

Fish Products Data Collection In The Philippines: A Personal Experience

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Introduction

The Southeast Asian Fish Products (1987 and 1991) provides comprehensive and convenient reference material for anyone who wants information on the different fish products produced and consumed in Southeast Asia. The publication describes the different technologies and techniques involved in the production of fish products. It provides the most important information that one may need to know about the fish products in Southeast Asia and of new products developed by each country. It also shows that some improvements are necessary to further upgrade the quality of the fish products especially if the technology has a potential for adoption in other ASEAN countries.

The Philippines, through the Bureau of Fisheries and Aquatic Resources (BEAR), the implementing fisheries agency of the country, conducted a survey of its fish processing industry in 1982 by Laguna and Payofelin (1982). The survey was designed to:

- i) identify the processed products in the Provinces of Luzon, Visayas, and Mindanao;
 - ii) assess the existing technologies/techniques involved in the production of fish products;
 - iii) gather statistical data needed for policy formulation purposes, eg, import-export of fish products;
 - iv) identify the problems and constraints that affect the industry, particularly on the different processing methods; and
- v) to introduce new fish processing technologies to areas where they are not utilized.

The results of this survey proved useful in determining the overall status of the fish processing industry in the three major islands of the Philippines (Luzon, Visayas and Mindanao).

The survey focussed on the number of fish processors, plant sizes, processing methods, raw material requirements, production systems and statistics, marketing systems and problems and weaknesses. Such information is needed to assess the needs of the fish processing industry. It is also required as basis for food policy formulation and for planning, evaluating and executing national improvement programs aimed at better utilization of fishery resources and improvement of nutritional standards.

In succeeding years, the Fisheries Utilization Division of the Bureau of Fisheries and Aquatic Resources conducted other surveys on fish processing to gather information on the amount and makeup of the total production that goes into drying, smoking and canning. This was done to improve understanding of the problems confronting the industry and to update information on the status of the Philippines fish processing industry. In 1985, another survey was undertaken in connection with the implementation of fisheries credit programmes designed to improve the viability of small and medium scale fishing activities. This provided secondary data in the compilation of fish products.

Data Gathering

Collection and compilation of fish products data in the Philippines was done by the Bureau of Fisheries and Aquatic Resources in the course of its updating of statistical data and information on fishery post-harvest technologies. This was done to determine what products are available and produced, the technologies of production, the capacities of processing plant, the number of fish processing establishments and problems encountered by fish processors which affect the development of the industry.

In gathering the data, three methods were employed:

Use Of Survey Questionnaire

A survey questionnaire was developed. Copies were sent to the 12 Regional Offices of the BFAR and were distributed to the fish processors/respondents by extension officers in the region. A deadline for retrieval of duly accomplished forms was set. About 85% responses was attained. The survey questionnaire used is shown in Annex I.

Plant Visit And Personal Interview With Guide Questionnaire

The technologists interviewed the respondents personally to verify some information and to obtain a personal overview of the actual fish processing activities.

In all areas visited, traditional methods of fish processing predominate, eg, salting, fermentation, fish sauce and fish paste. Other methods observed included drying and smoking, canning, freezing, filleting, salting, drying and the manufacture of squid flakes, shrimp and fish noodles, fish chips and many other fish-based snack foods.

Only selected provinces were visited. These included Palawan, Iloilo, Camarines Sur and Cebu and vicinity. Similar results were obtained as reported by Laguna and Payofelin (1982).

Secondary Data

Secondary data was gathered to supplement information from the survey. These included published reports, manuals and results of other surveys.

Observations/Findings

During the early part of the survey, it was observed that most processing activities focused on traditional methods of fish processing. Only fish that are left unsold in the wet markets go to the fish processing industry. Consequently, the finished products were poor in quality and were destined for local markets, rather than for export. However, fish products are now slowly finding their way into the export markets.

It was also further observed that certain types of products are known in some areas but not in others. For example, the fish paste and fish sauce locally known as *bagoong* and *patis* used to be known only in Navotas, Rizal, a province very close to Manila. In the latter part of the 70's they were introduced to the Bicol area, southern Luzon and later to northern Luzon. As a result of the surveys, the products have become popular and are now considered indispensable in every Filipino home.

Another product is boiled fish based on small tuna and tuna-like species, locally known as *sinaing na tulingan*. This product is indigenous to Batangas, a province in southern Luzon from where it has been introduced to the Visayas and Mindanao. This indicates that technology transfer activities have helped to increase the sale and promote the distribution of these products.

It was also observed that, generally, these traditional products need further improvement in terms of sanitation and product quality.

The Fish Processing Industry Profile, by Laguna and Payofelin (1982) projected a clear picture of the structure, capacity, and organization of the fish processing industry of each province and of the whole region.

For the purpose of analysis, fish processors were classified into three size-groups according to the annual volume of production as follows:

Small processors : less than 5 mt

Medium processors : 5 to 20 mt

Large processors : more than 20 mt

In most cases it was noted that small-scale processors are more willing to give data as they feel that the technologists may be able to help them improve their business. Medium and large scale processors, by contrast, are hesitant to give details on their production.

Data/information on production capacities and volume of production were seemingly inaccurate. Processing techniques are also not discussed by respondents.

Some medium and large-scale processors are willing to show their plant operations but are less willing to give information and prohibited the taking of pictures inside the plants. Video tapes are available in some large-scale industries.

In the regions visited, the types of equipment and facilities used for processing were simple and crude. For drying, bamboo slats were used as trays and fish drying was done only under the sun. On the other hand, some types of solar dryers and dehydrators are now in use indicating that some progress is being made.

The mode of processing of a particular type of product does not vary from operator to operator. Small-scale processing is usually done in the fishing village with the assistance of relatives and family members.

Product presentation in terms of packaging needs to be improved. Even today, some cured products are displayed without packaging and sold using old newspapers as wrappers.

Since production of fish products is labour-intensive, it generates employment and improves the economic condition of the locality.

Problems Encountered During The Survey

1. Slow retrieval of questionnaires from the regions which delayed the compilation process.
2. Reluctance of some respondents to give accurate information needed in the compilation.
3. Due to geographical location and dispersal through many scattered islands, transportation and communication posed some problems in data gathering.
4. Due to lack of funds, problems were encountered in data gathering especially in remote areas inaccessible to land transportation.
5. Lack of facilities and manpower to facilitate gathering of data (ie, computers and extension officers).
6. The reorganization programme of the government during the survey slowed down the gathering of data.
7. Peace and order situation.

Expectations In The Next Surveys

From my experiences in the surveys I feel that certain measures can be taken to advance and improve fish processing in the Philippines and other Southeast Asian countries; I am positive as a private individual that the following are the desired directions:

1. Improvement to traditional methods, following standard processes with emphasis on hygiene, sanitation and quality control for the development of standard fish processing guidelines for Southeast Asia.
2. Expansion of research studies for the development of new products.
3. Utilization of indigenous fishery resources and underutilized species of fish.
4. Expansion of markets for export of products.
5. Increased opportunities for exchange of technology and expertise among the ASEAN countries.
6. Studies on improvement of packaging.

7. Concerning the problems of the fish processing industry, more research studies must be undertaken not only of the technological and nutritional aspects of these problems but also of their socio-economic aspects.

Recommendations And Conclusion

- 1) Considering the usefulness of the Southeast Asian Fish Products (1987 and 1991) to researchers, food manufacturers and to the industry of the region, it is recommended that the compilation be made a continuing activity in the Southeast Asian countries in the future.
- 2) Since this compilation is a useful information tool for all Southeast Asian countries, it is hoped that the survey also serves as a medium for the exchange of ideas among the peoples in Southeast Asia and for the promotion of cooperation and economic ties.
- 3) Referring to the two surveys conducted in 1980 and 1985 in the Philippines, it is recommended that funds be made available specifically for the survey, and that consideration be given to extension officers and technologists involved in the project.

I like also to suggest the following related items:

- 4) With the problems in marketing and quality control presented for each product, research studies must be conducted in order to minimize if not totally solve the problems in the fish processing industry. New products may be developed and improvements to existing ones may be made.
- 5) Improvements are particularly desirable in sanitation and hygiene, implementation of standard procedures and good manufacturing practices, and in prolonging the shelf life of products.
- 6) The organization of cooperatives should be encouraged, to facilitate the marketing of fish products and to assist the fishing industry.

Lagua, N.M. and P. Payofelin. 1982. Fish Processing Industry Profile. Regions 4,5. Fisheries Newsletter Vol. XI No. 2: 28-57.

Lagua, N.M. and P. Payofelin. 1982. Fish Processing Industry Profile. Regions 7. Fisheries Newsletter Vol. XI No. 3: 23-37.

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Marine Fisheries Research Department/SEAFDEC. 1987 and 1991 (2nd ed). Southeast Asian Fish Products. MFRD/SEAFDEC, Singapore. 86 pp.

Annex 1. Survey Questionnaire Form Used In The Survey On Fish Products In The Philippines

Republic of the Philippines
 DEPARTMENT OF AGRICULTURE
 BUREAU OF FISHERIES AND AQUATIC RESOURCES
 880 Marcelo Bldg., Quezon Avenue, Quezon City

SURVEY OF THE AVAILABILITY OF FISH AND FISHERY PRODUCTS

Respondent's Name : _____ Address : _____

1. RAW MATERIALS :

Species Of Fish Used	Amount/volume Procured	Source/s Of Raw Materials	Technology Used (Include New Techniques)	Peak Months Of Production	Lean Months Of Production
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2. PRODUCTION :

Total Production : _____ Cost Of Production : _____
 Process Involved (Brief Statement Of Procedure : _____

3. FINISHED PRODUCTS:

Products	Selling Price	Packaging Methods & Materials Used	Market Outlets	Average Shelf-life
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4. LOSSES IN PRODUCTION :

- | | |
|--|---|
| <p>A. Causes Of Losses :</p> <ul style="list-style-type: none"> <input type="checkbox"/> poor handling methods <input type="checkbox"/> mode of transport <input type="checkbox"/> processing methods <input type="checkbox"/> packaging <input type="checkbox"/> storage <input type="checkbox"/> others (specify) _____ | <p>B. Estimated Percentage Loss By Product Type</p> <ul style="list-style-type: none"> <input type="checkbox"/> smoked <input type="checkbox"/> salted <input type="checkbox"/> dried <input type="checkbox"/> others (pls. specify) _____ <p>C. Selling Price Of Dried Fish Intended For Fish Meal _____</p> |
|--|---|

5. What alternative measure do you do to save your product?

- | | |
|--|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> selling at low price <input type="checkbox"/> cold store <input type="checkbox"/> use insecticide (what brand? _____) <input type="checkbox"/> keep fish in brine | <ul style="list-style-type: none"> <input type="checkbox"/> produce semi-dried product <input type="checkbox"/> sell immediately <input type="checkbox"/> others (specify) _____ |
|--|---|

6. What do you think is the most immediate solution to your problem?

7. What is the extent of brine solution used in the product? _____
 a. source of salt _____ b. cost per pack _____

8. Quality control measures : _____

9. Other available species (underutilized fish and shellfishes) : _____

10. Technology used (if any) : _____

11. Hygiene and sanitation : _____

12. Comments/suggestions :

Thank You!

Interviewed by _____ Date _____