Report of the

TRAINING WORKSHOP ON AQUACULTURE VALUE CHAIN DEVELOPMENT AND PARTICIPATION

Pangasinan, The Philippines, 14–16 November 2017
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PREPARATION OF THIS DOCUMENT

This document is one of three outputs of the three-day training workshop, organized under a collaboration between the Fisheries and Aquaculture Department of FAO Rome and the Overseas Filipinos Society for the Promotion of Economic Security (OFSPES). It was implemented through a Letter of Agreement with the society. Assembling the information and preparation of the report were done by Ms Jennie Fernandez of the College of Fisheries of Pangasinan State University, Professor Edgardo Valenzuela of OFSPES, Ms Divina Borbon, Ms Aila Wilkinson and Ms Jessica Macanas of the Bureau of Fisheries and Aquatic Resources, Mr Pedro Bueno and Dr Tipparat Pongthanapanich.
ABSTRACT

This training workshop aimed to improve the entrepreneurial capacity of participants – organized small-scale aquaculture producers – to develop a market for their products, integrate their enterprise in the value chain, and participate effectively in the value chain. The main participants were the members of a women’s association established in 1989 called the Binmaley Rural Improvement Club (BRIC). They are farming milkfish (Chanos chanos) and processing and marketing milkfish-based product forms. The other participants are farmers who are not members of the association, officers of the village in which the association is based, one government officer each from Indonesia and Viet Nam, and technical officers of the Bureau of Fisheries and Aquatic Resources (BFAR).

Five learning modules and a case study of BRIC in a value chain context were prepared for the training. The technical sessions consisted of three parts: (1) presentations of the case study, five learning modules, and overview of a national programme on ‘Gender responsive economic actions for the transformation of women’ or GREAT Women Project; (2) group exercises on the following topics, i.e. generating innovative product ideas, developing a basic business plan for a product, and improving the market for existing products; and (3) discussion on the case study and on the working group results. The programme included a field trip to the processing facility of BRIC.

The conclusions from the workshop are as follows. First, it is essential for small farmers to be organized and trained in both technical and management aspects for effective participation in the value chain. Second, a resilient value chain makes small-scale producers resilient to risks. Third, an organized women’s group can play a very important role in the value chain especially in creating and accessing markets. Fourth, women participation in the aquaculture value chain promotes the broader goal of gender equality.

Three generic lessons were drawn. First, the social and mutually beneficial business relations among value chain actors are just as important as the flow of products along the chain. Second, the value chain framework can be used to effectively address the issues of poverty alleviation, community development, and equitability. Third, a well-organized and progressive farmers’ association that participates effectively in the value chain benefits the community in many ways such as increased employment, multiplier effect of the increased revenues on the local economy, and enhanced reputation of the community and its other products and services.

This training workshop was a collaboration between the Fisheries and Aquaculture Department of FAO Rome and the Overseas Filipinos Society for the Promotion of Economic Security (OFSPES). Technical assistance was provided by BFAR, workshop coordination by the College of Fisheries of Pangasinan State University, and administrative and technical facilitation by the FAO Representation in The Philippines. Resource speakers were from the College of Business Administration and Accountancy, College of Agriculture, and Freshwater Aquaculture Center of Central Luzon State University, and the Fisheries Post Harvest Technology Division of BFAR.

Keywords: value chain development, women in aquaculture, aquaculture enterprise, small-scale aquaculture, farmers’ association
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<tr>
<td>BFAR</td>
<td>Bureau of Fisheries and Aquatic Resources</td>
</tr>
<tr>
<td>BRIC</td>
<td>Binmaley Rural Improvement Club</td>
</tr>
<tr>
<td>CLSU</td>
<td>Central Luzon State University</td>
</tr>
<tr>
<td>DOST</td>
<td>Department of Science and Technology</td>
</tr>
<tr>
<td>DTI</td>
<td>Department of Trade and Industry</td>
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<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
</tr>
<tr>
<td>FDA</td>
<td>Food and Drug Administration</td>
</tr>
<tr>
<td>GMP</td>
<td>Good manufacturing practices</td>
</tr>
<tr>
<td>HACCP</td>
<td>Hazard analysis critical control point</td>
</tr>
<tr>
<td>MSMEs</td>
<td>Micro, small and medium enterprises</td>
</tr>
<tr>
<td>OFSPES</td>
<td>Overseas Filipinos Society for the Promotion of Economic Security</td>
</tr>
<tr>
<td>PSU</td>
<td>Pangasinan State University</td>
</tr>
<tr>
<td>SSOP</td>
<td>Sanitation standard operating procedures</td>
</tr>
<tr>
<td>SWOT</td>
<td>Strengths, weaknesses, opportunities, threats</td>
</tr>
</tbody>
</table>
BACKGROUND AND RATIONALE

The activity is in line with FAO strategic programme 4, ‘Enable more inclusive and efficient agricultural and food systems’. Its objective is to enable organized small-scale aquaculture producers to become more effective actors in the value chain by strengthening their capacity to create a market for their products and take part effectively in the value chain. To pursue this objective requires that producers have the knowledge and skills to manage their enterprise, the ability to integrate their enterprise into the value chain and the proper attitudes and values to take part in its sustained management.

This training workshop on ‘Value chain development and participation’ was the second in-country activity carried out by the Aquaculture Branch (FIAA) and the Products, Trade and Marketing Branch (FIAM) of the Fisheries and Aquaculture Department of FAO. This second activity was organized in collaboration with the Overseas Filipinos Society for the Promotion of Economic Security (OFSPES). Secretariat and technical assistance was provided by the Bureau of Fisheries and Aquatic Resources (BFAR) through its headquarters and regional office (Region 1). The first, in September 2016, was of tilapia farmers in Thailand under the project ‘Enhancing the capacity of stakeholders to improve the tilapia value chain in Thailand’. It was organized in cooperation with the Co-operative Academic Institute of the Faculty of Economics of Kasetsart University. The case group was a tilapia farmers’ association and the purpose was to develop a prototype learning handbook designed as a training tool for organized farmers. It consisted of five modules tailored to the Thai tilapia value chain: (1) basic concepts of value chain, (2) better farm management practices to meet quality standards, (3) financial planning for a sound investment, (4) tilapia product development to meet quality standards, and (5) business planning to achieve mutual goals.

In this second training workshop, a similar activity was carried out, with milkfish producers in the Philippines as the main participants. An association of women, the Binmaley Rural Improvement Club (BRIC), engaged in milkfish farming and milkfish products processing was selected. The association was formally organized in 1989 with 15 members; it has now 85 active members including two male farmers. A case study of the association was conducted prior to the workshop to provide context to the training workshop and additional learning material and lessons. The training workshop consisted of five learning modules, of the same subjects as the five prepared in the Thailand project, developed and presented by Philippine experts and tailored to the milkfish aquaculture sector.

Fifty-two participants attended the training workshop: 24 are members of BRIC, two farmers who are not members, two officers of Barangay Buenlag\(^1\), seven technical officers from BFAR including one of the resource persons, eight faculty members and researchers from the Central Luzon State University (CLSU), who served as resource persons, one technical staff member of the Office of Provincial Agriculturist of Pangasinan, one faculty member of the College of Fisheries of Pangasinan State University (PSU), who served as local coordinator of the workshop and related activities, one fishery officer each from Indonesia and Viet Nam, three members of OFSPES, and three technical officers from FAO Representation in The Philippines, FAO Representation in Viet Nam and FAO Rome. The participants from Indonesia and Viet Nam were nominated by their governments to take part in the workshop on the expectation that the experience shall be useful when they carry out similar activities in their respective countries. The list of participants is Annex 1.

The expected outputs include: (1) trained small-scale aquaculture farmers and aquaculture products processors on value chain development and participation, (2) learning modules and information materials, (3) the case study of BRIC, and (4) this report of the workshop. A training manual is envisioned to be developed based on the outputs of this activity and those from the project in Thailand.

\(^1\) Buenlag is the name of the village (barangay) of which most members of the club are resident. It is the site of their processing plant and fishponds. The club was originally named Buenlag Rural Improvement Club.
OPENING SESSION

The workshop opened with an invocation for the success of the workshop followed by the Philippine National Anthem.

Welcome remarks

Professor Edgardo Valenzuela, President of OFSPES welcomed the participants. He noted that the training workshop was an important milestone especially that the Philippines is rich in aquatic resources and ranked 12th among the top exporting countries in fishery products. He stressed the importance of value chain development in ensuring that farm products meet the demands of the market for quality and enabling small producers to gain an equitable share of the values added to their products. He hoped the training will spur ideas that create new products. He noted another important aspect of the event, which is to encourage more participation from stakeholders in the community’s social and economic development efforts.

He described OFSPES as an NGO incorporated in the Philippines with a programme aimed at facilitating various capability building activities, mostly in cooperation with the Ateneo University’s School of Government. OFSPES had assisted in the implementation of FAO projects including a study on ‘Remittances and impact of migration on food security’ with the Technical Cooperation Department and ‘Aquaculture feed governance and better management practices in milkfish and tilapia feed production and utilization’ with the Fisheries and Aquaculture Department. He thanked the Fisheries and Aquaculture Department of FAO for engaging the collaboration of OFSPES in this project and acknowledged the participation of the various persons representing different stakeholders, various organizations and three ASEAN governments.

Opening address

The guest speaker, Director Nestor Domenden of BFAR Region 1, acknowledged the organizers, participants and resource persons and thanked the resource speakers and their organizations, FAO and OFSPES for extending support to BRIC. He noted that, while the immediate beneficiaries are the members of BRIC, the benefits from the project are expected to spread to the aquaculture sector of the country.

Mr Domenden said BFAR’s emphasis is service to farmers and this role is strengthened by forging partnerships with other agencies and organizations so that new opportunities may be created for farmers and enable them to take advantage of these opportunities and new trends. He said that among the problems faced by small-scale producers, the critical ones include reliability of inputs and quality of raw materials, which obviously affect the efficiency of producing, and the reliability and quality of the outputs. In this regard, the current national product development programme gives priority to the management of resources and input supplies.

BRIC has been a recipient of interventions from BFAR and several other agencies. These have included training and technical assistance in entrepreneurial development, food safety standards, sanitation and standard procedures, as well as a grant from the Department of Trade and Industry (DTI) of processing facilities. He noted that BRIC officers and members actively join trade fairs to promote their products and develop linkages with other producers, prospective customers, service providers and other firms. They also enjoy good coverage by the mass media.

He thanked FAO and OFSPES and the resource persons and their organizations for their expert assistance to BRIC. He expected that the results of the activity will yield lessons in strengthening the capacity of associations like BRIC in developing new products, accessing markets, playing an effective role in developing and sustaining the value chain of their products and contributing more to the development of their communities.
Workshop objectives and programme

Dr Tipparat Pongthanapanich, Aquaculture Officer of FAO, explained the purposes and expectations of the training workshop, and the procedure to achieve them. Its broad objective is to enable organized small aquaculture producers to create and develop a market for their products and take part effectively in the products’ value chain. The workshop methodology was designed to facilitate sharing of knowledge, expertise and experiences in the technical, management and strategic aspects of developing and managing the value chain. Experts will present five learning modules. The findings of the case study of BRIC will be shared by the case writer. For the group exercises, the participants will form into three groups to work on three issues: generating innovative product ideas, developing a basic business plan for a product, and improving the market for an existing product. The results will be presented and discussed. A field trip to the BRIC processing plant and fish farm will cap the activity. The programme of the training workshop is Annex 2.

TECHNICAL PRESENTATIONS

This section contains the summaries of (1) the case study of a women’s association in the Philippines in the context of a value chain, (2) the five learning modules, and (3) the overview of the national project ‘Gender responsive economic actions for the transformation of women’ or GREAT Women Project.

Case study

The study on ‘Building the capacity of small aquaculture farmers’ organizations for creating a market for and active participation in their product’s value chain: a case study of a women’s association in the Philippines’ was presented by Mr Angelito Gonzal, former SEAFDEC Aquaculture Department Researcher, Binangonan, Rizal, Philippines.

The case study was of BRIC, whose members were the main participants. It aimed to identify the factors that enabled this small farmers’ association of mostly women – which farms milkfish and processes and markets milkfish products – to become a fairly effective actor in the value chain of their products. The club started as a small association growing milkfish from fry to table-size fish. It subsequently embarked into simple value addition and then progressed to processing higher value products and expanding its market nationwide. They plan to venture into the export trade.

The club has received institutional support services from various government agencies, which have included technology for production and processing, training and advice in farm and processing enterprise management, product promotion and, from the mass media, public information. A significant support is the provision, at no cost, of processing equipment under a government programme to assist micro, small and medium enterprises (MSMEs), called shared services facility. They built at their own expense a processing house. The club has harnessed all these to advance its initiatives without becoming dependent on subsidies. The other asset that they try to nurture is trust, demonstrated in the business relations of BRIC with its suppliers and buyers.

Product and process upgrading are reflected in their progress from producing simple value-added products in a makeshift processing house to producing a variety of processed product forms in a well-built and equipped facility. The outcomes have been a wider range of product lines, increased production capacity and greater efficiency. Functional upgrading was initiated in line with good manufacturing and management practices. Compliance with requirements and application for a license and certification from the Food and Drug Administration (FDA) for hazard analysis critical control point (HACCP) have been initiated to enable participation in the international markets.

The augmented production and marketing of BRIC products has increased their demand for raw materials, which has enhanced the business of BRIC’s suppliers. The community has benefited from the processing project through the multiplier effect of higher earnings and more employment. The town is being promoted as the ‘Home of BRIC-processed bangus (milkfish)’. 
Weaknesses and inefficiencies in specific segments of the value chain are described. Policy, strategy and action to enable small farmers' effective participation in the value chain are recommended.

The case methodology included key informant interviews, farm visits, the collection of archive data from BRIC, a desk study and personal communications. The summary of the case study is Annex 3.1.

Learning module 1: value chain theory and practice

This module was presented by Mr Sherwin Celestino of the College of Business Administration and Accountancy and Mr Jairus Tubal of the College of Agriculture, CLSU.

The module describes and explains ways to strengthen the participants’ business products and processes to achieve competitive advantage. While essentially the same processes, the concepts of supply chain and value chain are distinguished: managing a supply chain aims to minimize costs while developing a value chain aims to increase product value and market access. Both contribute to increasing margins and giving more value to customers to build competitive advantage. The presentation describes the procedure of mapping the value chain for the purpose of (1) process upgrading, (2) product upgrading, (3) function upgrading, and (4) upgrading the value chain itself. The map visualizes networks for a better understanding of the connections between actors and processes, demonstrates interdependence between actors and processes, and stimulates stakeholders to look beyond their own involvement in the value chain. The six steps in value chain mapping are described and explained.

The practical part of the presentation, among others, explains and gives examples of how to measure changes in the value of a product along the chain. Essentially, the additional value created and captured by the enterprise is the profit margin. The summary of this presentation is Annex 3.2.

Learning module 2: system management of milkfish farming to meet quality standards

This module was presented by Dr Emmanuel Cruz of the Freshwater Aquaculture Center, CLSU. The module describes and illustrates the following practices:

- site selection, farm layout and design, and farm environment management;
- management of water quality, which emphasizes dissolved oxygen management and pH control;
- feed and feeding management;
- fish health management;
- good harvesting and product handling practices; and
- other considerations that include waste removal and disposal, biodiversity conservation, personnel health and hygiene, traceability and record keeping, and labour and community relations.

The summary of this module is Annex 3.3.

Learning module 3: product development, processing, promotion and marketing

This module was presented by Ms Consuelo Baltazar of the Fisheries Post Harvest Technology Division, BFAR.

The presentation discusses the best practices in milkfish post-harvest handling, processing and utilization technologies, product promotion, labelling, packaging and marketing. The legal basis of the procedures for proper handling and processing are also discussed with emphasis on safety and quality standards. The pre-requisites of implementing HACCP, namely, the good manufacturing practices (GMP) and sanitation standard operating procedures (SSOP) are likewise discussed.
The process flow and the recommended plant layout are geared towards utmost efficiency in the workplace by among others preventing workers from getting in each others’ way and ensuring that raw materials are within easy reach and in place when needed. The process also prevents contamination of products.

Product promotion and marketing include a discussion of different product forms, mandatory labelling requirements and a simple guide to meeting the food safety requirements for milkfish and similar aquaculture products in the local and international markets. The summary of this presentation is Annex 3.4.

**Learning module 4: business plan development**

This module was presented by Dr Judith Teaño of the College of Business Administration and Accountancy, CLSU.

The module explains what and what for is a business plan, describes and illustrates the parts of a business plan, what each part consists of and how it is developed. The module was used to guide the development of the BRIC’s business plan during the working group exercises.

A business plan serves as the basis for the organization’s strategic plan such as setting goals, determining the actions to achieve those goals and mobilizing resources to execute those actions. It helps minimize the risk of financial loss through a systematic consideration of the venture’s strengths and weaknesses. It serves as a guide to the implementation of the business such as day-to-day operations, policy formulation and investment decision. It also provides a basis for monitoring and evaluating the enterprise, and informs prospective sources of funds for a new venture or the expansion of the business.

The module discusses the nine parts of a business plan, the importance of each part and how it is developed and written. The summary of this presentation is Annex 3.5.

**Learning module 5: financial planning**

This module was presented by Professor Winnie Villanueva of the College of Business Administration and Accountancy, CLSU. The co-authors of the module are her colleagues, Mr Jeremy Lumibao and Mr Mark Anthony Tagonan.

The presentation explains the importance of financial planning, what a financial plan shows (i.e. financial performance, solvency and liquidity of the businesses), and what additional values it provides to the farmer (i.e. evaluate the status of the farm enterprise over any given period of time). The stages of financial planning are described: (1) determining the current financial needs of the firm, (2) developing financial goals, (3) identifying and evaluating alternative courses of action, and (4) implementing and monitoring the financial action plan.

The different kinds of financial statements and their uses in farm decision making are described and illustrated. The statements include: (1) statement of financial position as at the end of the period, (2) a statement of profit and loss and other comprehensive income for the period, (3) a statement of changes in equity for the period, (4) a statement of cash flows for the period, and (5) notes to financial statements, including a summary of significant accounting policies and other explanatory information.

The tools used to analyse financial statements are explained and illustrated. Finally, the considerations in implementing a financial plan of action are explained. The summary of this module is Annex 3.6.
GREAT Women Project

An overview of the national programme, ‘Gender responsive economic actions for the transformation of women’ or GREAT Women Project, was presented by Mr Reginald Atabay, Head of Marketing Section, BFAR Region 1.

Before the presentations of the working group reports, Mr Atabay gave a brief overview of the GREAT Women Project. The programme aims to: (1) improve the competitiveness and sustainability of women’s agriculture and non-agriculture enterprises so they can produce quality and environmentally sustainable products, (2) make the value chain more gender responsive, and (3) improve entrepreneurial capacities. It seeks to create a policy environment that is more conducive for women’s participation in value chains, and to improve coordination of service delivery among agencies and private sector partners at the national, regional and local levels.

The project’s lead agency is the Philippine Commission on Women. Facilitated by DTI, it is now on its second phase, which covers the period 2015–2020 (Phase 1 was from 2007–2013). BRIC is a beneficiary during the second phase.

WORKING GROUPS

The participants – the members of BRIC, the village officers and the farmers who are not members of BRIC – formed into three groups and were joined by the other participants. Each had a facilitator from among the resource persons. One group worked on one of these three topics: (1) generating innovative product ideas, (2) developing a basic business plan for a product, and (3) improving the market for existing product. The outputs are summarized below.

Group A: generating innovative product ideas

Facilitator was Mr Sherwin Celestino of the Central Luzon State University (CLSU).

The group agreed on the theme ‘Zero waste’: products and their development would utilize every part of the fish. Ten existing products do not use certain parts of the fish. These wastes from the processing of the existing products would be used in the potential products, which they identified.

Intestines, gills, heads and tails and other viscera would be processed into fish paste or become components of liquid fertilizer for high value crops. Skin would be processed into an edible cracker (cicharon), spines and bones to be ingredients of powdered dried calcium supplement or as a flavour enhancer and seasoning. The head would be frozen and sold separately, or powdered as an ingredient in a flavour enhancer. In addition, existing products would be enhanced in flavour or nutritive value by the processed materials from the wastes, such as dough for a native delicacy called empanada, bread and pastries, and powdered sweets called polvoron, ice cream toppings made of ground cashew nuts and steamed milkfish flesh. The group proposed ways to package existing products to make them more attractive.

<table>
<thead>
<tr>
<th>Existing products</th>
<th>Potential products (from identified wastes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Marinated</td>
<td>• fish paste (intestine)</td>
</tr>
<tr>
<td>2. Relleno</td>
<td>• for liquid fertilizer (gills and other viscera)</td>
</tr>
<tr>
<td>3. Smoked</td>
<td></td>
</tr>
<tr>
<td>4. Shanghai roll</td>
<td></td>
</tr>
<tr>
<td>5. Longanisa</td>
<td>• chicharon (skin)</td>
</tr>
<tr>
<td>6. Siomai</td>
<td>• powdered, dried calcium supplement (bone)</td>
</tr>
<tr>
<td>7. Nuggets</td>
<td>• flavour enhancer/ seasoning (bone)</td>
</tr>
<tr>
<td>8. Tocino</td>
<td>• other powder product form: polvoron, dough for empanada, pandesal/bread/pastries (bone)</td>
</tr>
</tbody>
</table>
### Existing products

<table>
<thead>
<tr>
<th></th>
<th>Potential products (from identified wastes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Belly</td>
<td>• frozen (head)</td>
</tr>
<tr>
<td></td>
<td>• powdered, supplement flavour enhancer (head)</td>
</tr>
<tr>
<td>10. Bottled fish in oil</td>
<td>• powdered dried and calcium supplement (tail and head)</td>
</tr>
<tr>
<td></td>
<td>• flavour enhancer/seasoning (tail and head)</td>
</tr>
<tr>
<td></td>
<td>• fish paste (intestine)</td>
</tr>
<tr>
<td></td>
<td>• liquid fertilizer (other viscera)</td>
</tr>
</tbody>
</table>

### Group B: developing a basic business plan for a product

Facilitator was Dr Judith Teaño of the College of Business Administration and Accountancy, CLSU.

A comprehensive strategy was developed by the group for three of the various existing products of BRIC, namely, marinated milkfish, smoked milkfish and stuffed milkfish (relleno).

First is ‘Product description’ which consists of the way each product is prepared, followed by the process flow (i.e. fresh fish delivery, sorting, weighing, washing, splitting, deboning and on to packaging, labelling and quality inspection and control). The third component of the product description specifies the equipment and tools needed to prepare and process each product form.

Second is the development of a ‘Business model canvas’. This is basically a map of the partners, key activities, value preparation, customer relations, and customers of each product. It is summarized below:

- Key partners are identified for suppliers of raw materials suppliers of ingredients and distributors of the product.
- Key activities are operations, marketing, financing scheme, provision of labour and sourcing of materials.
- Value preparation describes briefly how each product form is prepared to enhance its value, the skills and attitudes of processors needed to produce a product considered of value by potential customers, and the additional product attributes needed to target the export market.

The section on ‘Customer relations’ consists of preferences by distributors in terms of packaging, number of fish per pack, terms of sale such as cash or consignment, product replacement in the case of consignments, and the common channels and ways by which products reach or come to the attention of customers. Customer segment consists mainly of the geographical distribution of products, by volume, based on the current demand. For instance, 50 percent of the output is for sale in the locality, 10 percent to nearby towns, and 10 percent to other provinces. Another way of segmenting the customer base is how their products are targeted, i.e. walk-in customers (20 percent), returning and visiting overseas Filipinos (10 percent) and buyers at trade fairs (10 percent).

Third, the marketing plan and strategy was outlined. This strategy is designed to make the product competitive. It includes pricing, assurance of quality and reliability of delivery, and a marketing plan for current customers that include wholesalers, retailers and institutional buyers.

Finally, a SWOT analysis was carried out to inform the overall strategy of BRIC that would enable it to adequately meet production and marketing targets.

### Group C: improving the market for existing products

This group was facilitated by Ms Mirasol Magalong of the Office of the Provincial Agriculturist, Pangasinan.

The group crafted a vision and a mission statement for the enterprise. Their vision statement is “to become a well-known producer of milkfish processed products locally and internationally by 2020”, and
the mission is “to produce quality milkfish processed products accepted and preferred by consumers in the local and foreign markets”.

They identified and described the four ways by which their products would be marketed, which they called the marketing procedure. These are: (1) sold to walk-in buyers, (2) sold by order, (3) promoted using the four communications media (they referred to this as ‘Quad media’), which include print, radio, television and social, and (4) participation in agricultural trade fairs and exhibitions.

A marketing strategy was outlined, which consists of five measures: (1) intensified publicity through the mass media, (2) participation in international trade fairs, (3) establishment of pasalubong centers (pasalubong is a present to family members, friends or neighbours from a returning or visiting relative or friend), (4) improve labelling and packaging, and (5) strengthen linkages with other actors.

They discussed the outstanding issues (referring to the BRIC products) that would reduce the effectiveness of the marketing strategy, and focused on these three: (1) generalized or generic labelling of some of the products, which does not engender brand recognition nor cultivate customer loyalty, (2) absence of an expiration date on the label of some products, which can have legal implications, and (3) pricing of some products that does not consider all the costs, on one hand, and, on the other hand, the competitiveness of the product against similar and substitute goods in the same market.

DISCUSSION

The highlights of the discussion reported here are those that ensued after the presentation of the case study and of the group reports.

On the case study

On the legal status of BRIC, it is essentially an association (under a national programme called Rural Improvement Club, established by law in the 1950s, mainly for women) but operating as a private enterprise. They plan to incorporate the new processing plant.

On the benefits of being a member, there are two monetary benefits. Members who render labour are paid a daily wage, and all active members receive a dividend at year end. At present, there is no social security coverage but the association plans that, when the expanded processing plant becomes operational, they will enrol the members who work in the plant in the social security system as well as in the Philippine Health Insurance Corporation (PhilHealth), the country’s universal health coverage.

On the factors that helped the club attain their current status, trust and mutual interest among leaders and members prevail. Likewise, trust appears to characterize its business relations with suppliers of raw materials and ingredients, and the buyers of its products, which now include distributors, wholesalers, retailers and institutional buyers.

A dedicated and active leader seems to have been a significant factor. The matriarchal style of leadership of its ageing but still spritely president would have helped the association through its years of struggle and growth. It may not be consistent with the democratic procedure of electing an association’s leader, but the members’ tacit acceptance or approval of the leader’s continuing tenure – uninfluenced by coercion – indicates that this mode of leadership has been useful. Its adverse impact however is the association is rendered without a leader or is taken over by an ineffective one because the current leader neglects or fails to develop potential successors. This was noted by the workshop and explicitly communicated to the president, who acknowledged and accepted the suggestion that she now grooms a successor.
Another factor is the extensive institutional linkages of BRIC with several agencies, the local and provincial governments and the mass media. The relationships, which include technical, regulatory, policy and public relations matters have enhanced the capacity and built up the social capital of the association. Linkages with the policy, regulatory and development agencies have made the association competitive, accelerated its growth, and opened up opportunities. Participation in trade fairs, training, publicity through the mass media, and product promotions have made the association and its products widely known.

On sustaining its operation, the association has continuously operated since 1989, progressing from farming and selling fresh fish to the neighbourhood to processing various product forms and expanding its market to various provinces, the capital city and now planning to enter the export market. BRIC’s processed milkfish production trend from 2008 to 2013 reflects a sustainable growth. From an initial production capacity of 1.5–3.15 tonnes/month with fresh fish from the communal pond of 0.5 ha and subsequently also from milkfish suppliers (other farmers in the area and a wholesaler based in the consignacion or wholesale market located in Dagupan City (the major urban center of the province which is around 15 km from the BRIC processing facility), the output has now reached 8–10 tonnes/month. The new facility has a rated capacity of 3 tonnes/day but BRIC has set an initial target of 1 tonne/day. Increasing the output to the rated capacity is based on their being able to obtain sufficient raw materials from accredited milkfish farms in Binmaley and the neighbouring town of Labrador. Accreditation of raw material suppliers reduces the risk of using fish that are contaminated with antibiotics and pesticide residues.

The reputation of the community as a producer of popular milkfish products has been enhanced. The club has asked the local government to include their processing operations and farm in the province’s eco-tourism itinerary.

**On the working group results**

Mr Reginald Atabay, Head of the Marketing Section of BFAR Region 1 was moderator of the session.

**Generating innovative product ideas**

How new products were developed – There have been three sources of ideas on new products: training, participation in trade fairs and observing the various products on display, and the experiences of the members. An example of the results of the latter is bangus longanisa (milkfish sausage), which was tried and tested at home (by the president) and then brought to the local office of the Department of Science and Technology (DOST) for refining. They also make adaptations to or improvements on existing products. As well, there have been studies conducted by students of the Fisheries College of PSU, to which BRIC has made modifications, such as burger patties.

It was agreed that whatever are the sources or spark of a new idea, subjecting the idea to members’ and other people’s opinions and then testing its value, practicability and contribution to the association’s business objectives is a sensible process. It was also suggested to obtain the opinions of partners along the value chain. Finally, the view was expressed that an institutionalized process of generating and sharing ideas among the members and the community about products but also procedures would help make the association and its enterprise progressive and innovative.

**Developing a basic business plan on a product**

The group was commended for the comprehensive business plan that they developed. It was in fact a business plan for BRIC and for its various product forms. It was suggested that new products be included in the business plan and subjected to a similar planning process. Other issues discussed and agreed to are to emphasize, along with product quality and safety, the positive contributions of the association and the business to environmental and social goals. This could be reflected in the product promotion and labelling (i.e. eco- and social labels) and should enhance the value of the products and the reputation of
the association. In upscaling the business and forging partnerships with other players along the value chain, it was agreed that these aforementioned values be emphasized in business relations. A monitoring and evaluation system to the business plan should be included.

**Improving the market for existing products**

A product image that reflects quality, safety, and environmental and social attributes was the focus of the discussion. It was suggested that the marketing strategy and message highlight the attributes of the product that make it highly desirable and distinct from similar products. In this regard, it was noted that BRIC empowers women economically and that it contributes to community development. These should be reflected in the marketing message along with product quality. To further strengthen the message, it was suggested to highlight BRIC’s contribution to environmental protection (i.e. zero waste or the use of almost all parts of the fish for a variety of products).

The workshop was informed that DTI conducts free seminars on environmentally friendly activities, processes, designs and packaging materials. It was also noted that the module on ‘Product development, processing, promotion and marketing’ provides a checklist of requirements for the local and export markets, which BRIC should refer to and comply with.

**Other issues: relations with distributor, product pricing, decent compensation and equitable sharing**

On its relations with its distributor in another province, BRIC on the basis of trust has agreed to this distributor sticking its own label on the products supplied by BRIC. They are aware that they could be liable if a complaint is lodged by a consumer because of some adverse impacts of a spoiled product. While it appears that there is no accountability on the part of BRIC because the brand is not theirs, the product can be traced to them, leading to a potential social risk, i.e. bad press or, worse, a legal complaint. The workshop suggested that BRIC discuss this issue with the distributor and work together to specify and agree on their respective as well as joint responsibilities should there be any customer complaint.

On price setting, Mr Gonzal, the case study author, informed that a rough calculation revealed that BRIC has not been factoring in some cost items, especially the in-kind and seemingly intangible items, and even electricity, in pricing their products. They examined two products, smoked and marinated, fish. Mr Gonzal revealed that a careful costing of all the inputs showed that the cost of the product was higher than the price set by BRIC. It was suggested that BRIC request the assistance of experts in product pricing as well as in the broader determination of cost and returns and business profitability.

It was further noted that BRIC has the potential to develop higher quality products, which would add to the total cost of production. The point is that the higher quality product, which costs more to produce, should correspondingly increase margins. Hence, it is important to have a proper product pricing. As an example, the group was asked which of their 12 product forms was the best selling and earns the highest margin. They suggested it was the bangus relleno (stuffed milkfish), which they claim provides a margin of 50 percent of the price.

It was suggested that BRIC use the prescribed legal minimum wage as a benchmark for the workers’ wages. This would establish the cost of labour in producing a product so that it is not underpriced, which appears to be the case now. The other reason is to assure that the workers are paid a decent and fair compensation. The workshop emphasized the importance of equitable sharing of benefits among the members who provide labour. In this regard, the analysis of the business was reiterated; for this task CLSU and BFAR expressed their pleasure to extend their assistance.

OFSPES informed of a business hub initiated by DTI called the Go Negosyo Center, a newly established unit that assists in business development, which could be a source of further assistance.
FIELD TRIP

The participants visited the existing processing facility of BRIC, the expanded processing plant that was under construction and their fish ponds. The steps in processing some of the products were explained. A number of the visitors bought on the spot several packs of the processed products.

CONCLUSIONS

The presentations, discussions and field trip suggest the conclusions below.

It is essential for small farmers to be organized and trained in both technical and management aspects for effective participation in the value chain. A requisite is small farmers have to be organized so that capacity building can then be directed towards professionalization as well as technical training. To explain:

- Professionalization of leaders, members and the association’s systems and processes is crucial to sustaining an association of small producers. It should comprise leadership skills and values, and members’ loyalty, attitudes, values and financial literacy. The case also highlights the need to groom future leaders and to distribute the responsibilities. It demonstrates that democratic processes are crucial to sustaining the association.
- Technical training is needed on good farming practices, processing (GMP, HACCP, other good practices and standards), marketing (branding, labelling, requirements of importing countries), business and financial planning and management.

A resilient value chain makes small-scale producers resilient to risks. A sustainable value chain that possesses these attributes, namely, mutual trust among actors, equitable sharing of benefits generated, empowered producers, efficient processes, and democratic procedures, imparts resilience to the entire chain.

An organized women’s group can play a very important role in the value chain especially in creating and accessing markets. The case demonstrates that:

- Women can both farm and process farm products as well as procure materials and market the products effectively.
- As farmers, women are very much conscious of the importance of high quality fresh fish.
- As processors, women appreciate the importance of a reliable – that is, delivered in time and in the desired quantity – supply of raw materials. Women’s cooking skills can easily translate to value addition of farm products. Their familiarity with various popular processed ready-to-cook products (from poultry, pork, beef and fish) led them to experiment with milkfish as the main ingredient, with successful results. This diversified their product forms and added value to the fish and increased its utility. They now process 12 milkfish-based products, two of which (smoked and marinated) are aimed for export.
- As entrepreneurs (who farm and process) they are very much aware that any inefficiency upstream or downstream affects their own efficiency and their profitability.

Women participation in the aquaculture value chain promotes the broader goal of gender equality. While the subject of the case is a women’s association, the reality is most farmers’ associations are composed of men. The case demonstrates the distinct advantages that women can bring into a small farmers association’s efforts at value addition, market access, market creation, and enterprise management.

- Women’s interpersonal and social skills facilitate linkages and business relations with input suppliers and buyers.
- As demonstrated by the case, their traditional role as keepers of the household money was applied in the careful disbursement of association funds and accumulation of savings.
• It appeared to be easier for them to internalize the additional value created by socially and environmentally responsible production and processing. For instance, the group that worked on the first topic (‘Generating innovative product ideas’) focused on zero waste, which included using the bones of the deboned milkfish to produce a high-calcium content powder (polvoron) and adding other natural compounds to enrich the product’s nutritive value and improve its taste. They were also selling frozen milkfish heads in one-kilogramme packs, each pack containing 12 heads, for PHP 100 (around USD 2 in November 2017).

LESSONS

Generic lessons were drawn, as follows:

The social and mutually beneficial business relations among value chain actors are just as important as the flow of products along the chain. Good social relations – founded on trust – among the value chain actors translate to mutual benefits. It enhances business relations, it sustains the value chain, and benefits the community. Trust promotes equitability, sustains and enhances relationships and reduces transaction costs.

The value chain framework can be used to effectively address the issues of poverty alleviation, community development, and equitability. Support to this contention includes the following:
• The case affirms that producers gain more benefit from their farm product by value adding through processing. They gain even more by processing higher-value and diversified products, which trade further generates economic opportunities along the chain.
• Promoting equitability and being organized to participate effectively in the value chain go together. Equitability enables small farmers to gain more benefit from farming.
• Equitability requires efficiency along the chain. Technical and economic efficiencies result in high returns to farmers. The efficiencies however should not only bring about by say, good infrastructure and management, but also equality or symmetry in power relations among the value chain actors.

A well-organized and progressive farmers’ association that participates effectively in the value chain benefits the community in many ways, i.e. more jobs, multiplier effect of the increased revenues on the rural economy, promotion of the community’s reputation as a source of popular and excellent products, which can create market opportunities for other products and services of the community.

RECOMMENDATIONS

The OFSPES team distilled the recommendations of the workshop, which were presented by Professor Edgardo Valenzuela, and discussed and endorsed by the workshop.

BFAR or FAO Representation in The Philippines should consider:
• organizing value chain seminars; and
• developing a network of experts to serve as resource persons for seminars, training and related projects in value chain development.

Future training activities in the country should:
• Invite resource persons from agencies involved in providing technical and financial assistance to businesses including exportation.
• Invite representatives from FDA to inform participants of the processes and documents required in producing and marketing processed food products
• Include representatives of several associations.
• Feature hands-on practical activities such as product pricing.
Critical considerations in processing and marketing food products are the following:

- Food safety cannot be compromised; it is key to the enterprise’s social and legal licenses to operate. Food traceability should also be complied with; it is one of the guidelines of Codex Alimentarius, which governments enact into policy.
- Understand the concept of the niche market and marketing approach. Related to this is understanding the demographics of the market and the preferences and behaviours of the target market segment. For example, the younger generation prefers to purchase ready-to-cook products and from outlets other than the wet market.
- Information technology needs to be harnessed by small- and medium-scale producers. They start promoting and selling their products through the social media and the web as well as for monitoring and comparing prices.
- The participation of officers from Indonesia and Viet Nam was in line with the expectation that similar training activities would be facilitated by them and their organizations. Should they decide to do so, it was suggested that FAO provide technical assistance to the governments of Indonesia and Viet Nam in organizing the training workshops.

CLOSING SESSION

Vote of thanks

BRIC president, Ms Milagros Buenafe, expressed the community and the club’s gratitude to the organizers, resource persons, facilitators and moderators. She acknowledged the expert advice and sincere assistance from the experts and their organizations. She said the association has suffered some setbacks but managed to bounce back every time. She realized there are tougher challenges ahead but, thanks to the various assistance that they have been fortunate to receive, the latest being this workshop, she and the members feel confident they can overcome them. She hoped the visitors have enjoyed the local hospitality and wished them safe travel. She closed with a wish for more success so they can provide better service to others.

Closing remarks

Mr Reginald Atabay, Head of Marketing Section of BFAR Region 1, was the closing speaker. He thanked FAO and OFSPES and the resource persons from CLSU and BFAR for the capacity building assistance to the beneficiaries and the opportunity for BFAR to take part in the activity. He hoped that members of BRIC have gained useful knowledge even as they also shared their experiences with the visitors. He reiterated the director’s encouragement of BRIC to improve and innovate products and be highly efficient in their operations. He emphasized the food safety aspect of processing, especially that the association is planning to venture into the export market.

The regional office of BFAR was grateful to be part of the programme and requested that they be provided the outputs of the activity when published. He thanked the officers from Indonesia and Viet Nam and the FAO programme officers from the Philippines and Viet Nam representations for sharing their expertise and experiences. He commended the local organizing committee and the secretariat for the efficient organization of the activity.
ANNEXES

Annex 1. Participants

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<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Event</th>
<th>Speaker/Presenter</th>
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<tr>
<td><strong>Monday 13 November 2017</strong></td>
<td></td>
<td>Arrival of participants; logistics advisory</td>
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<tr>
<td></td>
<td></td>
<td>Contact: <strong>Ms Jennie B. Fernandez</strong> PSU (Binmaley Campus), Email: <a href="mailto:jbfernandez20@yahoo.com">jbfernandez20@yahoo.com</a></td>
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<td><strong>Tuesday 14 November 2017</strong></td>
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<td>0800–0900</td>
<td>Registration</td>
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<td></td>
<td>0900–0915</td>
<td>Welcome remarks</td>
<td><strong>Professor Edgardo T. Valenzuela</strong>, President, OFSPES</td>
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<td></td>
<td>0915–0930</td>
<td>Opening address</td>
<td><strong>Mr Nestor D. Domenden</strong>, CESO IV, Regional Director, BFAR Region 1</td>
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<td></td>
<td>0930–0945</td>
<td>Workshop objectives and programme</td>
<td><strong>Dr Tipparat Pongthanapanich</strong>, Fisheries and Aquaculture Department, FAO Rome</td>
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<td></td>
<td>0945–1030</td>
<td>Coffee break</td>
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<td></td>
<td>1030–1230</td>
<td><strong>Case study of BRIC</strong></td>
<td><strong>Mr Angelito C. Gonzal</strong>, Former SEAFDEC Aquaculture Department Researcher</td>
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<td>Binangonan, Rizal</td>
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<td>Lunch</td>
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<td></td>
<td>1330–1530</td>
<td><strong>Value chain theory and practice</strong></td>
<td><strong>Mr Sherwin B. Celestino</strong>, Department of Business Management, College of Business Administration and Accountancy, CLSU; <strong>Mr Jairus Jesse M. Tubal</strong>, Department of Agri-Management, College of Agriculture, CLSU</td>
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<td></td>
<td>1600–1800</td>
<td><strong>System management of milkfish farming to meet quality standards</strong></td>
<td><strong>Dr Emmanuel M. Vera Cruz</strong>, Director, Freshwater Aquaculture Center, CLSU</td>
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<td><strong>Wednesday 15 November 2017</strong></td>
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<td>0830–1000</td>
<td><strong>Product development, processing, promotion and marketing</strong></td>
<td><strong>Ms Consuelo C. Baltazar</strong>, Officer-in-Charge, Fisheries Post Harvest Technology Division, BFAR</td>
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<td><strong>Business plan development</strong></td>
<td><strong>Dr Judith A. Teano</strong>, College of Business Administration and Accountancy, CLSU</td>
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<td></td>
<td>1400–1600</td>
<td><strong>Financial planning</strong></td>
<td><strong>Professor Winnie C. Villamueva and Mr Mark Anthony B. Tangonan</strong>, College of Business Administration and Accountancy, CLSU</td>
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<td></td>
<td>1600–1730</td>
<td>Group exercises and facilitators on the following topics:</td>
<td>• generating innovative product ideas – <strong>Mr Sherwin B. Celestino</strong>, CLSU;</td>
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<td>• developing basic business plans on a product - <strong>Dr Judith A. Teano</strong>, CLSU;</td>
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<td>• improving the market for existing products – <strong>Ms Mirasol M. Magalong</strong>, Office of the Provincial Agriculturist, Pangasinan.</td>
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<td><strong>Thursday 16 November 2017</strong></td>
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<td>0830–0900</td>
<td><strong>GREAT Women Project</strong></td>
<td><strong>Mr Reginald Laxum T. Atabay</strong>, Head of Marketing Section, BFAR Region 1</td>
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<td></td>
<td>0900–1030</td>
<td>Group reports and discussions</td>
<td><strong>Moderator: Reginald Laxum T. Atabay</strong>, Head of Marketing Section, BFAR Region 1</td>
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<td>1030–1100</td>
<td>Coffee break</td>
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<td></td>
<td>1100–1130</td>
<td>Conclusions and way forward</td>
<td><strong>Professor Edgardo T. Valenzuela and Dr Tina Liamzon</strong>, OFSPES</td>
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<td>1130–1200</td>
<td>Vote of thanks</td>
<td><strong>Ms Milagros T. Buenafe</strong>, President, BRIC</td>
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<td></td>
<td>1200–1330</td>
<td>Lunch</td>
<td><strong>Mr Reginald Laxum T. Atabay</strong>, BFAR Region 1</td>
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<td></td>
<td>1330–1700</td>
<td>Field visit to BRIC processing plant and fish farm, Binmaley, Pangasinan</td>
<td><strong>Organizer: Ms Jennie Fernandez, PSU</strong></td>
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Annex 3. Summary of presentations

Annex 3.1. Case study of BRIC

The Binmaley Rural Improvement Club or BRIC, a women’s association under the Rural Improvement Club programme of the Philippines was organized in 1989. Its membership has grown from the original 15 to 85 active members as of 2017. The group started with small-scale farming of milkfish (*Chanos chanos*) and selling fresh harvest to the neighbourhood. They progressed from selling fresh fish to simple value adding like deboning and marinating but still selling the product directly to consumers and in the local market. Eventually they diversified into higher value processed products and expanded their market to other provinces. Market expansion made it necessary to engage the partnership of wholesalers and retailers and institutional buyers. The expansion created additional employment opportunity in the community. The association plans to increase their processed product line (they now have 12 types of products), expand the national market and venture into the export market.

They learned farming and processing from training and technical advice of BFAR. Processing skills were acquired and improved by attending training programmes of DOST and the College of Fisheries of PSU. One important assistance was their acquisition of small-scale milkfish processing facilities and equipment provided free by DTI under the Department’s shared services facility programme to assist MSMEs. With assistance from the Local Government Unit in the management of their farming and processing enterprises, the association has established good relations with the enterprises and key players in the value chain of their products.

The case describes the history of the organization and its organizational features, the farming system followed in producing milkfish from fry to table-size fish, the product value addition from simple forms to a variety of higher value products, and the evolution of their marketing strategy. BRIC has developed good relations with suppliers of materials for fish processing, i.e. fresh milkfish to augment their own harvest and condiments for the processing of various product forms. Downstream of the chain, the association has likewise forged good relations with its product buyers and traders. They have stimulated increased interest in the distribution and sale of BRIC seafood products from institutional buyers that include hotels, restaurants and schools. They have expanded their provincial distribution chains and outlets. The association is working at building a closer link with the fish suppliers; they still face uncertainties in input availability, quantity and delivery.

On institutional support, various government agencies have provided different types of services that include production and processing technology and skills, training and advice in enterprise management, product promotion and, with the mass media, public information. Their active participation in national agriculture and food exhibitions has opened opportunities for developing cooperation with other businesses. It also allows them to assess their competitiveness.

Product and process upgrading is reflected in their progress, from producing simple value added products under a mango tree then in a makeshift processing house to producing a variety of processed product forms in a well-built and properly equipped facility. The outcomes have been a wider range of product lines, increased production capacity and greater efficiency. To enhance efficiency and quality control, the association has constituted a set of officers, each officer supervising a group that works on a specific product.

Their functional upgrading is in line with good manufacturing and management practices. Compliance with requirements and application for a license and certification from FDA for HACCP have been initiated to enable participation in the local and international markets.

The augmented production and marketing of BRIC products has increased their requirement for raw materials and ingredients, which has improved the business of BRIC’s input suppliers. The community and the municipality itself have benefited from the processing enterprise through the multiplier effect
on the economy of higher earnings and more employment. As well, the municipality is being publicized as the ‘Home of BRIC processed bangus (milkfish)’.

Gaps in the value chain as well as weaknesses of the association itself are identified. Weaknesses and inefficiencies in the specific segments of their products’ value chain, i.e. input procurement, farming, processing, product development, value addition, product promotion and marketing, are identified. Certain areas are identified that need to be improved or strengthened. One is the reliable supply of fresh fish. Opportunities for advancement are also described which include innovative processing that uses almost all parts of the fish, i.e. ‘Zero waste’, and entry into the export market.

The success story of BRIC highlights the important role of women in aquaculture-based enterprise development and management. Their initiatives have stimulated a modest enterprise to aspire towards participation in the wider and highly competitive local and export markets. The support of government agencies, the local government and the community has been on essential areas, which the association has harnessed to advance its initiatives without becoming dependent on subsidies. This reasonable level of support is a crucial element in the sustainability of an enterprise. The other is trust between players. This, too, is demonstrated in the business relations of BRIC and its suppliers and institutional buyers.

The recommendations on the roles of government to enable small farmers' effective participation in the value chain are as follows:
- facilitate the establishment of provincial post-harvest and storage facilities to smooth out the supply of fish;
- make extension laboratories accessible to private and public sectors;
- demonstrate viability and benefits of innovations in farming systems to dispel doubts of farmers and value chain players, and facilitate their adoption;
- encourage and support the building of strong linkages among the value chain actors;
- promote the adoption of good management and innovative practices in farming and processing; and
- support research relevant to climate change, focusing on developing innovative practices that incorporate indigenous knowledge in fish farming and processing.

Policy support should be geared to:
- reducing unnecessary regulatory burden like rigid requirements and lengthy procedures in securing licenses and permits;
- facilitating compliance with legally prescribed standards and adherence to voluntary standards and better practices; and
- intensification of R&D in fish farming and processing to enhance the sector’s resilience to all kinds of risks.
Annex 3.2. Value chain theory and practice

The module is designed to increase knowledge and understanding of value chain development. It provides participants the practical knowledge to strengthen their business, add value to their products and make their processes more efficient in order to achieve competitive advantage. The lack of an agribusiness systems approach can keep farmers from improving their efficiency and market competitiveness. In most cases, farmers only have arms-length relationship, i.e. after harvest they are no longer aware where the products are bound. A long series of intermediaries usually deprives them of reliable market information.

The rationale behind value chain development is to reinforce the link of agricultural producers not only at the point of first sale at the farm level but to all other subsequent activities. Through this, farmers can be involved in the pre- and post-production activities and eliminate the negative effects of a long series of intermediaries; the benefits gained by intermediaries can be transferred to the producers.

Mapping of the existing value chain identifies opportunities for upgrading the chain. Imagine a vertically structured chain that has interconnected and interdependent sub-chains that include input supply, production, processing, marketing, consumption and support. Activities and members of each chain can be identified by describing their functions and the nature of products and services offered. All of these have to be well coordinated to achieve synergy and attain their common goal, which is to satisfy the needs of the consumer.

To move towards value chain development, it is important to have an established and clearly defined supply chain. Adding value to a product is not possible without its supply. A supply chain is a network of product-related business enterprises through which products move from the point of production to consumption, including pre-production and post-consumption activities.

The value chain perspective provides an important means to understand business-to-business relationships that connect the chain, the mechanisms for increasing efficiency, and ways to enable businesses to increase productivity and add value. It also provides a reference point for improvements in the supporting services and business environment. It can contribute to pro-poor initiatives and better links of small businesses with the market. The value chain approach is increasingly used to guide and drive high-impact and sustainable initiatives focused on improving productivity, competitiveness, entrepreneurship, and the growth of small and medium enterprises. In a narrow sense, a value chain includes the range of activities performed within a firm or by a single enterprise to produce a certain output. In a broader sense, a value chain looks at the complex range of activities implemented by various actors in the chain to bring a raw material down to the retail of the final product.

Identifying gaps and weaknesses in terms of incentives, capacities and relationships along the chain will provide an opportunity for upgrading process, product, functions or the chain itself.

- Process upgrading can use better technologies to reduce costs by improving internal processes and efficiency within the business.
- Product upgrading aims to improve product quality and value for consumer by introducing new or improved products and capturing niche markets.
- Function upgrading aims to change the activity mix of the business through horizontal and/or vertical integration.
- Chain upgrading could be done by shifting the whole chain to new and higher value products by accessing mass, niche and export markets.

All of these activities increase the competitive advantage of the value chain actors. For a particular organization or enterprise, upgrading makes it more competitive over similar organizations offering similar services or products.
Upgrading may also be achieved through interventions of external entities. Policy, regulatory and institutional reforms and improvements in infrastructure go a long way towards improving the effectiveness and efficiency of a value chain.

For the analysis of value chain, there are four aspects to be considered:

- **Value chain analysis** systematically maps the actors participating in the production, distribution, marketing, and sales of a product or service. This mapping assesses the characteristics of actors, profit and cost structures, flows of products through the chain, employment characteristics, and the destination and volumes of domestic and export sales. Mapping aims to visualize networks to gain a better understanding of the connections between actors and processes in a value chain, demonstrate interdependency between actors and processes in the value chain, and stimulate stakeholders to look beyond their own involvement in the chain.

- **Value chain analysis** can play a key role in identifying the distribution of benefits to actors in the chain. From the analysis of costs and margins throughout the chain, one can determine who benefits from participation in the chain and which actors could benefit from increased support or better organization. This is important in a developing country, particularly in the agriculture sector, given concerns that the poor are the vulnerable actors in the chain. One can supplement this analysis by determining the nature of participation within the value chain to understand the characteristics of its participants. Value chain initiatives need to explore the reasons for players’ behaviours and their motivations and ability to change.

- **Value chain analysis** can be used to examine the role of upgrading within the value chain. Upgrading can involve improvements in quality and product design or diversification in the product lines that enable producers to generate higher value and gain more from it. An analysis of the value chain upgrading includes an assessment of the profitability of actors and the constraints in the chain, and to explore opportunities to upgrade the knowledge, technology and practices currently in use. Governance issues play a key role in defining how such upgrading can be done. Moreover, the structure of regulations in the locality, barriers to entry, trade restrictions (such as quotas), and standards can further shape and influence the environment for upgrading.

- **Finally, value chain analysis** can highlight the role of governance in the value chain. Governance of a value chain comprises the structure of relationships and coordination mechanisms that exist between actors in the value chain. Governance is important from a policy perspective by identifying the institutional arrangements that need to be targeted to improve capabilities in the chain, remedy distributional distortions, and increase value-added in the industry.
Annex 3.3. System management of milkfish farming to meet quality standards

Farmers need to apply good aquaculture practices in milkfish farming to meet quality standards. The practices can be summarized under the following steps:

- Select a suitable site, which is easily accessible and with sufficient supply of good quality water.
- Decide on a farm layout and design, which include the ideal pond size and dimensions, and design of other facilities.
- Prior to fish culture, prepare the culture units properly.
- Select quality seed and handle or nurse the seed properly.
- Practice good farm management, which include proper management of culture unit and water.
- Practice good feeding and health management.
- Follow effective harvest, post-harvest and transport practices.

Selection of a suitable site is one of the requisites for successful milkfish farming. Pond preparation is key to good pond management. Proper pond preparation contributes directly and indirectly to fish growth, yield and quality. Poor pond preparation gives rise to other problems during the culture, which may add to production cost. Properly handle the seeds otherwise survival is low. Proper management of water quality is important for fish survival and growth. Farmers should have a good understanding of the ideal water quality parameters to support optimum physical, biological and chemical parameters in fish for maximum growth and survival.

Feed takes up the largest portion of the cost of production so that feed quality and feeding management should be given close attention. Feeding at the right time and with the right amount. Too much feed increases production cost and degrades water quality. This condition can lead to fish stress and may result to fish diseases and mortality. Fish health management is critical to a successful and profitable farming. Proper health management reduces risk from diseases and damage from adverse conditions.
Annex 3.4. Product development, processing, promotion and marketing

The module highlights the best practices in milkfish post-harvest handling, processing and utilization technologies, product promotion, labelling and packaging, and marketing. All these aim to encourage more fisherfolks to engage in the livelihood opportunities that milkfish can provide. Marketing puts emphasis on the food safety requirements of the global market.

Milkfish, an important aquaculture product in the Philippines and Indonesia, has gradually gained global market acceptance. Originally, export was mainly whole round frozen fish. BFAR’s introduction of milkfish deboning as an industry in the 1970s paved the way to the development of other product forms that have gained export market access. Subsequently, other products (such as canned, in glass jars or in pouches) in various flavours were developed and are now finding their way in the global market. The new product forms require more sophisticated equipment than the traditional products. The new equipment and processing technology enabled processors to gain the ability to comply with the standards of food safety and quality assurance set by CODEX Alimentarius Commission as well as by those prescribed by the country’s trading partners such as European Union (Member Organization), the United States of America, Canada and Australia.

The legal basis of the different procedures for proper handling and processing emphasise the safety and quality standards followed by the industry to ensure that the products meet consumers’ preferences as well as established food safety standards. The seafood safety programme being implemented by BFAR based on the farm-to-fork approach affirms that the government seriously considers the protection of consumer health and welfare while ensuring fair trade practices.

For the domestic market, compliance are required with:
- Presidential Decree 856 Sanitation Code of the Philippines, and Department of Health Administrative Order 153 (Certification of Good Manufacturing Practice);
- Fisheries Administrative Order 211 – SSOP for processing plants;
- certification that products adhere to food safety standards;
- approved holding facilities;
- approved fish processing establishments;
- products and establishments certified/approved by BFAR; and
- traceability.

For international markets, these are mandatory:
- Sourcing raw material from registered farms;
- compliance of processing plants to GMP, SSOP and HACCP;
- compliance to biosecurity;
- absence of pathogens and residues of banned substances, i.e. chloramphenicol, nitrofurans and malachite green; and
- traceability.

The key areas of SSOP are:
- cleanliness and safety of water and ice;
- condition and cleanliness of food contact surfaces;
- prevention of cross-contamination;
- maintenance of facilities for handwashing and sanitizing and of the toilet;
- protection of food, packaging materials and food contact surfaces from adulteration;
- proper labelling, storage and use of toxic compounds;
- control of employees health condition; and
- exclusion of pests from the processing plant.

The processing section includes an illustration and description of the process flow diagram and the recommended plant layout to guide processors on the different steps in the processing of milkfish
products. The recommended plant layout is illustrated to guide processors on how the process must proceed in order to avoid workers getting in the way of each other while performing their tasks, make the flow of raw materials on the processing area efficient, and avoid contamination of products.

The product promotion and marketing aspect includes a discussion of the different product forms, mandatory labelling requirements as well as a simple guide in meeting the food safety requirements for milkfish and similar aquaculture products both in the local and international markets. Product promotion strategies include:

- enhancement of packaging materials;
- improvement of product presentation;
- processing/toll packing in approved fish processing establishments;
- adherence to GMP and SSOP;
- implementation of HACCP;
- diversification of products; and
- participation in local, regional and international trade fairs/exhibits.

Packaging serves the purposes of protecting the product while promoting and advertising them. The mandatory information in product packaging include:

- species/scientific name of raw mat used;
- product name;
- name/address of manufacturer/importer;
- best before dates (expiry dates);
- additives, ingredients and food colouring added;
- product cooking/storage/conditions and instructions for use;
- country of origin;
- lot/batch code indicated;
- net weight; and
- nutrition facts.
Annex 3.5. Business plan development

The parts and content of a business plan, the methods to develop the contents, the data, information and the way these are processed and presented are explained and illustrated with actual and hypothetical examples. The purposes of each part of the plan are explained:

Executive summary. The executive summary is written after all the sections of the business plan have been accomplished. This section briefly describes what will be done, how and when it will be done (the time frame), and what can be expected. It should include a brief description of the product or service, the major suppliers and customers and the core competitive advantage of the enterprise. The summary highlights the strong points of the venture, the reasons why it is being undertaken and why the proponents believe it will be profitable. The write up should not exceed one page.

Industry analysis. This is a market assessment tool, which reviews the economic, political and other market factors that may affect the development of an industry. This may include a discussion on the status of competition, threat of substitutes, bargaining power of buyers and suppliers, status of competition, and possible entry of new market players.

SWOT analysis. It is a description of the internal and external business environment. It is important to identify the enterprise’s strengths, weaknesses, opportunities and threats as a basis for the formulation of the venture’s short and long term strategic plans to build on strengths, overcome weaknesses, take advantage of opportunities and deal with threats.

Marketing plan. Marketing is an important aspect in the operation of any entrepreneurial venture. It involves the different value-adding activities such as product development, pricing, distribution, advertising and selling, among others. Through these activities, time, place, possession and information utilities are created for the consumers. The objective is to satisfy the customer after purchasing a product or a service. If marketing activities are done efficiently (low cost) and effectively (done right) products are sold to consumers at affordable prices, in accessible locations, and with accountability for advertising claims. The marketing plan must be carefully prepared. Marketing can be summarized in terms of the marketing mix or the 4P’s of marketing: product (what good or service will be produced/delivered?); price (how will the product/service be priced?), promotion (how will the customers know about the product?), and place (how will the product reach the consumers?).

Operational/technical plan. The operational plan shows the day-to-day operations of the business. It provides a description of the product including the details on product features and an overview of any unique technology or process. Product benefits and other competitive advantages are pointed out. This section includes the production/operation process showing the step-by-step procedure of production or operation from start to finish. All input requirements and the time when needed should be meticulously listed. Information on these items will come in handy for fixed and variable cost computations. The kind and quantity of raw materials needed, machinery and equipment, labour and utilities requirements including the required level of skills and training qualifications should be noted. There should also be an information on the plant or factory location.

Management/organizational plan. Management plan is key to the success of any enterprise. The specific roles of each personnel should be well thought out in advance to ensure that all critical and supporting activities are performed by competent and skilled persons. The tasks and activities must be well coordinated so the people involved can function efficiently and effectively. An organization is a group of two or more persons working together to attain common goals. Organizing the personnel of a business involves combining and coordinating human resource and activities to accomplish business objectives.

Financial plan. The financial plan translates all the preceding plans into monetary terms: the marketing plan is translated into sales; the production and organizational plans are translated into expenses. The financial plan shows whether the business will be viable or not. Typically, the financial plan is a projection of revenues, costs and profits for the next 2–5 years. Projections are estimates of income and expenses for a period of time. The bases for financial projections are the enterprise budget and financial
statements. Financial analyses should be conducted to determine profitability, liquidity and marketability of products.

The financial plan generally includes these financial statements:

- **Balance sheet.** It presents the assets, liabilities and net worth at a given time. The balance sheet lists what the enterprise owns (the assets) and what it owes (the liabilities) and determines solvency.
- **Profit and loss statement.** It presents details on income, expenses and profit of the business operation for the calendar year and an indicator of how ‘fit’ an enterprise is. It is an indicator of the business’ profitability.
- **Cash flow statement.** It presents in detail the cash inflows and outflows for a given period. The statement of cash flow reflects the company’s net cash balance and can be used for financial cost analysis.

**Risk management plan.** Often neglected in the business plan is risk management. Risk is defined as the probability of an adverse event occurring and the magnitude of loss that it causes. Risk management is about reducing the cost of risk. Milkfish farming and processing face a variety of risks such as diseases, water pollution, water quality degradation, natural disasters or climate change risks, and financial, economic and social risks. Risk management involves three basic strategies: avoidance, transfer and mitigation.

While not all potential risks can be identified, a business plan should identify the important ones (highly likely to occur and inflicting a severe damage when they happen) and describe feasible ways to mitigate them. Identification of risks and describing the strategies to deal with them strengthen the business plan. It will enhance management credibility and increase the confidence of investors. Risk analysis is important not only for start-up businesses but also for established ones, particularly when they have to raise funds for expansion.
Annex 3.6. Financial planning

Understanding the financial performance of a farm business aids in making informed decisions. Finance, the lifeblood of a business organization, involves planning, organizing, controlling and monitoring financial resources to achieve organizational goals. Financial planning comprises these phases: (1) determining the current financial needs of the farm business, (2) developing its financial goals, (3) identifying and evaluating alternative courses of action, and (4) implementing and monitoring the financial action plan.

Analysis of the financial needs of a business enterprise involves gaining an understanding of its current situation by producing and reviewing its financial statements. A complete set of financial statements comprises: (1) a statement of financial position as at the end of the period, (2) profit and loss and other income for the period, (3) changes in equity for the period, (4) cash flows for the period, and (5) notes to financial statements, including a summary of significant accounting policies and other explanatory information.

The tools used to analyse financial statements include ratio analysis, common-size statements, horizontal analysis, gross profit variation analysis and trend analysis. Ratio analysis is used to evaluate various aspects of a company’s operating and financial performance such as its efficiency, liquidity, profitability solvency and market valuation. Common size statements show the relationships between items in the same financial statement by expressing all the amounts in percentage given a certain base. Horizontal and trend analysis compares line items in the financial statement over a period of time.

Financial statement analysis provides a holistic view of the firm’s financial status, which in turn can provide useful insights when setting short and long-term goals. Such goals could be strategic financial goals, which show to members the plans and vision of the organization. On the other hand, operating goals are the actual, concrete steps the firm intends to take to accomplish its purposes.

Setting financial targets for the women milkfish farmers’ association encourages growth. The financial goals must be recorded as these provide the opportunity for all involved in managing and controlling the farm’s finances as well as business operation to acquire a clear understanding of where the business is headed. This also allows everyone to play a role in meeting these targets. Identifying and documenting the actions that need to be done is also a must, so that the association can develop a plan to execute these.

A master budget quantifies the financial goals of the business. It includes an operating and a financial budget. The operating budget indicates future sales, production levels, production and administrative costs of the business. The financial budget shows the effects of planned operations and capital investments on assets, liabilities and equities. It consists of capital expenditure budget, a projected balance sheet, and a cash forecast.

Identifying alternative courses of actions relative to financial goals entails an understanding of the methods of financing a business. There are two sources of capital, namely, internal and external. Collecting and selling of receivables, reducing inventory, leasing fixed assets, and supplier credit are some of the ways to obtain internal financing. Equity and debt financing are external sources of funds. Understanding financing fixed assets and working capital can help management minimize risks involved in financing.

Key performance indicators are used to evaluate alternative courses of actions. The key result areas are identified to formulate the performance indicators and ensure the processing of accurate and timely financial information. It can maximize the use of resources by promoting and implementing programmes that are relevant to the business objectives. This involves an analysis of the suitability of financing alternatives. Analysis considers a number of factors such as cost of financing, cash flows, risk, securities and collaterals, and funding availability, control, and ease of use.
Implementing a financial plan requires the identification of the persons involved in the execution of the key results areas, the time when activity has to be done, how it will be carried out and the resources needed.

Financial control and risk management are essential to the management of a farmers organization’s business. These play important roles in ensuring the reliability of reporting, eliminating fraud and safeguarding the organization's resources, both tangible and intangible. Accountability is a key feature of financial systems.

Internal controls are necessary to achieve financial goals and ensure efficiency and effectiveness of day-to-day activities. The business owner must ensure the internal controls are in place. Segregation of duties, qualification of staff, and conducting a periodic audit are the three basic actions to check the soundness of the financial control. It reduces the risk of not achieving the financial goals.

Keeping reliable and up-to-date records of all functions of the farm business finances is crucial. The business owner should have an understanding of the rules involved in bookkeeping to be able to evaluate the financial status of the business. These are the requirements: (1) make a firm decision that the bookkeeping is done regularly, (2) familiarize oneself with the accounting cycle and the financial statements, and (3) learn the preparation of various schedules such as accounts payable, accounts receivable, customer balances and ageing reports.

The monitoring tools in financial management include variance analysis, cash flow reports, performance evaluation reports, financial analysis, economic value added, market value added, and the internal and external audit reports. It is critical to supervise activities in progress to check if the actions of the business are on course and on schedule to meet its financial goals. A good financial management system tracks resource utilization, maximizes returns, and mitigates risk.
This training workshop aimed to improve the entrepreneurial capacity of participants – organized small-scale aquaculture producers – to develop a market for their products, integrate their enterprise in the value chain, and participate effectively in the value chain. The main participants were the members of a women’s association established in 1989 called the Binmaley Rural Improvement Club (BRIC). They are farming milkfish (Chanos chanos) and processing and marketing milkfish-based product forms. The other participants are farmers who are not members of the association, officers of the village in which the association is based, one government officer each from Indonesia and Viet Nam, and technical officers of the Bureau of Fisheries and Aquatic Resources (BFAR).