

Marketing and Post-Harvest Research (MPR) in the Philippine Fisheries: A Review of Literature

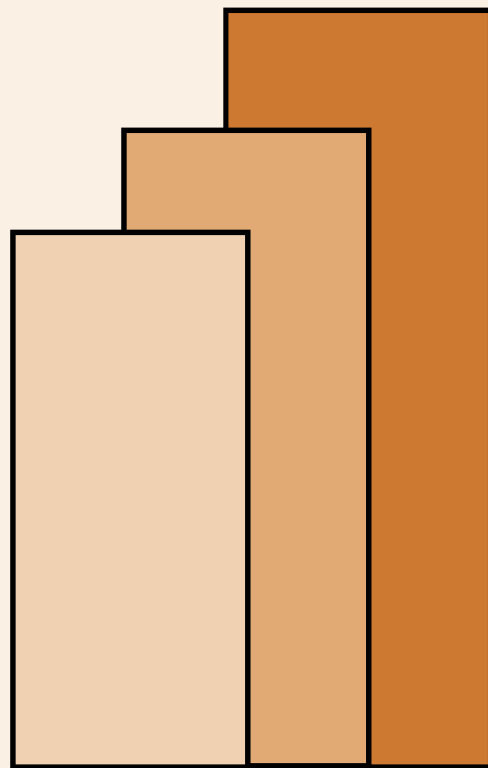
Nerissa D. Salayo

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Abstract

The need for efficiency in handling perishable fish and products and the overwhelming gross value added of the fishery sector are among the major reasons for the interest in marketing and post-harvest research (MPR). This paper reviewed the literature on MPR in the Philippine fishery sector from 1968 to 1999, with emphasis on the evaluation of past studies to either facilitate or respond to the needs of the industry. This review found that the number of studies on MPR started to decline after 1986, while studies on fishery resource management and conservation increased. Furthermore, MPR evolved from the fundamentals of measuring the profitability of marketing and post-harvest operations to a more intricate goal of modeling its structure, conduct and performance. In view of the need for sustainable fisheries and the increasing demand and competition arising from the call for globalization, the paper identified the research gaps and directions in MPR. Thus, a research proposal designed, at least, to underpin a segment of the identified research gaps is appended to this paper.

Marketing and Post-harvest Research (MPR) in the Philippine Fisheries: A Review of Literature¹

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1 INTRODUCTION

1.1 Importance of MPR

Research in marketing and post-harvest of fishery products in the Philippines is recognized as an important area of study in the country's leading government research institutions and state universities. The recognition of the importance of marketing and post-harvest research (MPR) in fisheries by other non-research oriented government agencies (such as the Philippine Bureau of Customs, and the National Statistics Office) and some international bodies (such as the Food and Agriculture Organization of the United Nations) manifest in the inclusion of collection of market and yield statistics of fish and products among their mandate.

In the private sector, such as food processing corporations, the maintenance of a research and development division (R&D) that mainly tackles the market potential of every new product innovation is more than an indication of the importance of marketing and post-harvest research in the food industry. This certainly holds for the fish marketing and processing sectors since fish and products account for 12.3% of an average Filipino's total food intake, next to rice and products at 35% (BFAR 1998).

The importance of MPR in fisheries is also reinforced by the fishery industry's contribution to the country's gross domestic product (GDP). While the other industries contracted due to the 1997 Asian financial crisis, the fishery industry's value increased by 9.3% at current prices or

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1.2% at constant prices from 1997 to 1998 (Table 1). That is, the Philippine fishery industry was valued at P74 million pesos at current prices, which accounts for 2.8% of the country's gross domestic product (GDP) in 1998. At constant prices, the industry was valued at P34.7 million or 3.9% of the GDP.

Table 1. Economic indicators showing the value of the fishery sector, 1997 and 1998.

	1997	1998	% Change
Value of fishery production (billion pesos)			
- current prices	67.8	74.1	9.3
- constant prices	34.3	34.7	1.2
Fishery's share to Total GDP (%)			
- current prices	2.8	2.8	0
- constant prices	3.8	3.9	2.6
Fishery's share to GVA in agriculture, fishery & forestry (%)			
- current prices	15.0	16.5	10.0
- constant prices	18.6	20.1	7.5
Balance of trade (billion pesos)	12.3	17.3	40.2
- export	16.3	20.6	25.8
- import	4.0	3.3	-18.2

Source: BFAR. 1998 Philippine Fisheries Profile.

In terms of total gross value added (GVA), Table 1 also shows the fishery industry's contribution estimated at 16.5% of the P450 billion GVA at current prices (or 20.1% of P172 billion GVA at constant prices) recorded by the agriculture, fishery and forestry sectors combined. The fishery industry's share to the GVA of the agricultural sector ranked far second to agricultural crops, which accounts for 56% at current prices and 50% at constant prices. However, the 1998 balance of trade in fishery remained outstanding at 17 billion pesos (447 million US dollars) at freight on board (fob) value, while agriculture and forestry showed negative trade balances.

As it is, the fishery industry's contributions to the economy would not manifest had it not been for the influences of marketing and post-harvest operations. The perishable nature of fish and fishery products are reasons enough to indicate the significant role of marketing and post-harvest activities in the sector. The sector's contribution, particularly to GDP, would have been bigger had all the catch and produce from all fishery operations went through an 'efficient' market and

has been accounted in the national accounting system. Generally, market analysis revealed inefficiencies arising from inadequate infrastructure and the multi-layered marketing system (Navera 1976; De Castro 1979; Dela Cruz and Lizarondo 1983; Delda 1984; Torres, *et al.* 1987; and Dalapo 1996). The unaccounted catch are generally those from the small scale municipal fishery sector and backyard processing enterprises. It cannot be denied that small volumes of catch, but quite frequent, by subsistence fisherfolk are meant for their households' consumption. These are generally unaccounted in the valuation of the fishery sector. Furthermore, the estimated 20-40% wastage in the fishery sector means a significant loss to the supposedly higher value (in terms of GVA) of the industry. Majority of these wastage are observed in commercial fish operations, while almost all catch from municipal fishing found useful alternatives either as processed food for human consumption or feed for animals (Legazpi 1998).

In spite of the glaring importance and contribution to the economy of marketing and post-harvest activities, there is a declining attention on MPR. Meanwhile, there is a generally overwhelming attention on sustainability and conservation issues across all production systems. This trend is demonstrated by the volumes of studies that emerged in this discipline since the late seventies in the Philippines based on the PCAMRD compilation of fishery socio-economics and policy-related studies that will be evaluated in the next sections. The number of studies on MPR started to decline after 1986 (see De Jesus, *et al.* 1998). If the implications of this trend on MPR is neglected and if its direction are not tuned to the changing needs of the market, this could also drag progress in other research disciplines, including sustainability and conservation. Without understanding the needs of the market and proper distribution of harvest; sustainable production systems would be difficult to define and appropriately quantify. Satisfying consumer needs, meeting producer cost, and providing commensurate returns are the marketing objectives that should be understood, among other issues, to provide a back-draft for defining an appropriate sustainable production system.

1.2 Objectives

This paper aims to provide a critical review of literature on marketing and post-harvest issues in the Philippine fishery sector, with emphasis on the evaluation of the ability of past studies to

either facilitate or respond to the needs of the industry. In the process, the review exposes the research gaps that will provide the basis for identifying the areas for further research. Thus, this paper ends with a research proposal designed, at least, to underpin a segment of the larger research gap identified in the paper.

The specific objectives of this paper are to:

1. provide a critical synopsis of the results of marketing and post-harvest studies in the Philippine fishery sector;
2. assess the overall state of research in fisheries marketing and post-harvest in terms of quantity and quality of research documentation;
3. identify areas for further research based on the above assessment; and
4. write a proposal relevant to one of the areas recommended for further research.

1.3 Organization of the paper

With the above background, objectives and scope setting, Section 2 of this paper presents the sources of data or studies and the method of analysis used in this review. Section 3 presents the research thrust in marketing and post-harvest in the Philippine fisheries sector as identified by the relevant government research agencies. This section also looks into the profile of the marketing and post-harvest research in the Philippines. Section 4 comments on the performance of these studies by noting the past and emerging trends in MPR. This section also discusses the issues and lessons that could be learned from this critical review. Section 5 briefly concludes the paper. Section 6 provides a list of research needs that could be the basis for further research.

The paper has four appendices including the (1) identified research thrust for the fishery sector; (2) an earlier draft of this review paper; (3) the list of studies used in this review; and finally, (4) a capsule research proposal emerging from one of the issues suggested for future research.

2 SOURCES OF DATA AND METHOD OF ANALYSIS

2.1 Sources of data/studies reviewed

This paper primarily presents a review of materials obtained from resource persons or libraries in the following institutions contacted in search of marketing and post-harvest studies in the

Philippine fisheries. These institutions include: (1) the Philippine Council for Aquatic and Marine Research and Development (PCAMRD) through the Aquatic Resources Socio-Economics and Policy Division (ARSEP); (2) the Philippine Council for Agriculture and Resources Research and Development (PCARRD) through its library and its Socio-Economics Research Division (SERD); (3) the Bureau of Fisheries and Aquatic Resources (BFAR) through its library, the Fisheries Policy Research and Economics Division, and the Post-harvest Technology Division; (4) the Bureau of Agricultural Statistics (BAS) through the Agricultural Marketing and Studies and Analysis Division (AMSAD), and the Fisheries Statistics Section; (5) the Department of Trade and Industry through its library and the Bureau of Exports and Trade Promotions (BETP); (6) the Southeast Asian Fisheries Development Center (SEAFDEC) through its library and its Socio-Economics Division; (7) the University of the Philippines Los Banos (UPLB) through the College of Economics and Management (CEM) library; and (8) the University of the Philippines Visayas (UPV) through its library. The International Center for Living and Aquatic Resources and Management (ICLARM) through its Ian Smith Memorial Library is a main repository of literature of fisheries conducted in the Philippines and the Asian region. ICLARM, however, was relocated in Penang, Malaysia on November 1999.

This paper acknowledges that the Aquatic Resources Socio-Economics and Policy Research Database Information System (ARSEPRDIS) of the ARSEP Division of PCAMRD has been a useful source of annotated bibliographical listing of fishery studies conducted in the Philippines and provided the data for this review. The scope of the studies, type of publication, affiliation of the research implementers, discipline and year of completion were included in this review among the indicators of the trends in and quality of MPR in the country.

2.2 Method of Analysis

The review of socio-economic studies in fisheries by Agbayani, *et al.* (1994) proposed a conceptual framework used in the policy development process in fisheries management. The framework, attributed to Anderson (1986), includes: (1) determination of the current state of the fishery through biological, industry, and socio-economic assessment; (2) identification whether changes are needed, or otherwise, in the fishery, and if so, what are the means of effecting changes and the criteria in the selection of management objectives; (3) selection of the

appropriate program, whether developmental or regulatory; (4) monitoring of the fishery under the program; (5) assessment whether the objectives are achieved under the program; and (6) post-evaluation of the fishery.

Some parts and the concept of the above framework could be applied to evaluate studies under MPR, a strand of research in fisheries. Thus, this review and evaluation of the state of MPR in the fisheries industry focused on understanding the events and the basis of policies that lead to the formulation of research priorities and thrusts. This review thoughtfully assumes the research priorities and thrusts set by the national research coordinating agencies served as the guideline in the identification and selection of projects that have been implemented. The trends in the number of studies classified under some variables such as type of implementers, type of documentation/publication of the results of the study, and the disciplines covered by MPR are used to provide indications on the overall quality of research.

3 RESEARCH THRUST AND STATE OF MARKETING AND POST-HARVEST RESEARCH (MPR)

3.1 Background on Research Priorities and Thrust in MPR in Fisheries

Fisheries is a sector under the country's Department of Agriculture together with the agriculture and forestry sectors. Thus, the system of setting of research priorities and thrust in fisheries are generally linked with those of the agriculture and forestry sectors. Coordination and organization of the agricultural research system started with the inception of the Philippine Council for Agricultural Research (PCAR) in 1972. Among several documentation, Bantilan and Corpus (1991) provides an objective review and discussion on the structure and support systems for agricultural research in the Philippines.

The thrust and priorities of the fisheries sector, including MPR, are established and coordinated through the former Fisheries Research Division of PCARRD until the creation of PCAMRD in 1987. Since then PCAMRD is in charge of research coordination in the fishery sector in the country. Appendix A shows PCAMRD's national R&D priority research areas for the marine, aquaculture and inland fishery sub-sectors.

In general, the PCAMRD criteria of prioritization are as follows: (1) relevance to national development research; (2) socio-economic impact; (3) ecological impact; (4) resource availability; and (5) market potential. From these criteria, this review notes that the relative importance of studies categorized under MPR comes explicitly as not a top priority, although results of MPR could shed implicit impact on the more important priorities as national development and socio-economics.

3.2 Assessment of the State and Quality of Literature on MPR

State of literature on MPR. The ARSEPRDIS of ARSEP-PCAMRD mentioned earlier is, so far, the most comprehensive electronic compilation of socio-economic studies/research on fisheries in the Philippines. As of this writing, the database is composed of 800 socio-economic and policy studies in the fisheries sector. Table 2 presents the profile of the studies included in the ARSEPRDIS by discipline and year of completion.

Table 2. Number of studies by type/discipline, by year, Philippines.

Type of study	Period of Study					Total	
	1974 & earlier	1975-1980	1981-1986	1987-1992	1993 to 1998	No.	%
Socio-economics (general)	2	52	40	53	25	172	13.6
Production Economics/ Management	8	39	90	46	19	202	16.0
Resource Economics/ Management	-	7	13	41	25	86	6.8
Sociological/Socio-cultural	3	4	7	25	19	58	4.6
Marketing/Trade and Prices	11	63	78	46	20	218	17.3
Policy Studies	4	27	62	89	50	232	18.4
Industry Studies	-	9	17	7	5	38	3.0
Institutional ¹	-	10	23	31	17	81	6.4
Bio-economics	-	-	-	2	1	3	0.2
Consumption/Demand	2	1	2	-	-	5	0.4
Feasibility studies	8	27	37	26	17	115	9.1
Processing	4	8	9	5	-	26	2.1
Others ²	1	3	3	7	11	25	2.0
Total	43	250	381	378	209	1,261^a	
%	3.4	19.9	30.3	30.1	16.3		100

¹ Institutional studies include those on (a) credit, (b) cooperatives, (c) legal, (d) agencies/NGO/community, (e) education/manpower supply and demand (f) extension/training/technology adoption, (g) tenurial/territorial use rights.

² Others include (a) impact/effect studies, (b) gender (role of women), and other issues such as livelihood opportunities.

^a The number of frequencies of the studies did not total to 800 due to the multiple topics covered by some studies.

Source: De Jesus, *et al.* 1998.

For the purposes of this review, 345 studies on marketing, post-harvest and market-related studies such as on infrastructure development, socio-economic profiling and employment opportunities for women were sorted from the 800 studies in the ARSEPRDIS. These accounts for 43% of the 800 socio-economics and policy studies in fisheries. Majority of these 345 studies falls under (a) marketing/trade and price; (b) processing; (c) consumption and demand; and (d) socio-economics listed in Table 2 based on the classification by De Jesus, *et al.* (1998). The profiles of these studies on MPR were evaluated in Tables 3, 4 and 5. Some other documents on MPR, not included in the ARSEPRDIS, were reviewed and acknowledged at the end of this paper.

The 345 studies accounted for 43% of the 800 studies in the ARSEPRDIS. The predominance of studies under MPR is expected as many socio-economic benchmarking in the 1970-80s comprise profitability studies of fish marketing and post-harvest or traditional processing activities. While the technology on aquaculture production systems gains popular support, marketing research on the acceptability and profitability of aquacultured fish species such as tilapia and milkfish dominate socio-economics and policy studies during the period. Studies under marketing/trade, and consumption and demand showed an increasing trend until 1986. Studies on socio-economics increased until 1992. The common trend among these disciplines under MPR is the declining interest from 1993 onwards.

It would be interesting and worthwhile to verify whether the transfer of interest and prioritization on areas such as environmental issues and sustainable production systems were motivated primarily by the general availability of funds from international sources for such research topics during the late eighties and nineties, aside from the explicit need for such studies. The declining number of marketing and post-harvest studies in fisheries could be related with the changes in prioritization criteria set by agencies mandated to coordinate and oversee research in fisheries, as noted earlier in the PCAMRD criteria of research prioritization. PCAMRD was created in 1987 which incidentally coincided with the decline in recorded marketing studies since that period. Furthermore, the decline in marketing and post-harvest research in the 1990s could be related to the trend where MPR seem to come in tandem with studies on efficiency of resource use, equity,

environmental considerations, and food safety and quality issues (for example, GEM 1998; Pabuayon, *et al.* 1997). Today, as the rate of growth of some fisheries decline, there is a growing tendency and need for more critical research on marketing and post-harvest. In fact, even setting of research priorities on production, management, investment and other efforts tend to be market-driven. That is, the concern is on consumer needs and preferences.

Aside from the ARSEPRDIS database, the country paper by Agbayani, *et al.* (1994) that presented a review of the social and economic research in the Philippine fishery sector from 1980 to 1994 should not be missed. The review covered 137 studies which are categorized as relating to (1) economics, 26%; (2) marketing, 16%; (3) socio-economics, 13%; (4) resource management, 12%; (5) productivity, 9.2%; (6) industry assessment, 8.4%; and others such as studies on laws and regulations, policy studies, credit and financing, management, environment and gender issues, 15.4%.

According to Agbayani, *et al.*, the studies on economics and marketing in the municipal fishery sector focused on recommendations to improve pricing efficiency of processed fishery products and profit-sharing and equitable distribution of revenues among small- and medium-scale fishermen through investment schemes. Meanwhile, MPR studies in the commercial fishery sector in the early 1980s were production-oriented such that efforts were on market expansion and development, fleet expansion, extension of fishing areas to off-shore grounds, and credit programs. Agbayani, *et al.* however, did not make any reference and assessment on the availability of the compilation of materials used in their review.

A separate and an earlier review of research performance specifically on fish processing research in 1974-1984 was done by PCARRD through its State of the Art Research Series (PCCARD 1986). The review covered 53 research studies registered with PCARRD on different marine and freshwater species, 44 of which were on improved processing techniques and 5 on new product development and use of fish by-products and other aquatic organisms. The review claims that the major research accomplishments in fish processing research were on (a) standardization of handling and pickling of milkfish; (b) standardization of processing procedure for drying, dehydration characteristics; (c) packaging requirements of fish and other major products; (d)

development of improved drying and/or smoking methods; (e) standardization of canning procedures for milkfish, tulingan, roundscad, squid, and green mussle; (f) development of depuration processes for mussel and oysters; (g) development of seaweeds processing technology; (h) development of seaweeds convenience food items from fish; and (i) management and/or use of waste and by-products of fish processing.

Focusing this review on the 345 studies under MPR, Table 3 below shows that 36% of these studies were implemented either through inter-agency collaboration between SEAFDEC, ICLARM, UPLB, UPV, PCAMRD and the PCARRD; or through BFAR or the Fisheries Sector Program (FSP) with funding from DA or the Asian Development Bank (ADB). The SUCs ranked second producing 24.6% of the total studies, followed closely by the DA, mainly through its line agencies such as BFAR and BAS (formerly BAEcon) with 23.8%. The collaboration between SUCs, being part of the national research network through PCARRD under DOST, also accounted for 12.2%. MPR in fisheries conducted by NGOs, the private sector and other agencies were relatively small.

Table 3. Profile of marketing, post-harvest and market-related studies, by agency/affiliation of research implementers and year of project/study completion, 1968 to 1998.

Year	Research Implementers							Total	
	DOST/ SUCs	DA	Other Gov't Agencies	Inter- Agency	SUC Thesis	NGO	Private Sector	Number	%
1970 & earlier	0	0	1	2	5	0	1	9	2.6
1971-75	2	9	1	3	1	0	1	17	4.9
1976-80	6	30	0	39	13	0	1	89	25.8
1981-86	9	36	2	29	30	0	0	106	30.7
1986-90	13	2	0	23	16	0	0	54	15.6
1991-95	8	5	1	28	19	1	0	62	18.0
1996-99	4	0	0	2	1	1	0	8	2.3
Total	42	82	5	126	85	2	3	345	
%	12.2	23.8	1.5	36.5	24.6	0.6	0.9		100

DOST/SUCs: Mainly includes studies conducted by PCARRD and PCAMRD both under the Department of Science and Technology; and/or with the state universities and colleges such as UPLB, UPV, USM, MSU, and others.

DA: Mainly includes studies conducted by BAEcon (now BAS), BFAR and FIDC under the Department of Agriculture.

Other Gov't Agencies: Mainly LGUs conducting their local community profile.

Inter-Agency: Includes studies conducted by PCARRD, SEAFDEC, ICLARM, IDRC, UPLB, UPV, etc. and often with foreign counterpart such as the ADB.

SUC thesis: Generally includes bachelors thesis or special problems in state universities and colleges, only a few at the postgraduate level and generally without research grants.

NGO: Includes feasibility studies and impact assessment by non-government organizations.

Private sector: Includes business development research reports by private companies.

Quality of Literature on MPR. This review also attempted to assess the quality of MPR. The classification was based on the nature of the publication of research results, i.e. whether they are (1) published refereed research papers; (2) edited and published conference proceedings; (3) unpublished research papers/reports/thesis; (4) published and publicly circulated government project documents; and (5) unpublished project documents. Though arbitrary, this classification assumes that the referees and editors assure the quality through verification, criticism and improved documentation of the published research results. Meanwhile, unpublished documents are of lower quality as they lack more intensive expert review and were not evaluated at all against the accepted publication standards.

The published refereed research papers include those in local and international academic journals that have undergone intensive verification and rewriting to meet quality standards. These materials are evaluated as having highest quality. The second category includes the published proceedings of conferences that have undergone editing (i.e. proceedings are reviewed by editors knowledgeable of the discipline). The unpublished research papers/reports/thesis ranked third in terms of quality as they have been either technically or academically reviewed following some specified criteria. The published and publicly circulated government project documents ranked fourth since relevant government bodies responsible for the publication have done the evaluation. The unpublished project documents ranked last as they may lack proper review and further refinements. This classification and ranking may be contested as arbitrary since utility of research results depends on the objectives of the user of these studies. The above classification puts weight on the extent of verification made to assure the quality of the studies.

Table 4 below shows the distribution of the studies under MPR. The quality of research documentation is wanting in MPR. That is, about 47% of the studies are unpublished technical reports of completed projects in government agencies and SUCs. Pabuayon *et al.* (1997) is an example of an unpublished technical report that could be enhanced to merit peer review and publication in a journal. Studies published as proceedings of conferences and symposia accounted for 19% of MPR studies. Many of these studies are authored by researchers in the SUCs and presented in conferences organized by the agencies that funded the research program, such as ICLARM and SEAFDEC.

Government project documents accounts for 23% of the MPR studies. This category of reference materials are produced and authored by the institutions such as the BFAR and BAS under DA. The documents can be categorized as organized program documents that are synonymous with annual progress reports. The format and general contents particularly on project background are reasonably maintained for a few years. Examples of this category include a number of publications of the Department of Agriculture authored by Guerrero, C.V. *et al.* in 1974 to 1977; Lizarondo, *et al.* in 1980 to 1985; and Dela Cruz, *et al.* in 1978 to 1985.

Considering the affiliations and training² of the research implementers, there is substantial levels of confidence that studies under MPR comply with the procedures and standards in conducting the research work, however, documentation and the overall quality of research results could be enhanced with peer review prior to publication. Only 5.5% of the MPR studies in the ARSEPRDIS are peer reviewed and published while 19% have been published as proceeding.

Table 4. Profile of marketing, post-harvest and market-related studies, by type of publication or documentation of results and year of project/study completion, 1968 to 1998.

Year	Publication/Documentation type					Total	
	Published /peer reviewed	Published proceedings	Unpublished technical reports/ thesis	Published Gov't project documents	Unpublished project documents	Number	%
1970 & earlier	0	0	8	0	1	9	2.6
1971-75	0	1	4	9	3	17	4.9
1976-80	5	5	48	29	3	90	26.1
1981-86	1	26	39	37	3	106	30.7
1986-90	4	20	23	2	5	54	15.6
1991-95	8	13	34	2	5	62	18.0
1996-99	1	1	6	0	0	8	2.3
Total	19	66	162	79	20	345	
%	5.5	19.1	46.9	22.9	5.8		100

² An evaluation of the educational profile of the employees, including researchers, in agencies and SUCs attached to the national research network is documented in David, C.D., E.R. Ponce, S.C. Halos and C.B. Lamug. 1998. *Philippine National Agricultural and Natural Resources Research System: Resource Allocation Issues and Direction for Reform*. Final report of a research project by the Department of Budget and Management.

4 SOME COMMENTS ON MPR IN FISHERIES

4.1 Focus of MPR: Comparison of Past and Emerging Trends

As mentioned earlier, 43% of the 800 studies in the ARSEPRDIS are categorized under MPR, a relatively large proportion compared with other disciplines. However, does this large number of studies under MPR mean sufficiency and adequacy? The more important concerns of marketing and post-harvest studies, however, are the timeliness and the relevance of their objectives and results in order to answer current problems and provide insights on future market concerns.

After looking into the distribution of studies in Tables 3 and 4 according to some variables that provides indications on the relevance, timeliness and quality of studies that comprise the MPR, this section reviews the chronology of events and emergence of issues that transpired in the marketing and post-harvest sub-sectors of the fishery sector. Some of these issues were already highlighted in the preliminary version of this paper (see Appendix B).

The trends in the distribution of studies under MPR according to their main topics show the predominance of studies on municipal fishery with 51 studies (Table 5). Though they are not focused on marketing and post-harvest, they provided insights on the background, status and problems related to MPR. Next in line among the most discussed topics are those on milkfish (32 studies); prawn/shrimp (26); processing (26); tilapia (24); and structure-conduct-performance analysis (21). The least studied topics are on shell and other ornamental products from fishery; cost-benefit analysis; literature survey; and consumption.

Through the years and as expected with the declining number of studies under MPR, there was also the overall declining trend in the number of studies in all topics, except for impact assessment studies. This seems to be an ironic situation considering the relative ease at which documentation could be done with the improvement and availability of computing and word processing facilities during the 1990s than in earlier years. There was indeed a shift in priorities to other disciplines, and perhaps a reduction on grants on studies on MPR.

Table 5. Distribution of marketing, post-harvest and related studies by specific topics and the year of study completion, 1968-1998.

Topic	before	1970-	1976-	1981-	1986-	1990-	1996-	Total	
	1970	75	80	85	90	95	99	Number	%
1. Marketing/economic study on:									
a. milkfish	0	8	14	7	3	0	0	32	8.3
b. tilapia	0	0	1	12	3	7	1	24	6.3
c. prawn/shrimp	0	0	1	12	6	5	2	26	6.8
d. mussel, crab, clam, oyster	0	5	4	0	3	0	0	12	3.1
e. mix species aquaculture	0	0	1	3	2	3	0	9	2.3
f. other species ¹	0	0	3	2	1	1	0	7	1.8
g. tuna	0	0	1	11	3	0	0	15	3.9
h. seaweeds	0	1	1	3	4	4	0	13	3.4
i. aquarium fish	1	0	0	1	0	2	0	4	1.0
j. shell/ornamentals	0	0	0	0	1	0	0	1	0.3
2. Economic study of:									
a. pond/freshwater aquaculture	0	0	9	3	0	0	0	12	3.1
b. brackishwater aquaculture	0	2	10	3	1	2	0	18	4.7
3. Municipal fishery	2	0	15	17	6	10	1	51	13.3
4. Fry gathering	0	0	3	1	0	1	0	5	1.3
5. Seasonality of fishing	1	0	0	2	0	1	1	5	1.3
6. Baseline surveys	0	0	2	3	3	3	0	11	2.9
7. Cooperatives	0	0	1	0	2	1	0	4	1.0
8. Women issues	0	0	0	3	0	2	0	5	1.3
9. Development studies	1	0	0	3	0	2	1	7	1.8
10. Impact assessment	0	1	0	1	0	2	2	6	1.6
11. Benefit-cost analysis	0	0	0	0	1	0	0	1	0.3
12. SCP analysis ²	1	2	8	3	3	3	1	21	5.5
13. Price analysis/modeling	0	1	3	3	0	1	0	8	2.1
14. Processing	0	5	4	8	4	5	0	26	6.8
15. Refrigeration/ cold storage	2	0	0	0	0	1	1	4	1.0
16. Infrastructure	0	0	4	2	4	3	0	13	3.4
17. Consumption	0	2	0	0	1	0	0	3	0.8
18. Demand	0	0	0	3	2	1	0	6	1.6
19. Trade and domestic markets	1	0	2	1	3	3	0	10	2.6
20. Literature survey	0	0	1	0	0	2	0	3	0.8
Total	9	29	92	116	57	68	12	383 ^a	
%	2.3	7.6	24.0	30.3	14.9	17.8	3.1		100

¹ Other species includes carp, mudfish, seabass.

² Structure-conduct-performance approach.

^a The number of frequencies of the studies did not total to 345 due to the multiple topics covered by some studies.

In terms of scope of studies in each topic, marketing and post-harvest studies from 1968 to 1999 have evolved from the fundamentals of measuring the profitability of marketing and post-harvest operations to a more intricate goal of understanding the structure, behavior and performance of the market players in order to model or achieve the intent of marketing and post-harvest as an economic activity. In particular, market structure studies in the seventies used methods that

traced the commodity distribution channels and the corresponding market share and performance of each type of trader (see for example Alix 1976; Navera 1976; De Castro 1979).

Approaches to Market Analysis. In the 1980s, studies on price and market structure analysis that formed the basis for evaluating efficiency of resource use and extent of competition in the market become a continuing area of interest in MPR. The continued interest is justified by the changing consumer needs, lifestyle, economic conditions, and overall, the dynamic nature of the market.

With the relative ease of access to computing facilities during this period, studies under MPR has incorporated quantitative procedure to evaluate correlation of market and post-harvest variables and, to some extent, impact analyses in some marketing studies. However, the objectives and methodologies remain to be on structure and market conduct analysis. For example, Torres, *et al.* (1987) studied the structure of fish distribution channels supplying Metro Manila using market share approach and measures of profitability of brokering, wholesaling and retailing operations. The study revealed monopsonistic tendencies at the broker level. The wholesale fish markets were characterized as oligopolistic while there was greater competition at the retail level. Factors affecting prices at the wholesale and retail levels include buying prices, prices of substitute species and seasonality of fishing operations. These findings affirms those of Navera (1976); and De Castro (1979).

Over time, this review noted that the structure of the market is determined by intensity of influence of the traders and capitalization in market operations. For example, for brokering operation, there is no exact transfer of ownership of the landed fish from the producer to the broker. Yet, the decision of the brokers in the 'auction' operations prevail and the brokers' influence in the market is enhanced by their ability to pay the fish suppliers on behalf of the wholesaler-buyers who won the auction but took the commodity on consignment. In such circumstances, the suppliers and wholesaler-buyers owe the brokers, especially when payments to the brokers have been delayed. The brokers seem to largely dictate the turn of events in the fish market.

Entry in the brokering services was limited by large capital requirements and skills such as familiarity with the operations and relationship with the other traders and suppliers in the fish market. Exit is equally not easy due to the large investments, including those uncollected credits to traders or suppliers. Thus, there are few brokers compared with the number of other types of traders because of the skills and influential role and the capitalization of the brokers.

The market integration approach which is popular in the international agricultural and financial literature was used by Salayo (1989) to evaluate price relationship and explain price variation in milkfish among spatially related wholesale and retail markets in the Philippines. The study revealed that the milkfish market is not well integrated. That is, the markets are characterized by processes where prices adjustment in the regional supply markets do not reflect price information in the reference consumption markets. The market integration models implied that margins in excess of marketing cost exist since arbitragers could use information about price differences profitably. Non-economic profits tend to exist in markets with structural imperfections.

However, using the cost and returns analysis in a more recent evaluation of a multiple species fish marketing chain by PRIMEX (1996), the conclusion claimed that traders in the marketing chain did not gain excessive profits relative to the cost and risk they encounter. The traders identified by the PRIMEX study include the assemblers/suppliers, brokers, wholesalers, and retailers. The report noted the length and complexity of the fish marketing chain which varies with the volumes, species and source of the product, i.e. from municipal, commercial, or aquaculture. The simplest and the shortest channel is the transaction among municipal fishermen landing on the beach and selling his produce direct to residents and consumers in his locality. The more complex systems are those that involve transactions between or among these traders who perform extensive distribution in urban centers. In spite of the complexity of the system as described above, PRIMEX claimed that the distribution system is efficient and enable gathering of fish in high demand in urban centers from every producing municipality. PRIMEX also found that a high percentage (amount or figure not cited) of fish ends up being dried or smoked, and that the obstacles to efficiency are more on the transport system, including infrastructure, not in the marketing channel. However, this review notes the danger of such assessment. The current complex marketing channel may not look as a problem and may be judged as appropriate only

because of the lack of access to roads and infrastructure. A more efficient marketing channel that could market both fresh and dried fish product form may emerge when other support system exists.

Also during the late 1990s, a study under MPR incorporated the relationship of marketing and postharvest operations, its objectives, sustainability of the fisheries and with 'market engineering'. This review refers to the changes in the market distribution channels as 'market engineering', for example market diversification, specialization, and vertical and horizontal integration. This category of studies includes Pabuayon, *et al.* (1997) which adopted a market structure-conduct-performance (SCP) framework to determine how the fishery sector is affected by market engineering and associated linkages and arrangements in the input and output markets. To assess the structure of the market, the parameters such as number and distribution of firms were documented. The behavior of the firm was evaluated in terms of raw material and input sourcing, selling, pricing, and other arrangements among firms. The performance of the industry was analyzed using indicators such as production and export growth, product availability, profitability, employment potential and workers' benefits, capacity utilization, technology adoption and environmental aspects.

Although not explicit in the conclusions of the study, the vertical and horizontal integration among large firms surveyed by Pabuayon, *et al.* has contributed to the pervasive oligopolistic nature of the fish marketing industry, a condition that does not encourage development of micro-enterprises. Nevertheless, the study found that diversification and integration has produced wider varieties of products through branding, labeling and advertising.

The overall framework of studies under MPR, if at all explicitly discussed in some studies, has also shifted away from the concept where marketing is a profit-driven activity serving the interest of the market agents or traders. Today's studies under MPR is founded on the concept that marketing is centered on consumers, that is marketing activities are done to cater to consumer needs and wants (GEM 1998; and Salayo 1999). Thus, when the marketing goals are consumer-oriented, only then can traders obtain profits for his entrepreneurial skills.

Infrastructure and Support Services. Another area of interest in MPR observed in this review is the assessment and evaluation of infrastructure, transportation and other support services in marketing and post-harvest activities. Among the earlier studies include Navera (1976; and Laraya 1978) which studied the operations at the Navotas Fish Port Complex (NFPC) revealing the chains of middlemen performing specialized services and sharing the profits from fish handling operations. Jordan (1983) evaluated the unloading system against a proposed conveyor system also at the NFPC. Ferrer (1987) studied the Dalahican Fish Port, a regional fish unloading site also under Philippine Fisheries Development Authority (PFDA). Sanchez (1989) studied the trucking operations for milkfish in Pangasinan. Israel and Roque (1999) documented the latest survey of regional fishing ports managed by PFDA in the country. This survey revealed underutilization due to generally declining fish landings. Municipal ports managed by LGUs, meanwhile, are inadequate in terms of number, post-harvest facilities and staff management skills.

PRIMEX (1997) also assessed the performance of the Fisheries Sector Program (FSP) which has a large component on infrastructure and market development. The FSP was found to be an ‘ambitious’ and ‘complex’ undertaking for a five-year time frame. Thus, its initiatives should be continued, but with a modified and critically planned methodology.

WTO Issues and Marketing. Another emerging issue of interest in MPR is the effect of WTO agreement on local supply and prices, and international competitiveness. These developments are well discussed in the PASCN study by Macam, *et al.* (1998) which showed the variety of effects of EVSL on selected fish and fishery products. The study revealed that fresh and frozen shellfish; and prepared and preserved fish can compete in spite of the scheduled tariff reduction/elimination until 2005. The policy study by Austria (1998) has some implications that are relevant to market research. The study included all 15 product-categories covered by EVSL, including fish and fish products. The recommendation underpins the need for a review of earlier positions on the ending rates and dates of tariff cuts. The need for studies on quantitative economy-wide effects of EVSL, especially on government revenues and cost arising from safety net measures for affected industries were emphasized.

Quality and Food Safety. The interest on quality and food safety issues emerged arising from pressures to comply with required international standards. Studies along this line were not at all found in the ARDEPRDIS. The study by GEM (1998) noted that local sanitary and phytosanitary (SPS) measures for fresh, chilled, frozen forms conform with international standards, but still wanting for processed or preserved products. The Philippine domestic market will largely benefit from such food quality standards if implemented in the processing industry since processed products, such as fish sauce and paste, that are largely being produced and marketed in Mindanao also cater to the domestic market.

The ASEAN-CANADA Fisheries Postharvest Technology Project Phase II (1996) documented the development of quality standards for handling and grading of cephalopods (squids, cuttlefish and octopus). The benefits arising from the success of the project manifest in the increasing operations on cephalopod processing, especially during the slack in shrimp processing. However, a similar project was never replicated to other potential fish and fishery products due to lack of funds (personal communication with authors in BFAR). This seems to indicate an “international donor-agency-dependency” syndrome in the development of processing technology in government agencies.

Post-harvest Handling and Wastage. PRIMEX (1996), in its evaluation of the FSP project, noted that the municipal production, specially a portion of the catch of small pelagic species (e.g. anchovies, roundscad, sardines, and mackerel) is processed, either by traditional methods, such as smoking, drying or sauce-making, or by industrial processes such as canning. While small pelagic production could fully supply local canneries to their capacity (estimated at 60,000 to 70,000 tons/year), much of the catch is consumed locally. As a result, the bulk of cannery raw materials is presently imported into the country, mostly from Taiwan and Japan (PCAMRD, 1991; and BFAR 1998).

In addition, a significant part of the catch, estimated to be as much as 59,000 tons/year is lost to spoilage, specially during the peak production season, because of poor post-harvest practices. Significant losses exist in commercial fisheries due to inadequate cold storage facilities in fishing vessels to handle large amounts of harvest, including useful by-catch (Legazpi 1998).

4.2 Research Issues, Concerns and Funds in the Fisheries Sector

MPR plays some significant roles in achieving the major concerns in the fishery sector as identified in the Maka-MASA Program document (1999). According to this program, the major concerns in the fishery sector is ‘the need to maintain a delicate balance between the requirements for increased production to contribute to food security against the need to conserve and protect the resources for long-term sustainability’. On increased production, research on marketing help achieve efficiency in distribution at the right product price. There is no doubt that when this marketing goal is achieved there is an apparent increase in availability of food supply at the places where they are needed at prices satisfactory to the consumer and to the producers and traders as well. Similarly, research in post-harvest is a way to achieve apparent increase in food supply. Efficient handling and processing reduces wastage and prolongs product life in order that products could reach the consumers in the form and freshness they are wanted.

These visions of the Maka-MASA program of the DA has identified the problems and corresponding tasks to achieve its goals. The only question whose answer remains to be seen is the commitment to support the continuity of the program by providing funds and personnel at the right time they are scheduled in the overall implementation plan. Persistence and vigilance among researchers and program implementers are needed to guarantee that development programs, including research, will be funded as recognized and planned.

The critical evaluation of the research activities and funds for the agriculture, fisheries and forestry sectors by David, *et al.* (1998) concluded that research in these areas continue to be ‘underfunded’. Thus a declining trend in the number of studies in socio-economics and policies emerged in De Jesus, *et al.* (1998). Consequently, we observed a similar trend on studies under MPR, being only a fraction of the total research activities in fisheries. The study by David, *et al.* noted that public expenditures in the early 1980s represented only 0.3% of agricultural gross value added, in contrast to an average of 1% among developing countries and 2-3% among developed countries. Accordingly, the limited funds further diminished the efficiency of the limited budget and some characteristic institutional weaknesses of the agricultural research system. The paper proposed the adoption of congruence rule in the allocation of research funds.

There has been no intensive review of the research funds allocated to the fishery sector, especially on marketing, processing and post-harvest operations that significantly contribute to the growth of export trade of highly perishable products³ and improved availability of processed fish and fishery products in local markets.

5 CONCLUSION AND IMPLICATIONS

This review covers studies on marketing and post-harvest research (MPR) from 1968-1999. Overall, studies under MPR have evolved from the fundamentals of measuring the profitability of marketing and post-harvest operations to a more intricate goal of understanding the structure, behavior and performance of the market players in order to model or achieve the intent of marketing and post-harvest as an economic activity. Specifically, the research topics evolved from the baseline-type profiling studies that were relevant and needed during the late 1960s to 1970s. During the late 1970s and early 1980s, the needs and problems of the marketing and post-harvest sub-sector have been the focus of research using market methodologies such as the market structure-conduct-performance analysis. The developments in the aquaculture production systems during this period also triggered studies on the economics, marketing and post-harvest patterns, needs and consumer acceptance of aquaculture products.

Over time, the focus of the studies under MPR was in accordance with the development needs of the fishery sector. However, while studies on the environment and sustainability need immediate attention, there was a downtrend in studies under MPR during the late 1990s. This trend needs further evaluation and review of the policies and research thrust of fishery agencies. The importance of studies under MPR should remain alongside the overwhelming attention on sustainability and conservation issues that sweep all production systems. In particular, there is a need to focus on demand-driven studies under MPR. Marketing and post-harvest activities that promote optimum utilization of fish and by-catch could help reduce pressures of harvesting fish to feed our growing population.

³ Majority of earning from fishery is from the export of block frozen shrimps and dried cephalopods. These products in fresh forms are still perishable but they are the forms desired by the international markets. There is less demand for the less perishable canned shrimps and cephalopods.

This review acknowledges that some important references are not in circulation and may not be accessible due to the lack of a nationally organized fishery information documentation and retrieval system in the Philippines. Except for the ongoing Aquatic Resources Socio-Economics and Policy Research Database Information System (ARSEPRDIS) project of ARSEP-PCAMRD which could be assessed as the pioneering electronic database organized by a Philippine government agency and the ICLARM database that covers a wider area for fisheries biology, management and socio-economics, there is no other that could compare to these databases. Nevertheless, the ARSEPRDIS, being not limited to studies funded or under the national agricultural and fisheries research network, did not include the studies published even in local academic journals and not at all attempted to browse the international journals where some studies on the Philippine fishery policy and socio-economics could have been published.

The lack of electronic databases of research documentation ironically exists in spite of the long existence of several specialized national fishery bodies in the country which includes data compilation and information dissemination among their other equally important functions. Yet for many years, these agencies categorically reiterate the lack of budget to implement this function.

In terms of quality and classification of studies, this paper notes the type of materials included in this review had not been refereed and the quality of the studies, presentation and the conclusions cannot be assessed among excellent pieces of research work. Nevertheless, many of the materials evolved from research studies in government institution and in the academe that are entrusted as the producers of quality research. Thus, there are still avenues for elevating the quality of studies under MPR. Institutionalized motivations and directions may be required so that technical reports and unpublished thesis could be reproduced as research papers that qualify for peer review and publication.

Researchers in marketing and post-harvest should not miss the opportunities offered by the fast growing computer technology. The creation of an efficient online reference for researchers, from the government, academe and the private sectors alike should now be in progress. There is a need to encourage MPR researchers to put forward their research work, whether on-going or

completed, for a coordinated research documentation and efficient retrieval system. The orientation of researchers that results should be shared for further verification, improvement and coordination needs immediate attention. This, once again, calls for institutionalizing copyrights or other forms of intellectual property rights on research publications. In such a way, researchers will be motivated to share their findings while obtaining proper recognition and taking accountability for their findings.

6 RESEARCH NEEDS

The following research needs are identified considering the findings of this review on MPR:

1. Assessment of the current state of technology, especially on processing, to meet local and international objectives (Can we compete using our technology?)
2. Evaluation of R&D cost-sharing between the government and private sectors (Will pooling of resources be cost-efficient and lead to more coordinated efforts?)
3. Market-driven identification of priorities on post-harvest and product development (What product attributes are desired by the market? Is there a willingness to pay for the newly innovated products? Are costs commensurate with the willingness to pay?)
4. Food safety and cost of compliance with international requirements/standards (Are we capable and ready to comply?)
5. Evaluation of domestic market's incidental benefits/losses from the exporters' compliance with food safety and quality requirements in the international market (How much and what are we gaining/losing in order to comply with international standards?)
6. Studies on safety nets for sectors affected by changes arising from WTO compliance (What forms of assistance are needed and beneficial for the affected industries so that they could cope with the requirements in the long-run? Are trade-offs worth the benefits?)
7. Market information system that will initiate a more transparent price determination process and encourage fair competition (What are the changes in the price determination mechanisms that are acceptable to the influential market intermediaries so that transparency could be achieved?)
8. Is our compliance with tariff and non-tariff barrier (eg. environmental concerns, safety and quality issues) reduction met with the importers' willingness to open their markets?

7 OTHER REFERENCES NOT INCLUDED IN ARSEPRDIS⁴

A. Published/refereed research papers/books/proceedings

Agbayani, R.F., M.C. Tarrosa-Pestaño, D.L. Evangelista, R.L. Sevilleja, N.A. Lopez and R.S. Pomeroy. 1994. Review of Social and Economic Research in the Fishery Sector of the Philippines: A Country Paper. *In*. Chou, L.M. A.D. Munro, T.J. Lam, T.W. Chen, L.K.K. Cheong, J.K. Ding, K.K. Hooi, H.W. Khoo, V.P.E. Phang, K.F. Shim and C.H. Tan (eds), *The Third Asian Fisheries Forum*. Asian Fisheries Society, Manila, Philippines.

Chong, K.C. and M.S. Lizarondo. 1982. Input-Output Relationship of Philippine Milkfish Aquaculture, *In*. *Aquaculture Economics Research in Asia*. Proceedings of a workshop held in Singapore, 2-5 June 1981, Ottawa, Ontario: IDRC.

Florentino, R.F., G.M. Villavieja, T.E. Valerio, A.C. Domdom, and E.R. Red, 1985. Fish Consumption Patterns in the Philippines, *ASEAN Food Journal*, 1(2):63-69.

Legazpi, A.S. 1998. By-Catch Utilization in the Philippines. *In*. *Report and Proceedings of the FAO/DFID Expert Consultation on By-Catch Utilization in Tropical Fisheries*, Beijing, China, 21-23 September 1998.

Panayotou, T. 1985. *Small-Scale Fisheries in Asia: Socio-Economics Analysis and Policy*. IDRC ill. Ottawa, Canada, 283pp.

PCCARD. 1986. State-of-the-Art: Fish Processing Research. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna, Philippines.

Salayo, N.D., S. Selvanathan and T.J.P. Voon. 1999. Implicit Prices of Prawn and Shrimp Attributes in the Philippine Domestic Market, *Marine Resource Economics*, June 1999.

Smith, I.R. and K.C. Chong. 1984. Market Constraints Inhibit Milkfish Production in Southeast Asia. *Aquaculture Magazine*. pp28-33.

B. Unpublished discussion papers/commissioned reports/thesis

ASEAN-CANADA Fisheries Postharvest Technology Project Phase II. 1994. Development of Quality Standards for Handling and Grading of Cephalopods (Squid, Cuttlefish and Octopus). Pilot project – Philippines (WBS-522-activity 2). Bureau of Fisheries and Aquatic Resources, Department of Agriculture, Diliman, Quezon City, Philippines.

Austria, M. S. 1998. *Redefining APEC Early Voluntary Sectoral Liberalization in View of the Asian Crisis and the WTO Process*. PASCN Discussion Paper Series No. 99-12. Philippine APEC Study Centre Network, Makati City, Philippines.

Bantilan, M.C.S. and J.M. Corpuz. 1991. Institutional Structure, Decision-Making Process and Support System for Agricultural Research in the Philippines. ACIAR-ISNAR Project Paper Series no. 39. Philippine Country Study.

De Jesus, C.C., L.G. Bondoc and M.A.G. Maghirang. 1999. Policy Research in the Fisheries Sector: Status, Direction and Priorities. Policy paper series no. 98-06. ARSEP Division, PCAMRD, Los Baños, Laguna, Philippines.

⁴ Please refer to the MPR Bibliography which is part of ARSEPRDIS (Appendix D) when the citations in the text are not in this Reference list.

De los Angeles, M.S. E.P. Gonzalez, R. Pelayo and L.A. Ygrubay. 1990. Economics of Philippine Fisheries and Aquatic Resources: A Literature Survey. PIDS Working Paper Series No. 90-17. 224 pp.

GEM. 1998. Sanitary and Phytosanitary Measures for Fresh and Processed Marine Products in Mindanao. A USAID-funded project submitted by the Growth with Equity in Mindanao (GEM) Program, Davao City, Philippines.

Israel, D.C. and R.M.G.R. Rogue. 1998. *Analysis of Fishing Ports in the Philippines*. Philippine Institute for Development Studies, Makati City, Philippines.

Macam, M.M.P., M.C.M. Bautista and L. Lanzona. 1998. The effects of the APEC Early Voluntary Sectoral Liberalization on Fish and Fish Products. PASCN Discussion Paper Series No. 98-05. Philippine APEC Study Centre Network, Makati City, Philippines.

Mangabat, M.C., J.C. Estrada and M.V. Rondon. 1990. Research Priority Assessment in Philippine Agriculture: Quantification of Existing Criteria. ACIAR-ISNAR Project Paper Series No. 24. Philippine Country Study.

Posadas, B. 1985. Household Demand for Fish in Iloilo City, M.A. Thesis, Ateneo de Manila University, Philippines.

PRIMEX and ANZDEC. 1996. Fisheries Sector Development Project, Philippines (ABD TA No. 2236-PHI), Phase I Report, Vol. I: Fisheries Sector Review and Proposed FSDP Framework. Pacific Rim Innovation and Management Exponents, Inc. Pasig City, Philippines.

PRIMEX and ANZDEC. 1996. Fisheries Sector Development Project, Philippines (ABD TA No. 2236-PHI), Phase I Report, Vol. II: Fisheries Sector Review. Pacific Rim Innovation and Management Exponents, Inc. Pasig City, Philippines.

Salayo, N.D. 1989. *Market Integration in the Philippine Milkfish Industry*. M.Sc. Thesis, University Pertanian Malaysia, Serdang, Selangor, Malaysia.

Salayo, N.D. 1999. *Hedonic Prices of Product Characteristics: Evidences from the Asia Pacific Shrimp Industry*. PhD Thesis, Griffith University, Queensland, Australia.

C. Information/Program documents/leaflets

BFAR. 1999. Agrikulturang Makamasa – Fisheries, Program Document. February 1999.

BFAR. 1998. Philippine Fisheries Profile.

BFAR. 1997. Philippine Fisheries Profile.

BFAR. 1996. Gintong Ani for Fisheries.

APPENDIX A

PCAMRD's five year national R&D priority research areas (1988-1992)

I. Marine Fisheries

1. Resource Assessment and Management
 - 1.1 Conservation and management schemes
 - 1.2 Establishment of artificial reefs
 - 1.3 Coral reef/mangrove management
2. Ecological and Oceanographic Studies
3. Improvement of Fishing Gear and Craft
4. Post-harvest Technology
 - 4.1 Handling and processing
 - 4.2 Utilization of other fishery products
 - 4.3 Marketing and distribution
5. Socio-Economic Studies

II. Aquaculture

1. Hatchery Development and Management
 - 1.1 Broodstock development
 - 1.2 Seed production
2. Culture Techniques
 - 2.1 Pond culture
 - 2.2 Mariculture
 - 2.3 Fishpen/cage culture
 - 2.4 Integrated agri-aquaculture
3. Aquaculture Engineering
4. Health and Nutrition
 - 4.1 Parasites/diseases
 - 4.2 Predator control
 - 4.3 Feed development
5. Post-harvest Technology
 - 5.1 Handling and processing
 - 5.2 Utilization and other fishery by-products
 - 5.3 Marketing and distribution
6. Socio-economic Studies

III. Inland

1. Resource Assessment and Management
 - 1.1 Physical inventory
 - 1.2 Stock/resource assessment, biology, ecology
2. Limnological and Hydrobiological studies
3. Improvement of Fishing Gear

Source: Mangabat, M.C., *et al.* 1990.

APPENDIX B

Review of Postharvest and Marketing Research in Fisheries: Preliminary Findings*

Nerissa D. Salayo

Number: Our review of marketing and postharvest research (MPR) in fisheries commenced July 1999 and have only dealt with about 30 recent studies so far. However, in the database that form the basis of the review of policy research in the fisheries sector by De Jesus, *et al.* (1998), there were 249 studies covering this MPR category. Market-related and postharvest research accounts for 20% of the 793 economics and policy studies in fisheries, and is the largest category [combination of items listed as marketing/trade/prices (218), consumption/demand (5), and processing (26)].

Critical Issues: Indeed, there are plenty of studies on market research, though not as much on processing. However, does this large number mean sufficiency and adequacy of studies? The more important concerns of postharvest and marketing studies, however, are the timeliness and the relevance of their objectives in order to answer current problems and provide insights on future market concerns.

The predominance of this category is expected as many socio-economic benchmarking studies in the 1970-80s comprise profitability studies of fish marketing and postharvest or traditional processing activities. Marketing research on the acceptability of aquacultured fish species such as tilapia and milkfish dominate the field during that period. Meanwhile, studies in marketing and postharvest in the 1990s seem to come in tandem with studies on efficiency of resource use, environmental considerations, and food safety and quality issues. Today, as the rate of growth of some fisheries decline, there is a growing tendency and need for more critical research on marketing and postharvest. In fact, even setting of research priorities on production, management, investment and other efforts tend to be market-driven rather than supply-driven.

Focus of studies based on preliminary review:

1. Price and market structure analysis that formed the basis for evaluating efficiency of resource use and extent of competition in the market.
eg. 1) Pabuayon, *et al.*(1997) - adopted a market structure-conduct-performance (SCP) framework to determine how the fishery sector is affected by the changing market organization trends such as diversification, integration and associated linkages and arrangements in the input and output markets.

*Paper presented during the Workshop on Fisheries Research of the Socio-Economics Working Group, organized by PIDS and BAR with UPV, 10-11 September 1999, UPVisayas, Miagao, Iloilo, Philippines.

- 2) Salayo (1989) - used the market integration approach to evaluate price relationship and explain price variation in milkfish among spatially related markets wholesale and retail markets.
- 3) Torres, *et al.* (1987) - studied the structure of fish distribution channels supplying Metro Manila which revealed monopsonistic tendencies at the broker level and perfect competition at the retail level.
2. Assessment and evaluation of infrastructure, transportation and other support services in marketing and postharvest activities.
- eg. 1) Israel and Roque (1999) - analyzed the regional fishing ports (managed by PFDA) in the country. The study showed underutilization due to generally declining fish landings. Municipal ports (managed by LGUs) meanwhile are inadequate in terms of number, postharvest facilities and staff management skills.
- 2) PRIMEX (1997) - assessed the performance of Fisheries Sector Program which had a large component on infrastructure and market development. The FSP was found to be ambitious and 'complex' undertaking for a 5-year time frame. Thus, its initiatives should be continued, but with a modified and critical methodology.
- 3) Navera (1985) - studied the operations at the Navotas fish port complex revealing the chains of middlemen performing specialized services and sharing the profits from fish handling operations.
3. Effect of WTO agreement on local supply and prices, and international competitiveness.
- eg. 1) PASCN study by Macam, *et al.* (1998) - showed the variety of effects of EVSL on selected fish and fishery products (the Harmonised System codes were identified). The study revealed that fresh and frozen shellfish and prepared and preserved fish can compete in spite of the scheduled tariff reductions/ eliminations until 2005.
- 2) Austria (1998) - although this is a policy study, but the implications are relevant to market research. The study included all 15 product categories covered by EVSL, including fish and fish products. The recommendation underpins the need for a review of earlier positions on the ending rates and dates of tariff cuts. A quantitative economy-wide effects of EVSL, especially on government revenues and cost arising from safety net measures for affected industries, needs emphasis.
- 3) PHILEXPORT (1998) - provided a framework for evaluating the presence of or lack of competition policy in the Philippines for many important commodities. A competition policy is a government measure that guides the behaviour of enterprises to promote anti-trust and anti-monopoly. This initiative helped design an action plan for establishing a competition policy for the country's major exports, including fisheries.
4. Quality and food safety issues arising from pressures to comply with required international standards.
- eg. 1) GEM (1998) - noted that local SPS measures for fresh, chilled, frozen forms conform with international standards, but still wanting for processed or preserved products.
- 2) BFAR (1996) - developed a pilot project that sets quality standards for handling and grading of cephalopods. However, this project was not replicated for other fish products due to lack of funds.

Research needs:

1. Assessment of the current state of technology, especially on processing, to meet local and international objectives (Can we compete using our technology?)
2. Evaluation of R&D cost-sharing between the government and private sectors (Will pooling of resources be cost-efficient and lead to more coordinated efforts?)
3. Market-driven identification of priorities on postharvest and product development (What product attributes are desired by the market? Is there a willingness to pay for the newly innovated products? Are the cost commensurate with the willingness to pay?)
4. Food safety and cost of compliance with international requirements/standards (Are we capable and ready to comply?)
5. Evaluation of domestic market's incidental benefits/losses from the exporters' compliance with food safety and quality requirements in the international market.
6. Studies on safety nets for sectors affected by changes arising from WTO compliance (Are trade-offs worth the benefits?)
7. Market information system that will initiate a more transparent price determination process and encourage fair competition.
8. Is our compliance with tariff and non-tariff barrier (eg. environmental concerns, safety and quality issues) reduction met with the importers' willingness to open their markets?

References

- Austria, M. S. 1998. *Redefining APEC Early Voluntary Sectoral Liberalization in View of the Asian Crisis and the WTO Process*. PASCN Discussion Paper Series No. 99-12. Philippine APEC Study Centre Network, Makati City, Philippines.
- BFAR. 1996. *Development of Quality Standards for Handling and Grading of Cephalopods (Squid, Cuttlefish and Octopus)*. ASEAN-Canada Fisheries Post-Harvest Technology Project Phase II. Bureau of Fisheries and Aquatic Resources, Quezon City, Philippines.
- De Jesus, C.C., L.G. Bondoc and M.A.G. Maghirang. 1998. *Policy Research in the Fisheries Sector: Status, Direction and Priorities*. Policy paper series no. 98-06. ARSEP Division, PCAMRD, Los Baños, Laguna, Philippines.
- GEM. 1998. *Sanitary and Phytosanitary Measures for Fresh and Processed Marine Products in Mindanao*. A USAID-funded project submitted by the Growth with Equity in Mindanao (GEM) Program, Davao City, Philippines.
- Macam, M.M.P., M.C.M. Bautista and L. Lanzona. 1998. *The effects of the APEC Early Voluntary Sectoral Liberalization on Fish and Fish Products*. PASCN Discussion Paper Series No. 98-05. Philippine APEC Study Centre Network, Makati City, Philippines.
- Pabuayon, I.M., D.M. Musa and L.H. Espanto. 1997. *Diversification and Integration in the Philippine Fishery Sector: Implications for Microenterprise Development, Efficiency, Equity and Environmental Sustainability*, Final Report. May 1997. Department of Agricultural Economics and Management, UP Los Baños, College, Laguna and the Philippine Council for Aquatic and Marine Research and Development, Los Banos, Laguna, Philippines.
- PRIMEX and ANZDEC. 1996. *Fisheries Sector Development Project, Philippines (ABD TA No. 2236-PHI), Phase I Report, Vol. I: Fisheries Sector Review and Proposed FSDP Framework*. Pacific Rim Innovation and Management Exponents, Inc. Pasig City, Philippines.
- PRIMEX and ANZDEC. 1996. *Fisheries Sector Development Project, Philippines (ABD TA No. 2236-PHI), Phase I Report, Vol. II: Fisheries Sector Review*. Pacific Rim Innovation and Management Exponents, Inc. Pasig City, Philippines.
- Torres, E.B., I.M. Pabuayon and N.D. Salayo. 1987. *Market Structure Analysis of Fish Distribution Channels Supplying Metro Manila*. AFSSRN-IDRC Research Project, UP Los Baños, College, Laguna, Philippines.

APPENDIX C

Marketing, Post-Harvest and Related Bibliographies in the Philippine Fisheries⁵

listed in the

Aquatic Resources Socio-Economics and Policy Research
Database Information System (ARSEPRDIS)

Compiled by the

***Aquatic Resources Socio-Economics and
Policy Division (ARSEP) – PCAMRD***

1. Abello, C. 1986. Marketability of tilapia in Metro Manila. p. 40-42. IN: R.D. Guerrero III, D.L. de Guzman, and C.M. Lantican (eds.). Tilapia Farming. First National Symposium and Workshop on Tilapia Farming, 24-26 November 1986, PCARRD, Los Baños, Laguna. PCARRD Book Series, No. 48, 68 pp. Philippine Council for Agriculture, Forestry and Natural Resources Research and Development, Los Baños, Laguna. (470) [DS90-PPR-TIL90]
2. Adan, E.Y; Valdez, F.M. 1979. The fishpond industry in Mindanao: A socio-economic study. MSU Technical Report, Vol. V, No. 1, 343 pp. Institute of Fisheries Research and Development, Mindanao State University, Naawan, Misamis Oriental. (520) [DS80-TEC-POND80]
3. Adelino, M.L. 1992. Economic analysis of factors affecting the Philippine prawn exports. B.S. Thesis, College of Economics and Management, U.P. Los Baños, College, Laguna. (014) [TH95-TEC-PRA95]
4. Agbayani, R.F. 1988. Economics of milkfish culture in the Philippines. IN: H. Tanaka, K.R. Uwate, J.V. Juario, C.S. Lee and R. Foscarini (eds.). Regional Workshop on Milkfish Culture Development in the South Pacific, 21-25 November 1988, Tarawa, Kiribati. (157) [INT90-PPR-MIL90]
5. Agbayani, R.F.; Hatch, U.; Belleza, E. 1994. Economic analysis of prawn culture in the Philippines. p. 27. International Cooperation for Fisheries and Aquaculture Development. The Seventh Biennial International Conference of International Institute of Fisheries Economics and Trade, 18-21 July 1994, Taipei, Taiwan, Republic of China. 130 pp. National Taiwan Ocean University; and International Institute of Fisheries Economics and Trade, Taipei, Taiwan. (729) [INT95-PPR-PRA95]
6. Agüero, M.N.; Cruz, A.V. 1991. The economic impact of alternative investment and marketing decisions under varying conditions: A case of fish culture in the Philippines. p. 267-276. *In*. L.M. Chou, T.E. Chua, H.W. Khoo, P.E. Lim, J.N. Paw, G.T. Silvestre, M.J. Valencia, A.T. White and P.K. Wong (eds.). Towards an Integrated Management of Tropical Coastal Resources. ASEAN/US Technical Workshop on Integrated Tropical Coastal Zone Management, 28-31 October 1988, National University of Singapore, Singapore. ICLARM Conference Proceedings, No. 22, 455 pp. National University of Singapore, Singapore; National Science and Technology Board, Singapore; and International Center for Living Aquatic Resources Management, Makati, Manila. (371) [INT95-PPR-IMP95]

⁵ This list comprises part of the ARSEPRDIS obtained from ARSEP-PCAMRD. The numbers in parenthesis () at the end of each bibliographic entry refer to the item's entry number in the complete ARSEPRDIS list. The codes in square brackets [] refer to the classification codes set by the author, Nerissa D. Salayo, for this review, including the period the study was completed. The meanings of the codes are at the end of these lists.

7. Ahmed, M.; Bimbao, M.P., Sevilleja, R.C. 1992. The economics of rice-fish in Asian mixed farming system, a case study of the Philippines. p. 207-216. IN: C.R. dela Cruz, C. Lightfoot, B.A. Costa-Pierce, V.R. Carangal and M.P. Bimbao (eds.). Rice-Fish Research and Development in Asia. Rice-fish Farming Research and Development Workshop, 21-25 March 1988, Ubon, Thailand; and the Rice-fish Farming Systems Research and Development Workshop, 23-27 October 1989, CLSU, Muñoz, Nueva Ecija. ICLARM Conference Proceedings, No. 24, 457 pp. International Center for Living Aquatic Resources Management, Makati, Manila. (353) [INT95-PPR-MIX95]
8. Albadejo, V.D.; Corpuz, V.T. 1981. A market study of the aquarium fish industry of the Philippines: An assessment of the growth and the mechanics of trade. Abstract of Papers: Fourth International Coral Reef Symposium, 18-22 May 1981, Manila. U.P. Marine Science Center, U.P. Diliman, Quezon City. (482) [DA85-PPR-AQF85]
9. Alix, J.C. 1976. Survey of fish catch landed and unloaded at the Navotas Fish Landing and Market Authority in Navotas, Metro Manila. Fisheries Research Journal of the Philippines; 1(2):50-56. Fisheries Research Society of the Philippines, c/o Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (744) [DS80-PJO-INF80]
10. Alix, J.C.; Atienza, F.M. 1984. Market process in the fishpond industry: A synthesis report for Bulacan, Bohol, and Masbate Provinces. p. 12. Summary of Papers – Fisheries Forum for 1981-1982. Fisheries Research Division, Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna. (523) [DS80-CIR-POND85]
11. Altajeros, L.C. 1984. Processing and marketing of dried squid in three (3) municipalities of Masbate. 26 pp. B.S. Thesis, College of Agriculture, Central Luzon State University, Muñoz, Nueva Ecija. (246) [TH85-TEC-PRO85]
12. Alviola, P.A. IV; Clarete, R.C. 1990. Trade and exchange rate impacts on the Philippine fisheries sector. p. 101. M.A. Thesis, School of Economics, U.P. Diliman, Quezon City. (782) [TH90-TEC-TRA90]
13. Angeles, R.V. 1994. Export prospects of tilapia. p. 53-67. IN: L.G. Villacorta and L.A. Dureza (eds.). Tilapia Farming: Genetic Improvement and Advances on Culture Technology. Third National Symposium and Workshop on Tilapia Farming, 25-27 November 1993, U.P. Visayas, Iloilo City. PCAMRD Book Series, No. 18, 86 pp. Philippine Council for Aquatic and Marine Research and Development, Los Baños, Laguna. (437) [DS95-PPR-TIL95]
14. Añonuevo, C.T. 1989. The economics of municipal fisheries: The case of Lingayen Gulf. p. 141-155. IN: G.T. Silvestre, E. Miclat and T.-E. Chua (eds.). Towards Sustainable Development of the Coastal Resources of Lingayen Gulf, Philippines. ASEAN/US Coastal Resources Management Project Workshop, 25-27 May 1988, Bauang, La Union. ICLARM Conference Proceedings, No. 17, 200 pp. Philippine Council for Aquatic and Marine Research and Development, Los Baños, Laguna; and International Center for Living Aquatic Resources Management, Makati, Manila. (357) [INT90-PPR-MUN90]
15. Añonuevo, M.V.; Zaragoza, E.C. 1987. Marketing practices for raw shells, ornamentals and shellcraft. p. 82-93. IN: M.A. Mangaser and C.M. Lantican. Status of Mollusc Resources and Prospects for Development. Seminar-Workshop on Status of Mollusc Resources and Prospects for Development, 2-3 May 1986, Ecotech Center, Cebu City. PCAMRD Book Series, No. 52, 135 pp. Philippine Council for Agriculture Resources Research and Development, Los Baños, Laguna. (440) [DS90-PPR-SHE90]
16. Anonymous 1968. Report on the potential products for the refrigeration and cold storage plant. 6 pp. Research and Statistics Division, Office of the City Mayor, Naga City. (726) [OGOV70-UNP-REF70]
17. Apalit, A.M. 1984. Production and marketing aspect of shrimp in selected towns of Masbate. 40 pp. B.S. Thesis, College of Agriculture, Central Luzon State University, Muñoz, Nueva Ecija. (249) [TH85-TEC-PRA85]
18. Aprieto, V.L. 1980. Philippine tuna fisheries: Resource and industry. Fisheries Research Journal of the Philippines, 5(1):53-66. Philippine Fisheries Research Society, c/o Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (410) [DS80-PJO-TUN80]
19. Aragon, C.T.; Cosico, J.; Salayo, N.D. 1985. Tilapia marketing in Laguna Province, Philippines. p. 206-218. IN: I.R. Smith, E.B. Torres and E.O. Tan (eds.). Philippine Tilapia Economics. PCARRD-ICLARM Workshop, 10-13 August 1983, Los Baños, Laguna. ICLARM Conference Proceedings, No. 12, 261 pp. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna; and International Center for Living Aquatic Resources Management, Makati, Manila. (350) [DS85-PPR-TIL85]
20. Arancillo, C.N.; Basillo, A.V.; Papio, G.M. 1985. Tuna production and marketing system in Batangas. Agricultural Marketing Report, Vol. VII, No. 23, 81 pp. Bureau of Agricultural Economics, Quezon City. (633) [DA85-CIR-TIL95]

21. Arizala, L.A.D. 1994. Fish marketing strategies: The case of Barilisan Project of the Service Bureau for small fisherfolks at Brgy. Porac, Botolan, Zambales. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (122) [TH95-TEC-MUN95]
22. Artificio, E.V. 1984. Marketing of prawn in Cotta, Quezon. B.S. Thesis, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (018) [TH85-TEC-PRA85]
23. Arupin, S.H. 1992. The socio-economic study of Euchaema seaweeds industry in Tawi-Tawi. Terminal Report, Mindanao State University-Tawi-tawi, Bongao, Tawi-Tawi. (499) [DS95-TEC-SWE95]
24. Aspuria, T.G.; Fabro, R.M. 1979. A socio-economic survey of the aquaculture industry in Bicol. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 20, 60 pp. Southeast Asian Fisheries Development Center, Tigbauan, Iloilo and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (573) [INT80-TEC-AQUA80]
25. Badiola, R.F.P. 1985. Marketing of fish by small fishermen in selected municipalities of Camarines Norte. 37 pp. B.S. Thesis, College of Agriculture, Central Luzon State University, Muñoz, Nueva Ecija. (258) [TH85-TEC-MUN85]
26. Bagting, R.S. 1982. Marketing of bangus and tilapia in two municipalities of Nueva Ecija. 38 pp. B.S. Thesis, College of Agriculture, Central Luzon State University, Muñoz, Nueva Ecija. (256) [TH85-TEC-MIL-TIL85]
27. Baliao, M.E.D.; Arcala, R. 1995. Socio-economic and industry profile of selected fishing communities in Miag-ao, Iloilo. 50 pp. Terminal Report, U.P. Visayas, Miag-ao, Iloilo. (748) [DS95-TEC-MUN95]
28. Baltazar, C.C.; Abella, F.F. 1994. Market status of Philippine fishery products. p. 4-12. IN: L.M. Santos (ed.). New Fishery Product Development. Trainor's Training Program on New Fishery Product Development, 25 April-08 May and 6-18 June, 1994. 99 pp. Fisheries Sector Program, Bureau of Agricultural Research, Department of Agriculture, Quezon City and College of Fisheries, U.P. Visayas, Miago-ao, Iloilo. (309) [DA95-PPR-TRA95]
29. Balucas, F.P. Jr.; Alcober, G.M.; Bucog, L.D. 1977. Survey of the income of the fish vendors of Zamboanga City Public Market and its implications to organizing a fish vendors' cooperative. 39 pp. Mindanao Regional School of Fisheries, Zamboanga State College of Marine Science and Technology, Zamboanga City. (262) [DS80-UNP-COO80]
30. Banasihan, A.L.; Pamulaklakin, E.R.; Aspuria, T.G. 1979. A socio-economic study of carp culture. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 26, Southeast Asian Fisheries Development Center, Tigbauan, Iloilo and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (575) [INT80-TEC-OSPE80]
31. Baum, G.A.; Maynard, J.A. 1976. Bayawan Municipality, Negros Oriental: A socio-economic study. 67 pp. South China Sea Fisheries Development and Coordinating Programme, Manila. (639) [INT80-TEC-MUN80]
32. Baum, G.A.; Maynard, J.A. 1976. Coron/Tagumpay/Busuanga Island/Calamines Group (Palawan Province): A socio-economic study. South China Sea Fisheries Development and Coordinating Programme, Manila. (640) [INT80-TEC-MUN80]
33. Baum, G.A.; Maynard, J.A. 1976. Panigayan, Lampanigan, Baluk-baluk, and Manangal, Basilan Province: A socio-economic study. 62 pp. South China Sea Fisheries Development and Coordinating Programme, Manila. (637) [INT80-TEC-MUN80]
34. Baum, G.A.; Maynard, J.A. 1976. Salay municipality: A socio-economic study. 47 pp. South China Sea Fisheries Development and Coordinating Programme, Manila. (638) [INT80-TEC-MUN80]
35. Baum, G.A.; Maynard, J.A. 1976. Tobaun/Sual Pangasinan/Central Luzon: A socio-economic study. 44 pp. South China Sea Fisheries Development and Coordinating Programme, Manila. (636) [INT80-TEC-MUN80]
36. Bautista, A.G.; Ontok, M.D.; Esberto, M.D.P. 1995. Socio-economic profile of the fishing industry in Linguasan Marsh. 62 pp. Terminal Report, University of Southern Mindanao, Kabacan, Cotabato. (563) [DS95-TEC-MUN95]
37. Bernabe, P.C. 1989. A special problem report on the Aquatic Biosystem Farm. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (022) [TH90-TEC-CASE90]
38. BFAR, 1981. A baseline study report on small-scale fishermen, fishfarmers, fish processors and fishing communities. 288 pp. Bureau of Fisheries and Aquatic Resources, Quezon City. (641) [DA85-CIR-BSL85]
39. BFAR, 1983. Socio-economic and marketing study of municipal fishing households in Bayawan, Negros Oriental. 94 pp. Bureau of Fisheries and Aquatic Resources, Quezon City/South China Sea Fisheries Development and Coordinating Programme, Manila. (642) [INT85-CIR-MUN85]

40. BFAR; BAECON, 1977. A survey on fish marketing in Iloilo, Bacolod and Zamboanga. 133 pp. Bureau of Fisheries and Aquatic Resources and Bureau of Agricultural Economics, Quezon City. (458) [DA80-CIR-BSL80]
41. BFAR-BAECON, 1978. Socio-economic study of municipal and sustenance fisheries. 142 pp. Bureau of Fisheries and Aquatic Resources-Bureau of Agricultural Economics Project, Quezon City. (216) [DA80-CIR-MUN80]
42. Bimbao, M.P.; Smith, I.R. 1988. Philippine tilapia economics: Industry growth and potential. p. 539-551. IN: R.S.V. Pullin, T. Bhukaswan, K. Tonguthai and J.L. Maclean (eds.). The Second International Symposium on Tilapia in Aquaculture, 16-20 March 1987, Bangkok, Thailand. ICLARM Conference Proceedings, No. 15, 623 pp. Department of Fisheries, Bangkok, Thailand; and International Center for Living Aquatic Resources Management, Makati, Manila. (359) [INT90-PPR-TIL90]
43. Blanco, G.J. 1972. Economic trends of coastal aquaculture in the Philippines. p. 490-497. IN: T.V.R. Pillay (ed.). Coastal Aquaculture in the Indo-Pacific Region. Indo-Pacific Fishery Commission Symposium on Coastal Aquaculture, 18-21 November 1970. Fishing Newsbook, West Byfleet, England. (576) [INT75-PPR-AQUA75]
44. Bonny, S.Y. 1982. The classical theory of trade applied in the Philippines canned fish industry. 20 pp. B.S. Thesis, School of Economics, U.P. Diliman, Quezon City. (193) [TH85-TEC-PRO85-TRA85]
45. Bravo, S.A. 1976. Study of the bangus fishing industry: Prospects and problems, benefit-cost analysis approach. The Philippine Journal of Fisheries, 14(1):57-87. Bureau of Fisheries and Aquatic Resources, Quezon City. (442) [DA80-PJO-MIL80]
46. Bungcayao, F.L.; Cea, L.N.; Lizarondo, M.S. 1985. Production and marketing of tuna in Basilan. Agricultural Marketing Report, Vol. VII, No. 21, 62 pp. Bureau of Agricultural Economics, Quezon City. (644) [DA85-CIR-TUN85]
47. Bungcayao, F.L.; Valdellon, T.C. 1976. Fish retailing in Metro Manila markets. Agricultural Marketing Report, Vol. VIII, No. 20, 58 pp. Bureau of Agricultural Economics, Quezon City. (643) [DA80-CIR-SCP80]
48. Caballes, M.C. 1982. MJM Mussel Farm: A case study. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (120) [TH85-TEC-CASE85]
49. Camacho, A.S.; Corre, V.L. Jr. 1987. The status of the Philippine shrimp farming industry. p. 128-145. UNDP/UNESCO Research and Training Pilot Programme on Mangrove Ecosystems in Asia and the Pacific. Workshop on the Conversion of Mangrove Areas to Aquaculture, 24-26 April 1986, Iloilo City. (739) [INT90-PPR-PRA90]
50. Cambal, B.G. 1978. Gonzales Milkfish Farm. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (119) [TH80-TEC-MIL80]
51. Campos, R.F. 1977. General Natividad Freshwater Fish Farm. 48 pp. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (118) [TH80-TEC-CASE80]
52. Carambas, N.D.M. 1987. Seaweed commodity system. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (123) [TH90-TEC-SWE90]
53. Carandang, F.L.; Darrah, L.B. 1975. Bangus production costs. 18 pp. Special Studies Division, Department of Agriculture, Quezon City. (577) [DA75-CIR-MIL75]
54. Catalla, R.F. 1986. A marketing study of prawn and shrimp products in Metro Manila. 105 pp. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (124) [TH90-TEC-PRA90]
55. Cecilio, C.F.; Ayuyao, F.F. 1984. Some economic issues in the fishing industry development: A Philippine case. 129 pp. B.S. Thesis, School of Economics, U.P. Diliman, Quezon City. (201) [TH85-TEC--DEV85]
56. Chamoro, J.R. 1982. Fariñas Fishfarm. 70 pp. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (117) [TH85-TEC-CASE85]
57. Chan, H.S.A. 1991. Socio-economics of two coastal communities engaged in milkfish fry gathering, La Union, Philippine. p. 429. IN: L.M. Chou, T.-E. Chua, H.W. Khoo, P.E. Lim, J.N. Paw, G.T. Silvestre, M.J. Valencia, A.T. White and P.K. Wong (eds.). Towards an Integrated Management of Tropical Coastal Resources. ASEAN/US Technical Workshop on Integrated Tropical Coastal Zone Management, 28-31 October 1988, National University of Singapore, Singapore. ICLARM Conference Proceedings, No. 22, 455 pp. National University of Singapore, Singapore; National Science and Technology Board, Singapore; and International Center for Living Aquatic Resources Management, Makati, Manila. (373) [INT95-PPR-BSL95-FRY95]

58. Charles, A.T., Brainerd, T.R., Bermudez, A.M., Montalvo, H.M., Pomeroy, R.S. 1993. Fisheries socio-economic in the developing world: Regional assessments and annotated bibliography. 457 pp. International Development Research Centre, Ottawa, Ontario, Canada. (728) [INT95-CIR-DEV95-LITS95]
59. Chiu, Y.N.; Posadas, B.C.; Estilo, V.J. 1987. Strategy for a cost/benefit analysis in the conversion of mangrove areas to aquaculture. p. 86-95. UNDP/UNESCO Research and Training Pilot Programme on Mangrove Ecosystems in Asia and the Pacific. Workshop on the Conversion of Mangrove Areas to Aquaculture, 24-26 April 1986, Iloilo City. (548) [INT90-TEC-AQUA90-BCA90]
60. Chong, K.-C.; Lizarondo, M.S.; Dela Cruz, Z.S.; Guerrero, C.V.; Smith, I.R. 1984. Milkfish production dualism in the Philippines: A multidisciplinary perspective on continuous low yields and constraints to aquaculture development. ICLARM Technical Reports, No. 15, 70 pp. Food and Agriculture Organization of the United Nations, Rome, Italy; Bureau of Agricultural Economics, Quezon City; and International Center for Living Aquatic Resources Management, Makati, Manila. (376) [INT85-TEC-MIL85-DEV85]
61. Clavio, N.A. 1984. Production and marketing practices of bangus producers in selected towns of Bulacan. 27 pp. B.S. Thesis, College of Agriculture, Central Luzon State University, Muñoz, Nueva Ecija. (259) [TH85-TEC-MIL85]
62. Comia, O.Z. 1982. Tilapia breeding - A profitable backyard industry. Fisheries Newsletter, 11(1):70-73. Bureau of Fisheries and Aquatic Resources, Quezon City. (406) [DA85-CIR-TIL85]
63. Corre, V.L. Jr. 1985. Status, potential and needs of tilapia culture in Panay Island, Philippines. p. 165-173. IN: I.R. Smith, E.B. Torres and E.O. Tan (eds.). Philippine Tilapia Economics. PCARRD-ICLARM Workshop, 10-13 August 1983, Los Baños, Laguna. ICLARM Conference Proceedings, No. 12, 261 pp. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna; and International Center for Living Aquatic Resources Management, Makati, Manila. (346) [INT85-PPR-TIL85]
64. Corre, V.L. Jr. 1993. The shrimp farming industry in the Philippines. p. 95-103. Aquaculture Workshop for SEAFDEC/AQD Training Alumni, 8-11 September 1992, Iloilo. 173 pp. Southeast Asian Fisheries Development Center, Tigbauan, Iloilo. (096) [INT95-TEC-PRA95]
65. Creencia, J.R.; Valiente, A.M. Jr.; Carandang, F.L. 1973. Bangus marketing. Special Studies Division, Department of Agriculture, Diliman, Quezon City. (581) [DA75-CIR-MIL75]
66. Cruz, F.P.; Chupongco, A.R.; De Guzman, P.G.; Elazegui, D.D. 1996. A market study of *Macrobrachium rosenbergii* (Freshwater Prawn). 81 pp. Terminal Report, Center for Policy and Development Studies, U.P. Los Baños, College, Laguna. (177) [DS99-TEC-PRA99]
67. Cruz, V.C.; Bauan, R.B. 1961. Survey of aquarium fish gatherers of San Salvador Island, Masinloc, Zambales. Terminal Report, ERDS-DENR, Villa Angela, Sto. Domingo, Angeles City. (159) [INT70-TEC-AQF70]
68. Cuyos, N.A.; Spoehr, A. 1994. The fish supply of Cebu City: A study of two wholesale markets. p. 160-198. Philippine Quarterly of Culture and Society, No. 4, University of San Carlos, Cebu City. (648) [DS95-TEC-SCP95]
69. Dalapo, F.L.I. 1996. Feasibility study of a commercial cold storage at Makar, General Santos City. 216 pp. M.B.A. Thesis, Notre Dame of Dadiangas College, Cotabato. (304) [TH99-TEC-REF99]
70. De Castro, O.H. 1979. Fish marketing at Dalahican Beach Fish Landing Area, Lucena City, 1977-1978. Ph.D. Dissertation, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (033) [TH80-TEC-SCP80-INF80]
71. De Jesus, C.C.; Tejero, R.R.; Bondoc, L.G.; Vasquez, C.M. 1996. Socio-economics of tilapia cage culture in Lake Dagatan, Dolores, Quezon, Philippines. World Aquaculture 96 Annual Conference and Exposition of the World Aquaculture Society, 29 January-02 February 1996, Bangkok, Thailand. 20 pp. (631) [DS99-TEC-TIL99]
72. De Leon, P.C. 1994. Profitability analysis of prawn and milkfish culture in Bataan. B.S. Thesis, College of Economics and Management, U.P. Los Baños, College, Laguna. (003) [TH95-TEC-MIX95]
73. Dela Cruz, L.C. 1980. Socio-economic study of fishermen in Pantabangan, Nueva Ecija. 29 pp. B.S. Thesis, College of Inland Fisheries, Central Luzon State University, Muñoz, Nueva Ecija. (248) [TH80-TEC-MUN80]
74. Dela Cruz, M.T.; Doronia, N.A.; Miguel, C.P. 1988. Tuna fisheries of Eastern Samar. U.P. Visayas, Tacloban, Leyte. (737) [DS90-TEC-TUN90]
75. Dela Cruz, Z.S.; Arancillo, C.N.; Bungcayao, F.L. 1985. The tuna marketing in Puerto Princesa, Palawan. Agricultural Marketing Report, Vol. VII, No. 4, 76 pp. Bureau of Agricultural Economics, Quezon City. (073) [DA85-CIR-TUN85]

76. Dela Cruz, Z.S.; Bungcayao, F.L.; Cea, L.N. 1985. Shrimp and prawn production and distribution in Camarines Sur. Agricultural Marketing Report, Vol. VII, No. 6, 96 pp. Bureau of Agricultural Economics, Quezon City. (582) [DA85-CIR-PRA85]
77. Dela Cruz, Z.S.; Lizarondo, M.S. 1978. Fishpond operations and marketing practices in Quezon Province. Research Report, No. 9, 65 pp. Bureau of Agricultural Economics, Department of Agriculture, Quezon City. (191) [DA80-CIR-POND80]
78. Dela Cruz, Z.S.; Lizarondo, M.S. 1983. Tuna fishing in Leyte. Agricultural Marketing Report, Vol. V, No. 12, 60 pp. Bureau of Agricultural Economics, Quezon City. (082) [DA85-CIR-TUN85]
79. Dela Cruz, Z.S.; Lizarondo, M.S. 1983. Tuna trading in Leyte. Agricultural Marketing Report, Vol. V, No. 13, 53 pp. Bureau of Agricultural Economics, Quezon City. (651) [DA85-CIR-TUN85]
80. Delda, R. 1984. Marketing practices, facilities, channels of marine products in the program area. Vol. II, 60 pp. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna and Bicol River Basin Development Program, San Jose, Pili, Camarines Sur. (374) [INT85-TEC-SCP85]
81. Delmendo, M.N. 1974. Fish farming in pens: A new fishery business in Laguna de Bay. Technical Report, Laguna Lake Development Authority, Pasig, Metro Manila. (219) [OGOV75-TEC-AQUA75]
82. Delos Angeles, M.S.; Gonzales, E.P.; Pelayo, R.; Ygrubay, L.A. 1993. Economics of Philippine fisheries and aquatic resources: A literature survey. Philippine Institute of Development Studies, Makati, Manila. (627) [INT95-TEC-LITS95]
83. Delos Reyes, F.A. 1985. A village level economic study on fish processing: Balayan, Batangas, 1984. B.S. Thesis, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (035) [TH85-TEC-PRO85]
84. Delos Santos, C. 1987. Shrimp industry in Region VI. National Workshop on Fisheries Policy and Planning, 16-20 March 1987, Baguio City. Bureau of Fisheries and Aquatic Resources, Department of Agriculture, Quezon City; and United Nations Development Program/Food and Agriculture Organization of the United Nations, Manila. (297) [INT90-PPR-PRA90]
85. Dimaapi, N.A. 1984. Marketing of major species of fish in Bongabon, Pinamalayan and Roxas, Oriental Mindoro. 29 pp. B.S. Thesis, College of Agriculture, Central Luzon State University, Muñoz, Nueva Ecija. (245) [TH85-TEC-MUN85]
86. Domantay, L.P. 1977. Production and marketing aspects of milkfish in Dagupan City. 22 pp. B.S. Thesis, College of Agriculture, Central Luzon State University, Muñoz, Nueva Ecija. (255) [TH80-TEC-MIL80]
87. Doty, M.S.; Alvarez, V.B. 1975. Status, problems and economics of eucema farms. (703) [PRI75-UNP-SWE75]
88. Elizalde, L.P. 1982. Prospects for tuna product development. Fisheries Today, 4(1):36-40. Fishery Industry Development Council, Quezon City. (480) [OGV85-CIR-TUN85]
89. Elizalde, L.P.; Marcial, B.D. 1983. A fresh venture: Lapu-lapu in ponds. Fisheries Today, 5(1):34-38. Fishery Industry Development Council, Quezon City. (386) [DA85-CIR-POND85]
90. Encarnacion, C.S. Jr. 1984. Economic study on the production and marketing of fish-gabi project in Central Luzon State University, Nueva Ecija. 26 pp. B.S. Thesis, College of Agriculture, Central Luzon State University, Muñoz, Nueva Ecija. (250) [TH85-TEC-MIX85]
91. Escover, E.M.; Claveria, R.L. 1985. The economics of tilapia cage culture in Bicol freshwater lakes, Philippines. p. 50-65. IN: I.R. Smith, E.B. Torres and E.O. Tan (eds.). Philippine Tilapia Economics. PCARRD-ICLARM Workshop, 10-13 August 1983, Los Baños, Laguna. ICLARM Conference Proceedings, No. 12, 261 pp. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna; and International Center for Living Aquatic Resources Management, Makati, Manila. (339) [INT85-PPR-TIL85]
92. Escover, E.M.; Salon, O.T.; Lim, C.P. 1985. Tilapia marketing in Bicol, Philippines. p. 192-205. IN: I.R. Smith, E.B. Torres and E.O. Tan (eds.). Philippine Tilapia Economics. PCARRD-ICLARM Workshop, 10-13 August 1983, Los Baños, Laguna. ICLARM Conference Proceedings, No. 12, 261 pp. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna and International Center for Living Aquatic Resources Management, Makati, Manila. (349) [INT85-PPR-TIL85]
93. Esporlas, A.E. 1982. The seasonality of fishing, marketing and processing. p. 14-24. IN: C. Bailey (ed.). Small-scale Fisheries of San Miguel Bay, Philippines: Social Aspects of Production and Marketing. ICLARM Technical Reports, No. 9, 57 pp. Institute of Fisheries Development and Research, U.P. Visayas, Quezon City; International Center for Living Aquatic Resources Management, Makati, Manila; and the United Nations University, Tokyo, Japan. (381) [INT85-PPR-SEAS85]

94. Esteban, F.E. 1977. Triple E Fishing Corporation: A case study. 50 pp. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (116) [TH80-TEC-CASE80]
95. Eusebio, R.C. 1992. An insights to the Philippine aquarium fish industry. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (020) [TH95-TEC-AQF95]
96. Evaloroza, A.M. 1968. An economic study of farming-fishing occupation in the coastal barrios of Jagna, Bohol. 47 pp. B.S. Thesis, U.P. Los Baños, College, Laguna. (717) [TH70-TEC-MUN70-SEAS70]
97. Fabro, R.M.; Lapie, L.P. 1978. A socio-economic survey of the aquaculture industry in the Ilocos Region. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 11, 85 pp. Southeast Asian Fisheries Development Center, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (584) [INT80-TEC-AQUA80]
98. Fabro, R.M.; Librero, A.R. 1979. A socio-economic study of mudfish culture. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 24, Southeast Asian Fisheries Development Center, Tigbauan, Iloilo and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (585) [INT80-TEC-OSPE80]
99. Fabro, R.M.; Parducho, F.L.; Ramos, D.G.; Librero, A.R. 1976. An economic analysis of the production of prawn in Luzon. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 29, 67 pp. Southeast Asian Fisheries Development Center, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (600) [INT80-TEC-PRA80]
100. FAO, 1970. Fish marketing: Deep sea fishing development, Philippines. FAO Technical Report, No. 3, 72 pp. Food and Agriculture Organization of the United Nations, Rome. (714) [INT70-TEC-DEV70]
101. FAO, 1993. Dried fish studies in Asia. p. 36-46. Joint ADB/FAO Market Studies, No. 7, 54 pp. Food and Agriculture Organization of the United Nations, South China Sea Fisheries Development and Coordinating Programme, Manila. (531) [INT95-TEC-PRO95]
102. Ferrer, R.E.T. 1987. An economic appraisal of the Dalahican fish port and fish market. 57 pp. B.S. Thesis, School of Economics, U.P. Diliman, Quezon City. (152) [TH90-TEC-INF90]
103. FIDC, 1979. Philippine fishery exports: Problems and prospects. 19 pp. Fishery Industry Development Council, Department of Natural Resources, Quezon City. (461) [DA80-UNP-TRA80]
104. FIDC, 1980. State of the art report on marine fisheries statistics, economics and marketing. Fishery Industry Development Council, Ministry of Food and Agriculture, Quezon City. (510) [DA80-CIR-LITS80]
105. Fiesta, R.Z. 1969. Study on the marketing of some perishable farm products in Rosales, Pangasinan. B.S. Thesis, Department of Economics, Central Luzon State University, Muñoz, Nueva Ecija. (725) [TH70-TEC-SCP70]
106. Floyd, J.M. 1986. Development of the Philippine tuna industry. 60 pp. Pacific Islands Development Program, East-West Center, Honolulu, Hawaii, United States of America. (658) [INT90-TEC-TUN90]
107. Fondevilla, R.F. 1981. Price trends and forecasts of selected fish species in selected trading centers. Agricultural Marketing Report, Vol. III, No. 4, 53 pp. Bureau of Agricultural Economics, Quezon City. (558) [DA85-CIR-PRI85]
108. Fondevilla, R.F. 1981. Seasonal price variations of selected fish species in selected trading centers. Agricultural Marketing Report, Vol. III, No. 3, 35 pp. Bureau of Agricultural Economics, Quezon City. (519) [DA85-CIR-SEAS85-PRI85]
109. Forolan, L.F. 1974. A case study of a milkfish farm in Bulacan. 268 pp. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (130) [TH75-TEC-MIL75-CASE75]
110. Foronda, C.A.; Apolinario, R.H.; Bergonia, C.B. 1996. Livelihood and employment opportunities for the fishing communities. 82 pp. Terminal Report, Center for Policy and Development Studies, U.P. Los Baños, College, Laguna. (792) [DS99-TEC-SEAS99-MUN99]
111. Galacgac, R.G. 1994. Enterprise analysis of an extensive tilapia culture in fishpond: The case of Peter Mountain Farm. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (016) [TH95-TEC-CASE95]
112. Gan, N.D.R. 1984. Processing and marketing of smoked fish in selected towns of Camarines Norte. 28 pp. B.S. Thesis, College of Agriculture, Central Luzon State University, Muñoz, Nueva Ecija. (242) [TH85-TEC-PRO85]
113. Gentiles, F.F. 1986. Tariff protection and comparative advantage: Philippine fisheries. M.A. Thesis, College of Fisheries, U.P. Diliman, Quezon City. (659) [TH90-TEC-TRA90]

114. Glude, J.B.; Steinberg, M.A.; Stevens, R.C., Basa, S.S.; Villafranca, S.C.; Guerrero, C.A., Garcia, R. 1993. The feasibility of oyster and mussel farming by municipal fishermen in the Philippines. Food and Agriculture Organization of the United Nations, Manila; and South China Sea Fisheries Development and Coordinating Programme, Manila. (530) [INT95-TEC-MUS95]
115. Goco, C. 1987. Status of milkfish industry in the Philippines. National Workshop on Fisheries Policy and Planning, 16-20 March 1987, Baguio City. Bureau of Fisheries and Aquatic Resources, Department of Agriculture, Quezon City; and United Nations Development Program/Food and Agriculture Organization of the United Nations, Manila. (298) [INT90-PPR-MIL90]
116. Gomez, M.C.E. 1986. An analysis of household demand for selected seafoods in the Philippines. 148 pp. M.S. Thesis, College of Economics and Management, U.P. Los Baños, Laguna. (170) [TH90-TEC-DEM90]
117. Gonzales, E.R.; Webb, D.G. 1989. The business prospects of aquaculture in the Philippines: The case of the bighead carp (*A. nobilis*) aquaculture and processing. IN: De Pano, et. al. (eds.). Aquaculture - A Biotechnology in Progress. European Aquaculture Society, Bredene, Belgium. (590) [INT90-PPR-OSPE90]
118. Gonzales, L.A. 1985. Philippine tilapia marketing in the context of structural demand for protein: A comment. p. 232-237. IN: I.R. Smith, E.B. Torres and E.O. Tan (eds.). Philippine Tilapia Economics. PCARRD-ICLARM Workshop, 10-13 August 1983, Los Baños, Laguna. ICLARM Conference Proceedings, No. 12, 261 pp. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna; and International Center for Living Aquatic Resources Management, Makati, Manila. (352) [INT85-PPR-TIL-DEM85]
119. Gonzales, L.A.; Alviola, P.A. IV; Gonzales, V.V.; Elca, C.D. 1997. Impact of macropolicies on fisheries export winners, domestic needs and coastal resources management. 104 pp. Terminal Report, Strive Foundation, Los Baños, Laguna. (789) [NGO99-TEC-IMP99]
120. Guanio, L.V. 1994. Preliminary assessment of the existing regional market of gracilaria in the Sorsogon-Bicol area, Philippines. Seaweed Production Development Project. 8 pp. Bureau of Fisheries and Aquatic Resources, Quezon City; and Food and Agriculture Organization of the United Nations/United Nations Development Programme, Manila. (465) [INT95-TEC-SWE95]
121. Guanio, L.V. 1994. The marketing of gracilaria seaweeds and its products. Seaweed Production Development Project. 16 pp. Bureau of Fisheries and Aquatic Resources, Quezon City; and Food and Agriculture Organization of the United Nations/United Nations Development Programme, Manila. (466) [INT95-TEC-SWE95]
122. Guerrero, C.V. 1974. Bangus: A look ahead. 13 pp. Marketing Research Unit, National Food and Agriculture Council, Department of Agriculture and Natural Resources, Quezon City. (591) [DA75-CIR-MIL75]
123. Guerrero, C.V. 1975. Bangus production in fishpens. 19 pp. Research Report, Planning Service, Special Studies Division, Ministry of Agriculture and Food, Quezon City. (222) [DA75-CIR-MIL75]
124. Guerrero, C.V. 1978. Processing and marketing of dried fish in Cebu and Bohol, Philippines. p. 468-483. Fish Utilization Technology and Marketing in the Indo-Pacific Region. Eighteenth Session of the Indo-Pacific Fisheries Commission, 08 March 1978, Manila, Philippines. (076) [INT80-TEC-PRO80]
125. Guerrero, C.V.; Darrah, L.B. 1974. Bangus production cost by type of climate. 21 pp. Special Studies, Department of Agriculture, Quezon City. (592) [DA75-CIR-MIL75]
126. Guerrero, C.V.; Darrah, L.B. 1975. Bangus marketing, 1974. 34 pp. Planning Service, Special Studies Division, Ministry of Agriculture and Food, Quezon City. (188) [DA75-CIR-MIL75]
127. Guerrero, C.V.; Medina, P.M. 1976. Processing and marketing of smoked fish, Part II: Southern Tagalog. Vol. XII, No. 24, 28 pp. Planning Service, Special Studies Division, Ministry of Agriculture and Food, Quezon City. (190) [DA80-CIR-PRO80]
128. Guerrero, C.V.; Medina, P.M.; Salisi, M.M.; Atienza, A.R. 1977. Processing and marketing of dried fish, Part IV: Bicol. Vol. XV, No. 14, 29 pp. Planning Service, Special Studies Division, Ministry of Agriculture and Food, Quezon City. (223) [DA80-CIR-PRO80]
129. Guerrero, C.V.; Medina, P.M.; Salisi, M.M.; Atienza, A.R. 1977. Processing and marketing of dried fish, Part II: Panay Island. Vol. XIV, No. 1, 29 pp. Planning Service, Special Studies Division, Ministry of Agriculture and Food, Quezon City. (224) [DA80-CIR-PRO80]
130. Guerrero, C.V.; Medina, P.M.; Salisi, M.M.; Atienza, A.R. 1977. Processing and marketing of dried fish, Part III: Negros. Vol. XIV, 29 pp. Planning Service, Special Studies Division, Ministry of Agriculture and Food, Quezon City. (609) [DA80-CIR-PRO80]
131. Guerrero, C.V.; Medina, P.M.; Tanyag, E.G.; San Jose, E.L. 1976. Processing and marketing of dried fish, Part I: Greater Manila Area. Vol. XI, No. 12, 26 pp. Planning Service, Special Studies Division, Ministry of Agriculture and Food, Quezon City. (189) [DA80-CIR-PRO80]

132. Guerrero, R.D. III 1991. The Philippine fisheries sector: Problems and recommendations. RTPAP Working Paper Series, No. 3, Research and Training Program for Agricultural Policy, Department of Agriculture, Quezon City. (767) [DA95-CIR-DEV95]
133. Guerrero, R.D. III 1996. National R & D fisheries and aquatic resources: Problems and causes. p. 128-131. IN: R.D. Fortes and L.C. Catedrilla (eds.). Philippine Fisheries Policy: Towards Sustainable Development of Fisheries Resources. National Seminar-Workshop on the Evaluation and Review of Philippine Fisheries Policy, 27-28 September 1993, Institute of Science and Mathematics Education, U.P. Diliman, Quezon City. 242 pp. Institute of Fisheries Policy and Development Studies, College of Fisheries, U.P. Visayas, Miag-ao, Iloilo. (215) [INT99-PPR-DEV99]
134. Guevarra, G.; Camu, C.C. 1987. The fish processing industry in the Philippines: Status, problems and prospects. National Workshop on Fisheries Policy and Planning, 16-20 March 1987, Baguio City. Bureau of Fisheries and Aquatic Resources, Department of Agriculture, Quezon City; and United Nations Development Program/Food and Agriculture Organization of the United Nations, Manila. (300) [INT90-PPR-PRO90]
135. Gutierrez, E.B. 1982. Commercial culture of suppo (*P. monodon*) in a newly developed fishpond. 13 pp. Research Paper, Mindanao Regional School of Fisheries, Zamboanga State College of Marine Science and Technology, Zamboanga City. (263) [DS85-TEC-PRA85]
136. Guzman, R.O.; Torres, R.D.; Darrah, L.B. 1974. The impact of bangus landings from Laguna Lake (Rizal Points) on bangus prices in Malabon. Marketing Research Unit, National Food and Agriculture Council, Department of Agriculture and Natural Resources, Quezon City. (593) [DA75-CIR-MIL75-IMP75]
137. Hatch, U.; Agbayani, R.F.; Belleza, E. 1996. Economic analysis of prawn culture in the Philippines, Part II- Grow-out operations. *Asian Fisheries Science*, 9(2):127-141. Asian Fisheries Society, Makati, Manila. (723) [INT99-PJO-PRA99]
138. Herrin, A.N.; Fabello, M.L.; Fabello, C.E.; Palma, L. 1978. A socio and economic study of selected municipal fishing communities in Misamis Oriental. 100 pp. Research Institute for Mindanao Culture, Xavier University, Cagayan de Oro City. (225) [DS80-TEC-MUN80]
139. Hingco, T.G.; Rivera, R.A. 1991. Aquarium fish industry in the Philippines: Toward development or destruction?. p. 249-253. IN: L.M. Chou, T.-E. Chua, H.W. Khoo, P.E. Lim, J.N. Paw, G.T. Silvestre, M.J. Valencia, A.T. White, and P.K. Wong (eds.). Towards an Integrated Management of Tropical Coastal Resources. ASEAN/US Technical Workshop on Integrated Tropical Coastal Zone Management, 28-31 October 1988, National University of Singapore, Singapore. ICLARM Conference Proceedings, No. 22, 455 pp. National University of Singapore, Singapore; National Science and Technology Board, Singapore; and International Center for Living Aquatic Resources Management, Makati, Manila. (370) [INT95-PPR-AQF95]
140. Hizon, V.R. 1987. The Philippine tuna experience. p. 141-151. INFOFISH Tuna Trade Conference, 25-27 February 1986, Bangkok, Thailand. INFOFISH International, Kuala Lumpur, Malaysia. (660) [INT90-PPR-TUN90]
141. Holazo, V.F.; Pichay, L.B. 1979. Domestic fish prices and the oil crisis. *Fisheries Today*, 2(3):13-17. Fishery Industry Development Council, Quezon City. (495) [DA80-CIR-PRI80]
142. Hopkins, M.Y. 1978. Marketing of fishery products in Panguil Bay, Philippines. 91 pp. M.S. Thesis, Xavier University, Cagayan de Oro City. (226) [TH80-TEC-MUN80]
143. Ilagan, D.H. 1987. Prospects for Philippine prawn industry. 40 pp. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (125) [TH90-TEC-PRA90]
144. Isip, S.P. Jr. 1970. The feasibility of a tuna export operation. 135 pp. M.S. Thesis, Asian Institute of Management, Makati, Manila. (718) [TH70-TEC-TUN-TRA70]
145. Israel, D.C. 1987. Comparative economic analysis of prawn hatcheries. SEAFDEC Asian Aquaculture, 9(2):3-4. Aquaculture Department, Southeast Asian Fisheries Development Center, Iloilo City. (474) [INT90-PJO-PRA90]
146. Israel, D.C.; Llobrera, J.A., Cojuangco, M.C. 1994. The market for red tilapia produced in the Philippines. p. 82. International Cooperation for Fisheries and Aquaculture Development. The Seventh Biennial International Conference of International Institute of Fisheries Economics and Trade, 18-21 July 1994, Taipei, Taiwan, Republic of China. 130 pp. National Taiwan Ocean University; and International Institute of Fisheries Economics and Trade, Taipei, Taiwan. (721) [INT95-PPR-TIL95]
147. Jauhari, A.A. 1995. Fresh marine fish marketing practices in Zamboanga Fishing Port Complex, Sangali, Zamboanga City. B.S. Special Problem, U.P. Los Baños, College, Laguna. (036) [TH95-TEC-INF95]
148. Javier, E.V.; Lizarondo, M.S. 1985. Aquaculture in Cagayan: The case of prawn and shrimp. Agricultural Marketing Report, Vol. VII, No. 11, 53 pp. Bureau of Agricultural Economics, Quezon City. (079) [DA85-CIR-PRA85]

149. Javier, E.V.; Lizarondo, M.S.; Valdellon, T.C. 1985. Tuna production and marketing system in Quezon Province. *Agricultural Marketing Report*, Vol. VII, No. 22, 52 pp. Bureau of Agricultural Economics, Quezon City. (662) [DA85-CIR-TUN85]
150. Jordan, R.B. Jr. 1985. Comparative analysis of BFAR and PFDA management on government ice plant and cold storage facilities. 57 pp. Research Paper, School of Economics, U.P. Diliman, Quezon City. (199) [DS85-UNP-INF85]
151. Jordan, S.B. 1983. A comparative study of the present fish unloading system and the proposed mobile conveyor systems at the Navotas Fishing Port. 34 pp. Research Paper, School of Economics, U.P. Diliman, Quezon City. (202) [DS85-UNP-INF85]
152. Juinio, A.R.; Meñez, L.A.; Villanoy, C. 1987. Use of giant clam resources in the Philippines. *NAGA: The ICLARM Quarterly*, 10(1):7-8. International Center for Living Aquatic Resources Management, Makati, Manila. (428) [INT90-PJO-MUS90]
153. Jumawid, R.J. 1992. Fish marketing system analysis: The case of Dalahican Fish Port, Lucena City. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (126) [TH95-TEC-SCP-INF95]
154. Kick, C.G. III 1992. The case of Bayawan fishermen's marketing cooperative. p. 72-88. IN: B. Canizares, F. de Jose, and H. Olofson (eds.). *Trade Unions and Organizations of Fisherfolks*. National Conference Workshop on Trade Unions and Fisherfolk Organizations in the Philippines, 30 September-02 October 1991, Tagaytay City. International Labor Organization, Bangkok, Thailand. (050) [INT95-PPR-COO95]
155. Lachica, N.O. 1993. An investigation of women's role and participation in community-based coastal resource management. *Lundayan*, 4(1):19-28. Tambuyog Development Center, Diliman, Quezon City. (689) [NGO95-PJO-WOM95]
156. Ladra, D.F.; Lin, J.C. 1992. Trade and marketing practices of mudcrab in the Philippines. p. 211-221. IN: C.A. Angell (ed.). *Mudcrab Culture and Trade*. Seminar on the Mudcrab Culture and Trade, 5-8 November 1991, Surat Thani, Thailand. (063) [INT95-PPR-MUS95]
157. Laguna, N.G.M. 1981. A socio-economic study of fishing communities with emphasis on the role of women in Luciente I, Bolinao, Pangasinan. 81 pp. Bureau of Fisheries and Aquatic Resources, Ministry of Natural Resources, Quezon City. (227) [DA85-CIR-WOM85]
158. Laguna, N.G.M. 1981. A socio-economic study of fishing communities with emphasis on the role of women in Panacan, Narra, Palawan. 91 pp. Bureau of Fisheries and Aquatic Resources, Ministry of Natural Resources, Quezon City. (228) [DA85-CIR-WOM85]
159. Laguna, N.G.M. 1981. A socio-economic study of fishing communities with emphasis on the role of women in Puerto Rivas Ibaba, Balanga, Bataan. 77 pp. Bureau of Fisheries and Aquatic Resources, Ministry of Natural Resources, Quezon City. (229) [DA85-CIR-WOM85]
160. Laguna, N.G.M.; De Sagun, R.B. 1986. Incentives for the export of fish and fishery products. *Fisheries Newsletter*, 14:7-12. Bureau of Fisheries and Aquatic Resources, Quezon City. (397) [DA90-CIR-TRA90]
161. Laguna, N.G.M.; Payofelin, P.L. 1982. Fish processing industry profile. *Fisheries Newsletter*, 11(1):25-56. Bureau of Fisheries and Aquatic Resources, Quezon City. (405) [DA85-CIR-PRO85]
162. Lagura, A.B. 1992. Forecasting commercial fish production landed in Davao City Fish Landing Centers using univariate Box-Jenkins modeling procedure. 112 pp. M.S. Thesis, The Statistical Center, U.P. Diliman, Quezon City. (070) [TH95-TEC-PRI95]
163. Laopao, M.L.; Latorre, E.M. 1979. Small-scale fishing in Leyte Province: A socio-economic survey. *Economic Research Report*, No. 8, 87 pp. Bureau of Agricultural Economics, Quezon City. (521) [DA80-CIR-MUN80]
164. Laopao, M.L.; Latorre, E.M. 1983. The economics of brackishwater fishfarming in selected provinces in the Philippines. *Agricultural Marketing Report*, No. 1, 91 pp. Bureau of Agricultural Economics, Quezon City. (136) [DA85-CIR-AQUA85]
165. Lapie, L.P.; Aspuria, T.G. 1979. A socio-economic survey of the aquaculture industry in Mindanao. SEAFDEC-PCARR Research Program, *Socio-economic Survey of the Aquaculture Industry in the Philippines*. Research Paper Series, No. 17, 122 pp. Southeast Asian Fisheries Development Center, Tigbauan, Iloilo and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (596) [INT80-TEC-AQUA80]
166. Lapie, L.P.; Librero, A.R. 1979. Crab farming in the Philippines: A socio-economic study. SEAFDEC-PCARR Research Program, *Socio-economic Survey of the Aquaculture Industry in the Philippines*. Research Paper Series, No. 21, 56 pp. Southeast Asian Fisheries Development Center, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (527) [INT80-TEC-MUS80]

167. Laraya, G. 1978. Post-project economic evaluation of Navotas Fish Port and Fish Market. 47 pp. B.S. Thesis, School of Economics, U.P. Diliman, Quezon City. (198) [TH80-TEC-INF80]
168. Latada, M.S. 1986. Socio-economic profile of fishermen surrounding Lake Buluan. 74 pp. Terminal Report, University of Southern Mindanao, Kabacan, Cotabato. (773) [DS90-TEC-MUN90]
169. Latorre, E.M.; Laopao, M.L. 1980. Socio-economic study of municipal and sustenance fisheries, Phase II. 69 pp. Bureau of Agricultural Economics, Quezon City. (230) [DA80-CIR-MUN80]
170. Lazaga, J.F., Roa, L.L. 1985. Financial and economic analyses of grow-out tilapia cage farming in Laguna de Bay, Philippines. p. 107-114. IN: I.R. Smith, E.B. Torres and E.O. Tan (eds.). Philippine Tilapia Economics. PCARRD-ICLARM Workshop, 10-13 August 1983, Los Baños, Laguna. ICLARM Conference Proceedings, No. 12, 261 pp. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna and International Center for Living Aquatic Resources Management, Makati, Manila. (342) [INT85-PPR-TIL85]
171. Lazaro, A.S. 1992. Enterprise study of private tilapia hatcheries in Bay, Laguna. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (015) [TH95-TEC-TIL95]
172. Legaspi, A.S. 1994. The contribution of post-harvest activities to employment and household incomes. p. 287-294. Socio-economic Issues in Coastal Fisheries Management. Twenty-Fourth Session of the Indo-Pacific Fisheries Commission, 23-26 November 1993, Bangkok, Thailand. RAPA Publication Report, No. 8, Food and Agriculture Organization of the United Nations, Bangkok, Thailand. (060) [INT95-PPR-PRO95-SEAS95]
173. Librero, A.R. 1979. Resources productivity in milkfish culture in the Philippines. p. 11-29. IN: A.R. Librero and W.L. Collier (eds.). Economics of Aquaculture, Sea-fishing and Coastal Resource Use in Asia. Second Biennial Meeting of the Agricultural Economics Society of Southeast Asia, 3-6 November 1977, Tigbauan, Iloilo. 384 pp. Agricultural Development Council and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (361) [INT80-PPR-MIL80]
174. Librero, A.R. 1985. A survey of the fishing industry of the Philippines. Asian Productivity Organization-Philippine Council for Agriculture and Resources Research and Development (APO-PCARRD) Report, Los Baños, Laguna. (231) [INT85-PPR-BSL85]
175. Librero, A.R. 1985. Marketing system for fish in the Philippines. p. 197-203. IN: T. Panayotou (ed.). Small-scale Fisheries in Asia: Socio-economic Analysis and Policy. 283 pp. International Development Research Center, Ottawa, Ontario, Canada. (664) [INT85-PPR-SCP85]
176. Librero, A.R.; Callo, R.A.; Dizon, S.P.; Pamulaklakin, E.R. 1976. Oyster seafarming in the Philippines: A socio-economic study. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 6, 101 pp. Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (443) [INT80-TEC-MUS80]
177. Librero, A.R.; Catalla, R.F.; Fabro, R.M. 1982. Socio-economic conditions of small-scale fisheries in the Philippines. Fisheries Research Journal of the Philippines, 7(1):1-17. Philippine Fisheries Research Society, c/o Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (411) [INT85-PJO-MUN85]
178. Librero, A.R.; Nicolas, E.S.; Banasihan, A.L.; Fabro, R.M.; Lapie, L.P.; Nazareno, A.M.; Vasquez, E.O. 1977. Milkfish farming in the Philippines: A socio-economic study. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 8, Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (444) [INT80-TEC-MIL80]
179. Librero, A.R.; Nicolas, E.S.; Vasquez, E.O.; Nazareno, A.M. 1976. An assessment of the fishpond technology and management in the production of milkfish (bangus) in the Philippines. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 4, 143 pp. Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (445) [INT80-TEC-MIL80-POND80]
180. Librero, A.R.; Pabuayon, I.M.; Tidon, A.G.; Salayo, N.D.; Reyes, B.Y. 1986. Production and marketing system in rainfed agriculture, fisheries and forestry in Eastern Visayas: A regional profile. 173 pp. Rainfed Resources Development Project, Socio-Economic Research Division, Philippine Council for Agriculture Resources Research, Los Baños, Laguna. (205) [DS90-UNP-BSL90]

181. Librero, A.R.; Pabuayon, I.M.; Tidon, A.G.; Salayo, N.D.; Reyes, B.Y. 1987. Production and marketing system in rainfed agriculture, fisheries, and forestry in Western Visayas: A regional profile. 228 pp. Rainfed Resources Development Project, Socio-Economic Research Division, Philippine Council for Agriculture Resources Research, Los Baños, Laguna. (206) [DS90-UNP-BSL90]
182. Librero, A.R.; Ramos, D.G.; Lapie, L.P. 1985. Mechanization: Its impact on productivity, cost structure and profitability of the Philippine municipal fishery. p. 151-162. IN: T. Panayotou (ed.). Small-scale Fisheries in Asia: Socio-economic Analysis and Policy. 283 pp. International Development Research Center, Ottawa, Ontario, Canada. (665) [INT85-PPR-MUN-IMP85]
183. Librero, A.R.; Tidon, A.G.; Ramos, D.G.; Alzona, R.L. 1976. Fry gathering patterns, costs and returns, and socio-economic conditions of fry gatherers in the Philippines. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 1, 123 pp. Southeast Asian Fisheries Development Center, Tigbauan, Iloilo and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (597) [INT80-TEC-FRY80]
184. Librero, A.R.; Tidon, A.G.; Ramos, D.G.; Alzona, R.L. 1976. Patterns of fry purchase and sale in the Philippines: A study of fry concessionaires and dealers. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 3, 124 pp. Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (446) [INT80-TEC-FRY80]
185. Libunao, L.P. 1990. Goat/fish integrated farming in the Philippines. *AMBIO, Journal of the Human Environment*, 19(8):408-410. The Royal Swedish Academy of Sciences, Stockholm, Sweden. (476) [INT90-PJO-MIX90]
186. Lim, J.R.H. 1984. Economics of eucema farming. p. 28. Summary of Papers – Fisheries Forum 1981-1982. Fisheries Research Division, Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna. (525) [DS85-PPR-SWE85]
187. Lim, L.S.; Ungson, M.C. 1981. Tuna purse-seining with payaw fish shelter rafts: A cost-benefit evaluation. 23 pp. B.S. Thesis, School of Economics, U.P. Diliman, Quezon City. (151) [TH85-TEC-TUN85]
188. Limcauco, R.R. 1968. The problems of small-time fishermen in a small fishing village. 29 pp. B.S. Thesis, College of Fisheries, U.P. Diliman, Quezon City. (715) [TH70-TEC-MUN70]
189. Lisac, H. 1980. Some aspects of fish utilization in small-scale fisheries. 25 pp. (671) [PRI80-UNP-PRO80]
190. Liwanag, L.M. 1984. Economic analysis of marine fishing industry in Casiguran, Aurora. 31 pp. B.S. Thesis, College of Agriculture, Central Luzon State University, Muñoz, Nueva Ecija. (251) [TH85-TEC-MUN85]
191. Lizarondo, M.S. 1982. Fish marketing studies (small-scale fishing in Capiz, Aklan). Abstracts of On-going and Completed Researches in Marine Fisheries. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna. (543) [DS85-CIR-MUN85]
192. Lizarondo, M.S., et. al. 1980. The market process in the Zamboanga City fishpond industry. *Agricultural Marketing Report*, Vol. II, No. 4, 75 pp. Bureau of Agricultural Economics, Quezon City. (086) [DA80-CIR-POND-SCP80]
193. Lizarondo, M.S., et. al. 1984. The production and market systems of the fishpond industry in Mindoro Occidental. *Agricultural Marketing Report*, Vol. VI, No. 5, 84 pp. Bureau of Agricultural Economics, Quezon City. (135) [DA85-CIR-SCP-POND85]
194. Lizarondo, M.S.; Arancillo, C.N. 1984. Tuna production and marketing in Zamboanga del Sur. *Agricultural Marketing Report*, Vol. VI, No. 3, 75 pp. Bureau of Agricultural Economics, Quezon City. (675) [DA85-CIR-TUN85]
195. Lizarondo, M.S.; Arancillo, C.N. 1985. Developing the prawn and shrimp industry in the Philippines: Production and marketing relationship. *Agricultural Marketing Report*, Vol. VII, No. 16, 90 pp. Bureau of Agricultural Economics, Quezon City. (602) [DA85-CIR-PRA85]
196. Lizarondo, M.S.; Bungcayao, F.L. 1980. The market process in the Pangasinan fishpond industry. *Agricultural Marketing Report*, Vol. II, No. 7, 66 pp. Bureau of Agricultural Economics, Quezon City. (084) [DA80-CIR-POND-SCP80]
197. Lizarondo, M.S.; Dela Cruz, Z.S. 1980. Market system for fishpond products in the Philippines, 1978. *Philippine Agricultural Economics Review*, 3(1):1-36. Bureau of Agricultural Economics, Quezon City. (434) [DA80-CIR-POND80-SCP80]
198. Lizarondo, M.S.; Dela Cruz, Z.S.; Arancillo, C.N. 1980. The market process in the Cagayan fishpond industry. *Agricultural Marketing Report*, Vol. VII, No. 5, 53 pp. Bureau of Agricultural Economics, Quezon City. (176) [DA80-CIR-SCP80-POND80]

199. Lizarondo, M.S.; Dela Cruz, Z.S.; Javier, E.V. 1980. The market process in the Iloilo fishpond industry. *Agricultural Marketing Report*, Vol. II, No. 2, 75 pp. Bureau of Agricultural Economics, Quezon City. (087) [DA80-CIR-SCP80-POND80]
200. Lizarondo, M.S.; Dela Cruz, Z.S.; Javier, E.V. 1984. Sustenance fisheries in Ilocos Norte: Management and exchange process. *Agricultural Marketing Report*, Vol. VI, No. 6, 82 pp. Bureau of Agricultural Economics, Quezon City. (137) [DA80-CIR-MUN85]
201. Lizarondo, M.S.; Javier, E.V.; Lucido, A.D. 1985. The prospects for production and marketing growths of the shrimp and prawn industry in Camarines Norte. *Agricultural Marketing Report*, No. 6, 87 pp. Bureau of Agricultural Economics, Quezon City. (603) [DA85-CIR-PRA85]
202. Lizarondo, M.S.; Lucido, A.D. 1983. Cost structure and profitability of sustenance fishing in Capiz. *Agricultural Marketing Report*, Vol. V, No. 9, 42 pp. Bureau of Agricultural Economics, Quezon City. (672) [DA85-CIR-MUN85]
203. Lizarondo, M.S.; Lucido, A.D. 1985. Tuna production and marketing system in Surigao del Norte. *Agricultural Marketing Report*, Vol. VII, No. 1, 31 pp. Bureau of Agricultural Economics, Quezon City. (677) [DA85-CIR-TUN85]
204. Lizarondo, M.S.; Maron, M.Y.; Javier, E.V. 1984. The production and distribution structure of the shrimp and prawn industry in Iloilo. *Agricultural Marketing Report*, Vol. VI, No. 13, 87 pp. Bureau of Agricultural Economics, Quezon City. (601) [DA85-CIR-PRA84]
205. Lizarondo, M.S.; Parado, C.A.; Bungcayao, F.L. 1981. The mechanisms of milkfish distribution in Bulacan. *Agricultural Marketing Report*, Vol. III, No. 5, 81 pp. Bureau of Agricultural Economics, Quezon City. (067) [DA85-CIR-SCP85-MIL85]
206. Lizarondo, M.S.; Piansay, E.P. 1980. The market process in the fishpond industry in Masbate. *Agricultural Marketing Report*, Vol. II, No. 6, 57 pp. Bureau of Agricultural Economics, Quezon City. (085) [DA80-CIR-SCP80-POND80]
207. Lizarondo, M.S.; Piansay, E.P.; Bungcayao, F.L. 1983. Small-scale fishing in Capiz: Production, processing and marketing. *Agricultural Marketing Report*, Vol. V, No. 5, 52 pp. Bureau of Agricultural Economics, Quezon City. (088) [DA85-CIR-MUN85]
208. Lizarondo, M.S.; Valdellon, T.C. 1985. Production and marketing operation of tuna fishermen and traders in the Philippines. *Agricultural Marketing Report*, Vol. VII, No. 27, 89 pp. Bureau of Agricultural Economics, Quezon City. (678) [DA85-CIR-TUN85]
209. Lizarondo, M.S.; Valdellon, T.C.; Dela Cruz, Z.S. 1979. Marketing operations of sustenance fishermen in Pangasinan. Bureau of Agricultural Economics, Quezon City, Vol. I, No. 3, 77 pp. Bureau of Agricultural Economics, Quezon City. (083) [DA80-CIR-MUN80]
210. Lizarondo, M.S.; Valdellon, T.C.; Maron, M.Y. 1984. Sustenance fisheries in Ilocos Sur: Management and exchange process. *Agricultural Marketing Report*, Vol. VI, No. 2, 161 pp. Bureau of Agricultural Economics, Quezon City. (072) [DA85-CIR-MUN85]
211. Llana, M.E.G. 1987. The utilization, marketing, and regulation of giant clams in the Philippines. *Fisheries Newsletter*, 16:8-11. Bureau of Fisheries and Aquatic Resources, Quezon City. (407) [DA90-CIR-MUS90]
212. Longakit, M.H. 1983. The economics of milkfish production and marketing in Hagonoy, Bulacan. 59 pp. B.S. Thesis, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (132) [TH85-TEC-MIL85]
213. Lua, C. 1984. Status of seaweed industry in Central Visayas. p. 29. Summary of Papers - Fisheries Forum 1981-1982. Fisheries Research Division, Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna. (526) [DS85-PPR-SWE85]
214. Luna, M.O. 1993. An appraisal of the Enterprise Development Program (EDP) for fishing barangays affected by Mt. Pinatubo: The case of the Service Bureau for Small Fisherfolks (SBSF). 137 pp. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (127) [TH95-TEC-IMP95]
215. Mabanag, R.B.; Iglesia, D.R. 1980. The fish processing industry: smoked and dried fish. 56 pp. B.S. Thesis, School of Economics, U.P. Diliman, Quezon City. (149) [TH80-TEC-PRO80]
216. Mabunay, M.L. 1986. Socio-economics of marketing practices of small-scale capture fisheries in Iloilo Province. p. 165-177. IN: D. Pauly, G. Silvestre, and J. Saeger (eds.). *Resources, Management and Socio-economics of the Philippine Marine Fisheries*. Report, No. 10, Department of Marine Fisheries Technology, U.P. Visayas, Miag-ao, Iloilo. (547) [INT90-PPR-MUN90]
217. Mabute, R.J. 1984. Processing and marketing of dried fish in selected towns of Sorsogon. 35 pp. B.S. Thesis, College of Agriculture, Central Luzon State University, Muñoz, Nueva Ecija. (243) [TH85-TEC-PRO85]

218. Macalingag, N.G. 1990. Oyster farming: An economic appraisal. School of Economics, U.P. Diliman, Quezon City. (604) [DS90-UNP-MUS90]
219. Magsino, R.M. 1990. Marketing system of fish from Taal Lake in Tanauan and Talisay, Batangas, 1990. B.S. Thesis, College of Economics and Management, U.P. Los Baños, College, Laguna. (039) [TH90-TEC-SCP90]
220. Manumbas, L.C. 1989. A study of the economic expectations of members in a fish processing pre-cooperative. B.S. Thesis, College of Economics and Management, U.P. Los Baños, College, Laguna. (037) [TH90-TEC-COO90]
221. Martin, M.R.; Siy, E.Y. 1990. An analysis of rice-fish culture in the Philippines. 23 pp. Research Paper, School of Economics, U.P. Diliman, Quezon City. (203) [DS90-UNP-MIX90]
222. Martinez, C.O. 1987. Comparative business analysis of fish canning using corn oil and tomato sauce. 26 pp. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (001) [TH90-TEC-PRO90]
223. Marzan, E.G. Jr.; Bartolome, R.M.; Abella, T.A. 1995. Socio-economic status of freshwater aquaculture industry in Central Luzon. 35 pp. Terminal Report, Freshwater Aquaculture Center, Central Luzon State University, Muñoz, Nueva Ecija. (565) [DS95-TEC-AQUA95]
224. Masajo, N.S.; Librero, A.R. 1976. Management practices, costs and returns in siganid fishponds. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 7, Southeast Asian Fisheries Development Center, Tigbauan, Iloilo and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (605) [INT80-TEC-POND80]
225. Mascialino, C. 1984. Industrial outlook report: The Philippine fishing industry. 13 pp. (680) [OGV85-UNP-DEV85]
226. Mauleon, I.P. 1983. Mague's Oyster Farm: A case study. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (113) [TH85-TEC-CASE85]
227. Medina, P.M.; Guerrero, C.V. 1976. Retailers experiences with tilapia and carpa. 11 pp. Planning Service, Special Studies Division, Ministry of Agriculture and Food, Quezon City. (232) [DA80-CIR-TIL-OSPE80]
228. Medina, P.M.; Tanyag, E.G.; Guerrero, C.V. 1976. Processing and market of smoked fish, Part I: Central Luzon. Vol. X, No. 2, 29 pp. Planning Service, Special Studies Division, Ministry of Agriculture, Quezon City. (180) [DA80-CIR-PRO80]
229. Menjares, C.D. 1984. Dalahican Fish Farm. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (115) [TH85-TEC-CASE85]
230. Mercado, A.M. 1980. Valenzuela Aqua Lines Inc: A case study. 115 pp. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (114) [TH80-TEC-CASE80]
231. Mercado, E.P. III 1995. Export marketing status of the dried *Leucostictus* and *Carrageenan* industry of the Philippines. 109 pp. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (128) [TH95-TEC-SWE95]
232. Miguel, R.B. 1992. A survey of the local market demand/preferences for processed fish in Binmaley, Pangasinan. M.A. Thesis, Pangasinan State University, Lingayen, Pangasinan. (277) [TH95-TEC-DEM95-PRO95]
233. Mines, A.N.; Banacia, G. 1982. The research site, data collection and methods of analysis. p. 1-26. IN: I.R. Smith and A.N. Mines (eds.). Small-scale Fisheries of San Miguel Bay, Philippines: Economics of Production and Marketing. ICLARM Technical Reports, No. 8, 143 pp. Institute of Fisheries Development and Research, College of Fisheries, U.P. Visayas, Quezon City; International Center for Living Aquatic Resources Management, Makati, Manila; and the United Nations University, Tokyo, Japan. (387) [INT85-PPR-BSL85]
234. Mines, A.N.; Smith, I.R.; Pauly, D.D. 1986. An overview of the fisheries of San Miguel Bay, Philippines. p. 385-388. IN: J.L. Maclean, L.B. Dizon and L.V. Hosillos (eds.). The First Asian Fisheries Forum. First Asian Fisheries Forum, 26-31 May 1986, Manila. 727 pp. Asian Fisheries Society, Makati, Manila. (484) [INT90-PPR-BSL90]
235. Nabua, J.B. 1987. An analysis of oyster marketing in San Fabian, Pangasinan, 1986. B.S. Thesis, College of Economics and Management, U.P. Los Baños, College, Laguna. (002) [TH90-TEC-MUS90]
236. Nasino, M.P.; Cabrera, L.P.; Fang, A.L.; Tolentino, J.R. 1995. Survey on the tilapia industry in Laguna. Terminal Report, STIARC Research Outreach Station for Freshwater Fishery Development Zone, Los Baños, Laguna. (233) [OGV95-TEC-TIL95]
237. Nasino, M.P.; Cabrera, L.P.; Tolentino, J.R.; Villarino, G.P. 1993. Socio-economic survey of African catfish farms in Laguna. Terminal Report, DA-IFS, Bambang, Los Baños, Laguna. (112) [DA95-TEC-OSPE95]

238. Nasol, R.L.; Tagarino, R.N.; Dumayas, E.E.; Elazegui, D.D. 1985. An economic analysis of capture fishery activities in Lake Bato and Lake Buhi. 78 pp. Terminal Report, Center for Policy and Development Studies, U.P. Los Baños, College, Laguna. (566) [DS85-TEC-MUN85]
239. Natividad, W.D. 1984. Marketing of freshwater fishes in Central Luzon. IN: C.G. Reyes and W.P. Natividad (eds.). Freshwater Aquaculture Extension Training Manual. Bureau of Fisheries and Aquatic Resources, Muñoz, Nueva Ecija. (290) [DA85-TEC-AQUA85]
240. Navaluna, N.A.; Tulay, E. 1982. Costs and returns of small and medium-sized trawlers. p. 78-94. IN: I.R. Smith and A.N. Mines (eds.). Small-scale Fisheries of San Miguel Bay, Philippines: Economics of Production and Marketing. ICLARM Technical Reports, No. 8, 143 pp. Institute of Fisheries Development and Research, College of Fisheries, U.P. Visayas, Quezon City; International Center for Living Aquatic Resources Management, Makati, Manila; and the United Nations University, Tokyo, Japan. (392) [INT85-PPR-MUN85]
241. Navera, E.R. 1976. Fish marketing at the Navotas Fish Landing and Market Authority in Navotas, Rizal (1973-1974). 198 pp. M.S. Thesis, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (518) [TH80-TEC-SCP-INF80]
242. Nayga, R.M. Jr.; Sison, R.F. 1985. The Philippine aquaculture commodity system. 340 pp. B.S. Thesis, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (513) [TH85-TEC-AQUA85]
243. Nazareno, A.M.; Nicolas, E.S.; Librero, A.R. 1979. A socio-economic survey of the aquaculture industry in Western Visayas. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 15, 35 pp. Southeast Asian Fisheries Development Center, Tigbauan, Iloilo and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (594) [INT80-TEC-BSL80]
244. Nazareno, A.M.; Nicolas, E.S.; Librero, A.R. 1979. Milkfish polyculture farming in the Philippines: A socio-economic study. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 18, 117 pp. Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (447) [INT80-TEC-MIX80-MIL80]
245. Nicolas, E.S. 1984. Resource productivity estimates for milkfish farms in the Philippines. M.S. Thesis, U.P. Los Baños, College, Laguna. (666) [TH85-TEC-MIL85]
246. Nicolas, E.S.; Librero, A.R. 1979. A socio-economics of fishpen aquaculture in Laguna Lake, Philippines. p. 31-41. IN: A.R. Librero and W.L. Collier (eds.). Economics of Aquaculture, Sea-fishing and Coastal Resource Use in Asia. Second Biennial Meeting of the Agricultural Economics Society of Southeast Asia, 3-6 November 1977, Tigbauan, Iloilo. 384 pp. Agricultural Development Council and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (362) [INT80-PPR-AQUA80]
247. Nicolas, E.S.; Librero, A.R.; Callo, R.A.; Pamulaklakin, E.R. 1976. A socio-economic study of fishpen aquaculture in the Philippines. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 5, Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (448) [INT80-TEC-AQUA80]
248. Nicolas, E.S.; Parducho, F.L. 1979. A socio-economic survey of aquaculture industry in Central Visayas. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 14, Southeast Asian Fisheries Development Center, Tigbauan, Iloilo and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (608) [INT80-TEC-AQUA80]
249. Noel, D.S. 1969. Refrigeration and marketing of frozen seafood: A feasibility study. M.B.A. Thesis, Ateneo de Manila University, Padre Faura, Ermita, Manila. (724) [TH70-TEC-REF70]
250. Oliva, L.P. 1985. Economics of tilapia cage culture in Mindanao, Philippines. p. 83-106. IN: I.R. Smith, E.B. Torres and E.O. Tan (eds.). Philippine Tilapia Economics. PCARRD-ICLARM Workshop, 10-13 August 1983, Los Baños, Laguna. ICLARM Conference Proceedings, No. 12, 261 pp. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna and International Center for Living Aquatic Resources Management, Makati, Manila. (341) [INT85-PPR-TIL85]
251. Oliva, L.P. 1985. Tilapia marketing in Mindanao, Philippines. p. 219-231. IN: I.R. Smith, E.B. Torres and E.O. Tan (eds.). Philippine Tilapia Economics. PCARRD-ICLARM Workshop, 10-13 August 1983, Los Baños, Laguna. ICLARM Conference Proceedings, No. 12, 261 pp. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna and International Center for Living Aquatic Resources Management, Makati, Manila. (351) [INT85-PPR-TIL85]

252. Oliva, L.P.; Darrah, L.B. 1971. Consumption patterns for seafoods. Staff Paper Series, No. 113, 22 pp. Department of Agricultural Economics, College of Agriculture, U.P. Los Baños, College, Laguna. (712) [DS75-UNP-CONS75]
253. Oliva, L.P.; Darrah, L.B. 1971. Seafood consumption patterns. Staff Paper Series, No. 106, 16 pp. Department of Agricultural Economics, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (711) [DS75-UNP-CONS75]
254. Orduña, A.G.; Librero, A.R. 1976. A socio-economic study of mussel farms in Bacoar Bay. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 2, 41 pp. Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (449) [INT80-TEC-MUS80]
255. Pabuayon, I.M.; Musa, D.M.; Espanto, L.H. 1997. Diversification and integration in the Philippine fishery sector: Implications for microenterprise development, efficiency, equity and environmental sustainability. 125 pp. Terminal Report, College of Economics and Management, U.P. Los Baños, College, Laguna. (790) [DS99-TEC-IMP99-SCP99]
256. Padilla, J.E.; Lampe, H.V. 1989. The economics of seaweed farming in the Philippines. NAGA: The ICLARM Quarterly, 12(3):3-5. International Center for Living Aquatic Resources Management, Makati, Manila. (429) [INT90-PJO-SWE90]
257. Pamulaklak, E.R.; Dizon, R.C.; Ramos, D.G. 1979. A socio-economic survey of the aquaculture industry of Southern Luzon. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 25, 94 pp. Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (450) [INT80-TEC-AQUA80]
258. Pangalangan, J.A. 1981. A study of the Pangalangan Sugpo Farm. 73 pp. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (110) [TH85-TEC-PRA85]
259. Pastrana, C.S. 1987. A marketing case on milkfish (*Chanos chanos forskal.*). 180 pp. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (109) [TH90-TEC-MIL90]
260. Pastrana, C.S. 1994. Market structure analysis of the tilapia farm industry in San Pablo, Laguna. 108 pp. B.S. Thesis, College of Economics and Management, U.P. Los Baños, College, Laguna. (008) [TH95-TEC-TIL95]
261. Peñaflores, J.R. 1992. A study on packaging agribusiness product: Focus on fish. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (026) [TH95-TEC-PRO95]
262. Pestaño, M.C.T.; Ferrer, A.J.G.; Subade, R.F.; Jusayan, J. 1993. Financial and economic profits in gillnet and seine fishing in Guimaras Strait and adjacent waters. AFSSRN Research Report, Asian Fisheries Social Science Research Network, International Center for Living Aquatic Resources Management, Makati, Manila. (732) [TH95-TEC-MUN95]
263. Philippine Bureau of Fisheries 1975. Philippine fish marketing and distribution study. p. 1-93. Statistics on Catch and Consumption, Vol. 2, Nor Consult AS in association of IKO Consulting Group. (611) [INT75-TEC-SCP75]
264. Piansay, E.P.; Dela Cruz, Z.S.; Lizarondo, M.S. 1979. Marketing operations of sustenance fishermen in Camarines Sur. Agricultural Marketing Report, Vol. 1, No. 1, 69 pp. Bureau of Agricultural Economics, Quezon City. (522) [DA80-CIR-MUN80]
265. Pili, F.; Abella, F.F. 1978. Methods for processing and distribution of fish and fishery products in the Philippines. p. 30-37. Fish Utilization Technology and Marketing. Eighteenth Session of the Indo-Pacific Fisheries Commission, 08 March 1978, Manila, Philippines. (077) [INT80-PPR-PRO80]
266. Pomeroy, R.S. 1992. Fish marketing in the Philippines: Is the "suki" symbiotic or parasitic?. NAGA: The ICLARM Quarterly, 15(3):13-14. International Center for Living Aquatic Resources Management, Makati, Manila. (423) [INT95-PJO-SCP95]
267. Posadas, B.C. 1986. Household demand for fish in Iloilo City, Philippines. p. 451-453. IN: J.L. Maclean, L.B. Dizon and L.V. Hosillos (eds.). The First Asian Fisheries Forum. First Asian Fisheries Forum, 26-31 May 1986, Manila. 727 pp. Asian Fisheries Society, Makati, Manila. (485) [INT90-PPR-DEM90]
268. Posadas, B.C. 1988. An economic and social analysis of the seaweed industry in selected areas in the Philippines. AFSSRN Research Report, 64 pp. Asian Fisheries Social Science Research Network, International Center for Living Aquatic Resources Management, Makati, Manila. (757) [INT90-TEC-SWE90]
269. Posadas, B.C.; Tarrosa, M.C.; Alminaza, T.E.C. 1987. Social and economic analysis of hulbot-hulbot fishing in Iloilo, Philippines. Technical Report, U.P. Visayas, Miag-ao, Iloilo. (554) [DS90-TEC-MUN90]

270. Posadas, B.C.; Ty, N.A.; Seraspe, E.B. 1986. Fish consumption in Iloilo: Consumer profile and behavior study. p. 179-210. IN: D. Pauly, J. Saeger and G. Silvestre (eds.). Resources Management and Socio-economics of the Philippine Marine Fisheries. Report, No. 10, 217 pp. Department of Marine Fisheries Technology, U.P. Visayas, Miag-ao, Iloilo. (546) [DS90-PPR-CONS90]
271. PRIMEX, 1993. Socio-economic and investment opportunities studies of coastal communities around Ragay Gulf. Fisheries Sector Program, Department of Agriculture, Quezon City; and Pacific Rim Innovation and Management Exponents, Inc., Quezon City. (097) [INT95-UNP-MUN95]
272. PRIMEX, 1993. Socio-economic and investment opportunities studies of coastal communities around Tayabas Bay. Fisheries Sector Program, Department of Agriculture, Quezon City; and Pacific Rim Innovation and Management Exponents, Inc., Quezon City. (098) [INT95-UNP-MUN95]
273. PRIMEX, 1993. Socio-economic and investment opportunities studies of coastal communities around Sorsogon Bay. Fisheries Sector Program, Department of Agriculture, Quezon City; and Pacific Rim Innovation and Management Exponents, Inc., Quezon City. (099) [INT95-UNP-MUN95]
274. PRIMEX, 1993. Socio-economic and investment opportunities studies of coastal communities around Lagonoy Gulf. Fisheries Sector Program, Department of Agriculture, Quezon City; and Pacific Rim Innovation and Management Exponents, Inc., Quezon City. (100) [INT95-UNP-MUN95]
275. Ramos, D.G. 1978. A socio-economic survey of the aquaculture industry of Cagayan Valley. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 9, Southeast Asian Fisheries Development Center, Tigbauan, Iloilo and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (614) [INT80-TEC-AQUA80]
276. Ramos, D.G.; Aspuria, T.G. 1979. A socio-economic survey of milkfish farmer in Eastern Visayas. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 16, Southeast Asian Fisheries Development Center, Tigbauan, Iloilo and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (615) [INT80-TEC-MIL80]
277. Ramos, D.G.; Lapie, L.P. 1979. The culture of freshwater catfish (*Clarias* sp.) in the Philippines: A socio-economic study. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 22, 35 pp. Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (451) [INT80-TEC-AQUA80]
278. Raneses, B.S. Jr. 1986. Tilapia marketing in Metro Manila. p. 34-39. IN: R.D. Guerrero III, D.L. de Guzman, and C.M. Lantican (eds.). Tilapia Farming. First National Symposium and Workshop on Tilapia Farming, 24-26 November 1986, PCARRD, Los Baños, Laguna. PCARRD Book Series, No. 48, 68 pp. Philippine Council for Agriculture, Forestry and Natural Resources Research and Development, Los Baños, Laguna. (469) [DS90-PPR-TIL90]
279. Reginalde, R.V. 1983. Tiongson Fishfarm. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (108) [TH85-TEC-CASE85]
280. Reilly, P.J.A. 1986. Export markets for prawns and shrimps. p. 52. State of the Art and Abstract Bibliography of Fish Processing Research. No. 6, (544) [DS90-UNP-PRO90]
281. Reyes, C.G. 1977. Philippine eucema market study. National Seaweed Symposium/Workshop, Manila. 17 pp. (706) [DA80-PPR-SWE80]
282. Rola, M.F.M. 1985. Market structure, conduct, and performance of the prawn industry in Mindoro Occidental. B.S. Thesis, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (017) [TH85-PPR-SCP-PRA85]
283. Roldan, R.G. 1979. An approach to understanding the price structure of fish. Fisheries Today, 2(4):28-30. Fishery Industry Development Council, Quezon City. (501) [DA80-CIR-PRI80]
284. Ronquillo, I.A. 1982. The Philippine tuna fishery: An overview. Fisheries Newsletter, 11(1):7-17. Bureau of Fisheries and Aquatic Resources, Quezon City. (403) [DA85-CIR-TUN85]
285. Russek, Z. 1971. Feasibility of fish canning operations in the Philippines. 88 pp. Deep Sea Fishing Development Project in the Philippines, Food and Agriculture Organization of the United Nations, Manila. (713) [INT75-TEC-PRO75]
286. Sajo, T.A. 1986. Feasibility and profitability of fish processing activities of small-scale marine municipal fishermen in Iloilo. Fish Marketing Research Workshop, 14-18 October 1986, Johor Bharu, Malaysia. (545) [INT90-PPR-PRO90-MUN90]

287. Salacup, S.S. 1978. A case study of a milkfish farm in Mayondon. 18 pp. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (107) [TH80-TEC-CASE-MIL80]
288. Salvador, M.L.S. 1983. An economic analysis of tilapia production and marketing in Bulacan. 20 pp. B.S. Thesis, College of Inland Fisheries, Central Luzon State University, Muñoz, Nueva Ecija. (241) [TH85-TEC-TIL85]
289. Samiano, R.D.G. 1991. Economic analysis of cold storage operations of fish traders and processors in the Philippines, 1987. B.S. Thesis, College of Economics and Management, U.P. Los Baños, College, Laguna. (034) [TH95-TEC-REF95]
290. Samonte, G.P.B. 1992. Oyster and mussel farming in Western Visayas, Philippines. NAGA: The ICLARM Quarterly, 15(3):46-48. International Center for Living Aquatic Resources Management, Makati, Manila. (426) [INT95-PJO-MUS95]
291. Samonte, G.P.B.; Agbayani, R.F. 1992. Pond culture of mudcrab (*Scylla serrata*): An economic analysis. SEAFDEC Asian Aquaculture, 14(4):3-5. Southeast Asian Fisheries Development Center, Iloilo. (385) [INT95-PJO-MUS95]
292. Samonte, G.P.B.; Agbayani, R.F.; Tumaliuan, R.E. 1991. Economic feasibility of polyculture of tiger shrimp (*Penaeus monodon*) with Nile tilapia (*Oreochromis niloticus*) in brackishwater ponds. Asian Fisheries Science, 4(3):335-343. Asian Fisheries Society, Makati, Manila. (467) [INT95-PJO-MIX95]
293. Samonte, G.P.B.; Ponce, A.Q.H; Caturao, R.D. 1993. Economic analysis of bottom line and raft monoline culture of *Kappaphycus alvarezii* var. *tambalang* in Western Visayas. Aquaculture, 110:1-11. Elsevier Science Publisher, Amsterdam, The Netherlands. (154) [INT95-PJO-MUN]
294. Sanchez, W.L. 1989. Economic analysis of milkfish farming trucking operations in Pangasinan. B.S. Thesis, College of Economics and Management, U.P. Los Baños, College, Laguna. (012) [TH90-TEC-MIL-INF90]
295. Septimo, Y.A. 1981. Rosales dried and smoked fish firm: A case study. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (106) [TH85-TEC-PRO-CASE85]
296. Sevilleja, R.C. 1984. Economic analysis of integrated pig-fish farming operations in the Philippines. p. 25. Summary of Papers - Fisheries Forum 1981-1982. Fisheries Research Division, Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna. (524) [DS85-TEC-MIX85]
297. Shang, V.C. 1976. Economic comparison of milkfish farming in Taiwan and the Philippines (1972-1975). Aquaculture, 9(3):229-236. Elsevier Science Publisher, Amsterdam, The Netherlands. (616) [INT80-PJO-MIL80]
298. Siar, S.V.; Samonte, G.P.B.; Espada, A.T. 1995. Participation of women in oyster and mussel farming in Western Visayas, Philippines. Aquaculture, 26(7):459-467. Elsevier Science Publisher, Amsterdam, The Netherlands. (068) [INT95-PJO-WOM95-MUS95]
299. Smith, I.R. 1981. The economics of the milkfish fry and fingerling industry of the Philippines. ICLARM Technical Reports, No. 1, 146 pp. International Center for Living Aquatic Resources Management, Makati, Manila; and Aquaculture Department, Southeast Asian Fisheries Development Center, Iloilo City. (375) [INT85-TEC-FRY85-MIL85]
300. Smith, I.R., et. al. 1978. Preliminary analysis of the performance of the fry industry of the milkfish (*Chanos chanos* Forskal) in the Philippines. Aquaculture, 14(3):199-219. Elsevier Science Publisher, Amsterdam, The Netherlands. (617) [INT80-PJO-FRY80-MIL80]
301. Smith, I.R., Cas, F.C., Gibe, B.P., Romillo, L.M. 1979. Inter-regional trade and price relationships for Philippine milkfish fry. p. 43-60. IN: A.R. Librero and W.L. Collier (eds.). Economics of Aquaculture, Sea-fishing and Coastal Resource Use in Asia. Second Biennial Meeting of the Agricultural Economics Society of Southeast Asia, 3-6 November 1977, Tigbauan, Iloilo. Agricultural Development Council and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (363) [INT80-PPR-TRA80-PRI80-MIL80]
302. Smith, I.R.; Chong, K.-C. 1984. Southeast Asian milkfish culture: Economic status and prospects. p. 1-20. IN: J.V. Juario, R.P. Ferraris and L.V. Benitez (eds.). Second International Milkfish Aquaculture Conference, 4-8 October 1983, Iloilo City. (561) [INT85-PPR-MIL85]
303. Smith, I.R.; Puzon, M.Y.; Vidal-Libunao, C.N. 1980. Philippine municipal fisheries: A review of resources, technology and socio-economics. ICLARM Studies and Reviews, No. 4, 87 pp. International Center for Living Aquatic Resources Management, Makati, Manila; and the Fishery Industry Development Council, Makati. (379) [INT80-TEC-MUN80]

304. Suarez, L.A. 1980. The New Villa Fishfarm: A case study. 47 pp. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (104) [TH80-TEC-CASE80]
305. Subade, R.F., Abdullah, N.M. 1993. Are fishers profit maximizers? The case of gillnetters in Negros Occidental and Iloilo, Philippines. *Asian Fisheries Science*, 6:39-49. Asian Fisheries Society, Manila. (652) [INT95-PJO-MUN95]
306. Subade, R.F.; Ferrer, D.G. 1995. Socio-economic and industry profile of brackishwater aquaculture in Oton, Iloilo. 20 pp. Terminal Report, College of Arts and Sciences, U.P. Visayas, Miag-ao, Iloilo. (336) [DS95-TEC-BSL95-AQUA95]
307. Supanga, N.C. 1982. Costs and earnings of Cabusao push nets. p. 61-63. IN: I.R. Smith and A.N. Mines (eds.). *Small-scale Fisheries of San Miguel Bay, Philippines: Economics of Production and Marketing*. ICLARM Technical Reports, No. 8, 143 pp. Institute of Fisheries Development and Research, College of Fisheries, U.P. Visayas, Quezon City; International Center for Living Aquatic Resources Management, Makati, Manila; and the United Nations University, Tokyo, Japan. (390) [INT85-PPR-MUN85]
308. Supanga, N.C.; Smith, I.R. 1982. Costs and returns of Cabusao stationary gears. p. 45-60. IN: I.R. Smith and A.N. Mines (eds.). *Small-scale Fisheries of San Miguel Bay, Philippines: Economics of Production and Marketing*. ICLARM Technical Reports, No. 8, 143 pp. Institute of Fisheries Development and Research, College of Fisheries, U.P. Visayas, Quezon City; International Center for Living Aquatic Resources Management, Makati, Manila; and the United Nations University, Tokyo, Japan. (389) [INT85-PPR-MUN85]
309. Tadeo, D.L. 1980. The challenge of marketing small fishermen's catch. *Fisheries Today*, 3(2):10. Fishery Industry Development Council, Quezon City. (488) [DA80-CIR-MUN80]
310. Tagarino, R.N. 1985. Economics of rice-fish culture systems, Luzon, Philippines. p. 127-150. IN: I.R. Smith, E.B. Torres and E.O. Tan (eds.). *Philippine Tilapia Economics*. PCARRD-ICLARM Workshop, 10-13 August 1983, Los Baños, Laguna. ICLARM Conference Proceedings, No. 12, 261 pp. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna and International Center for Living Aquatic Resources Management, Makati, Manila. (344) [INT85-PPR-MIX85]
311. Tan, G.R.; Cruz, P.F.S. 1988. Status and prospects of the shrimp industry. p. 1-6. IN: Y.N. Chiu, L.M. Santos and R.O. Juliano (eds.). *Technical Considerations for the Management and Operation of Intensive Prawn Farm*. U.P. Aquaculture Society, Iloilo City. (620) [DS90-PPR-PRA90]
312. Tenebro, M.C.V. 1983. Time series analysis of prices of selected fish species in Naga City. 112 pp. M.S. Thesis, The Statistical Center, U.P. Diliman, Quezon City. (069) [TH85-TEC-PR185]
313. Teodoro, J. 1994. Market status of Philippine shrimps in Japan and the United States. p. 13-17. IN: L.M. Santos (ed.). *New Fishery Product Development*. Trainor's Training Program on New Fishery Product Development, 25 April-08 May and 6-18 June 1994. 99 pp. Fisheries Sector Program, Bureau of Agricultural Research, Department of Agriculture, Quezon City; and College of Fisheries, U.P. Visayas, Miago-ao, Iloilo. (310) [DA95-TEC-PRA95-TRA95]
314. Tidon, A.G. 1979. A socio-economic survey of the aquaculture industry of Central Luzon. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 13, 102 pp. Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (453) [INT80-TEC-AQUA80]
315. Tidon, A.G.; Libroero, A.R. 1978. A socio-economics study of tilapia farming in the Philippines. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 10, 92 pp. Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (454) [INT80-TEC-TIL80]
316. Tidon, A.G.; Libroero, A.R.; Nicolas, E.S.; Lapie, L.P.; Alcalde, A.A.; Pamulaklakin, E.R. 1979. Identifying constraints in increasing milkfish pond production in Luzon: A preliminary report. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 23, 32 pp. Southeast Asian Fisheries Development Centre, Tigbauan, Iloilo; and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (455) [INT80-TEC-MIL80]
317. Tidon, A.G.; Libroero, A.R.; Ramos, D.G.; Parducho, F.L. 1976. Case studies of milkfish nursery farms in the Philippines. SEAFDEC-PCARR Research Program, Socio-economic Survey of the Aquaculture Industry in the Philippines. Research Paper Series, No. 19, Southeast Asian Fisheries Development Center, Tigbauan, Iloilo and Philippine Council for Agriculture and Resources Research, Los Baños, Laguna. (599) [INT80-TEC-MIL80]
318. Tiongco, J. 1991. Feasibility of fish sauce manufacturing in General Santos City. 345 pp. M.B.A. Thesis, Notre Dame of Dadiangas College, Cotabato. (303) [TH95-TEC-PRO95]

319. Tolentino, M.S. 1988. A survey of market infrastructure facilities and support services for fish marketing at Dalahican, Lucena City, 1986-1987. B.S. Thesis, College of Economics and Management, U.P. Los Baños, College, Laguna. (025) [TH90-TEC-INF90]
320. Tomboc, J.E.M.; Laserna, G.R.C. 1994. Feasibility study for establishing a fish port in the provincial industrial center in Dapitan City, Zamboanga del Norte. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (027) [TH95-TEC-INF95]
321. Torres, E.B., Navera, E.R. 1985. Tilapia marketing in Central Luzon and Metro Manila, Philippines. p. 180-191. IN: I.R. Smith, E.B. Torres and E.O. Tan (eds.). Philippine Tilapia Economics. PCARRD-ICLARM Workshop, 10-13 August 1983, Los Baños, Laguna. ICLARM Conference Proceedings, No. 12, 261 pp. Philippine Council for Agriculture and Resources Research and Development, Los Baños, Laguna; and International Center for Living Aquatic Resources Management, Makati, Manila. (348) [INT85-PPR-TIL85]
322. Torres, E.B.; Pabuayon, I.M.; Salayo, N.D. 1987. Market structure analysis of fish distribution channels supplying Metro Manila. AFSSRN Project Terminal Report, College of Economics and Management, U.P. Los Baños, College, Laguna. (045) [INT90-TEC-SCP90]
323. Trono, G.C. Jr. 1990. Seaweed resources in the developing countries of Asia: Production and socio-economic implications. p. 1-7. IN: I.J. Dogma, Jr., G.C. Trono, Jr., and R.A. Tabbada (eds.). Culture and Use of Algae in Southeast Asia. Symposium on Culture and Utilization of Algae in Southeast Asia, 8-11 December 1981, Tigbauan, Iloilo. Southeast Asian Fisheries Development Center, Tigbauan, Iloilo. (074) [INT90-PPR-SWE90]
324. Trono, G.C. Jr.; Fortes, E.G. 1985. The economic potentials of seaweeds. Philippine Fisheries Annual, 62-68. Aquaculture Department, Southeast Asian Fisheries Development Center, Tigbauan, Iloilo. (270) [INT85-CIR-SWE85]
325. Tulay, E.; Smith, I.R. 1982. Costs and earnings of mini trawlers. p. 64-77. IN: I.R. Smith and A.N. Mines (eds.). Small-scale Fisheries of San Miguel Bay, Philippines: Economics of Production and Marketing. ICLARM Technical Reports, No. 8, 143 pp. Institute of Fisheries Development and Research, College of Fisheries, U.P. Visayas, Quezon City; International Center for Living Aquatic Resources Management, Makati, Manila; and the United Nations University, Tokyo, Japan. (391) [INT85-PPR-MUN85]
326. Tutaan, J.C. 1984. Marketing of fish by municipal fishermen in Infanta, Pangasinan. 28 pp. B.S. Thesis, College of Inland Fisheries, Central Luzon State University, Muñoz, Nueva Ecija. (247) [TH85-TEC-MUN85]
327. UB Tech Inc 1992. Socio-economic and investment opportunities study - Manila Bay. Vol. I-III, Fisheries Sector Program, Department of Agriculture, Quezon City. (781) [DA95-UNP-BSL95]
328. Urra, J.C. 1992. An analysis of the performance of the Philippine prawn industry in the world market. 78 pp. B.S. Special Problem, College of Economics and Management, U.P. Los Baños, College, Laguna. (134) [TH95-TEC-PRA95-TRA95]
329. Ushijima, I. 1994. Type of fisheries and the distribution network of fish catch in Bantayan Island. p. 53-74. IN: I. Ushijima and C.N. Zayas (eds.). Fishers of the Visayas: A Study of Visayan Maritime communities. 484 pp. College of Social Sciences and Philosophy, U.P. Visayas, Miag-ao, Iloilo and University of the Philippines Press, U.P. Diliman, Quezon City. (279) [DS95-PPR-SCP95-MUN95]
330. Uwate, R.K.; Tumaliuan, R.E. 1985. An assessment of the Metro Manila market for seabass, bighead carp, and red tilapia. 45 pp. Aquaculture Department, Southeast Asian Fisheries Development Center, Tigbauan, Iloilo. (621) [INT85-TEC-DEM85-TIL85-OSPE85]
331. Uwate, R.K.; Tumaliuan, R.E.; Tarrosa, M.C. 1985. A prefactory economic assessment of seabass culture potential in the Philippines. 83 pp. Aquaculture Department, Southeast Asian Fisheries Development Center, Tigbauan, Iloilo. (275) [INT85-TEC-DEM85-OSPE85]
332. Uy, P. 1994. Marketing of tilapia. p. 49-52. IN: L.G. Villacorta and L.A. Dureza (eds.). Tilapia Farming: Genetic Improvement and Advances on Culture Technology. 3rd National Symposium and Workshop on Tilapia Farming, 25-27 November 1993, U.P. Visayas, Iloilo City. PCAMRD Book Series, No. 18, 86 pp. Philippine Council for Aquatic and Marine Research and Development, Los Baños, Laguna. (436) [INT95-PPR-TIL95]
333. Valdellon, M.B.; Viola, M.M.; Hernandez, L.M.; Tadas, I.G.; Beronio, R.A. 1985. Analysis of the production and distribution patterns of prawn and shrimp in Zamboanga del Norte. Agricultural Marketing Report, Vol. VII, No. 10, 96 pp. Bureau of Agricultural Economics, Quezon City. (623) [DA85-CIR-PRA85]
334. Valdellon, T.C.; Arancillo, C.N.; Parado, C.A. 1985. A study of prawn/shrimp production and marketing system in Negros Occidental. Agricultural Marketing Report, Vol. VII, No. 5, 127 pp. Bureau of Agricultural Economics, Quezon City. (622) [DA85-CIR-PRA85]

335. Valdellon, T.C.; Lizarondo, M.S. 1980. The market process in the Bulacan fishpond industry. Agricultural Marketing Report, Vol. II, No. 3, 72 pp. Bureau of Agricultural Economics, Quezon City. (066) [DA80-CIR-POND80]
336. Valdellon, T.C.; Lizarondo, M.S. 1985. An insights into the marketing operations of prawn and shrimp exporters in the Philippines. Agricultural Marketing Report, Vol. VII, No. 14, 37 pp. Bureau of Agricultural Economics, Quezon City. (081) [DA85-CIR-PRA85]
337. Valdellon, T.C.; Parado, C.A. 1985. Tuna production and marketing in South Cotabato. Agricultural Marketing Report, Vol. VII, No. 19, 80 pp. Bureau of Agricultural Economics, Quezon City. (701) [DA85-CIR-TUN85]
338. Valiente, A.M. Jr. 1975. Marketing of major agricultural products in Iloilo Province. Report, No. 11, Special Studies Division, Department of Agriculture, Quezon City. (624) [DA75-CIR-SCP75]
339. Vera Cruz, W.C.; Carlos, I.P. 1974. Marketing of major agricultural products in Lanao del Sur. 59 pp. Special Studies Division, Department of Agriculture, Quezon City. (625) [DA75-CIR-SCP75]
340. Villafuerte, J.P. 1982. Mang Ating's dried and smoked fish: A case study. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (102) [TH85-TEC-CASE85-PRO85]
341. Villaralvo, M.J.A. 1989. An evaluation of the marketing system of fish in selected towns of Camarines Sur, 1988. B.S. Thesis, College of Economics and Management, U.P. Los Baños, College, Laguna. (038) [TH90-TEC-SCP90]
342. Yamamoto, T. 1986. Fisheries infrastructures as incentives for artisanal fishermen to establish their own fisheries cooperative with particular reference to a nationwide fish marketing infrastructure program in the Philippines. p. 555-563. IN: Germa (ed.). International Conference on Fisheries, 10-15 August 1986, University of Quebec, Rimonski, Quebec, Canada. 566 pp. (702) [INT90-PPR-INF90-MUN90-COO90]
343. Yater, F. 1982. Gill-netters: costs, returns and sharing systems. p. 27-44. IN: I.R. Smith and A.N. Mines (eds.). Small-scale Fisheries of San Miguel Bay, Philippines: Economics of Production and Marketing. ICLARM Technical Reports, No. 8, 143 pp. Institute of Fisheries Development and Research, College of Fisheries, U.P. Visayas, Quezon City; International Center for Living Aquatic Resources Management, Makati, Manila; and the United Nations University, Tokyo, Japan. (388) [INT85-PPR-MUN85]
344. Yater, F.; Esporlas, A.E., Smith, I.R. 1982. Economic aspects of processing and marketing. p. 104-130. IN: I.R. Smith and A.N. Mines (eds.). Small-scale Fisheries of San Miguel Bay, Philippines: Economics of Production and Marketing. ICLARM Technical Reports, No. 8, 143 pp. Institute of Fisheries Development and Research, College of Fisheries, U.P. Visayas, Quezon City; International Center for Living Aquatic Resources Management, Makati, Manila; and the United Nations University, Tokyo, Japan. (394) [INT85-PPR-PRO85]
345. Zambrano, E.C. 1982. A case study of La Eva fishing firm. B.S. Special Problem, College of Development Economics and Management, U.P. Los Baños, College, Laguna. (101) [TH85-TEC-CASE85]

Codes on classification of MPR implementers:

- DA – research implementers at the DA (includes BFAR, FIDC and BAS or formerly BAEcon)
- DS – research implementers in the DOST (includes PCAMRD and PCARRD) and the SUC
- INT – inter-agency research implementers
- NGO – researchers in the non-government organizations
- OGOV – researchers in other government agencies
- SUC – state universities and colleges researchers
- TH – thesis writers such as undergraduate and postgraduate students in SUCs

Codes on classification of MPR publications/documents:

- CIR – documents circulated by government agencies
- PJO – peer reviewed and published either in local and international academic journals
- PPR – edited and published as conference, workshop or symposium proceedings

TEC – technical reports, project completion reports, thesis

UNP – unpublished writings

Codes on the categories of topics in MPR:

AQF – aquarium fish gathering and marketing

AQUA – economics/marketing of various aquaculture systems

BCA – benefit-cost analysis of marketing and post-harvest activities

BSL – baseline studies of fishing communities including analysis of marketing systems

CASE – case studies of enterprises in fish production, marketing and post-harvest operations

CONS – consumption studies

COO – cooperative marketing

DEM – demand analysis

DEV – market development studies

FRY – economics/marketing, *etc.* of milkfish fry

IMP – impact assessment of marketing and post-harvest operations

INF – market infrastructure (fish landing sites) development and evaluation studies

LITS – marketing and post-harvest literature survey

MIL – economics/marketing, *etc.* of milkfish

MIX - economics/marketing, *etc.* of mixed species aquaculture systems

MUN – municipal or artisanal fishery operations including an evaluation of their marketing system

OSPE - economics/marketing, *etc.* of other species such as carp, mudfish and seabass

POND - economics/marketing of various pond culture systems

PRA – economics/marketing, *etc.* of prawn and shrimp

PRI – price trends and forecasts

PRO – economics of handling, processing and post-harvest activities

REF – refrigeration and cold storage

SCP – market conduct-structure-performance analysis

SEAS – seasonality of fishing, marketing and post-harvest operations

SHE - economics/marketing, *etc.* of shell and other ornamental products

TIL – economics/marketing, *etc.* of tilapia

TRA – trade issues and export opportunities in relation to local markets

TUN - economics/marketing, *etc.* of tuna

WOM –studies on gender and women issues in fisheries marketing and post-harvest