

### **(3) Food Processing : Problem and Potentials**

#### **Introduction**

In the Northern Thailand, the processing industry of vegetables and fruit are classified broadly into four groups. The first one is the canned (or tinned) vegetables and fruit, the second group is the pickled, the third group is the dried or chilled, and the fourth is vegetable or fruit juice. About half of the factories of fruit processing or of vegetables processing located in the region are manufacturing of the canned fruit or vegetables.<sup>1</sup> The next largest group, the pickled stuff, consists about 37%. Their location is largely in the UNT region, where as much as 90% of the factories of the Northern food processing has their location, with a substantial part located in Chiang Mai Province. The factories in the food processing industry are mostly of small scale, with its investment not exceeding 10 million Baht. There were 18 factories of medium scale, and only four factories of large scale in 1991 (Report on the State [1992]).

Some important sectors of industry are to receive promotional treatment from the Government. They are fundamental industries in the long-term industrial development, industries of high linkage effect, industries using much of domestic raw or semi-finished materials, industries of high value added, or industries keeping advantage in manufacturing or international trade. Food processing industry is one among them.

The problem which the agriculture in Thailand now facing as one of the basic factors determining the present state is, according to a professor of Chiang Mai University, that there are many middlemen working in between the farmers and the consumers. They are many in numbers and also in the categories of them standing at various stages of cir-

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1 *Report on the State of Industry in the Northern Region in 1991 and of the Trend in 1992* (Raingaan karn suksaa phawa wethakit utsaahkam Pak Nua pi 2534 lae naewnom pi 2535), June 1992, Northern Center of Industrial Economics Northern Region, Office of Industrial Economics, Ministry of Industry. This report is an important source of very valuable information on the state of the manufacturing industry in the Northern region published almost annually.

cultation of the product. What is the problem about ? Or why is it a problem having so many of middlemen in and around agriculture ? The middlemen have a certain role, and they are transmitting the market information to the producers. But not the other way round. Do the farmers then produce their goods and supply to the middlemen according to these information ? Certainly not. They are more or less relying on how they could sell the year before, and so decide the cropping or farming pattern for the next year.

The food processing industry in Thailand, and in UNT in particular, should take these situations as for granted. The industry could be a good source of the farmers higher income. One if the important conditions for the food processing industry to be profitable, and be in expansion, is that the raw materials, i.e., the agricultural products, are supplied constantly in terms of price and quantity. In other words, the industry or its factories need a continuous flow of the material. But the supply of agricultural product has instability as its characteristics. One of the methods to abide with the problem is to have the materials supplied under a long-term contracting system. If the purchase at a reasonable price is assured and the quantity is also not fluctuating much, then the food processing industry could become prosperous. In this Section on the food processing industry, the focus of our study will be the degree how much the agriculture support the industry, by any means. The other side of the relationship between agriculture and food processing or in a more limited way, how much food processing industry demand the agricultural product, will be left for further study.

### **Problems and Potentials**

The food processing industry is a part of the agro-industry, which is defined to consists of those industries using the agricultural products as their input, and those industries having their product as input of the agriculture. But here we limit to the industries using the agricultural products as their input in defining the agro-industry. In Thailand, the Sixth National Economic and Social Development Plan (1987-1991) has stressed the importance of agriculture and agro-industry sectors for sustainable economic development.

Let us take up some examples of the processed agricultural

products, and have a view how, when, who and where do these products come into the rural area's daily life. First of all, the farmers and the middlemen do still exist almost all over UNT. The example of the Garlic is studied in Provincial Agricultural Office of Lamphoon. This product is traded either as fresh or as dried. It seems that further processing of them will be done in the factories near Bangkok. So that as garlic it will be traded either fresh or dried. At the local market, about 10% of garlic is consumed. The 90% left goes to Bangkok. There some part will be further transported as export, but most will be traded and consumed in Bangkok. The middlemen at the farm yard level will buy from the farmers and sell to the local middlemen. The local middlemen in turn sell to the merchants in Bangkok directly. Some garlic pass by an ad-hoc buyer. Some retail traders buy from the farm level middlemen or from the local middlemen and sell to the consumers. The trading system of garlic is rather simple. The middlemen of only three or four levels enter the chart of the trading system. Even though the middlemen's role is very crucial in setting the price at the farm yard.

The middlemen are the source of the market information for the farmers. They include price, trend of the transactions, and others. Besides, the farmers depend on the middlemen as their products circulators. This means the middlemen influence the farmers' growing activity of the next year. The market in Bangkok or in the local market is by no means stable, showing fluctuating prices and traded volumes. The farmer's income therefore fluctuates accordingly. Their income does not rise easily because of their dependence on the middlemen. Garlic is a traditional variety grown for a long time in UNT. Its grown area and harvested amount has decreased. The market system should be firmly established already, and it may be difficult to be reformed for a better farming. In the garlic's case in North Thailand the market information should be directly received by the farmers. The government still has some role to assist the farmers in adjusting their traditional growing method, and new, or in other words, not intimate varieties.

The soy bean is one of the new crops increasing its grown area and harvested quantity. The usage of soy bean are mainly as the raw material of the soy bean oil, and the husks after oil extraction are used for making animal feed. Besides the soy beans are used for making soy sauce, tofu, taohiew (soy bean paste), seasoning sauce (or liquid), and

so forth.<sup>2</sup> The total soy bean production in the Kingdom of Thailand still is short of demand, making Thailand import the soy beans a substantial amount annually. The Northern region produces about 75 % to 80 % of the national total. In UNT, nearly 30 % of the national total is produced, and recently the ratio has been increasing. The largest producer in UNT is Chiang Mai Province, which produces about half of the UNT production. But the share has been decreasing. The soy bean producing Provinces are spreading. The demand for the soy bean oil has been increasing, and the production has not met the quantity. Thailand has imported soy bean oil, with the decreasing trend. Recently, nearly the same amount produced in Thailand was imported. The import of soy bean has been also decreasing gradually, reflection success of import substitution of the crop. Some of the soy sauce and the soy bean oil are even exported, however amount is rather little.

The quality of the soy bean, and soy bean oil has kept standard given by the government. The soy bean has two groups of the processing among four classified at the beginning of this Section. They are non-fermentation type like oil or pellet, and fermentation type like tofu or taochiew. With the other type of processing also existing, the manufacturing industries of these products could have chances to exchange their knowledge and experiences to each other. In this way, the quality and technical know-how have been maintained. The government should give both the domestic producers of the soy bean product like its oil, and soy bean farmers, technical assistance for a higher productivity, to maintain and to develop the production environment. The area of land under a crop such as soy bean will not be enlarged in the future, though if the conditions avail it, production of the soy bean product in UNT has a bright future. We hope that the production of these processed product in the factory will lead the production in the rural industry to the new market. Then if the rural industry should be disappearing, the transition must be smooth. Then the rural industry of processing of soy bean could

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2 There annual production capacity in the Northern Region in 1989 was as follows. Soy been oil 8,500 ton, soy bean pellet 1,800 ton, soy bean milk powder 53 ton, tofu 285 ton, tofu sponge 2 ton, thochiew 136 ton, soy sauce 74,300 liter, and seasoning sauce 10,800 liter. (Source) *Measures for Investment in Manufacturing of Soy Bean Product : Report on Saturday*, (Mr.Chaloemporn Ramkharipha) Northern Center of Industrial Economics, Industrial Economics division, Ministry of Industry, December 1989.

leave something to the rural people related to the industry, including farmers of course.

## **Conclusion**

The food processing industry in UNT need not be a rural industry. A large scale factory of fruit canning is a typical example. For preservation of crops, the farmers have used almost nothing. It has not been a habit that a man preserves fresh fruit or vegetable for consumption in the future in this region. Because that almost the year round there is certain kinds of fruit and vegetables, which is fresh and tasty when eaten fresh, there is no need to preserve these fruit and vegetables with a primitive method. Gradually the people in UNT have been accustomed to have their crops preserved, because that it assures a higher price for the farmers side, and a stock for the consumers side enabling them to keep a stronger position in the negotiation of the price. After all, the preserving method used by the farmers right now is not perfect in preventing the contamination from the insects or bacteria. The method is, however, simple and not expensive, which enables the poor farmers can use.

Nowadays, you can observe the farmers not only using agricultural chemicals for preservation of their crops, but also introducing a new method on an experimental basis. Usually such a method is suggested by a government agency. As far as the farmers are concerned the preservation is getting to be more accustomed. For other field of processing, such as fermentation of soy beans making tofu and others, the development is to be realized in the future. Its potential seems also very promising.

## **Reference**

*Measures for Investment in Manufacturing of Soy Bean Product: Report on Study*, (Mr. Chalernporn Rangkhavipha) Northern Center of Industrial Economics, Industrial Economics Division, Office of Deputy Minister, Ministry of Industry, December 1989.