

Seafood Processing Industry in Brunei Darussalam

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Status

Mechanical seafood processing is a relatively new industry in Brunei Darussalam. However, processed seafood trades had been carried out in this country for more than a hundred years, the production being undertaken by housewives. To date, the majority of commercial operations are within the category of small backyard operations with about 50 processors actively involved throughout the country.

The products are as follows: fish balls, fish cakes, shrimp paste (*belacan*), marinated products (*budu*, *cincaluk*), cured products (*liking*), crackers, dried smoked fish (*tahai*) and dried-salted fish. In addition there are a few supermarkets which freeze their own products for sale in their own outlets. Total annual production for the last three years appears as Table 1.

Table 1. Fish products (tonnes) for 1993 - 1995.

Products	1993	1994	1995
1. Frozen fish	9.2	5.7	0.2
2. Prepared, chilled	4.4	20.0	41.0
3. Comminuted product	64.0	72.0	88.0
4. Crackers	12.6	7.0	7.1
5. Dried, salted	1.7	2.4	1.8
6. Marinated products	2.2	3.2	2.5
7. Cured products	1.5	2.9	9.0
8. Others	38.0	19.2	15.6
TOTAL	133.6	132.4	165.2

Source : Post Harvest Section, Department of Fisheries, Ministry of Industry and Primary Resources, Brunei Darussalam.

Plants which operate 'commercially' usually employ between 2 and 6 semi-skilled workers. Plant machinery is usually low capacity equipment. The equipment includes meat/bone separator, mixer, mincer, fish ball former, slicer, steamer, oven drier and packaging machines such as heat sealer. These equipment is usually bought from Malaysia, Singapore and Taiwan.

Production and Local Consumption

The total local production of processed seafood products caters to less than 10% of the total domestic requirement. Therefore more than 90% are still imported. Table 2 provides a list of products and the volume of imports for 1989 to 1991, whilst Table 3 provides a list and volume of imported products which are channelled through the major supermarkets between 1993 - 1995.

Table 2. Imports of processed seafood products (tonnes) for 1989-1991.

Products	1989	1990	1991
Frozen fish	662	1989	940
Fillet	16	9	20
Dried, salted	2922	1282	963
Canned	113	454	332
Others	314	247	218
Total Volume	4027	3981	2473
Value \$ (CIF)	4.4 Million	5.5 Million	5.2 Million

Source : External Trade Statistics, Economic Planning Unit, Ministry of Finance, Brunei Darussalam.

Table 3. Selected imported fish products (tonnes) channelled through major supermarkets for 1993 - 1995.

Products	1993	1994	1995
Frozen	9.98	18.35	32.36
Fillet, slice	4.77	6.24	0.97
Comminuted	3.84	8.46	11.12
Dried, salted	4.42	11.6	12.31
Total	23.01	44.83	56.76

Problems Faced

The problems faced by the industry may be divided into 5 areas, namely :

1. Production Economics

Cost of raw materials and rentals are relatively high especially for plants operating in private commercial buildings. Analysis has shown that whilst raw materials made up 50 - 55% of the cost, the rental costs comprise 18% of overall cost of production.

Labour cost was found to be between 10-13% of production; however, the main problem in this area was the rapid turnover of labour and thus losses were incurred during recruitment and re-training of new workers.

2. Supply of Raw Materials

Fish, the main raw material, is the most expensive and may sometimes make up more than 50% of the production cost. For plants which depended on fresh fish as raw materials, they are further faced by problems of uncertainty of quality and volume available, which vary according to season. This will therefore affect the price. The majority of the plants are capable of storing only up to one week's requirement of raw materials.

3. Product Quality, Hygiene and Sanitation

Handling practices of raw materials by processors are poor as little or no ice is used prior to processing. They usually do not adhere to set formulation of their products, resulting in inconsistent quality of the final product with regards to the taste (e.g. saltiness, hotness, etc.) and appearance. Products are usually packed simply in polyethylene bags and styrofoam trays with plastic wraps to cater for the domestic market. They are stored at room temperature or chilled. They have short shelf life. The handling practices of personnel (often with no proper attire)

during processing may cause contamination and render the products unwholesome/unsafe.

The plants are usually renovated shophouses and workshops and are not conducive for food processing, in terms of environment and layout. Although the walls are adequately tiled to facilitate cleaning, the drainage within and outside the plants are inadequate.

Due to the small size of the plants, it is also difficult to separate the wet from the dry area. There are instances where the toilet/washroom are not separated from the processing area, resulting in likely cross-contamination of the products.

Equipment and machinery are adequate in terms of size and capacity for the volume of production. Some machinery had been found to be made of unsuitable metals such as brass. Fortunately, these parts are usually parts which do not come into direct contact with food. The machinery is usually found to be in clean condition. However there are those which are in need of proper repair.

4. Supporting Industry

The country itself lacks the service infrastructure required to provide proper support to a seafood processing industry. To date, all the processing equipment are procured from overseas with no local agents to provide after-sales services and maintenance.

There are 5 local companies with the potential to become equipment fabricators. However, they need incentives in terms of volume of sales, in order to succeed and expand.

Packaging and printing services are available locally. However, these too are limited in their capabilities and can only provide simple printing jobs on materials which are not suitable for proper food packaging.

5. Marketing

There is always a market for seafood products in Brunei Darussalam. However, local products have

to compete with imported products, which are usually better packaged and represented.

This problem is further complicated by the seasonal changes and other factors affecting the supply of products in the market.

Government Assistance

In order to alleviate the problems identified above, the Government of Brunei Darussalam has undertaken a number of projects. This include projects/programmes to :

1. Promote transfer of appropriate technology related to handling, processing, packaging and distribution, to local processors.
2. Establish storage and distribution facilities to ensure continuous supply of raw materials.
3. Promote improved food safety and quality assurance in seafood processing plants.

These programmes and projects are undertaken through National Projects as well as regional activities such as the ASEAN-Canada Fisheries Post-Harvest Technology Project - Phase II.

Discussion

In response of the query from the representative from FAO, the representative from Brunei Darussalam explained that the decrease in the import volume figures may have been substituted by local production. However, the corresponding import value increased due to inflation. She also added that the fish processing industry is still being developed in her country and its long-term plan is only available at the country's management level.