmers had developed toward decreased trend. The average growth of production cost was 4.31 percent per year (see Appendix F) (Petchprasert 2006).

Appendix G illustrates the statistics of rice production costs, divided by region in the harvest year of 2004 to 2005. Central Thailand had the highest compared to other regions of the country, estimated at 215.28 baht per rai, due to the high reliance on wage labor and other inputs. However, average yields found in central Thailand were estimated at approximately 513 kilos per rai, which were the highest in the country. But, the rice price of central Thailand was 5.41 baht per kilo, which was the lowest. So the central Thai farmers received the highest incomes, estimated at 2,776.36 baht per rai, and they gained the highest net profits of 761.08 baht per rai or 37.77 percent of total production costs.

In contrast, northeastern Thai farmers had the lowest production costs of 1,670.83 baht per rai, due to the adoption of rain-fed farming which relies less on wage labor and capital inputs. Nevertheless, the average yield found in northeastern Thailand was approximately 290 kilos per rai, which was lowest compared to other regions of the country. Although the rice price of the Northeast was highest at 6.18 baht per kilo, the net incomes which the farmers derived from rice sales were lowest at 1,794.23 baht per rai. Therefore, the profit that the farmers gained was merely 123.40 baht per rai or about 7.39 percent of total production costs.

Thai government recognizes to solve problem of cost-price squeeze in conventional agriculture and tries to solve such problem through the “Paddy Mortgage Program”, initiated in 1982. The farmers who participate in this program can be given a farm loan from the Bank of Agriculture and Agricultural Cooperatives (BAAC) in exchange for mortgaging their paddy with the BAAC. When the market price is higher than the support price, the farmer can repay the loan by selling the mortgaged paddy at the market price. When the market price is lower than the support price, the farmer can sell the mortgaged paddy to the BAAC at the support price. A number of farmers who live in Central Thailand benefited from this program.

However, northeastern Thai farmers were not able to benefit from this program while the region’s farmers were the poorest in the country. Northeastern Thai farmers receive the least benefits from the rice mortgaging project for several reasons. Firstly, yields per rai in the Northeast are relatively lower than those of other regions. Secondly, northeastern Thai farmers depend on rain-fed rice farming while central and northern Thai farmers do multiple cropping (two or three harvests per year). Lastly, there were no rice mills in the Northeast participating in the Paddy Mortgage Program, while the region’s farmers were the poorest in the country.

Although Thailand has been an active rice exporter in the international markets, the changes in the structure of the world rice market since the mid-1980s has considerably affected Thai rice exports. The world rice market has been an unstable commodity market, with fluctuating prices and uncertain availability of supply. Dawe divides the development of the world rice market into three periods. The pre-green revolution period from 1950 to 1964 was characterized by high and stable prices. The green revolution period from 1965 to 1981, when modern fertilizer-responsive

varieties were adopted in many countries, was a period of high and unstable prices. The post-green revolution period, from 1982 to 1998, witnessed low and stable rice prices. The changes in the world rice market have affected rice policies throughout Asia in at least two main ways. First, governments pursue policies to increase domestic rice production and to attain self-sufficiency. Second, most rice producing countries pursue price stabilization policies to mitigate the impact of changing world prices on domestic prices when some exposure to the world market was too costly to avoid (Dawe 2002).

Because the long-term decline in rice prices and the increased competition from non-organic rice in international markets, there is a concern about whether Thailand can maintain its surplus and future competitive position in the world rice market. Appendix H illustrates total and selected agriculture exports from Thailand, 1970-1995. It indicates the contrasting two trends of exported agricultural products from Thailand from 1970 to 1995. On the one hand, we can see a decline in the prices of traditional agricultural products such as non-organic rice. On the other hand, we can see the incline in the values of non-traditional agricultural products such as fruits and vegetables exported from. Therefore, some scholars suggest that the Thai government should encourage the high-valued food production in replacement of low-valued food production to enhance the competitiveness of the Thai agricultural sector (Siamwala 1989).

Moreover, the Thai government's adoption of free trade agreements<sup>17</sup> at Doha since the late 1980s has affected Thai agricultural sector, due to commitments to reduce domestic subsidies and eliminate export subsidies, to increase market access,

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<sup>17</sup> The adoption of the new round WTO agreements at Doha has affected the Thai agricultural sector in three ways. First, the WTO Agriculture Agreement requires the reduction of state subsidy to farmers and a reduction of public sector investment to ensure minimization of state subsidies and degrees of trade distortion. State subsidies are generally designed to bring down the price of domestically produced agricultural goods so that they become competitive on the world market, thereby creating export opportunities for domestic producers that would not otherwise exist. Secondly, the URAA requires an increased market access. It regards quota systems as major barriers to trade which directly limit the ability of economically more competitive overseas producers to realize export potential. Therefore, it requires a reduction in imported customs, and an agreement to open local markets for exported-agricultural products in order to ensure enlargement of market access for imported products. Finally, the URAA specifies a food safety commitment, especially the commitments to the sanitary and phyto-sanitary (SPS) and the technical barriers to trade (TBT). Although the aim of technical barriers to trade agreement is to reduce the barriers to trade, a number of studies show that the use of SPS and the TBT measures are often treated as non-tariff trade barriers to sanction agricultural products that are being exported from other countries (Hooker 1999; Henson and Loader 2001).

and to comply with food safety standards (Henson 2001). In 1986 the Thai government had lifted all export restrictions and export subsidies, except the paddy mortgage program (Isvilanonda 2005). The impacts of the adoption of neoliberal economic policy in Thailand on Thai agricultural sector are subject to debate.

Who gains the most benefits at the expense of the others is also a matter of contention. A study by the Thailand Development Research Institute (TDRI) cites that the Thai agricultural sector gain benefits from the WTO agreement on agriculture, because the adoption of free trade agreements would increase the values of agricultural products exported to other countries (Puapongsakorn 2004). In contrast, Ammar Siamwala, a famous neo-classical economist, argues that without the Thai government provision of financial capital and infrastructure development necessary for the shift to production of high-value foods, Thai farmers do not gain benefit from neo-liberalization (Siamwala 1989). NGO activists from the Rural Reconstruction Alumni and Friends Association (RRAFA) argue that the Thai's government adoption of the neoliberal economic policy has reduced the competitiveness of Thai agricultural exports in the global markets. NGO staffs express their concerns that Thailand may not be able to maintain its competitiveness regarding price and quality for exported Thai rice in the future, as the cost of production of Thai rice is relatively higher than other countries such as Vietnam and India. Others concern that the SPS and TBT measures are employed by developed countries as non-tariff barriers to sanction agricultural products exported from developing countries (Taneewut 2000). A survey of Chulalongkorn University conducted in 2002 cited that 34 items of exported agricultural products from Thailand to the EU markets were rejected at the border in 2000 because of non-compliance with agreements on the SPS and the TBT (Puapongsakorn 2004).

The Thai government regards agricultural restructuring towards agro-industrialization is a national agenda in the development of Thai agricultural sector in the context of neoliberalization (Manarangsan 1992). Thailand's agricultural restructuring policy can be seen a response to trade liberalization and the growth of niche markets. The growth rate of major certified organic markets in 2003 is shown in Appendix I. However, the growth of organic consumption in developed countries relies significantly on organic imports from developing countries. Over the past

decade, the production of certified organic commodities has grown rapidly throughout developed countries, with 90 countries now producing certified organic commodities in commercial quantities to serve international markets (Raynolds 2002: 734).

The Thai government's official recognition of organic agriculture is reflected in the commitment to sustainable agriculture as articulated in the Eighth National Economic and Social Development Plan (1995 to 2000). It involved a move away from the promotion of mono-cropping, a reconsideration of government subsidies for agrochemicals, and a greater collaboration with NGOs to pursue agricultural alternatives. Although the reasons for the shift to organic agriculture are quite complex, the economic reasons were very important, especially for some sectors of organic agriculture. Organic agriculture is perceived by the Thai government as beneficial to the Thai economy, human health, and ecological conservation. In 1999 the Thai government declared a policy to make Thailand a center for organic agriculture. The Thai government has implemented a policy to promote organic jasmine rice production in particular. The Thai government allocated a budget of approximately 1.7 billion baht to expand the planted areas of organic jasmine rice production to increase rice production to 120 billion tons in the harvest year 1999 to 2000.

The Thai Ninth National Economic and Social Development Plan (2001 to 2006) reflected the Thai government's commitment to organic agriculture. In 2004 organic agriculture was formally announced as a part of the national agenda (Department of Agricultural Extension 2004). As a result, Thailand's action plan for promoting organic agriculture was set up through many governmental bodies, who were asked to take action according to this new national agenda<sup>18</sup>.

According to such policies, the Thai government allocated a budget of approximately 1.27 billion baht (US\$41.1 million) for six ministries and 26 governmental bodies to implement action plans, covering the years 2005 to 2009. The major aims of the action plans were to increase the number of organic farmers to 4.25 million by 2006, to expand the planted areas for organic crops to 85 million rai (roughly 13.6 million hectares), to reduce the use of imported synthetic fertilizers by 50 percent, to increase the exports of organic products by 100 percent, and to improve

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<sup>18</sup> [http://www.ddd.go.th/link\\_fertilizer/home.htm](http://www.ddd.go.th/link_fertilizer/home.htm)

farmers' incomes by 20 percent. In order to achieve such goals, various strategies have been adopted, such as a public advocacy about the use of organic fertilizers, research, development of techniques for organic production, and training of trainers for organic agriculture and marketing<sup>19</sup>.

From 2004 to 2008, the Ministry of Agriculture and Cooperatives, in concert with other governmental bodies, implemented a national rice strategy<sup>20</sup> to encourage the market-oriented rice production, to improve environment and to create value-added to rice. The Department of Agricultural Extension plays a crucial role in transferring knowledge and techniques of organic jasmine rice production to farmers. However, the state focuses exclusively on training. But, NGOs have long been engaged in encouraging organic jasmine rice practicing and supporting organic certification.

In 2008 organic planted areas were estimated at roughly 140,963 rai, of which 80 percent were served for growing rice, vegetables, fruit, and herbs. The Thai government plans to increase areas under cultivation for organic agriculture by at least 40 percent, to 200,000 rai in 2010, to meet higher demand for organic foods in world markets. The small area puts Thailand in 71st place out of 85 countries that grow organic produce; it earned only about one billion baht in export revenue. The figure represents less than 0.1 percent of the total value of organic products around the world, estimated at 1.3 trillion baht in 2006. To capture the growing market, the Thai ministry of agriculture and cooperatives allocated a budget of 1.7 billion baht to improve organic plantations. The funds will be spent to improve land, for research and development, and marketing to promote Thai products. The ministry has a budget of 354 million baht to support the establishment of the Mentor Program, in which

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<sup>19</sup> [http://www.idd.go.th/link\\_fertilizer/home.htm](http://www.idd.go.th/link_fertilizer/home.htm)

<sup>20</sup> A national rice strategy focused on six essential parts: (i) the establishment of rice production zones according to different types of rice, (ii) the development of support systems for rice production, (iii) the improvement of mechanization, (iv) research and development of rice seeds; (v) the distribution of premium quality rice seeds, and (vi) the encouragement of technology transfer and good agricultural practice (GAP). The rice production zones were established according to the capacity to access water supply. The establishment of rice production zones was aimed to increase capacity for rice production throughout the year and to be able to produce premium quality rice and eliminate the problem of mixture of different rice types. The development of support systems for rice production includes the development of irrigation systems, the improvement of soil fertility and soil structure to be proper for production using organic fertilizer and rotation crops, and the improvement of land to be flat and suitable for using of machines in tilling and harvesting in order to reduce transaction costs.

select experts are hired to advise farmers on organic farming. The Ministry of Agriculture set a goal to have approximately two million rai of chemical-use fields converted to organic farming.

Moreover, the Thai government considers standardization of organic foods as a prior condition for the export of organic agricultural products to global markets. The standardization of organic farming in Thailand was initiated through the institutionalization of organic standards. It was marked by the establishment of the Office of Organic Agriculture Certification Thailand (ACT) in 1998 to focus on certifying organic products and the use of international standards. ACT was accredited by International Federation Organic Agriculture Movement (IFOAM)<sup>21</sup> in 2000<sup>22</sup> and by ISO 65 standards for third party certification in 2005. The Thai government established the National Bureau of Agricultural Commodity and Food Standards (ACFS) in 2002 to consolidate all national organic certifications under a single authority.

The emergence of international organic standards represents one of the most significant governing practices for organic provision. The institutionalization of organic standards has led to a re-formulation in the production, processing, and distribution of organic products. In Thailand, once the international standards have been enforced, the meaning of organic farming was redefined by a number of scientific, professional, popular, and lay discourses to fit with the principles of the IFOAM.

Nevertheless, the growth of organic food supplies in Thailand resulted from the engagement of agribusiness in organic production, through it is difficult to

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<sup>21</sup> According to IFOAM, the four principles of organic agriculture are: the principle of health, the principle of ecology, the principle of fairness, and the principle of care. Basically, organic agriculture is required to be concerned with the development of production systems which have a diversity of plants and animals, with the development of a self-reliance capacity of production systems in terms of organic matter and nutrients in the farm, the use of renewable resources in the farm, the avoidance of practices that cause pollution to the environment, and the protection of production and management systems with the care of humanity ([http://www.ifoam.org/about\\_ifoam/principles/index.html](http://www.ifoam.org/about_ifoam/principles/index.html)).

<sup>22</sup> Initially, the ACT was named Alternative Agriculture Certification Thailand, and had four main objectives: (i) to build consumer confidence in products produced from alternative agriculture, (ii) to protect genuine farmers practicing alternative agriculture, (iii) to improve the quality of organic products, and (iv) to expand the alternative agriculture movement. After the ACT had run for a few years, it changed to focus on certification alone. In 1998, the Alternative Agriculture Certification Thailand was renamed to Organic Agriculture Certification Thailand, and its standards were also revised to meet those of IFOAM in 2000 (<http://www.actorganic-cert.or.th/standard.html>).

determine the impacts of agribusiness on organic agriculture due to a lack of evidence. Some Thai NGO staffs have expressed their concern that the Thai government's promotion of market-oriented organic agriculture has led to the abandonment of the principles of sustainable agriculture, the conventionalization of organic agriculture and the appropriation of agribusiness in alternative agriculture. They argue that it is necessary for a social movement on alternative agriculture to choose between either returning to the initial values of alternative agriculture associated with sufficiency economy and ecological holism or complying with the commercialized and standardized organic agriculture<sup>23</sup>. However, some NGOs in pursuit of market orientation argued that there had not always been an incompatibility between economic benefits and a commitment to ecological ideals. From this point of view, the standardization of organic agriculture was perceived as beneficial, as process of standardization and verification would assure the consumers about the quality of organic products and would improve the competitiveness of Third World countries to enter into niche markets within developed countries (Panyakul 2004).

Appendix J illustrates Thailand's planted areas of jasmine rice during the cultivation harvest years of 1990/1991, 1997/1998, and 2002/2003, including percentage changes between periods. In the cultivation year 1990/1991, the jasmine rice productive areas accounted for 11.85 million rai. The area rose to 16.36 million rai in the cultivation year 1997/1998 or an increase of roughly 38 percent from the harvest year of 1990/1991. The jasmine rice productive areas reached 18.68 million rai in harvest year 2002/2003, an increase of approximately 58 percent from the harvest year 1990/1991. Furthermore, the area change in the second period seems to diminish in growth between the year 1997/1998 and 2002/2003 which reduced by 14 percent or a decline of roughly 2.8 percent a year. In recent years, the share of jasmine rice productive areas accounts for one-third of the total wet season rice areas. In the harvest year 2002/2003, the production of jasmine rice was 5.53 million tons of paddy or about 28.2 percent of total wet season rice production. The production rose roughly by three-fourths of the harvest year 1990/1991 or an increase of one-fifth of the production in the harvest year 1997/1998. The major shares of production are

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<sup>23</sup> [http://www.sathai.org/knowledge/01\\_policy/A03\\_Comment\\_SUPA.htm](http://www.sathai.org/knowledge/01_policy/A03_Comment_SUPA.htm).

inevitably the lowest in northeastern Thailand and upper northeastern Thailand respectively.

The major jasmine rice production sites are the provinces of lower northeastern Thailand. The productive area in these six provinces accounts for three-fifths of the total jasmine rice areas and roughly 60 percent of total jasmine rice production. Whereas the area change between harvest year 1990/1991 and 2002/2003 was approximately 45 percent, the production change in the same period was higher. This reflects an increase in yields of jasmine rice over the past decade. However, trends of area and production changes between harvest years 1990/1991 and 1997/1998 signify a decline in both planted areas and production in the major production region, as illustrated in Appendix K.

While jasmine rice prices rose on average 5.35 percent from 1992/1994 to 2001/2003, those of non-jasmine rice declined 2.57 percent over the same period. In 2003 the export of jasmine rice was 2.03 million tons or about 29.97 percent of total rice exports. Exports of jasmine rice have considerably risen from 0.70 million tons in 1990 to 1.24 and 2.20 million tons in 1997 and 2003, respectively. The increase was 213.94 percent between 1990 and 2003. Nonetheless, after the devaluation of Thai baht in 1997, the export market for jasmine rice has been diversified from the original markets. As a result, the share of those major export markets declined to 46.82 percent in 2003, despite a near doubling in the exported amount (Manarangsarn 1992).

## **2.5 Historical Aspects of Study Site and Production Sites of Organic Jasmine Rice**

The field sites were some districts in Ubon Ratchatani Province and Amnartcharoen Province along the Thai-Laos border, which are important sites of export-oriented organic rice production. These production sites are situated in remote areas, far away from Ubon Ratchatani city by over 100 km. These production sites are comprised of 320 households in 88 villages of eight districts in Ubon Ratchatani Province and 236 households in 32 villages of five districts in Amnartcharoen Province.



My investigation finds that the first resettlement involved clearing forest for paddy fields, which was difficult because it had been very overgrown. The villagers used only shovels and buffalos to clear the forest. Intensive fieldwork was conducted in one sub-district of Ubon Ratchatani Province, namely Na Sawan<sup>24</sup> Sub-district. The district is comprised of ten villages. The population of Na Sawan Sub-district surveyed in 2008 was 1,071 households, while the population of Na Sawan Village in the same year was 171 households. However, the number of farmers engaged in organic rice farming was relatively small when compared to those who engaged in conventional agriculture. Na Sawan Village was selected for conducting intensive fieldwork because most farmers engaged in organic rice farming at that time came from this village. My survey in 2008 finds that there were 20 households in Na Sawan Village of a total 36 households within Na Sawan Sub-district who were engaged in organic rice farming under the support of the local NGO (see details in Appendix L).

Most farmers cleared forest to be paddy land which was only enough for growing rice for own consumption but was not enough for commercial. The Na Sawan Sub-district was established since 180 years ago. The elder persons of over 70 year-old who born in this sub-district said that initial settlement occurred in their parents' generation.

A 70 year-old farmer recounted that her father cleared enough forest for 20 rai of paddy land which was not enough for producing rice for their own consumption because her family had many family members. Her family needed to clear land for many years to make sure that they had enough rice for consumption and for sale. She added that there were many families who had relocated from many other places following her family. Those who moved into the village after the first generation often bought land from previous settlers rather than clear and settle their own land. The first generation who cleared the forest became wealthy farmers, as they were able to sell land and hire labor to clear more lands. This settlement or clearing process gradually declined over the past 20 years. The wealthy farmers inherited land both from their parents and in-laws, and they always engaged in commercial activities such as rice mills, which helped them accumulate wealth to buy additional land. The farmers

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<sup>24</sup> To protect the villagers from social sanction and other negative reactions, the names of the study sites and key informants are not disclosed. I have used pseudonyms instead.

always passed on land to their sons and daughters. Since the new generations inherited the land from their parents, they owned less land than had the previous generation.

The yields cultivated in the first settlement were low. The farmer who owned about 30 rai of land could harvest roughly 3,600 kg of rice, or the yields were about 120 kg per rai. The same farmer specified that yields harvested nowadays are at least about 6,000 kg per 30 rai or about 200 kilos per rai which is rather low compared to yields harvested in other regions of the country (Interview, Bunta Puttipong, March 20, 2008).

Mr. Bunpun's family relocated from Amnat Charoen Province when he was eight years old. His mother's sister had moved earlier and told his family that Na Sawan Village was suitable for rice growing, with a great plain and public waterway. When his family moved to Na Sawan Village, the village was surrounded by forests and had a lot of animals. His family did not clear much land, but he was received a large amount of land from his wife's family. After marriage, he grew rice without using chemical fertilizer. They harvested enough rice for their own consumption and for sale. He accumulated cash from rice sales to buy more than 40 rai of land at 80,000 baht (Interview, Bunpun JaiSue, March 26, 2008).

Although the farmers encroached on the land, they preserved both forest and big trees growing on paddy land. Because many large trees are found on paddy land, it appears as if farming here is practiced in the forest, which is not the case in other provinces of the Northeast. The farmers said that they follow traditional belief to preserve the trees within the paddy land for the reason that they can use such trees for house building and fuel wood. Moreover, the farmers believe that preserving big trees helps to keep moisture within the soil and, and tree leaves are good compost. Because most farmers do rain-fed rice farming and irrigation systems can be rarely found, they are concerned about conservation of the environment. Many farmers said that they seek food from the forest. And they believe that preserving the forest is related to sufficient rainfall and that the destruction of the agro-ecological environment has negatively affected organic agriculture.

Northeastern farmers rely significantly on natural resources in the village such as the trees bordering their fields, swamps, waterways, and marshes. In the Na

Sawan Village whereby the intensive fieldwork was conducted, the farmers do rain-fed rice farming and rely on rainfall. Only minority of villagers who live nearby Bang Koi Creek, which is the only public waterway within the village, can divert water from a public irrigation system connected with Bang Koi Creek into their paddy land. But, majority of them live far away from Bang Koi Creek cannot access to water in the public irrigation system.

The first temple was established in the Na Sawan Village over sixty years ago. The first school was established at the temple, and the government school was later established. Roads in the past were dirt paths used for bullock carts. Rice trading was limited due to limited transportation. Villagers recalled that they had to carry rice in carts, and they had to travel together as a group to take four to five carts of rice to sell to two rice mills in Ta Bo Baeng Sub-district of Trakan Phuet Phon District. The travel time usually took about two days and one night. After selling rice, they bought necessary household items, but rice prices at that time were very low.

Although the farmers faced difficulties associated with transportation, they said that they had intentionally produced as much rice as possible for sale, not only for their own consumption. They had to sell rice to accumulate capital to buy additional land. Gravel roads were constructed over the last 30 years which have made rice selling become easier, as farmers can carry rice in car and can sell rice to rice mills which are located far away from the village. The arrival of electricity happened less than 30 years ago, followed by the introduction of machines and other conveniences such as tractor, televisions, refrigerators, and telephones. Nowadays, only wealthy families have telephone landlines, but most farmers use cell phones which have made their lives become easier (they can find out about contract jobs, buy inputs, sell rice, and contact their friends and relatives working outside the locality) (Interview, Bunta Puttipong, March 20, 2008).

The organic jasmine rice scheme in northeastern Thailand was initiated by a local NGO in 1998 through a local development scheme. First initiated in 1997, the local NGO worked on some rural development projects, including the promotion of the green revolution into remote areas of Ubon Ratchatani and Amnat Charoen Provinces.

The first project worked on the provision of loans for the farmer members to buy chemical synthetic fertilizer in the place of livestock manure. Second, the local NGO worked on a rice bank project. The NGO found that middlemen bought paddy from the farmers at a low price and sold it to rice mills at a high price to make a profit. To cut off the middlemen from the conventional rice chain, the NGO supported the farmers to set up a group, a producer's group comprised of representatives of farmer members and was asked for a bank loan, the producer's group used such loan to buy paddy from the farmer members and sold rice to the rice mills when rice price was high. This project had membership of 340 farmers.

Third, the NGO worked on a buffalo bank project. The NGO found that a number of farmers had no buffalos used for plowing so that the plowing was delayed. Some farmers rented buffalos or tractors from capitalists to use for plowing which made the production cost increased. Therefore, the NGO provided 1,000 female buffalos for the farmer members to rent in cheap price. The farmers who rented buffalos received the new borne buffalos in exchange of their responsibilities for buffalos' raring.

Fourth, the NGO initiated the fish pond project. The NGO considered that, due to the severe drought commonly found in Ubon Ratchatani Province, the farmers always had insufficient protein foods in summer season. So the NGO encouraged the farmers to dig up fish ponds within rice farms, which can be used for water supply and fish raring. Hence, the farmers were required to gather as a group and asked for a bank loan to use for digging up fish ponds. One village was supported to dig up one fish pond, and six hundreds ponds now were constructed under the support of the NGO. The farmers who were farmer members of the group had to repay for a bank loan.

Fifth, the NGO initiated the reforestation project. The NGO encouraged the farmers and schools to grow trees within local communities. However, this project failed because no one was responsible for nurturing trees which had grown. Sixth, the NGO initiated the rubber plantation project. There were 736 farmers engaged in this project, which implemented from 1989 to 1999, and this project was finished with successful. Seven, the NGO worked on the handicraft project. This project worked with 21 groups of women within Ubon Ratchatani Province and Amnartcharoen

Province. There were 750 households engaged in this project. The NGO provided the loan to the women, and instructed them to improve quality of handicraft products. Moreover, the NGO supported the improvement of marketing of handicraft products through the construction of show room for showing handicraft made by the farmers (Interview, Project manager, February 1, 2007).

The NGO project manager was suggested by Fair Trade Original in the Netherlands to shift from the promotion of the green revolution to a new scheme of chemical-reduced style of agriculture because international markets demanded premium quality organic jasmine rice. This new scheme placed an emphasis on a reduction of chemical fertilizer, an improvement of soil fertility through the use of organic compost and the adoption of agricultural techniques to improve the ecological environment.

Moreover, the NGO was interested in the promotion of organic agriculture because the price of chemical fertilizer was steadily increasing, and the government began its subsidies for chemical fertilizer for the farmers in the Northeast. However, it was commonly found that chemical fertilizers are past their expiration date when they arrive in the hands of the farmers in the Northeast (Interview, Project manager, February 1, 2007).

The organic jasmine rice project manager said that it was difficult to convince the farmers to shift to organic agriculture at that time, because the farmers were familiar with doing conventional agriculture. The organic jasmine rice project manager said that the farmers engaged in the organic jasmine rice production project in 1998 were those who were earlier had engaged in the rice bank project initiated by the NGO. The initial mobilization of farmers for growing organic rice was based on their conversion from non-organic to organic agriculture. The NGO carefully selected the farmers whose paddy fields were considered suitable for growing organic jasmine rice. The NGO offered the price for organic rice at 12,000 baht (US\$ 342.86) per metric ton or 12 baht per one kg, which was higher than the price for non-organic rice sold in local markets at that time which was about eight baht per kg. Therefore, the farmers were satisfied with the price of organic rice and were convinced to shift to organic agriculture, which they also believed was good for their health as well as the environment (Interview, Project manager, February 1, 2007).

Initially, although the NGO provided the farmers with many necessary inputs such as rice seeds, EM or indigenous microorganisms free of charge, the NGO limited the land used for growing organic rice at one half to one rai only, because at that time the group was not certified as a fair trade producer and could not export rice to fair trade markets. Until the organization was certified as fair trade, the NGO had to limit the land used by its members for organic jasmine rice production.

The fair trade standards for rice products require the accomplishment of a transitional period so that farmers are certified as fair trade producers. This period begins simultaneously at the date that the fair trade regulations have been enforced and requirements on traceability through documentation are complied with. The acceptance process usually takes about six months, the initial site visit is followed by annual visits by independent monitors accredited by FLO. Moreover, yearly reports on social and environmental conditions and the use of their fair trade premium are required.

It was expected that a fair trade premium paid to the farmer's organization in addition to the guaranteed rice price in order to support locally-initiated development projects would improve the well-being of smallholders. The NGO and organic jasmine rice producer's group used the fair trade premium to begin to focus exclusively on organic rice production. The transitional period for organic rice takes three years; therefore, in 2002 the organization was firstly certified as an organic producer. Therefore, the NGO here acts as a "gate keeper" of globalization to link the local farmers with national and global actors. Urry suggests that a gate keeper contributes to widespread in-and-out moving of information, people, knowledge, technologies, goods, and ideologies across national and regional territories (Urry 2000).

Additionally, in the participatory observation of a village which is the site of organic rice production, there are some farmers who act as a node of the networks, as they link the project developer with the farmers. He or she may be a member or on the committee of the fair trade producer's group, and plays an important role in mobilizing farmers to apply for new membership, transfer information, and coordinate between the project developer and the farmers, including monitoring agricultural practices of neighboring farmers.



Apart from the local NGO, a number of different individuals, state agencies and international NGOs are also involved with the integration of northeastern Thai farmers into niche markets for fair trade and organic. One of these important actors is Fair Trade Original based in the Netherlands. This organization has long supported the organic jasmine rice production group from its inception. From 2003 to 2008, the group received a fair trade premium of approximately 1.5 million baht (US\$ 24,857). The premium was employed to support a variety of activities, such as training the farmers on the technical knowledge required for organic rice farming, paying certification fees, and setting up a fund to dispense group loans for farm improvements. The representatives from fair trade annually visit the fair trade rice production site in northeastern Thailand to provide the farmers substantial production support such as market information, publicity and training. The fair trade representative plays a key role in motivating farmers and NGO staff to be concerned about the importance of quality and quality control at every point of organic jasmine rice production.

At the beginning of the organic jasmine rice scheme in 1998, approximately 70 percent of the membership of the organic jasmine rice producer's group was smallholders; most farming families owned land less than 15 rai (about 2.4 hectares).

In 2007 I conducted a survey of a total of 27 farmers engaged in export-oriented organic jasmine rice production in Na Sawan Sub-district, Khemmarat District, Ubon Ratchatani Province. This survey found that the typical livelihood package of farming households are conventional agriculture, organic agriculture, on farm and off-farm wage labor, trader and private enterprise, civil servant, animal raising, charcoal making, collecting and selling forest products, handicraft, etc (see details in Appendix M).

The demographic, social, and economic statuses of sampling farmers are illustrated in the Table 2.1. The author's survey finds that from total 27 farmers engaged in export-oriented organic jasmine rice production in Na Sawan Sub-district, the average number of family members is five persons, but the average number of laborers working on farm is two persons per family. The average age of the head of families engaged in organic rice farming is 49 years. As the family labors working in

organic rice farming is insufficient and their average age is fairly old, the family farms have to hire wage labor as additional labor to work on farms.

**Table 2.1 Demographic and Socio-Economic Status of Farmers Engaged in Organic Rice Farming in Na Sawan Sub-District Classified by Farm Size**

Number of Households		Average Income Derived from Wage Remittance per Year (baht)	Average Number of Family Members	Average Age of Head of Family	Average Expenditure of Family per Year (baht)	Average Money Borrowed by Farming Households per Year (baht)
Small-scale farmers (1-15 rai, or 1-2.4 hectares)	6	47,574	4	42	112,452	55,667
Medium-scale farmers (16-30 rai, or 2.5-4.8 hectares)	8	32,020	6	49	94,474	76,750
Large-scale farmers (larger than 31 rai, or 4.9 hectares)	13	29,657	5	52	117,744	114,846
<b>Total</b>	<b>27</b>	<b>34,339</b>	<b>5</b>	<b>49</b>	<b>109,673</b>	<b>90,407</b>

*Source: A survey conducted by the author in 2007*

Table 2.1 indicates the socio-economic status of farmers engaged in organic rice farming. Like villagers in other rural communities in the Northeast, Na Sawan

Sub-district farmers make their living by combining agricultural and non-agricultural activities. Farmers engaged in organic rice farming have major sources of incomes from wage remittances sent by family members working as wage laborers. That is to say that the survival of farmer households is based on wage labor.

My observation at the study site is that the migration of young generations to work in Bangkok affects the rural lives in Na Sawan Village. The village nowadays looks lonely because young generations out-migrate to the cities, and only very young children and older persons stay at home while the adult farmers work on their farms. Village life becomes active when the young generations return homes to join important festivals, particularly Songkran Festival in April. The Northeast is well known for its labor mobility, so the region receives particular attention by Thai and Western scholars. There is a research reporting that from a total of 2.5 million rural households in the Northeast, at least one family member lives outside the region (Rigg 2009). This report corresponds to the author's survey in 2007 which finds that both male and female villagers living in Na Sawan village have experienced migration to work within both domestically as well as abroad. Mary Beth Mills (2001) argues that the young generations from the Northeast migrate to Bangkok to work as wage laborers in the hope that it helps them to earn better incomes from non-agricultural activities and to consume "modernity" in the city (Mills 2001).

The implementation of rural development programs in the Northeast for over fifty years has created changes in the patterns of consumption as well. In Na Sawan Sub-district, rich farmers build modern style houses made of cement and having one level without space under the house. Yet, the poor farmers still live in the traditional Thai style house made of wood and having space under a house for keeping agricultural equipment and production inputs. In the past, rural households consisted of extended families, and exchange labor among kin and neighbors was common. Rural households nowadays are nuclear families. The exchange of labor, goods, technologies and production inputs increasingly are made through the marketplace. The exchange of labor among kin involves the payment of wages, and the use of the labor of kin free of charge is rarely found.

*Yearly Expenditure and Debts: Misrepresentation of Farmers' Life*

The market integration of farmers of Na Sawan Sub-district has led to increasing yearly expenditure for the farmers' households. The author's survey finds that the average annual expense borne by the small-scale farmer households was 112,452 baht per household. The average yearly expenditure spent by the medium-scale farmers was 94,474 baht per household. The average yearly expenditure spent by the large-scale farmers was 117,744 baht per household. These expenses were used to repay debts, to invest in agriculture, to buy production factors (cows, buffaloes, tractors, patrols, food), to pay social charity costs, to pay children's education costs, to buy modern amenities such as televisions, radios, video players, motorcycles, mobile phones, refrigerators, fans, gas stoves, electric boiling pots, washing machines, etc.

The farmers consider consuming modern amenities as helping them to cope with increasing burdens in the domains of production and reproduction. Some modern facilities such as mobile phones become necessities in the daily lives of farmers, because these conveniences allow them to be able to access market information, to find out wages, and to keep in contact with their family members who work far away from home. Without these modern facilities, farmers face more difficulties in managing their lives. Therefore, the roles of modern consumer goods in daily lives of farmers need to be considered in multiple functions. It is incorrect to conclude that the farmers consume modern amenities because they are victims of consumerism, or they are addicted to materialism.

Furthermore, the farmers invest in the education of children because they regard education as a means of upward mobility and a way to constitute life security in the future. The farmers consider investment in education as generating more predictable outcomes than investment in agriculture. They do not want their children to grow up to be farmers because they do not want their children to work hard in the fields, and to be exploited by others as they have experienced throughout their lives.

Like the farmers in pursuit of conventional rice farming, the author's survey also finds that the small-scale, medium-scale, and large-scale farmers are indebted. Mostly, they ask for loans from the Bank for Agriculture and Agricultural Cooperatives. Secondly, they ask for loans from the one million baht per one village

fund initiated by Thaksin government. Few farmers ask for loans from the financing system that is not controlled by government. The author survey finds that the small-scale farmers had average debts of about 55,667 baht per household. The medium-scale farmer households had average debts about 76,750 baht per household. And the large-scale farmers households had average debts about 114,846 baht per household, as illustrated in Table 2.1. Like the farmers in pursuit of conventional rice farming, the farmers in pursuit of organic rice farming spend most of their incomes derived from rice sales paying back debts and then asking for new loans to use to cover daily expenses. It proves that the debt itself is not a problem if it be repaid by the farmers. In this respect, the claim that organic agriculture is a way out of debt misrepresents the reality of farmers' lives.

In spite of the fact that organic farmers are indebted, some studies claim that organic rice farming is a way out of poverty and a way out of debt. This claim is based on the assumption that production costs per unit of organic agriculture are lower than that of conventional agriculture, and organic agriculture generates higher yields than conventional agriculture does. This claim has led to a conclusion that farmers invest less but gain more from organic rice farming, so organic rice farming can help them to de-link from debt (Hutanuwat 2007).

However, I argue that the claim that organic agriculture has lower production costs and generates higher yields than conventional agriculture is the misrepresentation of reality about organic agriculture and farmer's live. The claim that organic agriculture has lower production costs needs to be tested, since organic agriculture has high transaction costs and high production costs. This issue will be discussed in Chapter 5 (see details in 5.3.4).

## **2.6 Conclusion**

This chapter examines the socio-economic contexts of agrarian transformation from conventional to organic rice farming in northeastern Thailand. I argue that the state attempt to create modernization in agriculture into northeastern Thailand has never succeeded as it has in other regions of the country. The introduction of the green revolution, a form of technological innovation used to increase rice yields, can

lead to substantial improvements in productivity and in living conditions for the majority of peasants in the lowlands of many regions. However, the introduction of the green revolution into northeastern Thailand has not achieved its goal due to the severe difficulties of drought, poor soil quality, lack of sufficient irrigation systems, and limited use of improved seeds, mechanization, and synthetic chemical fertilizer.

Considering the socio-economic contexts of rice production, the Northeast has the lowest per capita income and had been neglected by the Thai government in terms of economic investment until after the Second World War. Due to the spread of Thai Communist Party influence into the Northeast, the development of infrastructure in northeastern Thailand from the 1960s focused mainly on the control of this potential threat to national security. After the Cold War, economic development in the Northeast served to facilitate the export of rice, cash crops, and forest products to central Thailand. It led to the expansion of planted areas of non-glutinous commercial rice production. At the same time, it has resulted in decline in soil fertility and deterioration of environment. The natural degradation is a major cause of poverty and debt that forces northeastern Thai farmers to continually exploit their lands and neglect to manage their lands appropriately to maintain soil fertility. On the other hand, the natural degradation is a major cause of population migration from the Northeast to cities of other regions. As the implementation of the development scheme in the Northeast has rested on the exploitation of natural resources and labor, it has been labeled as a form of “internal colonialism”.

The emergence of alternative agriculture in the Northeast can be seen as a response to the introduction of the green revolution and the attempt to encourage environmentally-friendly agriculture. NGOs play a vital role in supporting various forms of alternative agriculture in the Northeast, particularly integrated farming. NGOs' promotion of organic agriculture as a radical form of alternative agriculture was coincident with the Thai government's promotion of a policy associated with the shift to production of high-value foods in which organic food production is a part of such effort.

The conventional rice trade has reached a downward trend. The long-term decline in rice prices in international markets and the increased competition from low-cost rice economies have led to a concern about whether Thailand can maintain its

surplus and future competitive position in the world rice market. In Thailand agricultural sector has lost its importance in the Thai economy over the last few decades, as its growth rates have followed a downward trend since the beginning of the Fourth National Plan (1977-1981). The decline in the value of exported traditional agricultural products had led to decreasing incomes of households within the agricultural sector and decreasing capacity of the agricultural sector to absorb surplus labor living within rural communities.

Thai farmers make less profit from conventional rice production than other actors; those who make the most profit are middlemen, local rice mills, and exporters. The government's programs to help the farmers, such as the Paddy Mortgage Program, could not enhance the rice price in the Northeast because there were no rice mills in the Northeast participating. Compared to Thai farmers in other regions, northeastern Thai farmers had the lowest production costs of around 1,670 baht per rai, due to the adoption of rain-fed farming which relies less on wage labor and capital inputs. Nevertheless, northeastern Thai farmers have relatively less net profits, as they harvest less yields per rai.

The shift to organic agriculture can be seen as a national mission to enhance the competitiveness of the Thai agricultural sector within neoliberalization. However, in practice the shift to organic agriculture has met with difficulties. For instance, the estimated yield per rai of jasmine rice production is rather low, at less than 350 kilos per rai. And, the transaction cost to organic agriculture is a burden for northeastern Thai farmers. The major jasmine rice production sites are the provinces of lower northeastern Thailand. The productive area in these six provinces accounts for three-fifths of the total jasmine rice areas and roughly 60 percent of total jasmine rice production. However, trends of area and production changes between harvest years 1990 to 1991 and 1997 to 1998 signify a decline in both planted areas and production in the major production region.