



Economic Integration and Adaptive Strategies of Farmers: How Garlic Farmers in Chiangmai Coped with FTA

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Abstract—The paper examines the effects free trade, a second degree of economic integration, on the livelihood of farmers who grow garlic in Chiangmai, a northern province of Thailand. It also describes different strategies adopted among farmers in order to survive fierce competition and limited alternatives. The concepts of adaptive strategies and stakeholder analysis form the major theoretical framework. The areas studied include Chaiprakarn, Fang, and Mae Ai - major areas for garlic production. Stakeholders interviewed were garlic farmers, local merchants, government officials, academics and representatives of NGOs.

The study found that small-scale farmers are ill-equipped to cope with risks arising due to economic integration. The adaptive strategies in which the farmers engage depend largely on their economic, social and cultural capital. The study recommends that alleviation of negative impacts of economic integration should take a two-pronged approach: (1) Chronic problems in the agricultural sector such as oversupplies of produce and excessive use of chemical substances must be addressed; and (2) appropriate adaptive strategies are needed both for farmers who want to keep their occupation and for those who decide otherwise.

Keywords— Free trade agreement, agricultural workers, adaptive strategies and sufficiency economy.

1. INTRODUCTION

The free trade agreement between Thailand and China, under the framework of the Asean-China FTA, took effect on October 1, 2003. Tariffs on vegetable and fruit products were eliminated, subject to HS 07-08, under the Early Harvest Programme of the Framework Agreement. Theoretically, free trade aims at cutting tariffs between countries. The basic reason for Thailand's active engagement in these trade liberalization efforts is the opportunity to enhance economic growth and development. Nonetheless, as Stiglitz [1] has observed, trade liberalization brings enormous benefits when there is full employment and the economy is mature. With full employment, a worker who loses his job can quickly find another. Where these important conditions are not met however, liberalization can expose developing countries to enormous risks. In particular, the less-privileged people in poor countries are ill equipped to cope with the attendant hazards.

This paper was part of a study on the effects of the FTA on farmers in the northern region of Thailand. The focus here is on farmers who grow garlic in Chiangmai province. An overview of the situation of garlic production in Chiangmai is followed by a brief outline of theoretical framework and methodology, and a

discussion of the research findings. The paper concludes with a recommendation which takes into consideration the alternatives of adopting coping strategies in time of economic integration.

2. THEORETICAL FRAMEWORK

Free trade is based on liberal theories of international trade. The most oft-cited theories are the Principle of Comparative Advantage and The Heckscher-Ohlin or Factors Endowments Approach. Both theories emphasize cost-effectiveness due to expertise, efficiency and availability of resources as factors determining which commodities should be produced. There are also costs associated with free trade itself. The most frequently cited negative consequences are social repercussions affecting the livelihood of farmers who are major stakeholders. Theoretically, these negative ramifications can be effectively dealt with through proper preparation and adjustment, but joint efforts are required from the parties concerned.

The theoretical framework employed by this research consists of stakeholder analysis and adaptive strategy. In this analysis [2], stakeholders are in the value chain, i.e. farmers, casual workers, and garlic merchants, as well as those persons with the expertise to intervene and to control the intervention. According to Bennett [3] adaptation refers to ways of dealing with resources and people in order to solve problems and attain goals in time of change. Adaptation should include preserving the environment. Sustained adaptation implies goal attainment by individuals or groups and an on-going need for environmental preservation. Balancing calls for economic benefits with the duty to preserve the environment is vital to the sustained livelihood of farmers.

Farmers in the context of globalization have to manage

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internal and external conditions in order to obtain the resources they need to survive. They must maintain relationships with fellow farmers, cooperatives, middlemen, and government agencies. Farmers are also exposed to various temptations which affect their consumption and way of life. Proper adjustments depend on factors such as understanding challenges, having good social networks and sufficient time to prepare, and being supported by enabling policy. In order to be surmounted, challenges must not be too complicated. The ability to adapt of individual farmers varies considerably.

A study of impacts of NAFTA in 2003 [4] reports that 6 years after the trade agreement came into effect, people in more than 100,000 farm households were jobless. In Mexico alone, the number of poor households increased from 36 percent to 52.4 percent. The study also found that capital intensive, commercialized farming and farmers who had larger operations, extended social networks, and were more in favor of the FTA were able to capitalize from the free trade agreement. For the most part, small farmers did not benefit from FTA because of their lack of resources. Some were able to form cooperatives and increase productivity, but others had to leave for big cities to find work. Interestingly enough, more labor intensive, subsistence farming with less use of chemical substances allowed farmers a better chance to adjust. These 'independents' formed small cooperatives or bargained for better access to markets. They also engaged in alternative occupations which enabled them to offset many of the risks imposed by free trade. Farmers were also found to be making good use of waste, which in some instances provided them with a higher income. This study recommended a close follow-up on adaptation. In 2005 [5], a subsequent study confirmed that subsistence farming tends to create resilience among farmers.

In the case of Thai farmers, another 2005 study [6] brought more news of the negative impacts of the FTA. This study suggests that Thailand's more lenient examination process facilitates the influx of produce from China. The same study found that Thai farmers use a number of different adaptive strategies. For example, they participate in the Royal Project to reduce risk, adjust their farming system, invest in more expensive equipment to upgrade the quality of their own production, and learn to act as middlemen. They also receive assistance from the government and seek help from the Bank of Agriculture and Agricultural Cooperatives. This study recommends that any assessment of FTA impact take into consideration contextual factors such as the socio-economic and cultural characteristics of the community.

3. METHODOLOGY

This study takes a qualitative approach, focusing on group discussion and in-depth interviews. The use of a qualitative method enables the researcher to witness the process of adaptation, in addition to analyzing the role of other stakeholders.

The areas studied included Chaiprakarn, Fang and Mae

Ai districts in Chiangmai province, which produce the highest yield of garlic. Fifteen farmers were interviewed. Among them were members of agricultural cooperatives and landless farmers. Other stakeholders interviewed included two middlemen, seven government officials, two academics and two NGO staff.

4. GARLIC FARMING IN CHIANGMAI

More than 90% of the garlic plantations in Thailand are in the northern region, but statistics from the year 2003 indicated a continuing decrease in garlic farming. The planting season in Chaiprakarn, Fang and Mae Ai runs from October to November and the harvest takes place from January to February. Fresh garlic is plentiful in January and dried garlic begins to appear on the market about two weeks later. Generally, farmers sell both fresh and dried garlic. Dried garlic keeps well for six months. Most farmers rotate crops of rice, garlic, sweet corn, baby corn and other vegetables. Garlic requires approximately 100-120 days from planting to maturity. Before harvesting the garlic, chili peppers are planted in order to make the most of fertilizer still left in the field.

The value chain of unprocessed garlic starts with farmers who sell their crop to local middlemen. These entrepreneurs transfer produce to provincial wholesale merchants. The important markets in Chiangmai are in Sanpatong, Hang Dong and Chom Thong. The produce is then distributed to the Talad Tai and Si Moom Muang Markets in Rangsit before being passed on to retailers.

5. IMPORTED GARLIC

Statistics from the Customs Department confirm a sharp increase in garlic imports since 2003, as shown in Table 1.

The highest volume of imports comes from China, Myanmar and Laos, respectively. The volume of imported garlic from China increases in the third and fourth quarters of the year, while imports from Myanmar surge in May and June, periods during which local garlic has already been distributed (Table 2). By contrast, imported garlic from Laos floods the market from January to March. The major export markets are Malaysia, Indonesia, Japan and Taiwan.

Prices on imported garlic from China are relatively low, compared to local production. Since 2004, the average price, per kilogram, of garlic from China has been less than 6 baht. The price of this import, which arrives on the market at the same time as the locally grown, tends to undercut local prices in other periods as well. Furthermore, the cost of production of Thai garlic has tended to increase every year, as shown in Table 3.

6. FARMERS AND THE FTA : IMPACTS, ADAPTIVE STRATEGIES AND GOVERNMENT MEASURES

In all three areas of this study, only farmers who were members of cooperatives understood that the falling price of garlic was a consequence of the Asean- China Free Trade Agreement. The more well-informed asserted

Table 1. Volume (in%) and price of garlic imported from China

Volume of import (in % of total volume) Unit : 1,000 Tons

Year	1	2	3	4	5	6	7	8	9	10	11	12	Total
2002	0.12	0.80	4.43	7.03	6.41	12.49	15.50	11.31	11.86	6.87	10.32	12.86	15.07
2003	4.06	5.32	8.65	5.81	6.90	7.12	12.78	11.76	5.05	8.40	11.75	12.19	41.16
2004	8.13	7.89	7.75	4.42	10.72	7.24	10.80	8.89	9.25	4.98	8.29	11.62	50.52
2005	7.62	5.09	8.10	8.23	6.99	7.62	11.95	11.98	7.83	6.20	11.76	6.53	43.79
2006	16.99	15.83	13.66	7.38	7.21	5.73	10.19	8.94	4.64	4.42	2.97	1.84	26.08

Price of garlic

Unit : Baht/kilogram

Year	1	2	3	4	5	6	7	8	9	10	11	12	Total
2002	6.97	9.16	6.93	6.50	6.74	6.91	6.10	6.26	6.11	5.74	6.44	6.52	6.42
2003	6.44	5.86	5.69	6.89	6.64	6.79	6.39	5.69	5.64	5.26	5.03	4.61	5.79
2004	4.59	4.82	4.37	4.31	4.12	4.70	4.42	4.58	5.10	4.91	6.08	5.18	4.77
2005	4.85	3.80	6.07	5.00	4.17	4.74	6.05	4.82	5.38	4.73	6.54	3.74	5.15
2006	3.28	3.34	3.49	3.93	9.21	9.45	11.48	9.03	8.49	7.78	8.68	8.97	6.21

Source : Customs Department

Table 2. Production of Garlic and Other Crops in Chaiprakarn, and Imports of Garlic from Selected Countries

Garlic	1	2	3	4	5	6	7	8	9	10	11	12
<i>Local</i>												
Fresh	●		●									
Dried		●					●					
<i>Imported</i>												
China							◆					◆
Myanmar					◆		◆					
Laos	◆			◆								
Others												
Rice							◆					◆
Corn and Rhubarb					◆		◆					

that most farmers did not know about the FTA. These better informed individuals expressed anger toward the government¹. The farmers said they had neither been informed nor consulted about the FTA. They asserted that only a select few were benefiting from the agreement, and that the government's action was a 'short term solution' which showed no consideration for the long term survival of Thai farmers.

Garlic generally earns farmers higher returns, compared with other crops such as soy beans or corn. Though much more investment is required, returns are also higher. Farmers would rather assume some risk rather than switch to other crops. Though the price of garlic has continued to fall, many farmers have preferred

to keep on adjusting rather than begin planting a different crop. For many farmers, garlic farming is their way of life and their culture. One village headman lamented, "We have been in garlic farming for more than 60 years. Garlic has been our way of life since the days of my parents." Another village headman said "We grew up with garlic. It is our livelihood."

Farmers are engaging in various adaptive strategies, as follows:

1. By reducing his area for garlic farming, a farmer can receive a 12,000 baht per rai² subsidy. However, this option is open only to farmers who own their land or rent land under a written contract.

¹At the time of the study, Thaksin Shinawatra was the Prime Minister of Thailand.

²1 rai is equivalent to 0.4 acre.

Table 3. Areas of Garlic Plantation, Volume of Production, and Prices on Local and Selected Imported Garlic

Year	2002	2003	2004	2005	2006
Area (rai)	7,192	5,842	5,205	2,508	-
Volume (ton)	25,172	20,447	18,217	8,778	-
Volume/rai (kg.)	3,500	3,500	3,500	3,500	-
Cost/kg. (baht)					
Fresh	5.11	6.18	6.43	6.76	-
Dried	6.11	7.18	7.43	7.76	-
Price/kg.					
Local					
Fresh	6	4-5	5	7-8	-
Dried	25	22	13	34	-

- Farmers can switch to other crops such as potatoes or sweet corn under a contract farming system recommended by the government. But for farmers, this is not a good alternative, as they have no bargaining power. Furthermore, returns on corn tend to be very low. The investment is not interesting, since profits tend to hover around just 2,000 baht per rai.
- Some farmers are considering planting rubber trees as the government is urging them to do. Rubber is a valuable economic crop, though the investment takes 6-7 years to turn a profit.
- Some farmers have tried to reduce their dependence on expensive chemical fertilizer by producing their own organic fertilizer on a trial and error basis.
- Few farmers have become middlemen. Such a course is possible only for farmers who accumulate sufficient capital. Being a middleman also requires another set of knowledge and skills, beyond those developed in farming.
- Some farmers who own land have stopped farming, offering their lands for rent.
- Farmers without capital may hire themselves out for manual labor. Unskilled or semi-skilled male laborers receive 120 baht per day, female laborers, 100 baht.
- Some farmers have migrated to the city.
- One landless farmer said, "I really had no idea....How can we possibly cope with this? I wish the government would help us more."

Farmers were not impressed by the government's initiatives in coping with the impact of the FTA. They have felt that official the measures do not go far enough in solving their problems. Many are resentful about not being informed about a policy that has so negatively affected their livelihood. Most farmers want to retain their occupation. They expect the government to listen to them and to be more sincere with them, for they are major stakeholders. They expect the government to be

more assertive about reducing the price of fertilizer and chemical substances, promoting off-season farming and contract farming, and providing marketing information. They also hope that the government will be more serious about strengthening agricultural cooperatives.

Officials in the Agricultural Promotion Department explained that the government has had a clear policy to reduce areas of garlic farming since 2003. Compensation for farmers who stopped farming garlic was raised from 1,500-2,000 baht in 2003 to 12,000 baht in 2005. To substitute for garlic farming, the government introduced a rubber plantation scheme requiring an investment of approximately 30,000 baht for 10 rai. But 6-7 years are needed till the investment pays off, and not every area is suitable for growing rubber.

Officials said that measures to counter the impact of the FTA should take into consideration the need to upgrade the quality of garlic, to cut production costs, and to preserve the environment, particularly the quality of the soil. They recommended the following measures:

- Enforce zoning.
- Promote a contract farming system that is just and fair to provide more alternatives for farmers. Any such system should take into consideration the interests of the farmers and enterprises concerned.
- Encourage cutting production cost through the reduction (not the elimination) of chemical substances and the promotion of organic fertilizers. Farmers should also learn more about the importance of caring properly for the soil.
- Agricultural cooperatives need to be stronger so that farmers will have more bargaining power.
- Intensive campaigning should promote the use of Thai garlic.

These suggestions are supported by some academics and NGOs who have reaffirmed that the government still lags far behind in alleviating problems which threaten the livelihood of farmers. Academics recommend that the government obtain more reliable information about farmers and their organizations. Farmers are a diverse group in terms of mode of production, size of land-holding and access to resources. Measures to alleviate problems must take this diversity into consideration, it has also been suggested that farmers make use of cultural capital by seeking out niche markets and by creating a new identity for their goods and services. Farmers who have potential should be encouraged to enter new markets. They should have sufficient knowledge to exercise their economic rights. Given the many kinds of interventions possible, academics emphasize the importance of cooperation among the agencies concerned.

NGO staff sees the FTA as damaging the country's food security. They stress that remedial action is needed at the structural level – a reorientation of agricultural policy which emphasizes the balance between subsistence and export-oriented farming. Organic farming, alternative markets and a sufficiency economy all grow in importance in this view. The government should promote self-reliance in production and consider

the possibility of subsidies. Green markets should be established in all provinces along with a global network of organic farmers.

7. CASE STUDY

7.1 A Local Merchant

The subject of the study, a small-scale, local merchant, was formerly a farmer. He became a merchant after garlic prices fell in 2003-2004. This enterprising individual collects garlic on a round-the-clock basis from farmers in the village to sell to buyers.

The merchant owns his own land and continues to cultivate rice and peas for family consumption. Part of his land has been rented to other farmers. In 2005, he decided to take advantage of the compensation scheme offered to garlic farmers by the government. The money he obtained from that was used as start-up capital for his new venture as a middleman. This farmer-turned-businessman also borrowed from the Bank of Agriculture and Agricultural Cooperatives.

The decision to become a merchant came after he made his own 'cost - benefit analysis,' in which he compared what was to be gained from continuing as a garlic farmer with the perceived benefits of becoming a garlic merchant. This turning point occurred after he had been unable, for 2 consecutive years, to turn a profit as a garlic farmer. The investment he needed was between four and five hundred thousand baht per year. The merchant told how he started his new career as a small businessman. In 1991, he married and received 5,000 baht as a wedding present from the parents of his bride. The young couple began selling vegetables in the market as well as cultivating garlic on rented land. After 7-8 years they were able to save enough to buy more land and a pick-up truck.

Emphasizing the importance of frugality, the merchant said that they started from a small purchase and learned the trade gradually. In his view, most farmers were not well prepared for the impact of the free trade agreement. To offset the hardships it caused, farmers have to be frugal and practice good financial planning while they await some helpful intervention by the government.

7.2 A Farmer

This landless farmer was 40 years old. Before 1990, he farmed his parents' land. As he explained, his parents were so poor that their children had no clothes to put on. They farmed garlic and occasionally hired out as manual laborers. In hopes he might escape poverty, his parents asked him to ordain as a novice when he was eleven years old.

He left the monkhood in 1988 and married in 1993. His wife died when their daughter was only eight months old. The child is now 11.

In the year that he left the monkhood, the farmer went to Japan, where he worked as a manual laborer for 2 years. When he returned to Thailand, he started growing garlic on rented land. After the harvest, he went to work in Japan again. This was before his marriage in 1993.

According to this farmer, the price of garlic fluctuates

every 2-5 years. His volume of production also fluctuates. At the time of this interview, he was planting only 10 percent of his land to garlic and was taking advantage of the state's compensation scheme.

The land where he once cultivated garlic is currently given over to eggplant, chilies and sweet corn. He currently works as an independent farmer and also on a contractual basis. He understands that imported garlic is coming in, not only from China, but also from Myanmar, Cambodia and Vietnam. He believes that the free trade agreement benefits only the industrial sector and not the agricultural sector. He suggested that the government find ways to slow the influx of imported garlic. They should encourage cooperatives to buy garlic from local farmers as storage is expensive. Citing his experience and his observations in Japan, the farmer said he had no confidence in his own government because Thai politicians have too many vested interests.

This farmer's ambition is to be a broker in the contract farming system. He noted that agricultural cooperatives could also act as brokers, but the cooperative system here is not strong, and the interests of the farmers are not well protected.

8. ANALYSIS

Analysis of the interviews and previous research confirms that measures to facilitate adaptive strategies of farmers should consider the following:

1. Cooperation among stakeholders, i.e. farmers, government officials, NGOs and academics. Facilitating adaptive strategies is not the sole responsibility of any single Ministry. It is imperative that the parties concerned be aware of their roles. The Ministry of Labor, the Ministry of Education and the Ministry of Social Development and Human Security, for instance, should be cooperating to reduce the vulnerability of farmers and to create a social safety net for the farm sector.
2. Respect for the economic rights of farmers includes ensuring they have good access to the information which affects their livelihood.
3. Small scale farmers also have a role in ensuring the nation's food security.
4. More reliable data on the diversity of farmers in terms of size, mode of production and access to resources is needed.
5. Strengthening farmers' organizations will help sustain the strength of farmers themselves. Good access to information and occupational skills contribute to the formation of strong groups.

9. CONCLUSION AND RECOMMENDATION

Economic Integration puts farmers in a more vulnerable situation. The free trade agreement is having multiple damaging impacts on farmers. For example, it exacerbates the farmers' already chronic problems of

high debts⁴ and overuse of chemicals, and increases imbalances between demand and supply. These farmers are not prepared to compete in a free trade environment, particularly with the enormous influx of cheaper produce from China. Even the most basic requirements of readiness are not in place among most Thai farmers, who are the major stakeholders in this scenario. The FTA has taken them more or less completely unawares. Adaptive strategies of individual farmers depend on their economic, social and cultural capital. In general, Thai farmers are using strategies similar to those employed by farmers in other countries. Nor do the adaptive strategies of farmers reflect concerns for environment. The use of organic fertilizer emerges from the need to reduce cost rather than from a desire to protect the environment. Government interventions do not seem to recognize diversity among farmers.

This study recommends that alleviation of negative impacts of the FTA should be two-fold.

(1) Basic and chronic problems in the agricultural sector such as the oversupply of produce, the excessive use of chemical substances and need to empower floundering agricultural cooperatives must be seriously addressed. (2) Dealing with FTA-related problems will require that farmers who want to remain in their occupation be introduced to appropriate adaptive strategies, as should those who decide otherwise. It is imperative that the government acknowledge the diversity of farmers and those they collect and provide more reliable statistics for research. Farmers need access to appropriate technology and plenty of social capital as well, etc. Cooperation among concerned agencies such as the Ministry of Labor, the Ministry of Social Development and Human Security, and the Ministry of Education is also recommended.

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⁴Recent populist policies encouraged household spending. Statistics now confirm increased rural household debt.