

THE CASE STUDY OF CANNED PINEAPPLE IN INDONESIA¹

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Introduction

Export-led industrialization (ELI) approach has been adopted since the mid 1980s to boost the economic growth of Indonesia. It was expected that a rapid economic growth would automatically improve the welfare of the society through trickle down mechanisms. Financial resource allocation has been shifted more to industrial sector and less to agricultural sector. Unfortunately, this development approach has failed to give a strong fundament to the national economy. In fact, the manufacturing industry highly contains imported inputs. The economic turbulence in 1997-1998 resulting in big depreciations of the domestic currency against the US dollar brought about many large manufacturing companies collapsed.

On the other hand, agricultural sector (including agro-processing industry) has proved itself as a safety valve in sustaining the national economy and poverty reduction. Many economists have become aware that leaving agricultural sector, including agro-processing industry, in the development (industrialization) process of the national economy is definitely incorrect. There are many agro-processing activities in Indonesia that generate substantial foreign exchange to support the national-economic growth. As for instance : palm oil, rubber, coffee, tea, cocoa, fish, shrimp, animal feeds, cassava, vegetables, fruits, etc. Pineapple canning is one of the important fruit-processing activities in Indonesia.

The present case study aims to describe : (1) the historical review of canned-pineapple industry in Indonesia; (2) the growth of pineapple export with focus on canned pineapple, (3) the domestic linkages conducive to the attainment of benefits to small producers and traders, and (4) the marketing chains and market accessibility for small producers. The locations for canned pineapple study are Lampung and West Java provinces.

Historical Review of Canned-Pineapple Industry in Indonesia

There was a private company of domestic investment called “PT Umas Jaya” established in 1977 in Lampung province. Initially, the company grew and processed cassava, covering 10,000 ha of area planted. In 1979, the company began to grow

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pineapple crop by using half of the cassava land (i.e., 5,000 ha). At the same year, a pineapple-canning plant was also built. Since 1985, the pineapple plantation has been expanding to reach 11,500 ha in the late 1991, and capacity of the processing plant became 1,200 t of fresh pineapple-fruit per day. In 1995, the plant capacity increased to 2,400 t per day. Recently, the pineapple plantation reaches 30,000 ha and the plant capacity becomes 3,130 t per day. All the cassava-processing machineries and equipments have been converted for supporting the canned-pineapple processing. To operate the pineapple canning activities, the "PT Humas Jaya" company established a subsidiary company called Great Giant Pineapple Coy (GGPC). This company has consistently been the largest producer and exporter of canned-pineapple in Indonesia.

In the same province, a private company of foreign investment by the Taifung Group from Taiwan was established in 1988. The company has good experiences in pineapple-canning industry in other countries. In that year, the company developed pineapple nurseries and pineapple plantation for production that accounted for 500 ha and 300 ha respectively. More recently, the plantation area for production becomes 8,000 ha, and the plant capacity for canning process is 700 t of fresh pineapple per day. This company used by contract part of land owned by Javanese migrants in Lampung province through the Government Transmigration Project. Unfortunately, an unfavorable situation came up in recent time. The farmers wanted their land under the contract to be returned. Since the company has no large own land as in the GGPC case, pineapple fruit as a raw material has no longer been available, making canning activities stop operating since 2000.

Both companies have own pineapple plantations since the onset of operation, particularly the GGPC. The only variety used has been Cayenne Liese. In the beginning, the company used pineapple seeds from Subang (West Java) and carried out some experiments so as to improve the genetic nature of the seeds through cross breeding. The experiments had successfully generated new Cayenne pineapple seeds with a stable superior genetic nature for a longer period, including : (1) optimum sourness and sweetness that meets the major consumers' taste, (2) optimum fruit size that satisfies the processing requirements, and (3) shallow fruit stigmata that increases processing efficiency.

For canning purposes, all the machineries and equipments were imported from abroad. The two pineapple-canning companies produce four canned products, three non-canned products and waste product. The canned products comprise : (1) choice slice (the best quality and major product), (2) standard slice (the second quality product), (3) chang (the third quality product), (4) tidbit (the lowest quality product). The non-canned products include crush, juice and jam. Waste product called pineapple pulp is very useful and beneficial for cattle fattening (will be briefly discussed later).

Growth of Pineapple Export

There have been five pineapple export products, namely : (1) pineapple in syrup in airtight container (i.e., canned pineapple), (2) pineapple in syrup in other container, (3) pineapple otherwise preserved, (4) pineapple juice, and (5) pineapple fresh/dried. Of these products, canned pineapple has been of predominance. During the last ten-year period (1990-1999), for instance, the average share of canned-pineapple export quantity and export value was 86.42% and 80.46% respectively. The corresponding figures for fresh/dried products, by contrast, were 2.16% and 1.98% only.

The quantity and value of pineapple export (the products are grouped into canned pineapple and other product) during 1981 to 1999 are respectively depicted in Figure 1-A and Figure 1-B. It is seen that pineapple export during 1981-1984 was very low (below 4,000 t). In the 1985-1993 period, the total export quantity and value increased rapidly. From 1993 to 1995 the export declined but then increased rapidly in 1996. The adverse economic turbulence in 1997-1998 made the export plunged into the lowest level. The slight economic recovery in 1999, however, has brought about a boom in the canned-pineapple export. It is noted from the two figures that export of products other than canned pineapple has become clear since 1993, though with very small shares.

The export markets of the Indonesia's canned pineapple have become more diversified. This is indicated by the increasing number of importing countries from 8 countries in 1981 to 20 countries in 1995 and eventually to 52 countries in 1999. In recent year, the importing countries spread over the five continents : Asia, Europe, America, Australia and Africa. The five major importing countries have been the US, Singapore, Germany, Netherlands and Japan.

Figure 1-A
Export Quantity of Pineapple Products
1981-1999 (000't)

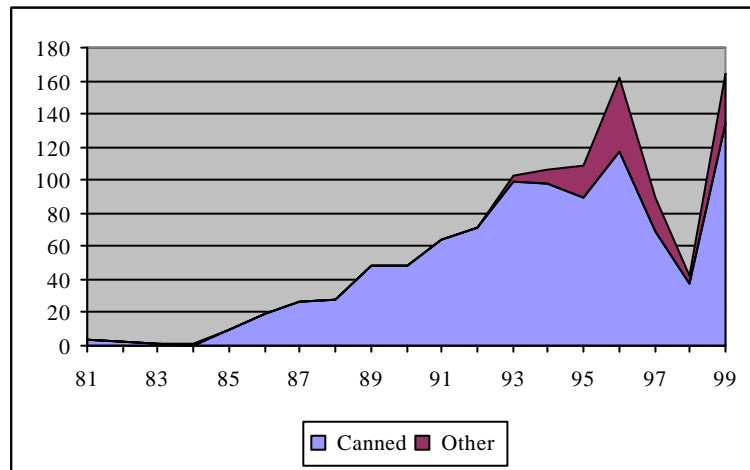
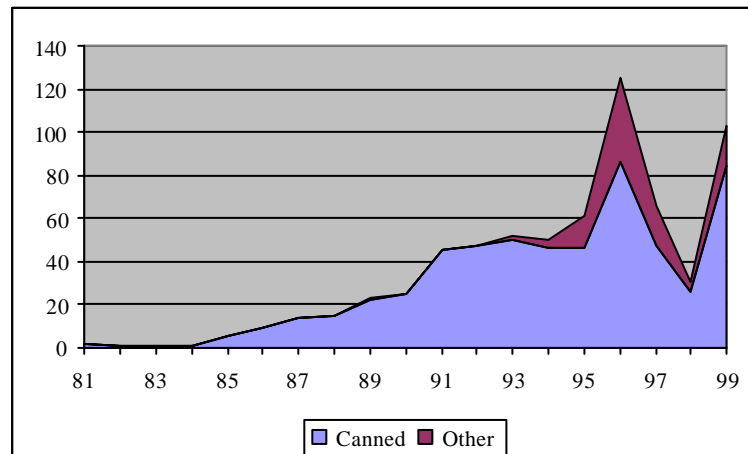


Figure 1-B
Export Value of Pineapple Products
1981-1999 (US\$'000)



It seems that canned-pineapple producers have been quite responsive to the world market dynamics. The Great Giant Pineapple Company (GGPC), the largest canned-pineapple producer in Indonesia, for instance, has realized its response into rapid adjustments in the acreage of pineapple plantation from 10,000 ha in 1979 to 30,000 ha in 1999 and so.

Domestic Linkages Conducive to the Attainment of Benefits to Small Producers and Traders

Organization of Small Producers and Traders in Their Export-Oriented Activities

The most prominent small producers' organization has been Farmer Group. Normally, a group comprises 25-30 members. It was expected that the group would be able to more efficiently organize collective purchasing of farm inputs (such as seeds, fertilizers and pesticides), crop maintenance, post-harvest handling, marketing and financing. Yet, such a farmer organization does not work, primarily because of farm-size smallness, dispersed farm locations, traditional farm management practices, and low output prices. Individual farmers simply do their own activities from production to marketing. Most small producers are linked with domestic-oriented activities and only small part are linked with export-oriented activities.

Traders even have never had organization. Like farmers, they do their own business activities individually. In real business life, they compete each other so as to obtain sufficient amount of pineapple fruit. Most traders are also linked with domestic-oriented activities and only small part are linked with export-oriented activities.

Links between Export-Oriented Commodity Sectors and Other Sectors in the Economy

As mentioned in the previous section, the largest part of the exported products has been canned pineapple. Of course, the canned-pineapple industry has positive backward and forward linkages with other sectors at various levels of the vertical structure of the industry.

- At the upstream level – the production stage of pineapple fruit (raw material) – the wide acreage of pineapple plantation requires substantial amounts of fertilizers, pesticides, herbicides and equipments from industrial sector or trade sector. This stage needs substantial amount of uneducated laborer, and trucking of large harvest from farm to canning factory is also very important.
- At the middle level – the processing stage of canned pineapple – the transformation activities necessitate machineries, equipments, oils, fuels, electricity, packing materials (cans), syrup ingredients, etc. There has been another important linkage with cattle (beef) farming through the use of waste product called pineapple pulp (this linkage will be illustrated further).
- At the downstream level – the marketing (export) stage of canned pineapple – needs substantial services in terms of shipping, telecommunication, banking, etc.

The link with cattle farming is briefly illustrated here. The basic principle has been to increase overall efficiency of the company operation through a horizontal integration of canned pineapple production and (cattle) beef production, both of which have very good future prospects. To implement a cattle farm, the canned-pineapple

company (GGPC) established a subsidiary company called Great Giant Livestock Company (GGLC) in 1990. The principal operation of GGLC has been cattle fattening using imported feeder steers from Australia to produce better quality beef meat. The linkage lies on the use of available abundant pineapple pulp produced from pineapple-canning factory as cattle feeds, while the substantial amount of manure produced from cattle fattening is used for fertilizing the company's pineapple plantations. By this, adverse environmental effects of the "pineapple canning – cattle industry" can be mitigated. Normally, the optimal fattening period is 90 days. In 2001 (February), the number of GGLC's cattle was 4,000 heads.

Since 1991, the GGLC has extended its activity involving small cattle-growers as the realization of its social responsibility for improving small farmers' income. It is a business partnership between GGLC and small growers. In this sense, GGLC provides feeder cattle, feeds (i.e., pineapple pulp) and technical assistance to the small growers. Currently, the number of small grower is 100 with 5 heads of cattle each (i.e., 500 heads in total). During the fattening period of 90 days, the small growers are obligated to practice the standardized management of cattle. At the end of the fattening period, all the cattle must be sold to GGLC. The return to small growers is the sale value of cattle deducted by the initial value of feeder steers when received by small growers and feed (pineapple pulp) received from GGLC during the fattening period. In average, the initial live weight of cattle is about 300 kg, which becomes approximately 425 kg at the end of fattening period.

Private Sector Initiatives Beneficial to Small Pineapple-Producers

In 1991, there was a business partnership between pineapple small-producers and a large pineapple-canning company in West Java province. At the onset, the partnership adopted a Nucleus Estate and Smallholder (NES) approach. This approach was inspired by the high interdependence (co-existence) nature of nucleus and plasma of a living cell. While a nucleus gives "strengths" to plasma, the plasma provides supportive habitat for sustaining the nucleus, hence the cell as a whole. In the real business life, the large company, as a nucleus with a high business capability in many respects provided assistance in terms of management (e.g., planting, fertilizing, pest controlling, weeding and harvesting), finance and technology to small producers as a plasma that are weak in all respects but endowed with land and labor. Importantly, the company must buy the entire pineapple harvest of the small producers. On the other side, small producers are obligated to practice the standardized crop management and sell the entire pineapple harvest to the company with already agreed prices.

Unfortunately, the partnership terminated in 1992. The principal cause was the inability of small producers to appropriately practice the standardized pineapple-crop management system. The pineapple fruits produced by small producers could not satisfy the basic technical requirements as raw material for canning purposes, namely, the specific diameter and maturity of the pineapple fruits. Since the most raw materials were highly dependent upon small producers, the large part of the pineapple-canning factory's capacity became idle. Moreover, the harvest amount is uncontrollable by the company, while continuous supply of raw material for continuous canning process is required. The continuity of canned-pineapple production is of crucial importance in order to satisfy the company's commitment with the buyers.

In effect, the former pineapple-canning company in West Java eventually switched its product line from canned pineapple into pineapple paste. This new product

is increasingly demanded by domestic bread factory. Small producers remain the raw-materials (i.e., fresh pineapple) suppliers of the company, but no tight requirements of the raw materials are needed.

Role of Government Policies and Services in Developing Canned-pineapple Industry

There have been three prominent government policies conducive to the development of canned-pineapple industry in Indonesia. Firstly, provision of a right to use land to the company for growing own pineapple plantations. The right is effective for 30 years and can be extended thereafter. Secondly, tax holiday during the unproductive initial stage of production. Finally, tax holiday for imported canning machineries.

The government also provides electricity as an important source of power for machineries and lighting, development of road for transporting and development of sea-port (i.e., Panjang sea-port in Lampung province) for export embarkations. Irrigation facilities are not provided because pineapple plantations are grown on the upland.

Marketing Chains and Market Accessibility for Small Producers

Market Channels

As mentioned earlier, small producers have not any longer supplied raw material to a canned-pineapple company, because the company has own pineapple plantations. So, the market channels of pineapple from small producers to exporters apply only for fresh/dried pineapple and preserved products other than canned pineapple, as depicted in Figure 2.

Figure 2 also depicts the market channels for fresh pineapple for domestic market. In general, small producers sell fresh pineapple (mostly of Queen variety) to village assemblers or sub-district assemblers. These assemblers then market the pineapple to wholesaler in big cities such as provincial capitals or Jakarta. Wholesalers usually do their business activities in (wet) terminal markets. Small retailers buy pineapple from wholesalers and sell it to end consumers.

Fresh/dried pineapple exporters have never procured pineapple directly from farmers (small producers). Rather, they make closer link with assemblers. The main reasons for this are as follows. Firstly, assemblers are able to collect larger amount of pineapple in a shorter time than farmers do. This makes procurement activities become more efficient and raw material supply becomes more secured. Secondly, assemblers are willing to receive delayed payments up until 5 days after delivery. On the other hand, most farmers need cash payments immediately after harvest, which does not meet companies' financing procedures.

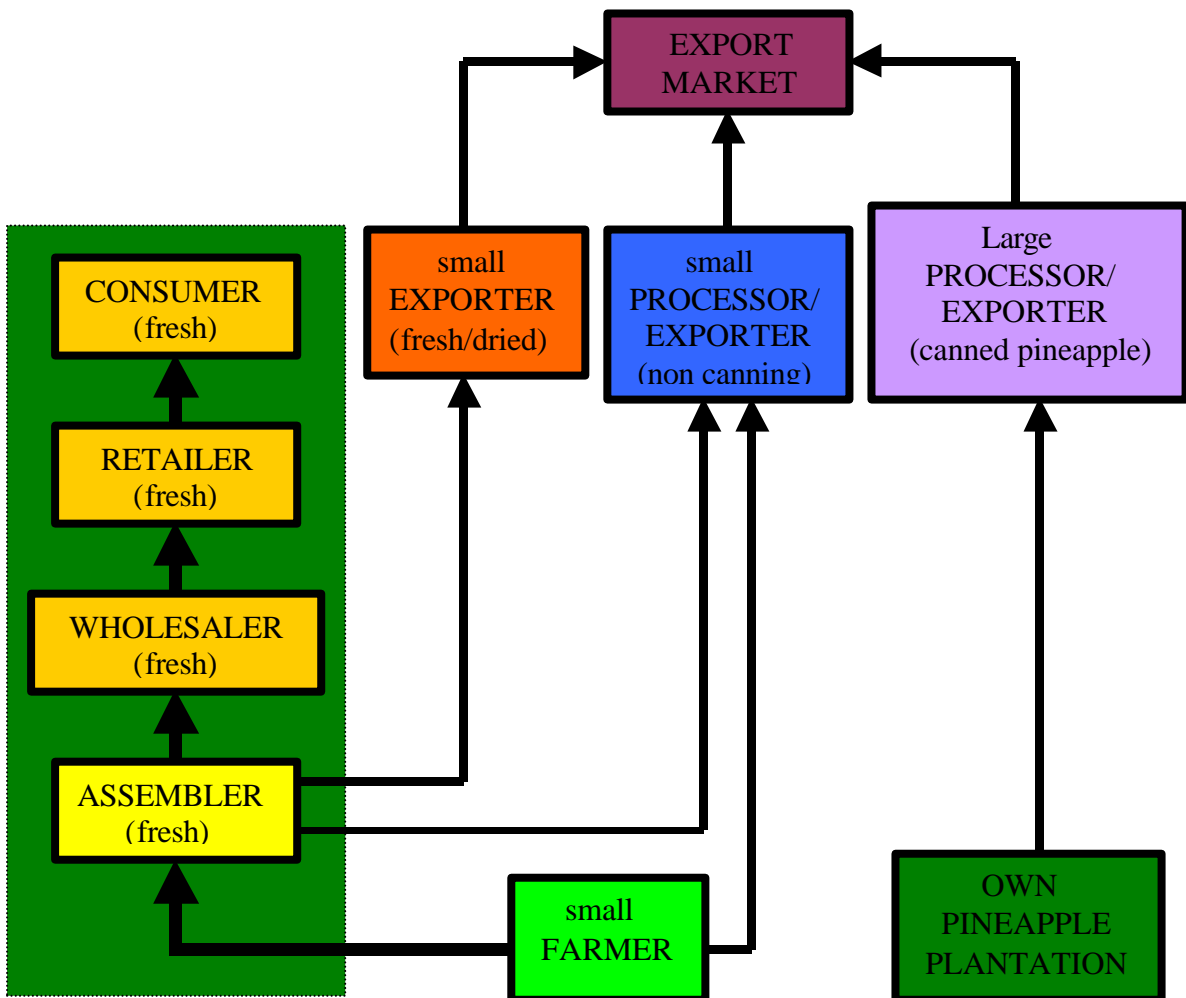
In the case of non canned-pineapple processing company, its raw material partly comes from small producers (West Java case) and partly comes from assemblers (other cases). Farmers supplying raw material to company are those formerly the plasma of canned-pineapple company.

Foreign Direct Investment and Poverty Reduction

The Taifung Group from Taiwan has developed pineapple-canning industry in Lampung province. This is an example of a foreign direct investment. Though, as mentioned earlier, it has no link with small producers and traders of pineapple, it

provides substantial amount of job opportunities for uneducated people to work at the wide area of pineapple plantations for income improvement. Unfortunately, the company stop operating since 2000 because of unavailability of raw material, as mentioned earlier.

Figure 2 : Market Channels of Pineapple Products



Conclusion

Despite its very good future prospects, canned-pineapple industry in Indonesia has no links with small pineapple producers and traders. Instead, it develops own pineapple plantations so as to secure quality, continuity and efficiency of raw material supply. Yet, it has positive backward and forward linkages with other economic sectors. It also generates substantial amount of job opportunities to uneducated people for working at a very wide area of pineapple plantations and more educated people in processing plants. Government supports in terms of providing long-term right of land-use, better infrastructure and tax holiday for machineries import to the pineapple-canning industry remain of crucial importance.