



**REGIONAL FISHERIES LIVELIHOODS PROGRAMME
FOR SOUTH AND SOUTHEAST ASIA (RFLP) – VIET NAM**

A FINAL REPORT

Activity Code: 3.4.1 “Review of selected (fish) marketing chains and arrangements” in Quang Nam and Thua Thien Hue Provinces

**For the Regional Fisheries Livelihoods Programme
for South and Southeast Asia – Viet Nam**

Prepared by

**Adolfo Merino
Nguyen Viet Hoan
AIDA Ayuda, Intercambio y Desarrollo**

Thua Thien Hue, April 2011

This publication has been made with the financial support of the Spanish Agency of International Cooperation for Development (AECID) through an FAO trust-fund project, the Regional Fisheries Livelihoods Programme (RFLP) for South and Southeast Asia - GCP/RAS/237/SPA. The content of this publication does not necessarily reflect the opinion of AECID, FAO, RFLP, or MARD.

All rights reserved. Reproduction and dissemination of material in this information product for educational and other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged. Reproduction of material in this information product for resale or other commercial purposes is prohibited without written permission of the copyright holders. Applications for such permission should be addressed to:

Chief
Electronic Publishing Policy and Support Branch
Communication Division
FAO
Viale delle Terme di Caracalla, 00153 Rome, Italy
or by e-mail to:
copyright@fao.org

© FAO 2011

For bibliographic purposes, please reference this publication as:

Merino, A., & Nguyen, V. H. (2011). A final report on the review of selected fish marketing chains and arrangements in Quang Nam and Thua Thien Hue Provinces. Regional Fisheries Livelihoods Programme for South and Southeast Asia (GCP/RAS/237/SPA) Field Project Document 2011/VIE/3.

Table of Contents

Index of Tables, Figures, and Pictures	5
List of Acronyms and Abbreviations	7
Executive Summary	8
1. Background Information	17
1.1. Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP)	17
1.2. General overview of the fisheries sector in Viet Nam	20
1.2.1. Fisheries Production in Viet Nam	20
1.2.2. Processing and export.	25
1.2.3. Viet Nam’s fisheries development strategy:	26
1.3. Description of the current situation of the fisheries sector in the targeted provinces...27	
1.3.1. Quang Nam Province	27
1.3.2. Hue Province.....	31
1.4. Review of past and ongoing initiatives and assistance to improve marketing	34
1.4.1. Hue province	34
1.4.2. Quang Nam Province	35
2. Methodology	37
3. Description and analysis of the existing marketing chain	42
3.1. Market Chain in Thua Thien Hue Province.....	42
3.1.1. Producers.....	42
3.1.2. Traders	49
3.1.3. Consumers.....	55
3.1.4. Analysis of the Scad value chain	56
3.2. Market Chain in Quang Nam Province.....	64
3.2.1. Producers.....	64
3.2.2. Traders	68
3.2.3. Consumers.....	73
3.2.4. Analysis of the Anchovy value chain.	73
4. Description and analysis of existing value chain	78
4.1. Primary Value Chain Activities:.....	78
4.1.1. Inbound logistics:.....	78
4.1.2. Operations:.....	80
4.1.3. Outbound logistics:	80
4.1.4. Marketing and Sales:.....	81
4.1.5. Service:	81
4.2. Support Value Chain Activities:	81
4.2.1. Infrastructure:.....	81
4.2.2. Human resource management:.....	81
4.2.3. Technology development:.....	82
4.2.4. Procurement:.....	83
4.3. Role of different actors in value chain	83
5. Analysis of intervention points in the existing value chains/market chains	85
5.1. SWOT analysis.	85
5.2. Proposed intervention points.....	86
6. Identify information channels that need to be supported.....	87
7. Conclusions.....	88
8. Recommendations.....	89

9. References.....	90
Annexes.....	94
Annex I: Terms of Reference of the mission	94
Annex II: List of interviewed people.....	101
Annex III: Questionnaires	107
Annex IV: Agenda of the field mission	135
Annex V: Material for debriefing sessions	138
Annex VI: Summary of Interviews	144

Index of Tables, Figures, and Pictures

TABLES

Table 1. Production of fishery by area in Viet Nam (tons).....	20
Table 2. Area of water surface for the aquaculture in Viet Nam (Thous. ha)	23
Table 3. Fishing activities in Quang Nam, September 2009	29
Table 4. Aquaculture situation in last five years.....	29
Table 5. Production of fishery processing for domestic market	30
Table 6. Production of fishery catch	32
Table 7. Aquaculture in Hue province	32
Table 8. Trade promotion activities for Danh Van fish-sauce processing firm in 2010.....	35
Table 9. Trade promotion activities for Thanh Van fish-sauce firm in 2010	35
Table 10. Trade promotion activities for fisheries sector in 2010	36
Table 11. Summary of fisheries information in Thua Thien Hue Province for selecting the targeted commodity	39
Table 12. Summary fisheries information in Quang Nam for selecting the targeted commodity	40
Table 13. Number of interviewed actors per province	41
Table 14. Main species of “Scad” in Viet Nam	43
Table 15. Scad selling prices by species and size (Loc tri collectors).....	59
Table 16. Main Anchovy species in Viet Nam	64
Table 17. Scad: Summary of agent’s activities related to add value	83
Table 18. Anchovy: Summary of agent’s activities related to add value	84
Table 19. List of collected previous Studies	90
Table 20. List of secondary data collected in both targeted provinces	93

FIGURES

Figure 1. Number of offshore fishing vessels by area	21
Figure 2. Production of fishery caught by kinds of activity	22
Figure 3. Productivity of aquaculture and area of water surface for aquaculture in Viet Nam	23
Figure 4. Fisheries Production in Viet Nam	24
Figure 5. Percentage of export value of different aquatic products.....	25
Figure 6. Output value of fishery in Quang Nam Province	28
Figure 7. Number of boats by capacity in Quang Nam, September 2009	28
Figure 8. Group of goods for export in Quang Nam.....	30
Figure 9. Output value of fisheries at current price by kind of activity.....	31
Figure 10. Export fishery production.....	33
Figure 11. Market channel flowchart in TTH province.....	63
Figure 12. Market channel flowchart in QN province.....	77
Figure 13. Michael Porter’s generic value chain diagram	78

PICTURES

Picture 1. Provinces Map	19
Pictures 2 & 3: Debriefing Sessions in TTH and QN provinces	42
Picture 4: Small-scale fishing boat in Phong Hai	43
Picture 5: Small-scale fishing boat in Phong Hai	45
Pictures 6 & 7: Offshore fishing vessels in Phu Thuan	46
Picture 8: Collector vessels in Loc Tri.....	48

Picture 9:Collector vessels in Thuan An.....	50
Picture 10:Bai Dau Market, Hue.....	51
Picture 11:Fish sauce processing industry in Phong Hai	53
Picture 12:Artisanl processing of fish sauce in Phong Hai.....	54
Picture 13: Ice and Fuel supplier in Thuan An	57
Picture 14: Bai Dau Market, Hue.....	58
Picture 15:Collector vessel in Loc Tri commune	58
Picture 16:Local market in Thuan An.....	61
Picture 17:Dried Scad	62
Picture 18:Small-scale Anchovy fishing vessel in Hoi An.....	65
Picture 19:Small-scale fishing boats in Binh Minh	66
Picture 20:Collector vessels and small-scale fishing vessels in Duy Hai.....	67
Picture 21:Dried Anchovy	68
Picture 22:Landing site and market place in Duy Hai (plastic drums are used by collectors..	68
Picture 23:Artisanal processing facilities for boiling and drying anchovy in Binh Minh	69
Pictures 24 & 25: Processing facilities for boiling and drying Anchovy in Hoi An town.	70
Picture 26:Dry salted Anchovy bought from Tam Ky market.....	71
Picture 27:Dried fish retailer in Hoi An market (Anchovy and cuttle-fish).	72
Picture 28:Dry anchovy fried in a restaurant (Tam Ky)	73
Pictures 29 & 30: Processing facilities for drying Anchovy in Hoi An (industrial drying room).....	74
Picture 31:Ice producer facilities in Binh Minh.....	75
Picture 32: Dry salted Anchovy made in Viet Nam (HCM city).....	76
Picture 33:Handling fish in processing industry(Hoi An)	79
Pictures 34 & 35: Poor hygiene conditions at landing sites	82

List of Acronyms and Abbreviations

AECID	Spanish Agency of International Cooperation for Development
CHR	Cafes, Hotels and Restaurants
COEX	Korea Convention and Exhibition Centre
CV	Chevaux vapeur = HP
DANIDA	Danish International Development Agency
DARD	Department of Agriculture and Rural Development
EEZ	Exclusive Economic Zone
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GSO	General Statistics Office of Viet Nam
HACCP	Hazard Analysis Critical Control Point management system
HP	Engine Horsepower
IC	International Consultant
IMOLA	Integrated Management of Lagoon Activities
IT	Information Technology system
MARD	Ministry of Agriculture and Rural Development
MDG	Millennium Development Goals
MOFI	Ministry of Fisheries
MOIT	Ministry of Industry and Trade
MRD	Mekong River Delta
n/a	Not Available
NC	National Consultant
NC & CC	North Central and Central coastal areas
PMUs	Project Management Units
PRA	Participatory rural appraisal
Prel.	Preliminary
QN	Quang Nam Province
RFLP	Regional Fisheries Livelihoods Programme for South and Southeast Asia
RIA	Research Institute for Aquaculture
RRD	Red River Delta
SE	South East
SSI	Semi-Structured Interviews method
SWOT	Strengths, Weakness, Opportunities and Threads analysis
ToR	Terms of Reference
TTH	Thua Thien Hue Province
USA	United States of America
VND	Vietnamese Dong

Executive Summary

Background

The **Regional Fisheries Livelihoods Programme** (RFLP) - GCP/RAS/237/SPA is a regional programme for which the Food and Agriculture Organization of the United Nations (FAO) is the executing agency, which is funded by the Spanish Government with a total amount of US\$ 19.54 million for four years in six countries (Cambodia, Indonesia, the Philippines, Sri Lanka, Timor-Leste, and Viet Nam). With the in-kind contribution from the Government of Viet Nam, RFLP Viet Nam Component is being implemented by the Ministry of Agriculture and Rural Development (MARD) and the Research Institute for Aquaculture No.1 (RIA1) in collaboration with the Provincial People's Committees of Thua Thien - Hue, Quang Tri, and Quang Nam.

The **activity 3.4.1 “Review of selected (fish) marketing chains and arrangements”** under the Sub-Output 3.4 of the annual activity work plan 2010 in Quang Nam and Thua Thien Hue Provinces. The overall objective of the review is *“To provide the RFLP with a comprehensive understanding of current market chain situation and arrangements for the most important key capture fishery commodity to improve fisheries market information in Quang Nam and Thua Thien Hue Provinces”*.

The review includes the following **activities**:

1. Collect existing studies on value chain/market chain of fisheries products in Viet Nam.
2. Briefly review past and ongoing initiatives and assistance by different groups (including public and private, government of Viet Nam and donor agency) to improve marketing of capture fisheries products by local small-scale fishers in the two target provinces.
3. Collect and review secondary data available at different levels (national to commune).
4. Select the most important commodity for the analysis for each target province through PRA sessions including capturing season, productivity, and usages of products.
5. Interviews with authorities (minimum 3 interviews per province)
6. Collect market/value chain data/information from different stakeholders through:
 - Individual interviews with stakeholders (minimum 12 interviews per province)
 - In-depth interviews with different actors in market chain (minimum 12 interviews per province)
7. Re-discuss and verify the data through debriefing workshops with different stakeholders (one workshop per province)
8. Describe and analyze existing marketing chains for the most important fishery commodities captured by small-scale fishers in each province (i.e., two commodities in total) including the identification of key actors value change in these chains.
9. Analyze the intervention points in the existing value chains/market chains to improve the livelihoods of local small-scale fishers in the target provinces.
10. Identify information channels that need to be supported to improve fish marketing by the local fishers based on the analysis of current information gaps.
11. Recommend potential ways to improve fish marketing by local small-scale fishers in target provinces with full consideration of existing financial and technical capacities

Implementing strategy

The review of Selected Marketing Chains and Arrangements in both targeted provinces was carried out in three steps: (i) data collection, (ii) hypothesis sharing / validations and (iii) preparation of recommendations.

The project implementation started 30th December 2010, when the National Consultant (NC) started to **collect previous studies** on value chain / market chain of fisheries products in Viet Nam. The National Consultant also **reviewed past and on-going initiatives and assistance** by different groups to improve marketing of capture fisheries products by small-scale local fishers in the two target provinces.

A week before the field work was carried out by both consultants, the NC went to the provinces and **met with stakeholders** of the project in the provinces **and local authorities** in order to **collect secondary data** available, to **identify the main actors and main municipalities** (communes) linked with small scale fisheries, and to organise the visits and interviews plan.

Once the small-scale fisheries in the targeted provinces were assessed, the team **proposed a more in depth analysis of the major identified commodities**. The following criteria were used to identify the main commodity for value chain analysis:

- Production: main species caught and catches volume.
- Number of small-scale fishers involved in the production of certain commodities.
- Number and engine capacity of involved vessels.
- Main gear used.
- Seasonality.
- Fish products' origin: marine or lagoon fishery.

The **study was meant to focus on marine small-scale fishers** so lagoon fishery was excluded. Most of the studied trawlers had an engine power over the average and were responsible for most of tuna catches. These vessels are classified as semi-industrial rather than small-scale fisheries, so this section of fishery was excluded from the study.

The biggest productions in targeted provinces were the small pelagics (Scad, anchovy and herring) and the majority of fishers were involved in fishing for small pelagics. It was decided not to select the same commodity in each province therefore **Scad** (*Decapterus spp.*) was recommended for study **in Thua Thien Hue** and **Anchovy** (*Encrasicholina spp*) **in Quang Nam**.

The next step, data collection tasks were conducted by **in-depth interviews with different stakeholders in the market chain**. The selection of actors was done to cover all the proposed districts and every link along the value chain for the selected commodity.

Field work **preliminary findings were presented, discussed and validated** in the debriefing sessions organised in each province at the end of the field trip (January, 22nd in Hue and January 28th in Duy Hai). The participation of and feedback from stakeholders in these sessions was fruitful.

Market chain in Thua Thien Hue Province

The Scad caught by small-scale fishers in Thua Thien Hue Province comes from **coastal small-scale fishers** and **offshore small-scale fishers**.

According to information from local fisheries authorities, offshore small-scale fishing takes place mostly in Phu Loc and Phu Vang districts. In the studied communes (Loc Tri and Phu Thuan), quantity of captured fish reached almost 7,500 tons/year of fish, 70% of which is Scads (around 5,250 tons). Coastal small-scale fishing, on the other hand, takes place mostly in Phong Hai commune (Phong Dien district) and Phu Thuan commune (Phu Vang district) with an annual turnout of 1,880 tons of fish, 50% of which is Scad (around 940 tons)

Therefore, from an annual average of 6,190 tons of Scads from small-scale fishing in the studied communes, 5,250 come from offshore fishing and 940 from coastal. It means that Scads from offshore fishers represents near 85% of total catch (84.8%) while Scads from coastal fishers represent only 15% (15.2%).

Scad from coastal fishers is captured in the morning, and by the evening of the same day or by the next morning fish has reached the next agent. This quickness is due to the fact that most Scad from coastal waters is sold without processing. Considering the role the fishers' families play in the first trade and the lack of appropriate means of transportation, this is largely limited to the local market and traders established in the commune (e.g. Phong Hai or Phu Thuan).

This first step adds little value to the catch. Grading is minimal (species and sizes) and it is done at the time when the fish is caught. Fish is seldom handled except to add ice when necessary. Hygiene and sanitary conditions for handling and preserving captures are poor.

Scad from offshore small-scale fishers goes mainly to collectors who buy the fish immediately after capture (at sea on the fishing grounds). During this time, fishers only handle the fish when sorting by species searching for the higher value species (tuna, cuttlefish, mackerel, etc.).

Negotiations are conducted offshore (by radio or phone) and **collectors** land at the most convenient place for the clients with whom they have closed deals. They mainly deal with first level wholesalers from the same province (Thuan An) but can also sell fish to wholesalers from neighbouring provinces (Da Nang, Quang Binh). Some Scad is sold to local processing plants for fish sauce production. Through wholesalers from neighbouring provinces, Scad may be processed into shrimp feed or canned.

Collectors grade fish in bulk lots. Scad are stored in 20 kg plastic barrels covered with crushed block ice following size grading. This is important since the selling prices may vary: Layang Scad (*Decapterus macrosoma*) is higher priced than Round Scad (*Decapterus maruadsi*) and large fish sell for more than small ones.

Collectors deliver Scad to their clients 1 or 2 days after being bought / captured. They preserve it using crushed block ice. There are no cold storage facilities available on board, so hygiene and sanitary conditions for fish handling are poor.

First level wholesalers operating on the province landing sites (Thuan An) buy Scad from provincial collectors. Some may also have intermediate agents who buy fish from small-scale coastal fishers on the beach. These wholesalers sell fish to other wholesalers from other provinces and to wholesalers in Bai Dau Market (Hue) called in this report second level wholesalers.

This sale take place the same day the fish is bought by collectors. Scad are stored only when market prices are low, but this rarely happens. First level wholesalers sort Scad into 10 kg plastic boxes and add ice. They usually own and use trucks for transportation.

Hygiene and sanitary conditions vary among first level wholesalers. They often use ammonium for cooling and the quality of ice is usually uncontrolled. Training for fish handling and tools cleaning is inappropriate and transportation of fish is seldom done in appropriately insulated and dedicated containers.

Second level wholesalers are based on Bai Dau (Hue central market) and there carry first level wholesalers fish in trucks. Second level wholesalers will also sell fish to wholesalers in neighbouring provinces if they offer better prices than in Thua Thien Hue Province markets.

Second level wholesalers are simply intermediate agents delivering fish in bulk to distributors and retailers (occasionally they sell fish to restaurants) in a central market.

Local fish processing facilities (mainly fish sauce factories) source their product from local fishers, while large fish drying plants which export source fish product from wholesalers within the province first and then from neighbouring provincial wholesalers when local supply is insufficient.

Fish sauce factories have close links to producers, and especially coastal fishers. Fish sauce is sold in supermarkets within the province and in neighbouring provinces. Their procedures are artisanal, but they control raw material quality and have a certain degree of control over the transformation process. However they do not apply best production management or waste control practices.

Distributors act as intermediate trade agents who buy fish in Hue central market and sell on daily to distant retailers in inland towns within the province. Distributors buy fish very early in the morning (by 2:00 AM) and sell it usually before noon.

Retailers usually work in town markets. Coastal town markets are supplied by local fishers, often with the wives of fishers selling the fish. Retailers in distant communes are supplied by distributors who buy fish in Hue. Retailers in Hue are supplied directly by second level wholesalers operating in Bai Dau (central market). Finally, retailers sell Scad to the end **consumer**.

The following table summarises the agents' role and developed activities linked with added value in the studied market chain in Thua Thien Hue Province:

Actor	Activity that adds value	Average Buying price	Average Selling price	Comments
SCAD in THUA THIEN HUE				
Coastal Small-scale Fisher	<ul style="list-style-type: none"> • Producer 	-	7-10,000 VND/kg	Small profit margin considering the activity costs.
Offshore Small-scale Fisher	<ul style="list-style-type: none"> • Producer • Use of ice 	-	10,000 VND/kg	Highly seasonal activity. Profit margin must cover the off-peak season
Collector	<ul style="list-style-type: none"> • Use of ice • Sorting by size into 20-30 kg batches • Transport • Supply ice and petrol to fishers 	10,000 VND/kg	12-15,000 VND/kg	Allows offshore fishers to stay and fish longer at sea
Local trader	-	7-10,000 VND/kg	8-11,000 VND/kg	Important for financing fishers' operational costs
First level wholesaler	<ul style="list-style-type: none"> • Use of ice • Sorting by size and species into 10 kg boxes • Transport • Storage • Ice supply 	12-15,000 VND/kg	14-17,000 VND/kg	Average increase of price 1,000 VND/kg. Margin comes from economy of scale.
Second level wholesaler	<ul style="list-style-type: none"> • Use of ice 	17-20,000 VND/kg	20-23,000 VND/kg	Average increase of price 3,000 VND/kg. Market taxes are a significant cost
Fish processing industry (fish sauce)	<ul style="list-style-type: none"> • Transform fish • Use of ice • Transport 	10-12,000 VND/kg	25,000 VND/litre	One firm can buy up to 160 tons of Scad per year. Near 5-6 kg of fish are needed to produce 1 litre of pure fish sauce (100%)
Distributor	<ul style="list-style-type: none"> • Transport 	20-22,000 VND/kg	25-35,000 VND/kg	Carry fish to inland places
Retailers	<ul style="list-style-type: none"> • Use of ice • Transport • Advice to consumers 	17-23,000 VND/kg	28-35,000 VND/kg	Market taxes are a significant cost

Market chain in Quang Nam Province

Almost the entire catch of Anchovy from small-scale fishers in Quang Nam Province ends up in local processing facilities.

Available information indicates that most of the **small-scale fishers** involved in Anchovy fishing are from Binh Minh commune (Thang Binh district) and Duy Hai commune (Duy Xuyen district). Survey results show that about 140 boats capture approximately 5,000 tons of anchovy annually.

Fresh Anchovy goes to local **processing facilities** (97%) and to retailers (3%) in the province. Almost half of the Anchovy catches pass through **collectors** and all the collectors handle goes for processing.

The fresh Anchovy market chain is simple and trading is very fast. A few hours after anchovies have been captured from the sea, they are being processed.

Anchovies are very delicate fish and spoil very fast. For this reason all the fresh Anchovy value chain agents use ice and chilled seawater chilling even if the product will be sold or processed in less than four hours.

Fishers and collectors sort anchovies by size into plastic containers with 20-25 kg of fish. Hygiene and sanitary conditions for preserving and handling fresh anchovy can be improved, but this is not a priority concern for this product chain because there is almost no loss of Anchovy quality or value due to the handling conditions. Trade takes place very fast and Anchovy is processed or sold to final consumers on the same day it is caught. The lack of cold storage facilities forces fishers trade quickly and while negotiation capacity may be lost, quality is not.

The primary processing of Anchovy in Quang Nam Province is salt drying. Anchovies are boiled in salt water and then sun dried. Local artisanal **Processors** are extremely dependant on fine weather. They have no industrial drying areas but only open spaces where fish is sun dried. They cannot dry Anchovies on wet or cloudy days.

There are a large number of small artisanal Anchovy processors in fisher communes. Typically each facility processes between 1 - 6 tons daily.

Artisanal salt drying processors have no temperature controlled drying rooms and so product quality can vary depending on the weather, ambient air temperature, and humidity and other factors that are outside the control of the processors. The lack of standardisation and the low production capacity are the main barriers to selling salt dried anchovy to other markets, including export markets for higher prices.

Salt drying is the fastest way to preserve Anchovy captured by small-scale fishers in the province and is the only possible option with the existing commune facilities.

Wholesalers in Quang Nam Province buy salt dried Anchovy directly from processors in Duy Hai and Binh Minh Communes. These wholesalers are located at larger town markets within the province, for example Tam Ky and Ha Lam. They sell several dried aquatic

products including cuttlefish, Scad, herring, etc. and other fish products like fish sauce, canned fish, etc.

Wholesalers sell salt dried Anchovies to retailers in the province, to distributors in upland areas and to distributors in upland areas of other provinces (Kontum, Gia Lai).

A significant proportion of salt dried Anchovies produced in Quang Nam Province is exported by wholesalers in neighbouring provinces, though not directly by agents based in Quang Nam Province itself.

The following table summarises the agents' role and developed activities linked with added value in the studied market chain in Quang Nam Province:

Actor	Activity that adds value	Average Buying price	Average Selling price	Comments
FRESH ANCHOVY in QUANG NAM				
Small-scale Fisher	<ul style="list-style-type: none"> • Producer 	-	4-6,000 VND/kg	Slim profit margin compared to operating costs.
Collector	<ul style="list-style-type: none"> • Use of ice • Classification (20-30 kg lot) • Transport 	4-6,000 VND/kg	5-7,000 VND/kg	Allows fishers to stay at sea fishing for longer
Fish processing industry (dry salted anchovy)	<ul style="list-style-type: none"> • Preserve / transform fish • Use of ice • Transport 	5-7,000 VND/kg	25-40,000 VND/kg	1 kg of anchovy, needs to spend 3-4,000 VND buying other materials
Retailers	<ul style="list-style-type: none"> • Transport • Advice to consumers 	-	8-10,000 VND/kg	Fishers' wives sell fresh fish at local markets only during the peak season
DRY SALTED ANCHOVY in QUANG NAM				
Wholesaler	<ul style="list-style-type: none"> • Transport • Storage (hire cold room out of the province) • Concentrate and Export (out of the province) 	25-30,000 VND/kg	30-32,000 VND/kg	Average increase of price 1-2,000 VND/kg. Margin comes from economy of scale.
Distributor	<ul style="list-style-type: none"> • Transport 	30-32,000 VND/kg	35-45,000 VND/kg	Transport fish to inland areas
Retailers	<ul style="list-style-type: none"> • Advise consumers 	30-45 VND/kg	35-50,000 VND/kg	Market taxes are significant costs

Conclusions

In summary:

- Small pelagics are of vital importance to small-scale fisher in Quang Nam and Thua Thien Hue Provinces. Most of the catch is used for human consumption and not the aquaculture feed industry. Local fish sauce (Scad) and salt drier (Anchovies) processors process a significant proportion of small pelagic taken by small-scale fishers.
- The number of agents participating in market chain is limited. Fish can go from small-scale fishers to final consumers directly in coastal small communes with wives of fisher selling their husbands' catch, to processors or just through collectors or can reach retailers through wholesalers and distributors. Most intermediate agents are geographically linked to a particular beach, commune or district. Such is the case for coastal fishers, local market traders, second level wholesalers or distributors.
- Middlemen do not add value to the product. Their services include icing, transporting aquatic product and, sometimes, credit provision. No filleting, sorting/grading or packing by middlemen that would add extra product value. Artisanal processors however do add value.
- Marketing of Scad and Anchovy is quite fast. Scad typically enters processing facilities within 1-3 days of being caught, while Anchovy enters processing plants within a few hours of being caught. Speed is necessary because limited cold storage capacity in communes and the fragility of small pelagics. This necessitates fast trade, even if prices are not advantageous to avoid product spoilage or additional expense for ice purchase.
- Hygiene and sanitary conditions of the marketed fish need to be improved by the provision of training for fishers, and other value chain agents, the development of cold storage facilities, better quality control methods and procedures and better access to information including extension materials on hygiene and better aquatic product handling practices along the value chain.
- Lack of organisational structure of the post-harvest sector and the scattered nature of local processing facilities in both provinces reduces the capacity of the for export and constrains improvement of their position in market chain. This could be improved by the strengthening (or setting up) of local associations, organisation, cooperatives or clusters consisting of different value chain stakeholders including fishers, collectors, ice producers, net manufacturers, processors, etc.
- Value chain agents and stakeholders are unaware of their importance to the market chains and have minimal interest in how the product is handled before or after them along the chain.
- Almost no promotional, marketing research or statistical data collection and analysis is conducted in this sub-sector.
- Small-scale fishers have very poor access to formal financial services and rely on informal credit from relative, neighbours or middlemen to cover operating costs like fuel.

The situation is similar for other agents. Making cash payments limits the activity level of collectors, processors and wholesalers. Individual capacity for investment is also limited.

- Other than post-harvest training provided by local authorities, the industry itself does no training of staff along the value chain.

Intervention points

Priority interventions include:

- Developing a Training Plan for all participating actors along the Scad and Anchovy market chains. This should include training on improving hygiene and food safety conditions, food/fish handling, better practices and innovative techniques for preserving, processing and value addition, business management, cooperatives development and marketing.
- Facilitating access to micro-finance services including savings and credit to improve the cash flow of fishers, processors and traders.
- Development of post-harvest facilities and equipment: landing facilities, insulated vehicles, cold stores, commune warehouses, modernisation of vessels (safety and hygienic conditions, insulated holds and boxes on board), flake ice machines and modernisation of processing industries (drying rooms).
- Reinforcing hygiene and sanitary quality control: good practice manuals, implantation of HACCP systems and strengthening of laboratories and inspection capacity.
- Strengthening (or setting up) local associations, organisation, cooperatives or clusters consisting of various local agents including fishers, collectors, ice producers, net manufacturers, processors, etc. as members.
- Creating economies of scale by the establishment of post-harvest areas with common facilities such as landing ports or commune cool stores or warehouses.
- Training for the value chain stakeholders to make them more aware of the importance of each role along the whole value chain.
- Increased promotional activities by both private and public sector organizations.
- Improved communication flows and the creation of a fisheries IT network system.
- Diversification of targeted capture species and products used as the raw material for post-harvest processing.

1. Background Information

1.1. Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP)

Across South and Southeast Asia, the livelihoods of **coastal small-scale fishers** are among the most insecure and vulnerable. They are dependent on increasingly depleted and degraded resources, due to overcapacity, resource access conflicts and inadequate resource management. These communities make important but often poorly recognized contributions to the food security and development of many millions of people and to national and regional economies.

A renewed interest in and support to fisheries management and sustainable livelihood enhancement is urgently needed in order to forestall severe poverty and to halt ecosystem degradation to the detriment of fishers, fisher communities and entire coastal populations and economies. The **key problem areas** that need attention are (i) the lack of mechanisms and capacity for joint management of the fisheries between the fishers and government authorities; (ii) the great vulnerability of small-scale fishers and their families in view of the risky occupation and exposed habitation; (iii) the loss of income from fish and fishery products due to poor handling, preservation and processing practices and inequitable returns from marketing systems; (iv) the need for alternative incomes to supplement the livelihood when fishing activities have to be reduced for sustainable resource management and; (v) the access to microfinance to diversify income, adapt fishing equipment to new management regulations and to reduce vulnerability.

Addressing the problems faced by small-scale fishers in the **participating countries** (Cambodia, Indonesia, the Philippines, Sri Lanka, Timor-Leste and Viet Nam) has been identified as a priority for FAO, donors and national governments alike. Further, in these countries, support to communities has been identified as a key activity in helping to achieve national poverty reduction, economic and gender targets outlined in their Poverty Reduction Strategies and in support of the Millennium Development Goals (MDGs).

The Regional Fisheries Livelihoods Programme (RFLP) - GCP/RAS/237/SPA is a regional programme for which the Food and Agriculture Organization of the United Nations (FAO) is the executing agency, which is funded by the Spanish Government with a total amount of US\$ 19.54 million for four years in six countries (Cambodia, Indonesia, the Philippines, Sri Lanka, Timor-Leste, and Viet Nam). With in-kind contribution from the Government of Viet Nam, RFLP Viet Nam Component is being implemented by the Ministry of Agriculture and Rural Development (MARD) and the Research Institute for Aquaculture No.1 (RIA1) in collaboration with the Provincial People's Committees of Thua Thien Hue, Quang Tri, and Quang Nam Provinces.

The outcome of the RFLP will be the *'Strengthened capacity among participating small-scale fishing communities and their supporting institutions towards improved livelihoods and sustainable fisheries resources management'*.

The major **outputs** of the RFLP will be:

- **co-management mechanisms** for sustainable utilization of fishery resources;

- measures to **improve safety and reduce vulnerability** for fisher communities;
- measures for improved quality of fishery products and market chains;
- strengthened existing and diversified new income opportunities for fisher families;
- facilitated access to microfinance services for fishers, processors and vendors;
- regional sharing of knowledge in support of livelihood development and reduced vulnerability for fisher communities and of sustainable fisheries resource management.

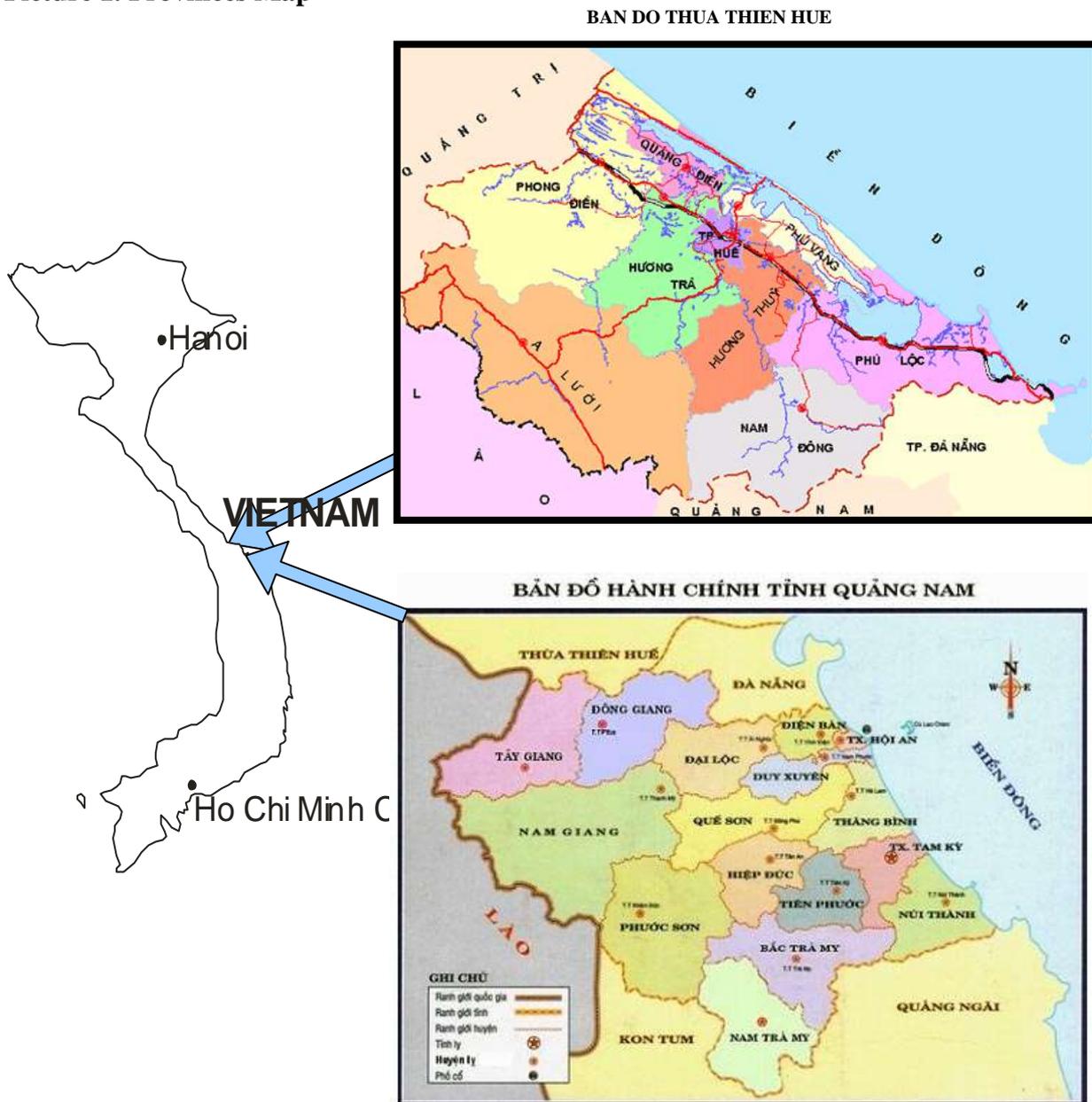
The primary beneficiaries of RFLP are coastal fishers, processors, traders and their families, their organizations and their communities. In addition, the project will target government organizations and institutions responsible for the administration, management and development of coastal fisheries at local, district/province and national levels.

The activity 3.4.1 “Review of selected (fish) marketing chains and arrangements” under the Sub-Output 3.4 of the 2010 annual activity work plan in Quang Nam and Thua Thien Hue Provinces. The overall objective of the review is *“To provide the RFLP with a comprehensive understanding of current market chain situation and arrangements for the most important key capture fishery commodity to improve fisheries market information in Quang Nam and Thua Thien Hue Provinces”*.

The review includes the following activities:

1. Collect existing studies on value chain/market chain of fisheries products in Viet Nam.
2. Briefly review past and ongoing initiatives and assistance by different groups (including public and private, government of Viet Nam and donor agency) to improve marketing of capture fisheries products by local small-scale fishers in the two target provinces.
3. Collect and review secondary data available at different levels (national to commune).
4. Select the most important commodity for the analysis for each target province through PRA sessions including capturing season, productivity, and usages of products.
5. Interviews with authorities (minimum 3 interviews per province)
6. Collect market/value chain data/information from different stakeholders through:
 - Individual interviews with stakeholders (minimum 12 interviews per province)
 - In-depth interviews with different actors in market chain (minimum 12 interviews per province)
7. Re-discuss and verify the data through debriefing workshops with different stakeholders (one workshop per province)
8. Describe and analyze existing marketing chains for the most important fishery commodities captured by small-scale fishers in each province (i.e., two commodities in total) including the identification of key actors value change in these chains.
9. Analyze the intervention points in the existing value chains/market chains to improve the livelihoods of local small-scale fishers in the target provinces.
10. Identify information channels that need to be supported to improve fish marketing by the local fishers based on the analysis of current information gaps.
11. Recommend potential ways to improve fish marketing by local small-scale fishers in target provinces with full consideration of existing financial and technical capacities.

Picture 1. Provinces Map



1.2. General overview of the fisheries sector in Viet Nam

1.2.1. Fisheries Production in Viet Nam

Viet Nam has 3,260 km of coastline with over 3,000 islands and a wealth of inland lakes and interior waterways. This combined gives the country one million square km of exclusive economic sea zone and 1.4 million ha of interior fishing water, resulting in very favourable conditions for the country's fishery sector. (European Union Economic and Commercial Counsellors, 2006)

Approximately four million people are employed in the fisheries sector in Viet Nam. Around 8.5 million people (10% of the total population) derive their main income directly or indirectly from fisheries. The considerable increase in aquaculture and more centralized fisheries processing has opened opportunities for women in aquaculture, processing and trading in these areas where most of the workers in the processing factories are women (85%). (Post-harvest and Marketing Component, FSPS, 2009)

The fisheries' sector in Viet Nam accounts for 5.8% of national GDP, 7.8% of export turnover and 10% of the labour force. The sector has maintained an impressive production growth rate of 12% annually for the past twenty years and has contributed to reducing poverty, sustainable livelihood creation, economic growth, whilst improving food security and food safety. (European Union Economic and Commercial Counsellors, 2008)

Total production has grown from 3,465,915 tonnes in 2005 to 4,847,620 in 2009 (Table 1). In which, the Mekong River Delta area has the largest production with more than 50% of total production.

Table 1. Production of fishery by area in Viet Nam (tons)

Area\year	2005	2006	2007	2008	2009
Red River Delta	379,240	414,828	460,803	497,197	552,072
Northern midlands and mountain areas	43,943	49,797	55,913	60,905	66,503
North Central and Central coastal areas	871,563	894,402	944,692	985,563	1,050,542
Central Highlands	14,581	14,682	16,455	18,432	19,748
South East	310,767	325,005	334,422	338,002	354,586
Mekong River Delta	1,845,822	2,021,745	2,385,521	2,701,927	2,804,169
WHOLE COUNTRY	3,465,915	3,720,459	4,197,807	4,602,026	4,847,620

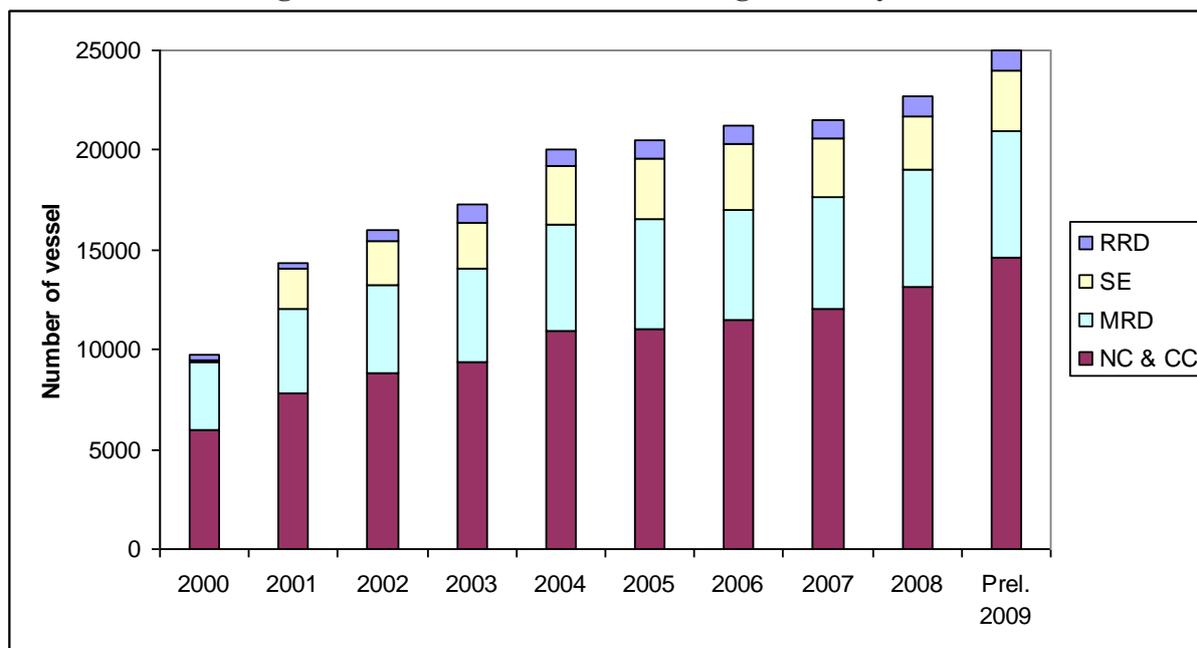
Source: GSO, 2009

The capture fisheries sector

Approximately 130,000 powered fishing vessels are currently registered and operate within Viet Nam's Exclusive Economic Zone (EEZ), with many more unpowered small unregistered

craft in use for subsistence fishing¹. These vessels concentrate in near-shore areas, with an estimated 85 percent of total harvest caught in an area of only 11 percent of the nation’s EEZ. With a wide variety of engine sizes and hull lengths and with an array of (often interchangeable) gear employed, marine capture fisheries in Viet Nam are not readily classified into “small scale” and “industrial” sectors; instead, they are more conventionally categorized as either inshore or offshore (World Bank, 2011). From 2000 to 2009, the number of offshore fishing vessels increased 2.56 times. The North central area and the Central coastal areas have the most offshore fishing vessels (Figure 1).

Figure 1. Number of offshore fishing vessels by area



Source: GSO, 2009

In the marine capture fisheries, detailed catch statistics by gear type is not recorded, but is estimated to be roughly: trawling 30%, purse seine 26%, gillnet 18%, lift net 5%, long line 6% and others (fixed net, push net etc.) 15%. Meanwhile, the inland gears include fixed traps, lift nets, set nets (gillnets, trammels, etc). (Post-harvest and Marketing Component, FSPS, 2009)

There are four main areas of marine capture fisheries including Gulf of Tonkin, shared with China; Central Viet Nam (the Southern Mainland Shelf); South-eastern Viet Nam (Northern Sunda Shelf and part of the Central Sunda Shelf); and South-western Viet Nam (part of Gulf of Thailand), shared with Cambodia and Thailand. Besides, the inland capture fisheries resource is based on about 4,200 km² of total area of natural inland water bodies (lakes, rivers, dams) and an additional 6,000 km² of ponds and seasonal flooded areas.

In the last ten years, inland capture fisheries production has been unstable and has tended to decrease whereas the marine capture fisheries production has been increasing continuously.

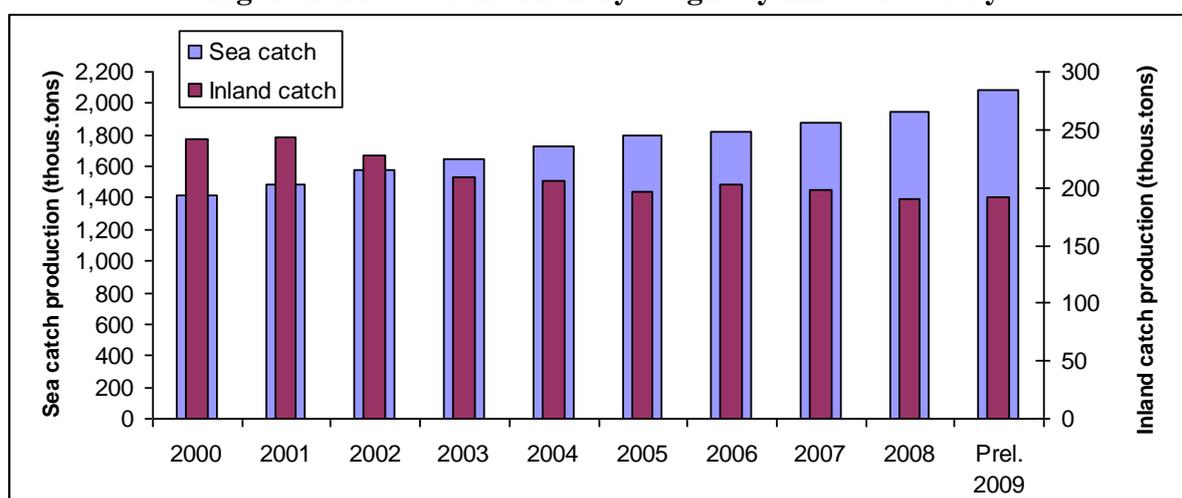
¹ This figure is from 2008 when fuel subsidies were offered to all registered vessel owners as a response to increases in oil price increases, resulting in heightened registration efforts. A final number of 130,000 was the total qualifying for fuel assistance. However, many vessels can be assumed to have not registered and remain “off the books” but operational (including the numerous non-motorized “coracle” boats used in artisanal fisheries, which has been estimated at 30,000 or more).

In particular, in 2009 total annual marine capture fisheries production passed 2 million tons for the first time (see figure 2), in large part due to government aid programs through the following important policies:

- Decision No.358/QD-TTg dated 29 May 1997 on preferential taxation on the exploitation of marine products in offshore areas,
- Decision No. 393/QD-TTg of 9 Jul 1997 containing regulations on investment capital control and utilization,
- Decision No. 251/QD-TTg of 25 Dec 1998 on the approval of the marine product export program to the year 2005, etc.

These policies generally supported preferential loans to offshore fishers to upgrade their vessel capacity and install modern equipment and efficient fishing gear. Private businesses (including foreign-invested businesses) exploiting the offshore fisheries were given reduced tax reductions during the first three years of business.

Figure 2. Production of fishery caught by kinds of activity



Source: GSO, 2009

Beside the above achievements, the capture fisheries sector still faces many difficulties and challenges. According to Pomeroy et al. 2009, a 2008 study by WWF Great Mekong—Viet Nam, using a case study approach in three coastal communities, found that “...despite Viet Nam’s over all steady and significant economic growth, unsustainable management in the fisheries sector has resulted in deepening poverty and increased vulnerability across many coastal communities and particularly those communities strongly dependent on near-shore resources”. This study further stated that threats to sustainability included:

1. Serial depletion of near-shore fisheries.
2. Over-capacity of fleet and competition from better-equipped boats designed to operate offshore.
3. Lack of management controls and sustainability triggers (e.g. protective catch limits, precautionary management).
4. Continuation and proliferation of illegal fishing activities.
5. Lack of administrative capacity and human resources within fisheries authorities to address sustainability issues.

The aquaculture sector is gradually becoming the commodity production sector with highest competitiveness. Capital investment and the development of science and technology, have increased productivity, the quality and the diversification of aquaculture production.

After a period of steady growth of surface water area for aquaculture during 2005-2008 with an average growth rate of 3.34%, in 2009 the Aquaculture Department decided to maintain 1044.7 thousand ha as one of the objectives for the fisheries sustainable development (see table 2).

Intensive aquaculture is now expanding in several provinces, particularly of high value species like white leg shrimp (*Penaeus vannamei*). Marine aquaculture is also expanding as inshore catches have declined and is one way of ensuring raw materials for export processing.

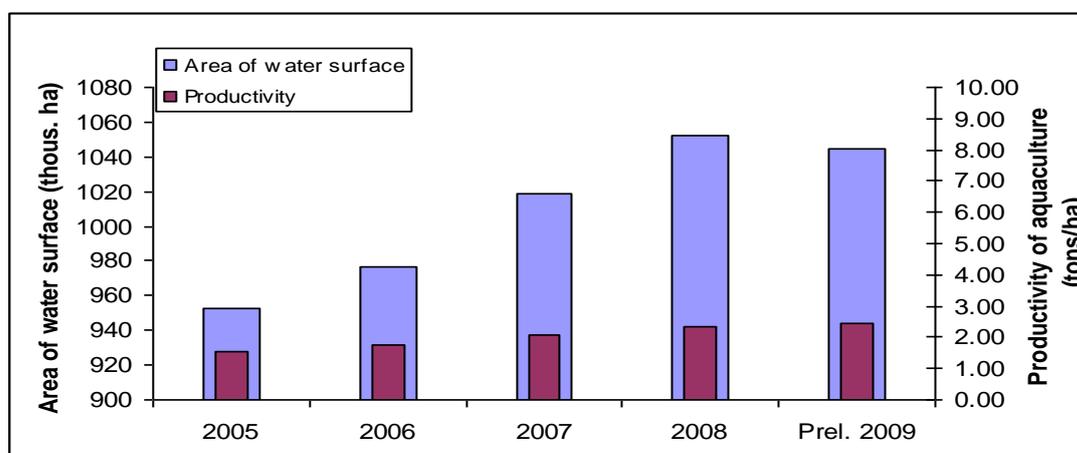
Nevertheless, thanks to the development of aquaculture technology, productivity still increased while the area of water surface for aquaculture stayed the same (figure 3).

Table 2. Area of water surface for the aquaculture in Viet Nam (Thous. ha)

Year	2005	2006	2007	2008	2009
Area of sea and brackish water	661.0	683.0	711.4	713.8	704.8
Water for fish	10.1	17.2	24.4	21.6	23.2
Water for shrimp	528.3	612.1	633.4	629.2	623.3
Water for mixed and other aquatic prod.	122.2	53.4	53.3	62.7	58.0
Water for breeding	0.4	0.3	0.3	0.3	0.3
Area of fresh water	291.6	293.5	307.4	338.8	339.9
Water for fish	281.7	283.8	294.6	326.0	327.6
Water for shrimp	4.9	4.6	5.4	6.9	6.6
Water for mixed and other aquatic prod.	1.6	1.7	2.8	2.2	2.3
Water for breeding	3.5	3.4	4.6	3.7	3.4
Total	952.6	976.5	1,018.8	1,052.6	1,044.7

Source: GSO, 2009

Figure 3. Productivity of aquaculture and area of water surface for aquaculture in Viet Nam

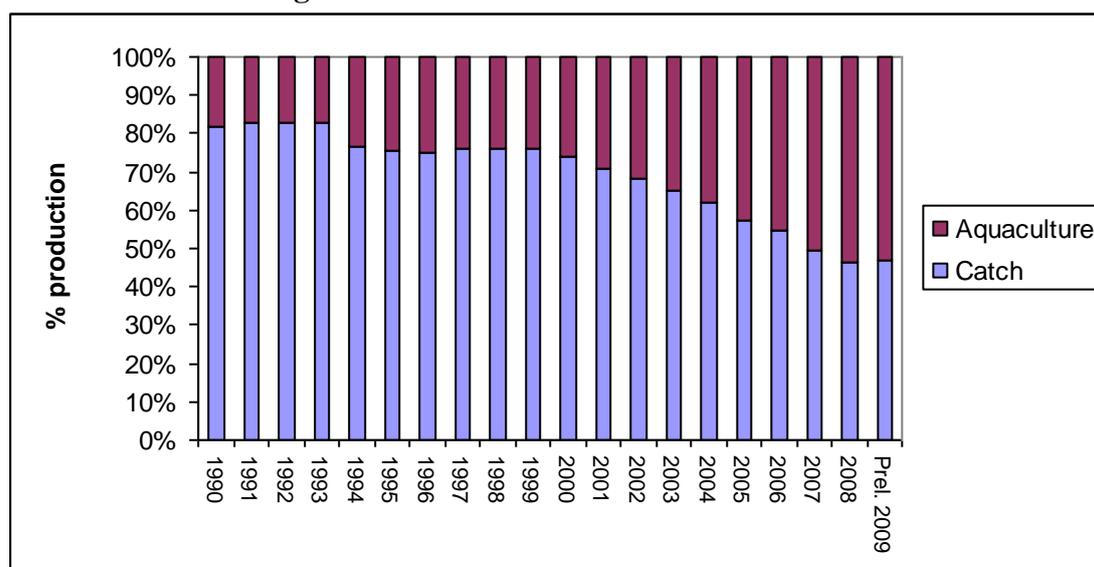


Source: GSO, 2009

Aquaculture has grown significantly in recent years, averaging over 12 percent annual growth since 1990. The area under all aquaculture has now reached about 1 million hectares, with a total output of over 2 million tons. Aquaculture production mainly comes from freshwater aquaculture, especially for river catfish (*Pangasius hypophthalmus*), while the export value mainly comes from marine and brackish-water aquaculture (most of this income is generated within the Mekong River Delta). Small-scale producers dominate the subsector, with pond areas of under 0.1 hectares. (World Bank, 2011)

Between 1990 and 2009, the production of aquaculture increased almost 16 times. In 2007, the production of aquaculture (2.1 million tons) was greater than that from capture fisheries (2 million tons) for the first time. Thereafter aquaculture production has continued to be greater than capture fisheries production. (See the figure 4. Fisheries Production in Viet Nam). In terms of production, the freshwater subsector remains dominant, with approximately 65–70 percent. The production of *Pangasius* catfish exceeded 1.2 million tons in 2009, exporting about 600,000 tons worth \$1.4 billion. Brackish water aquaculture (mainly shrimp) contributes around 220,000 tons and more than 40 percent to the overall value of production. Crab farming and limited farming of marine fish and molluscs, in particular, provide the remainder. (World Bank, 2011)

Figure 4. Fisheries Production in Viet Nam



Source: GSO 2009

Aquaculture expansion has made a significant contribution to socio-economic development of Viet Nam. However, the country’s current limited capacity to promote and guide its sustainable development of fresh, brackish, and marine environments is still an issue of concern. Aquaculture and the associated fisheries processing industries can contribute to significant water source degradation through water use and pollution.

Environmental concerns relating to aquaculture development in Viet Nam include:

- Localized water pollution from concentrations of freshwater and marine cage farms and lack of consideration of carrying capacity
- The need for more care to be taken with introduction of new exotic species, due to risks of disease and impacts on aquatic bio-diversity

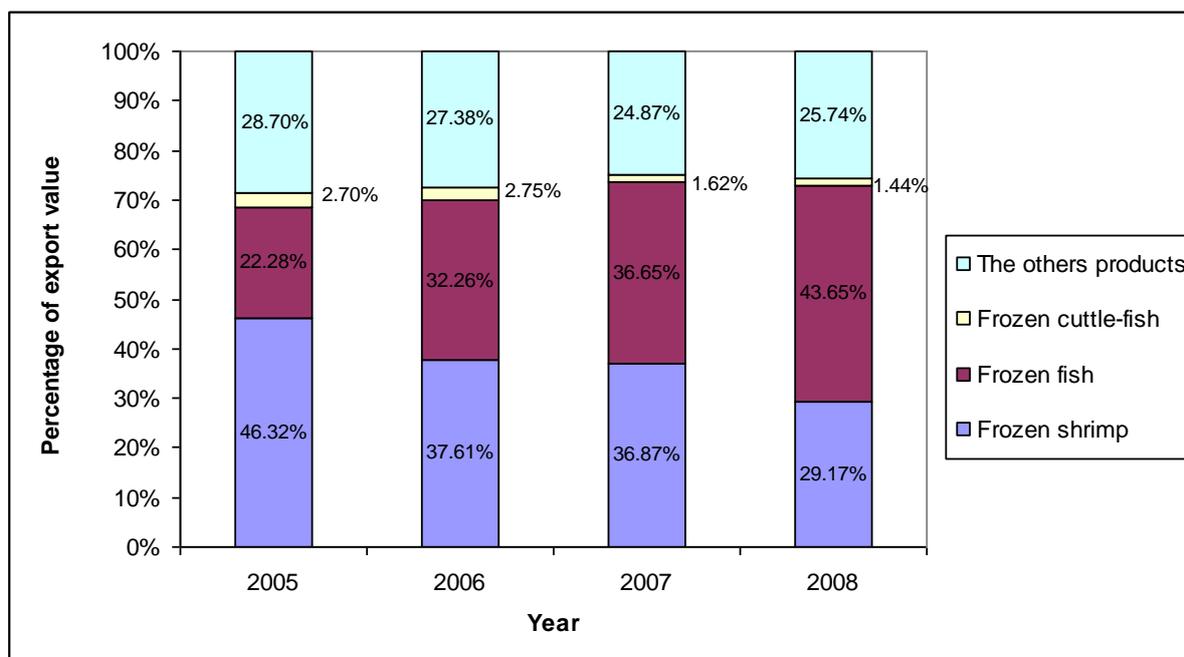
- The significant loss of mangroves and wetlands from conversion of coastal areas and estuaries to shrimp farming
- Aquatic animal disease outbreaks, water pollution, and salinization caused by poorly planned and managed shrimp farming in sandy and agricultural areas
- The dramatic recent rise in the use of trash fish in marine and freshwater aquaculture; such environmental interactions need careful consideration in the promotion of aquaculture in Viet Nam and should be addressed through better environmental planning and management practices and capacity.

1.2.2. Processing and export.

There are presently 405 industrial-scale processing plants in Viet Nam, of which 301 are certified for exporting to Europe, and 30 are certified to export to Russia. 74% have Hazard Analysis at Critical Control Points (HACCP) certification, 54% are Good Management Practice certified, 24% have EU certification while 16% were ISO certified. 80% are in the south, 12% in the central and 8% in the north regions (Post-harvest and Marketing Component, FSPS, 2009)

Processing over-capacity is still an issue of concern. At the end of 2009, plans were unveiled to upgrade technological aspects of cold-storage systems to help meet the export target of 5.5 billion USD by 2015. 584 facilities with a capacity of < 100 tonnes, 254 of < 300 tonnes and 50 of > 500 tonnes will be built. The ability to fast freeze will be incorporated in all updated units. This will go some way to improve quality and take advantage of seasonally high yields, to freeze now and market later when the price improves. Those companies building new facilities will receive preferential loans and advantageous land use leases. (European Union Economic and Commercial Counsellors, 2010).

Figure 5. Percentage of export value of different aquatic products



Source: GSO, 2009

The total volume of seafood exported in 2008 was 1,236,289 tonnes, worth US\$4.509 billion. This represents a 51% increase in volume and 61% in value over 2005 (626,991 tonnes exported, worth USD2.738 billion) (Post-harvest and Marketing Component, FSPS, 2009).

Figure 5., shows the percentage of export value of different aquatic products. The percentage export value of frozen shrimp has been declining because of anti-dumping taxes imposed by the USA, while frozen fish products like tuna have been steadily increasing.

In 2009, Viet Nam continued to export to over 150 countries. The main importer of Vietnamese aquatic products was the EU with 26% of Viet Nam's export turnover. Japan was second with 18% followed by the USA with 17%. (European Union Economic and Commercial Counsellors, 2010).

1.2.3. Viet Nam's fisheries development strategy:

In September 2010, the Prime Minister approved Decision 1690/QD-TTg which proposed a fisheries development strategy for Viet Nam to 2020 with development focus on the following:

- To develop fisheries into a commodity production industry with prestigious brands and high competitiveness in international economic integration in order to develop Viet Nam into a strong and rich sea-based country.
- To continue the economic and labour restructuring along with industrializing and modernizing the fisheries sector and reorganizing fisheries production in all areas of exploitation, aquaculture, mechanical engineering and logistic services as well as processing of aquatic products based on value chains.
- To improve living standards and conditions of the fishermen community and train human resources for the fishing industry, which are the objectives and driving force of fisheries development.
- To develop fisheries toward quality and sustainability.

And the target to 2020:

- The fisheries economy to make up 30-35% of GDP, within the agriculture-forestry-fisheries sector, with its production value rising by 8-10% annually. Seafood export turnover to reach USD 8-9 billion. The total fisheries output to reach 6.5-7 million tons, of which aquaculture accounts for 65-70%.
- To create 5 million jobs for fishermen with an average per-capita income tripling the current level. To train over 40% of fishermen.

Besides that, Department of Exploitation and Protection of fisheries resources is going to create the "Fishing Scheme by 2020" with the objectives:

- to reduce inshore fishing pressure;
- to sustainably, efficiently and safely develop offshore fishing; and,
- to contribute to the alleviation of poverty.

And the target to 2020:

- Total production of fishery catch reaches 2,200,000 tons/year, of which, offshore: 1.4-1.5 million tons and inshore: 0.6-0.7 million tons.
- Stabilize the fishing fleet with the following proportions: trawl-nets 30%, long line fishing 18%, gill-nets 18%, purse seine nets 12% and others 20%.
- For the fishermen, maintain employment and stable income for 1.2 to 1.3 million people, of which 0.6 million people will be crew members. Raise the average income of fishermen 2.5 times compared to today. Raise awareness about resource protection, 60-80% of fishermen receive vocational training. 100% of captains and chief engineers are trained and licensed.
- For fishery infrastructure, complete 39 ports, 13 regional level fishing boat storm shelters and 62 local storm shelters, and develop a ship-repair network with a capacity for building 3,000 vessels/year, and to repair 30,000 vessels/year.

In the aquaculture sector, The Prime Minister signed Decision 332/QĐ-TTg to approve the project on Aquaculture Development Toward 2020.

The project, focuses on comprehensive aquaculture development, costing around VND 40,000 billion, and aims to:

- Bring the aquaculture production up to 3.6 million tons, with a total culture area of 1.1 million ha, and an export value of US\$ 3.5- 4.0 billion and creating 3.0 million jobs by 2015.
- Aquaculture production increases to 4.5 million tons, with a total culture area of 1.2 million ha, and an export value of US\$ 5.5 billion and creating 3.5 million jobs by 2020.

The project also focuses on developing the quality and farming areas of ‘tra’ or *Pangasius* and shrimp as well as completing the hatchery network from the central to the local level. Under the objectives, the breeding system will supply enough high-quality aquatic seed for farmers by 2015 and will continue to research and produce high-value aquatic seed. Alongside the development of breeding and culture, the project will expand the aquatic products processing network across the country.

1.3. Description of the current situation of the fisheries sector in the targeted provinces.

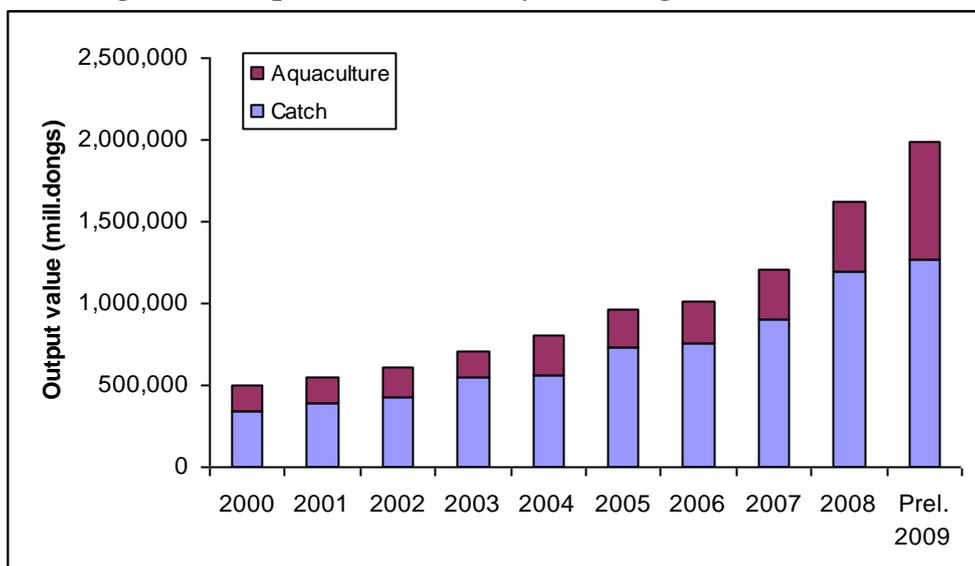
1.3.1. Quang Nam Province

Quang Nam is a central coastal province, with 125 km of coastline, over 40,000 km² of fishing grounds, three big sea ports namely Ky Ha (Nui Thanh), Cua Dai (Hoi An), and Cu Lao Cham islands. It is a very favourable environment for the development of fishing activities. In recent years, the fisheries sector has contributed significantly to the socio-economic development of the province, contributing to gradual poverty reduction and improvement of both material and intellectual life for coastal fishing communities.

During the last decade, fishery production in Quang Nam (including capture and aquaculture) has been increased continuously. From 2000 to 2009, the production of fishery increased 1.78 times (from 39,871 tons to 71,648 tons respectively) and the production of fishery capture has always and continues to be bigger than the production of fish from aquaculture (see figure 6).

The output value of fisheries sector has increased with the average rate of 1.17% over the last decade with the average growth of aquaculture being faster than capture (1.21% and 1.16%, respectively).

Figure 6. Output value of fishery in Quang Nam Province

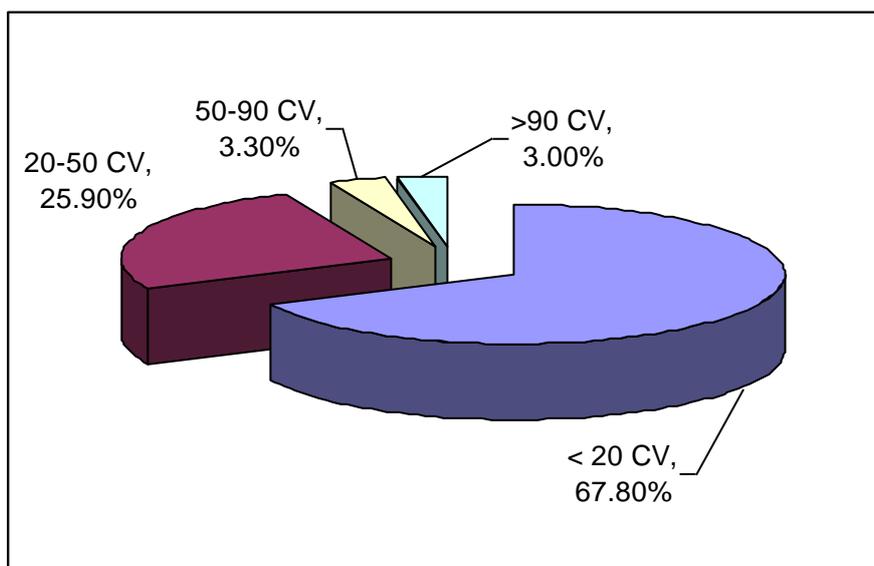


Source: Quang Nam statistical yearbook, 2009

1.3.1.1. Fishery catches:

Most of the fishing vessels in Quang Nam are small, with 67.80% of vessels have a capacity of less than 20 Horse Power (HP); 25.90% have a capacity from 20 to 50 HP and offshore fishing vessels represent only about 3%. (see figure 7).

Figure 7. Number of boats by capacity in Quang Nam, September 2009



Source: Report of Quang Nam fisheries sector, 2009

In 2008, about 25,000-26,000 people crewed fishing boats in Quang Nam Province. This accounts for nearly 3% of the total labour force in Quang Nam and 5% of the total labour force in Agriculture Forestry and Fisheries sectors. Table 3 shows that fishing activities are varied, but in general, the main fishing method for Scad, Anchovy and Herring is purse seining, while long lining is the major fishing method for squid capture.

Table 3. Fishing activities in Quang Nam, September 2009

Content	Number of boats	Rate
Trawl-net	308	8.60%
Purse seine	494	13.80%
Long line	405	11.34%
Services and procurement	140	3.92%
The others	2.223	62.20%

Source: Report of Quang Nam fisheries sector, 2009

The strong development of the small fishing boats with simple fishing gear and equipment (due to limited initial investment) not only constrains offshore fishing but also increases the pressure on inshore resources. This results in a reduction both of resources and economic efficiency of the inshore fishery. According to the Project of support for building and transforming offshore fishing vessels in Quang Nam Province in 2009 the productivity of inshore fishing in 1991 was 0.91 tons/HP/year but dropped to 0.34 tons/HP/year in 2005.

1.3.1.2. Aquaculture

Thanks to the development of the aquaculture technology, productivity has increased significantly and economic efficiency has risen continuously. Nevertheless, the production is not always stable due to diseases and the natural calamity (see table 4).

Table 4. Aquaculture situation in last five years

Year	Area of water surface for the aquaculture (ha)		Production (tons)	
	Area of sea and brackish water	Area of fresh water	Fishery product of sea and brackish water	Fishery product of fresh water
2005	2,774	4,800	-	5,838
2006	2,593	4,881	3,550	6,000
2007	-	5,060	-	10,000
2008	1,993	5,150	8,500	11,000
2009	2,000	5,100	13,100	5,490*
2010	7,280		21,400	

(*): The loss by storm: 760 tons

Source: Synthesis from the reports of Quang Nam fisheries sector (2005-2010)

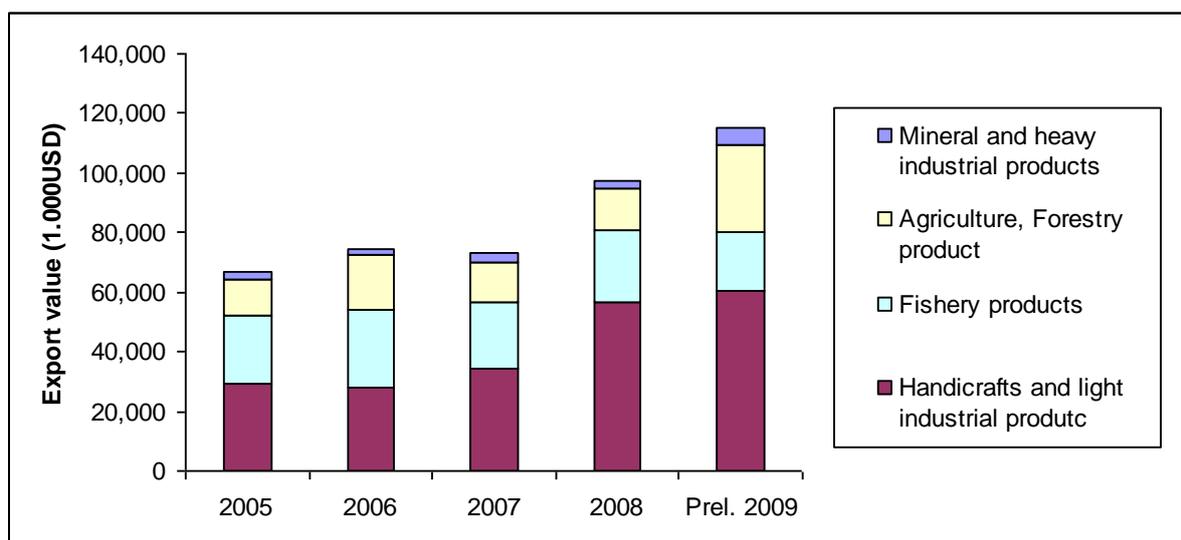
Tilapia is the main cultured freshwater species for both export and domestic consumption. Shrimp and increasingly white leg shrimp are main marine and brackish-water cultured species because of high revenue ranging from 350 - 500 million VND/Ha/year.

The characteristics of the aquaculture sector with a diversity of models, high value products, etc is attracting increasing investment into the sector.

1.3.1.3. Processing and export

Figure 8 demonstrates that export fishery product sector in Quang Nam has been unstable and reveals a downward trend over the last 3 years. That was due to weak processing production and the impact of the economic crisis. In 2009, export value of fisheries sector reached around 19.4 million USD, accounting for 16.8% of total export value. Meanwhile export value of other assets increased remarkably (mainly handicrafts and light industrial products). The main fishery exports include shrimp, dried anchovy, dried herring, etc. and major markets are Japan, China, Taiwan, Russia, USA and EU.

Figure 8. Group of goods for export in Quang Nam



Source: Quang Nam statistical yearbook, 2009

The domestic fish processing industry has grown steadily over time. The main products are fish sauce, steamed fish and dried anchovy, scad, and herring (see table 5). Those products come mainly from local small-scale and semi-industrial processors using simple technology. As a result the final products are not competitive enough and end up at the provincial market or in upland areas in neighbouring provinces.

Table 5. Production of fishery processing for domestic market

Year	Fish-sauce (1000 l)	Steamed fish and dry fish (tons)
2005	6,400	5,000
2006	7,000	5,500
2007	7,500	5,700
2008	8,500	6,000

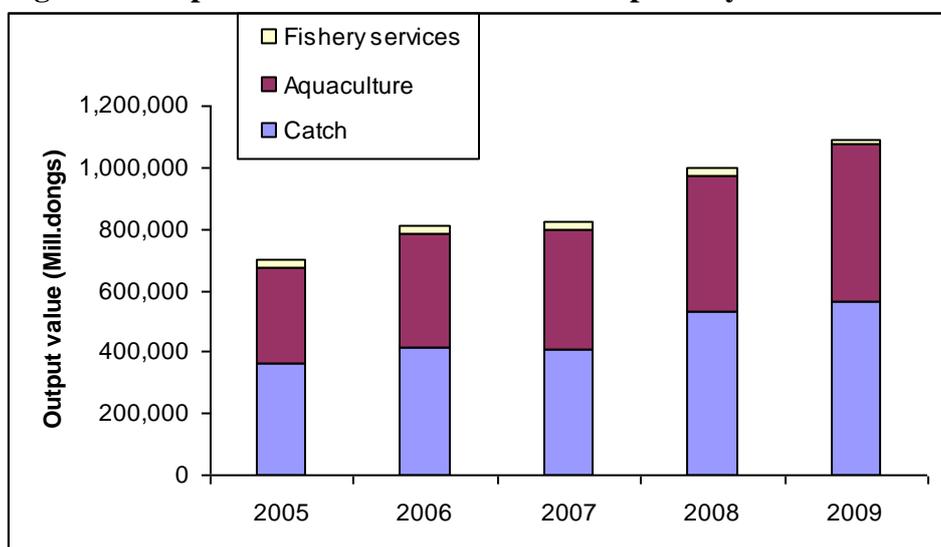
Source: Synthesis from the reports of Quang Nam fisheries sector (2005-2008)

1.3.2. Hue Province

Thua Thien Hue Province is located in the key economic region of Central Viet Nam and has over 120 km of coastline. The lagoon of Tam Giang-Cau Hai, with 22,000 ha of water surface, stretches 68 km in Phong Dien, Quang Dien, Huong Tra, Phu Vang, Phu Loc districts. This is one of largest lagoons in the world. These natural conditions offer great advantages for the development of fisheries sector.

In recent years, the fisheries sector has made numerous remarkable achievements. Fishery production in 2003 was about 25,000 tons, reached nearly 38,000 tons in 2009, and predicted production in 2010 was 38,500 tons. The value of fisheries sector has increased by an average of 1.12% per year for the last 5 years, with capture fisheries, aquaculture and processing contributing 51.6%, 45.6% and 2.8% respectively (see figure 9).

Figure 9. Output value of fisheries at current price by kind of activity



Fishery service: Value of activities conferred by hatcheries and nurseries

Source: Hue statistical yearbook, 2009

1.3.2.1. Fishery Catches

At present, the total number of registered vessels in the province is 4,261 with a total capacity of over 72,000 HP of which 186 are offshore fishing boats with capacity ranging from 90 to 250 HP. Fishers have invested in various offshore fishing gears and equipment, resulting in significant increase in both fishing productivity and efficiency. Additionally, they are also able to catch high value fishery products like tunas (*Thunnus*) and pomfrets (*Stromateoides argenteus*).

The exploitation of Tam Giang-Cau Hai lagoon has been restructured by the IMOLA project funded by the Italian Government and the Food and Agriculture Organisation (FAO) of the United Nations. This project is assisting the Provincial People's Committee of the Thua Thien Hue Province to develop a co-management strategy for the management of fishery resources in the lagoon.

Table 6. Production of fishery catch

Year	Inland water catch (tons)	Sea catch (tons)	Total (tons)
2005	2,711	19,183	21,894
2006	3,241	21,067	24,308
2007	3,604	23,962	27,566
2008	3,720	24,736	28,456
2009	3,620	25,390	29,010
2010	4,060	26,435	30,495

Source: *Synthesis from the reports of Hue fisheries sector (2005-2010)*

Table 6 shows that the total production of captured fish increased steadily with an average annual growth rate of 7%. However, the production of inland fishery catches in 2009 declined slightly in 2008 following the rearrangement of the fishing traps. (Report of Hue fisheries sector, 2009).

From present to 2015, 15 fisheries sector projects with a total investment of 167 billion VND are planned, focusing on the following areas: equipping of offshore fishing vessels, establishment of Phu Hai mooring spot, upgrading and expansion of Thuan An fishing port, investment in the construction of fish landing of Cau Hai, Bai Dau landing site (Hue City), etc.

1.3.2.2. Aquaculture

In the last 10 years, the Central and local government have invested over 300 billion VND to promote fisheries development. 250 billion VND was invested to develop over 3,000 hectares of aquaculture ponds and 3,000 cages. 4 billion VND has been invested in the construction of the Breeding Centre for Brackish Water Aquaculture. This will lay the foundation for further development and will contribute to a shift from the inland capture fisheries to a diversification into high value aquaculture production. (VASEP, 2010).

Table 7. Aquaculture in Hue province

Year	Area of water surface for the aquaculture (ha)		Production (ton)	
	Area of sea and brackish water	Area of fresh water	Brackish water fishery	Fresh water fishery
2005	4,030.0	1,458.0	2,740.0	2,536.90
2006	3,881.0	1,521.8	4,817.0	2,703.00
2007	3,712.1	1,735.2	4,697.2	3,482.38
2008	3,748.6	1,801.9	5,659.3	4,236.10

Source: *Synthesis from the reports of Hue fisheries sector (2005-2008)*

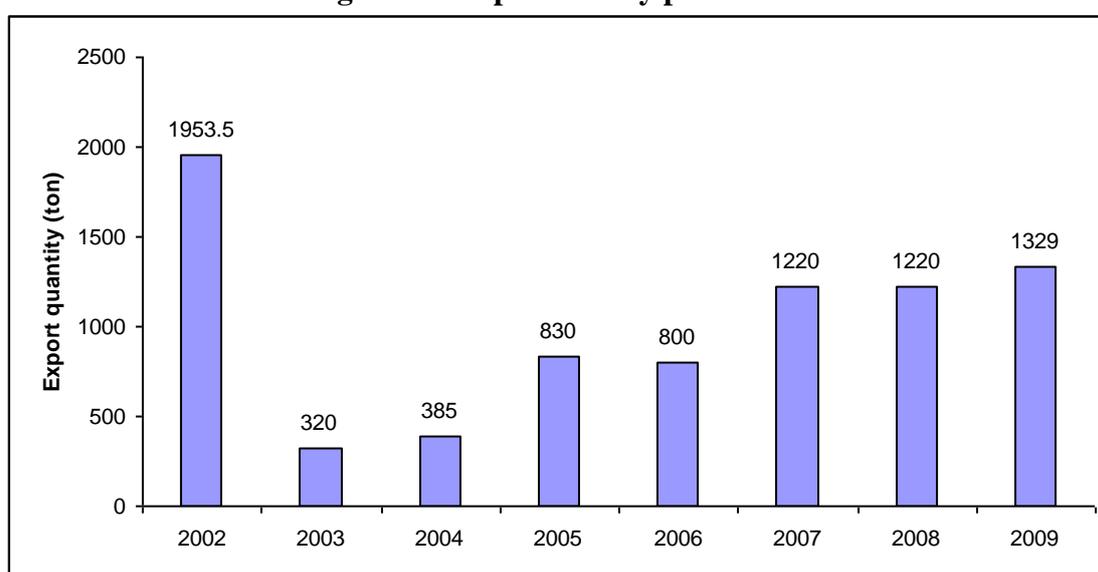
Table 7 shows that aquaculture production increased between 2005 and 2008 and especially for brackish water culture. The production increased regularly despite a decrease in aquaculture area. This success is attributed to the application of improved, aquaculture technologies and seed.

1.3.2.3. Processing and export

During the period 2000-2002, Song Huong seafood Export Joint-stock Company exported ten million USD, accounting for 80% of total export value of Hue province. Hence when this company closed, the export value dropped to only 5 million USD and 3 million USD in 2003 and 2004 respectively.

Figure 10, shows that the quantities of processed aquatic products exported has fluctuated. Currently, there are four processing companies specializing in frozen products with a total export capacity of 5,800 tons/year in the province. However, only Thua Thien Hue Fishery Development Joint-stock Company has stable operation and development with sushi (squid and fish) being its main product. About 90% of its raw materials come from other regions of which 80% is from other provinces and 10% is imported from overseas.

Figure 10. Export fishery production



Source: Report of fishery processing sector and exportation sector in Hue, 2010

Fish processing for the domestic market:

There are thousands of small and medium-scale seafood processing establishments all over the province which provide employment for a large number of villagers living along the coast and around the lagoon area. Major products include all kinds of sauces and pastes (fish, shrimp, sour shrimp, etc). Currently there are nine traditional fish processing villages with 2,000 employees (70% of them are casual labour). In 2009, the total value of domestic processing reached around 200,000 million VND, twice as much as in 2005. Outdated processing technology, limited equipment and simple production methods are blamed for the low competitiveness of the final products and limited market penetration, thus the products are sold mainly in local markets.

1.4. Review of past and ongoing initiatives and assistance to improve marketing

Briefly review past and on-going initiatives and assistance by different groups (including public and private, government of Viet Nam and donor agency) to improve marketing of capture fisheries products by local small-scale fishers in the two targeted provinces.

1.4.1. Hue province

There has been support from foreign agencies in Hue province, namely the Danida Fisheries Sector Programme Support II (Component 4. Strengthening Capacities of Post-harvest and Marketing - POSMA). Beneficiaries of this programme include domestic producers, traders, small-scale processors. The support focused on strengthening marketing systems through various activities, including the following: export market promotion centres in international markets, development of the system of trademarks and denomination of origin as marketing tools and support to a technology and product development centre, the latter conditional on the outcome of a pre-feasibility study, further decisions by MOFI and a positive joint appraisal. Within the framework of the component, Hue Sour Shrimp Association (Husa) was supported in successful registration of its collective brand name “Hue Sour Shrimp”.

The support of trade promotion programme in Viet Nam includes two activities namely development of brand name and market research.

Development of brand name:

Processing firms have to complete certain documents in compliance with the rules and regulations for registration of a brand name. All registration expenses are supported by the district’s bureau of industry and trade and registration is valid for a period of 3 years. Expenses for the first renewal of brand name are also supported by the district’s bureau of industry and trade; however, processing firms have to pay for the following renewals by themselves.

Advertisement and research the market:

- National programme:
 - Support for fishery processing firms to participate in international fairs in foreign countries by the provision of free booths
 - Support for fishery processing firms to participate in national or regional fairs in others provinces by the provision of free booths
- Provincial programme:
 - Cooperate with the district’s bureau of industry and trade to organize trade fairs and select sectors to support, aligned to provincial orientation. The district’s bureau of industry and trade submits to the Trade Promotion Centre a list of processors who need support. The Trade Promotion Centre then selects certain processors after checking and comparing production among candidates.

Table 8. Trade promotion activities for Danh Van fish-sauce processing firm in 2010

The fair	Description	Donor	Support's content
The international fair in Hue city	The fair for all kinds of goods	Trade promotion programme of Hue province	Provision of a free booth
Traditional villages fair in Phong Dien district	The fair focused on the traditional products	Department of industry and trade	Provision of a free booth

Source: Personal interview with Ms. Hoang Thi Danh, firm owner

Table 9. Trade promotion activities for Thanh Van fish-sauce firm in 2010

The fair	Description	Donor	Support activities
International fairs in Thailand and China	Support for small-scale fishery processing firms	Export promotion programme of MOIT	Provision of free booths and all the other expenses for the trips
The national fair in Hanoi	Anniversary ceremony for a thousand years of Thang Long	Anniversary ceremony programme	Provision of a free booth and all the other expenses for the trip
The regional fair	Support small-scale fishery processing firms	Regional trade promotion programme of MOIT	Provision of a free booth
Tet's holiday trade fair	The fair for all kinds of products of the province	Department of Industry and Trade	Provision of a free booth

Source: Personal interview with Ms. Nguyen Thi Van, firm owner

1.4.2. Quang Nam Province

There has not been any support from foreign agencies to improve marketing activities of local small-scale fishery processors yet. Support for marketing is only integrated in trade promotion campaigns launched by the government or the provincial authorities. Normally, a trade promotion programme composes of 3 activities:

- Development of products
- Development of a brand name
- Market research.

From 2006 to 2008, the provincial policy focused on improving fisheries sector marketing by supporting large-scale fishery processors to participate at a trade fair in China. However, the production of the fishery processing firms in 2008 declined during the economic crisis. From 2008 onwards, provincial policy has focused on improving marketing for handicraft products

as this sector has great potential, suffers from little competition and generates stable income for people in the province. Therefore, trade promotion for fisheries sector has focussed on encouraging fishery processing plants to take part in trade fairs.

The trade promotion support programme composes of:

- National programme:
 - Support fishery processing firms to participate in the international fairs in foreign countries by the provision of free booths
 - Support fishery processing firms to participate in the national and regional fairs in other provinces by the provision of free booths
- Provincial programme:
 - Cooperate with the district's bureau of industry and trade to organize trade fairs and select sectors to support, aligned to provincial orientation. The district's bureau of industry and trade submits to the Trade Promotion Centre a list of processors who need support. The Trade Promotion Centre then selects certain processors after checking and comparing production among candidates.

Table 10. Trade promotion activities for fisheries sector in 2010

The fair	Content	Donor	Support's content
Trade fair in Lao Cai	The fair for trading and for improve the small amount exportation	Export promotion programme of MOIT	Provide free booths and other expenses (transport, accommodation, etc.) worth 9 million dong to dried fish and fish-sauce processing firms to participate in the fair, however, in the end they could not connect with any new client due to small-scale production.
Seoul fisheries International fair	The fair focuses on fishery processing and technologies. It is held annually at the International Exhibition Centre COEX	National programme for export promotion	The Trade Promotion Centre sent out invitations to fishery processing firms. The Trade Promotion Centre organized a trip for participants. The booths were free but no firm was involved.
Tet's holiday trade fair	The fair for all kinds of products of the province	Department of industry and trade	In total there were 8 processors involved as selected by the Trade Promotion Centre. <ul style="list-style-type: none"> - 2 firms in Duy Xuyen district - 2 firms in Thang Binh district - 2 firms in Tam Ky city - 2 firms in Nui Thanh district The support for each firm included a free booth and 4 million VND for transport, accommodation, etc.

Source: Report on Trade Promotion 2010 and personal interview with Mr. Thieu Viet Dung, Director of Trade Promotion Centre.

2. Methodology

According to the ToR and the submitted offer, the review of Selected Marketing Chains and Arrangements in both targeted provinces was carried out in three steps: (i) data collection, (ii) hypothesis sharing / validations and (iii) preparation of recommendations.

The project implementation started 30th December 2010, when the National Consultant (NC) started to collect previous studies on value chain / market chain of fisheries products in Viet Nam.

These studies were also sent to the International consultant before the beginning of the field work in order to have a clearer picture of the current situation and the existing information gaps.

The National Consultant also reviewed past and on-going initiatives and assistance by different groups to improve marketing of capture fisheries products by small-scale local fishers in the two target provinces.

A week before the field work was carried out by both consultants, the NC went to the provinces and met with stakeholders of the project in the provinces and local authorities in order to collect secondary data available, to identify the main actors and main municipalities (communes) linked with small scale fisheries, and to organise the visits and interviews plan.

Once small-scale fisheries in the targeted provinces were assessed, the team proposed a more in depth analysis of the major identified commodities. The following criteria were used to identify the main commodity for value chain analysis in each province:

- Production: main species caught and catches volume.
- Number of small-scale fishers involved in the production of certain commodities.
- Number and engine capacity of involved vessels.
- Main gear used.
- Seasonality.
- Fish products' origin: marine or lagoon fishery.

The NC combined the 3 methods to collect the information needed to identify the commodities to be deeply analysed:

- Participatory Rural Appraisal (PRA) session with the fishers in local to identify the main fishing methods used and the main species caught.
- Interviews with the local authorities (Key Informant Person) to gather background on the current local fishery sector situation.
- Collection of secondary data.

Identification of the most important commodity of small-scale fishers is detailed below:

Hue province:

- PRA session:
 - Method: SSI (Semi-Structure Interviews) were used to collect the information
 - Location: Loc Tri commune
 - Participants: fishermen, collectors and processors, see the list of participants in annex II
 - Interview with the local authorities
 - Interviews with local authorities at provincial level and at the selected commune, Loc Tri, Phong Hai, Phu Thuan, see the list of interviewed people at annex II
- Collect secondary fisheries sector data in the selected commune Loc Tri, Phong Hai and Phu Thuan, see the list of documents at Chapter 9.

Quang Nam Province:

- PRA session:
 - Method: SSI (Semi-Structure Interviews) were used to collect the information
 - Location: Duy Hai commune
 - Participants: fishermen, collectors and processors, see the list of participants in annex II
- Interview with the local authorities
 - Interviews with local authorities at provincial level and at the selected commune, Duy Hai and Binh Minh commune, see the list of interviewed people at annex II
- Collect secondary fisheries sector data in the selected commune Duy Hai et Binh Minh, see the list of documents at Chapter 9.

The following tables show the main available information used in order to choose the target commodities in each province.

Table 11. Summary of fisheries information in Thua Thien Hue Province for selecting the targeted commodity

Origin	Used gear	Vessels		Main catches	Number of involved fishers	Season	Quantity
		Number	Power				
I. Thua Thien Hue Province							
I.1. Loc Tri Commune, Phu Loc district							
Marine exploitation	Purse seine	35	90-250 HP	Scad (70%) Tuna (15%) Other (5%)	245	March to August	840 tons
	Cover seine			Cuttlefish (10%)			
Lagoon exploitation	Fish trap	45	n/a	Shrimp (65%) Fish (30%)	370	Shrimp: June-September	290 tons
	Seine	n/a	n/a	Fish (80%) Shrimp (15%)		Fish: All year	
I.2. Phu Thuan Commune, Phu Vang district							
Marine exploitation offshore	Purse seine	59	72-350 HP	Scad (70%)	590	March to August	6,698 tons
	Trawl-net			Tuna, mackerel			
Marine exploitation inshore	Trawl-net	n/a	n/a	Goat-fish, herring, Scad	300	Depend on the tide	1,200 tons
	Fish						
Lagoon exploitation	Fish trap	120	16.5-24 HP	Fish	370		105 tons
	Trawl-net			Fish			
I.3. Phong Hai Commune, Phong Dien district							
Marine exploitation inshore	Trawl-net, seine	90 machine 17 handily	15-20 HP	Anchovy and Scad	360	South (March - July)	680 tons
				Herring		North (July - February)	

Table 12. Summary fisheries information in Quang Nam for selecting the targeted commodity

Origin	Used gear	Vessels		Main catches	Number of involved fishers	Season	Quantity
		Number	Power				
II. Quang Nam Province							
II.1. Duy Hai commune, Duy Xuyen district							
Marine Exploitation	Purse seine	19	30-45 HP	Anchovy and Scad reached 60-70% total quantity.	190	South (March - October)	2,000 tons
	Trap	50	20-30 HP	Cuttlefish	400	South (March - October)	1,400 tons
	Seine	80	n/a	Crab		North (October - February)	1,100 tons
II.2. Binh Minh commune, Thang Binh District							
Marine exploitation	Purse seine	120	60-100 HP	Anchovy (70%) and Scad	1,000	South (March - October)	3,500-4,000 tons
	Trap	7	90-150 HP	Cuttlefish	42	All of year	-
	Longline for cuttlefish	05	90-350 HP	Cuttlefish	128	North (October - February)	310 tons

The study was meant to focus on marine small-scale fishers so the lagoon fishery was excluded. Most of the studied trawlers had an engine power over the average and were responsible for most of the tuna catches. These vessels are classified as semi-industrial rather than small-scale fisheries, so this section of the fishery was excluded from the study.

The biggest productions in targeted provinces were the small pelagics (Scad, anchovy and herring) and the majority of fishers were involved in fishing for small pelagics. It was decided not to select the same commodity in each province therefore **Scad** (*Decapterus spp.*) was recommended for study in **Thua Thien Hue** and **Anchovy** (*Encrasicholina spp.*) in **Quang Nam**.

The selected species were submitted to the RFLP Viet Nam (VIE) team and they were approved in a meeting held in Hue at the beginning of the field work of the consultant team (January, 17th 2011).

The next step, data collection tasks were conducted by in-depth interviews with different stakeholders in the market chain. The list of people interviewed is at ANNEX II of this report. The selection of actors was done to cover all the proposed districts and every link along the value chain for the selected commodity.

In order to standardise all data collected and avoid data loss, the consultant team created several questionnaires. These questionnaires were used as a guide and were adapted for the different agents along the chain. Questionnaires were also submitted to RFLP VIE and can be found at ANNEX III of this report. The number of the interviewed actors per province is shown in the table below:

Table 13. Number of interviewed actors per province

Actor	Number of interviewed actors			
	Thua Thien Hue Province		Quang Nam Province	
	Male	Female	Male	Female
Ship owner	5	0	5	0
Fisher (employee, not owner)	3	0	2	0
Collector	4	0	3	1
Wholesaler	3	0	1	2
Employee of wholesaler	0	1	0	0
Processing Industry	1	2	3	2
Distributor	0	1	0	0
Retailer	1	1	0	2
Ice, petrol supplier	1	0	1	0
Restaurant / Rice post	0	1	0	1
Consumer	0	1	0	1
Other (trade promotion centre)	0	0	1	0
TOTAL	18	7	16	9

The consultants were quite flexible to include new actors and to give more attention to the most relevant stakeholders for each commodity. That was the case of the fish processing industry in Quang Nam Province (most of the anchovy captured by small-scale fishers ends up in that industry) or trade promotion centre in Tam Ky. Details of the itinerary and the activities conducted during the field trip are given in ANNEX IV.

Field work preliminary findings were presented, discussed and validated in the debriefing sessions organised in each province at the end of the field trip (January, 22nd in Hue and January 28th in Duy Hai). The participation of and feedback from stakeholders in these sessions was fruitful. Material used during the debriefing session is given at ANNEX V.



Pictures 2 & 3: Debriefing Sessions in TTH and QN provinces

3. Description and analysis of the existing marketing chain

Most of the data included in this chapter (prices, quantities, role or importance of actors, incomes, etc.) comes from the information collected during the field work (in-depth interviews with actors) and secondary data collected at the local and national level.

The major information that appears in this report has been validated during debriefing sessions held in both targeted provinces with the concerned actors.

3.1. Market Chain in Thua Thien Hue Province.

In Thua Thien Hue Province, the market chain for Scad caught by small-scale fishers has been fully analysed. The study does not consider Scad captured by semi-industrial or the industrial fleet, since they are not considered small-scale and are therefore outside the scope of this study.

The studied chain has been divided for study purposes in three basic phases: Producers, Traders and Consumers. Characteristics of identified agents are hereafter described and they are followed by a flow diagram of Scad trade within the province.

3.1.1. Producers

Two different small-scale Scad (*Decapterus spp*) fisheries have been identified in the Thua Thien Province namely i) Coastal small-scale fisheries and ii) Offshore small-scale fisheries. The characteristics of both fisheries are described below. Scad catches are very important for

small-scale fishers and their livelihood depends on the availability of this species. What local producers, processors and vendors of the central region of Viet Nam call Cá Nuc or Scad includes several different species:

Table 14. Main species of “Scad” in Viet Nam

<p><i>Decapterus maruadsi</i> - Round Scad (FAO: Japanese Scad) Cá Nục sò (Picture by Williams, J.T. Fishbase.org)</p>	
<p><i>Decapterus macrosoma</i> - Layang Scad (FAO: Shortfin Scad) Cá Nục thôn (Picture by Williams, J.T. Fishbase.org)</p>	
<p><i>Decapterus russelli</i> - Scad (FAO: Indian Scad) Cá Nục (Picture by Randall, J.E. Fishbase.org)</p>	

The composition of the Scad catches varies seasonally and even from day to day when using the same gears in the same fishing areas. There are marked differences that will be described further later in this report.

There are intermediate agents between the fishers and the traders called collectors. The collectors use boats similar to those of the small-scale fisheries except they have no gear on board. They go to the fishing grounds where small-scale fishermen operate and buy their catches from them, allowing the fishers to continue fishing rather than having to go back to shore with their catch. In addition to collecting fish, the collectors also supply ice, fuel and fishing lamps (light) to the fishers.

3.1.1.1. Coastal small-scale fisheries characteristics

Typically the inshore fishers use wooden fishing boats with 15-20 HP engines, that are 6-7 m long, 1 m breadth and with a crew of 4 to 6 people onboard (owner plus 3 to 5 fishers). The retail price of these boats is estimated at 30 million VND brand new. They have no communication, stock-finding, security or catch



Picture 4: Small-scale fishing boat in Phong Hai

storage equipment or facilities.

These inshore boats fish daily using purse seines or surround nets and gillnets. The average daily catch is estimated at 150 kg with seasonal differences, with the peak season being between April and September. They fish an average for 20 days per month while the weather allows.

Most small-scale inshore fishers are subsistence fishers who fish for household maintenance. The wives usually sell the fish caught and often the eldest sons (when there is one) will fish with their fathers.

Most coastal communities in central Viet Nam have infertile sandy soils which are unsuitable for agriculture. Fisheries and occasionally animal husbandry are the main sources of household income.



Picture 5: Small-scale fishing boat in Phong Hai

The main species caught are Scad (Cá Nục, *Decapterus spp*), anchovies (Cá Còm, *Encrasicholina spp*) and cuttlefish (Mực Nang, *Sepia spp*). Minor species caught are Ca Ho, herring (Ca Trich) and Ca hoa.

The distribution of species in the catch depends on the season, with the biggest catches being caught between April and August.

Fishers do not use ice or cold boxes for storage. They typically leave the

shore by 05:00 hours and return by 15:00 hours. Catch is landed directly on the beach in close proximity to where the fishers live. There are no landing facilities or ports. Women sell the catch later at local markets or the following day early in the morning.

These fisheries generate an average yearly income of 30 million VND (around 1,500 US\$) per family. The average daily investment to go fishing is estimated to be about 300,000 VND for fuel and food. The crew is paid with a share of the catch once the maintenance costs have been deducted.

Vessel owners are self-employed, although several people may share the investment cost to construct or to buy a fishing boat. Fishers seldom have formal agreements with wholesalers or retail companies but they normally take loans from middlemen or neighbours to cover their operating costs like fuel, boat repair and maintenance and investments like new nets and gears purchase (around 20 million VND a year).

Fish caught can go to final consumers in local markets, intermediate agents and to small processing industries like fish sauce production. The catch is transported to market on foot or by motorbike and its cost is covered by the fishers.

The first selling price at local markets is negotiated directly with buyers, depending on species, size and freshness. As a general rule, the highest value species is the cuttlefish (Muc Nang) which can be sold at 50,000 – 60,000 VND / kg.

Small pelagic fish like Scad typically sell for between 7,000 and 10,000 VND / kg. Larger and fresher fish sell at a premium price. During the peak season (between April and August) Scad prices can fall to 4,000 VND / kg.

3.1.1.2. Offshore small-scale fisheries characteristics

Offshore small-scale fishers use wooden boats with 130 HP² engines (90 to 250 HP), that are 10 m long, 3.5 m breadth and with a crew 10 to 12 people (including the owner). The retail price for a brand new boat is estimated at 900-1,000 million VND. They have communication facilities (short range radio system), navigation facilities and stock-finding equipment, but no security elements or storage facilities are available.

Offshore fishers fish for 20-22 days a month between April and September and for 4-5 days a month for the rest of the year. Gear consists of purse seines and gillnets but they fish mainly at night using lights to concentrate pelagic fish. The average daily catch is 1.5 – 2 tons with seasonal oscillations. The peak season is between April and September.

Offshore small-scale fisher fish 40 to 100 miles far from the coast when the weather allows. After each fishing trip, they rest for a week on land before they leave again (thus 22 fishing days per month are estimated). Fishing takes place mainly at night between 18:00 hours and 05:00 hours the following morning.



Pictures 6 & 7: Offshore fishing vessels in Phu Thuan

Generally, offshore small-scale fishing activities are the only livelihood for fisher families. Catch is off-loaded at sea, usually very soon after capture and sold to collectors while the fishers stay offshore to maximise fishing time. The nearest collector is contacted by radio.

² Engine power and size can be considered too high for small-scale or artisanal fisheries but these offshore fishers have been included in this study because they are *traditional fisheries involving households, using relatively small amount of capital and energy and the catch is mainly for local consumption*. (FAO Glossary).

Sometimes the collectors support the fishers by supplying lamps to concentrate pelagic fish. It is customary to find 3-4 boats sailing together with a collector nearby with whom they have agreed to work.

This operational procedure enables fishers to work longer offshore without the need to land catches every day or every other day. Fish retail price offshore is negotiated after communicating by the radio with women selling fish at the market and knowing the retail prices at the market on that particular day. Average Scad selling price for the last year has been 12,000 VND/kg. Other species fetch higher prices although their average catch quantity is lower. Examples include small tuna (30,000 VND/kg) and mackerels (up to 80,000 VND/kg). Payment is made in cash on board when the fish is transhipped from the fishing boat to the collector boat.

The catch usually comprises small pelagic fish like Scad (*Cá Nục, Decapterus spp*) between April and September, captured with purse seine nets, and small tuna between October and March caught with either gillnets or purse seines.

Fishers use block ice that they buy before leaving the harbour and from the collectors when they are offshore. On each trip they use an average of 3 tons of ice (70 blocks of ice of 40-42 Kg at 12,000 VND / block). The ice is crushed and mixed with sea water or used as a whole blocks to keep the temperature in the boat hold low. When whole ice blocks are used, direct contact with the fish can result in ice burns which lower the fish value. Ice is used while fishers wait for collectors to come and buy their catch (in case there is no collector in the nearby vicinity when the fish is caught), to keep high value fish fresh in the hold and for fish taken in the last net haul before returning to harbour and selling the fish directly on landing.

Income from selling fish can reach 500 million VND (around 25,000 US\$) in a good year. Each 22-25 day trip needs a 50 million VND investment (petrol, ice and food), where petrol represents the highest part of this investment (3,000 litres at 14,700 VND/l = 44.1 million VND).

Fishermen employed as boat crew are remunerated in cash coming from the fish sales after running costs have been deducted. The average monthly salary for a fishing crew member is 1.5 million VND.

Gears and boat maintenance and repair cost boat owners an estimated 20 million VND, and 40 – 50 million VND annually.

Vessels are usually jointly owned by two or three associates. Each vessel works independent of any collector, wholesalers or processing companies. Sometimes, one of the boat associates may also be a collector or a wholesaler, but this does not force the boat to sell the catches to that person.

3.1.1.3. Collectors' characteristics

Collectors tend to use wooden boats with a 130 HP engine, 12-15 m long and 4 m breadth.

Thuan An municipality has a collector association with 30 boats. This association was created 2 years ago and enables collectors to split up in four groups covering a major offshore

fisheries area each (some of them operate close to neighbouring provinces such as Da Nang and Quang Binh).

Collector's boats spend 3 to 5 days at the sea before returning to harbour, and they can make 5 to 7 trips a month in the peak season (February to August).

These boats feature lights, sonar, GPS and radio facilities. The usual radio frequencies are UHF and VHF sent and received through short antennae, limiting the communication to 25-50 miles around them. Collectors and fishers beyond 100 to 120 miles offshore have serious communication problems because they require direct sight communication with radio stations on land.



Picture 8: Collector vessels in Loc Tri

On each trip, collectors land 10 to 15 tons of fish, made of small pelagic species such as Scad. They pay the fishers in cash, so must carry significant amounts of cash when leaving land for the open sea.

The Thuan An collector's association with their 30 vessels, lands more than 12,000 tons a year from 7 months worth of trips to offshore fishing grounds. Therefore, according to provincial statistics, practically all the Scad landings come from collectors with the proportion of Scad landings from fishers being relatively insignificant.

It must be pointed out that not all the fish captured in the provincial waters of Thua Thien Hue Province are landed there. The wholesalers or processing plants where collectors sell fish to are chosen while negotiating over the radio, and should they negotiate a better price with a client from another province, they switch their destination and land fish wherever they are told to land by the client.

Collectors carry no fishing gear. In some communities, collectors use their boats outside peak fishing season for coastal fisheries with purse seines, gillnets or fish traps, but this is unusual. At this time, they act as coastal fishers and their wives sell the catch in local markets.

Each boat typically carries 7 people on board (including the owner or owners). The crew is paid in cash after selling the collected catch and deducting operating costs.

As offshore small-scale fishers do, collectors negotiate prices with wholesalers on the radio while on board their boats and, at the same time, they check local market prices by communicating with their wives working on land.

Collectors store fish in 20 kg plastic barrels by covering it with crushed block ice following size grading (they grade by the number of fish per kg). The largest Scad are sold on land at 10,000 – 15,000 VND/kg, higher than smaller Scad (which are sold at 5,000 – 7,000 VND/kg).

Collectors usually accompany fishers from their community to the fishing grounds, but there is no fixed agreement between them. If the catches from these fishers are low, they may buy fish from other offshore fishers or if the catches exceed the collector's storage capacity, fishers will negotiate with other nearby collectors.

The present study considers collectors as intermediate agents between producers and traders. They carry no gear but they are not merely traders because they closely cooperate with fishers by supplying ice, fuel and night fishing lamps, and outside the peak season they may stop collecting and become coastal fishers. If the collectors disappeared, offshore fishers would have to considerably alter their operational procedures.

3.1.2. Traders

The agents participating in market chain between fishers and consumers have been included within the traders group. Traders commence work when the aquatic product is landed and their work ends when the product reaches the end consumer.

In the case of Scad in Thua Thien Hue Province, the identified traders are:

- Local traders or small-scale wholesalers working in small communities.
- First level wholesalers, based at landing sites.
- Second level wholesalers, based in Hue province's capital, and specifically at Bai Dau Market.
- The fish processing industry.
- Distributors or intermediate agents operating far from the coast or from the capital.
- Retailers.
- Artisanal fish processors.

Post-harvest processing of Scad in Thua Thien Hue is primarily for fish sauce, and secondarily drying. When there is a demand, large processing plants buy Scad from small-scale fishers and freeze or dry it for export. Approximately 300 tons is exported this way each year.

Artisanal fish processors have been included among the traders because about 20% of the Scad landed by in-shore fishers is processed rather than being sold fresh in the local market.

3.1.2.1. Local traders' characteristics

Local traders are intermediate agents who buy landed catch at small community beaches. They buy fish from coastal small-scale fishers. These intermediate agents are not found on every province beach, but they take an estimated 20% of Scad catch landed by small-scale coastal fishers in the province.

These traders do not usually sort, or grade fish, add ice or transport fish. They just concentrate the catch at landing sites and inform a first level wholesaler who comes and collects the product.

The importance of the local traders or intermediate agents is their degree of familiarity with the fishers (they often live in the same community) and the fact that they often lend money to small-scale fishers to cover fishing trip operating costs. They act as agents for a wholesaler and establish links with fishers by financing their activities.

Acting as wholesalers' agents, the absence of those local traders would imply the absence of wholesalers interested in buying the fish coming from the fishing community where those agents act. Such absence would force fishers dependant on money lent by these agents, to look for an alternative source of funding for supporting their activity.

3.1.2.2. First level wholesalers' characteristics (wholesalers at landing sites)

These wholesalers buy Scad from collectors and from their local traders (if they have agreements with any of them) and are based near the coast (Thuân An) where the collector's boats can arrive and land fish easily.

Then, first level wholesalers sell and send Scad to second level wholesalers (based in Hue city or in other provinces) who then distribute to retailers and fish processing plants. Fish selling and transportation is carried out as quickly as possible. Some first level wholesalers' have cold storage facilities available, so they can preserve and hold fish back when market prices are lower.



Picture 9: Collector vessels in Thuan An

As was previously stated, selling prices to the first level wholesalers are negotiated by radio with collectors before they land the Scad. When a price has been agreed, collectors travel to the wholesalers' location to land their catch.

First level wholesalers in Thua Thien Hue Province sell the majority of their Scad to second level wholesalers negotiating quantities and sell prices over the telephone or by visiting second level wholesalers. If first level

wholesalers have to carry fish to the second level wholesalers, they include transport costs in the sale price.

These wholesalers grade Scad in 10 kg plastic boxes according to size, freshness and external appearance. They also separate Round Scad (Cá Nục sò) from Layang Scad (Cá Nục thuôn) because Round Scad sells at 10,000 – 11,000 VND/kg while Layang Scad sells at 20,000 – 22,000 VND/kg.

Crushed block ice they produce or bought from local ice plants, is used to keep the product cold. Fish is placed in plastic boxes and covered with crushed ice.

The main first level wholesalers in the province can buy 50 to 120 tons of Scad a day during the peak season sourcing from several boats. Thuận An harbour features 5 first level wholesalers handling similar quantities of fish, with their own ice storage facilities and ice plants. Excess ice is sold to fishers and collectors. Between March and September each wholesaler at Thuận An harbour handles the catch of more than 25 boats daily. It is estimated that 80% of these boats are based in the province.

Wholesalers pay in cash the fish they buy, so they are limited by cash flow when purchasing. The average margin between buying and selling prices is between 1,000 and 1,500 VND/kg. This margin rises when the wholesaler has to transport the fish to the client or when it is stored for several days to be sold when the supply is lower and the price consequently is higher.

First level wholesalers employ local casual labour seasonally. Most of the employees working for them are women who sort, grade, pack and load fish boxes into trucks and monitor product movement through the wholesalers' enterprise.

Some first level wholesalers are also co-owners of fishing boats, but this does not imply that the fish caught by these boats is sold to that particular wholesaler.

3.1.2.3. Second level wholesalers' characteristics



Picture 10: Bai Dau Market, Hue

This study considers “second level” wholesalers to be agents because, unlike the first level ones, they have no relationship with producers, but only act as intermediate agents between the first level wholesalers and distributors or retailers. Moreover, they are based in the Hue city, in Bai Dau Market.

They buy fish almost daily from first level wholesalers and wholesalers from neighbouring provinces and sell the product on the same day to retailers and distributors that carry the fish to inland areas within the province.

The second level wholesalers do not have cool storage facilities, so fish can only be kept for one day on ice. The fish quantities they handle are much smaller than the quantities handled by the first level wholesalers (4 to 7 tons a day of which 70% is Scad in the peak season). They also handle fish from aquaculture and inland fisheries.

There are 8 second level wholesalers in Bai Dau market handling an average of 5 tons of fish daily. Other second level wholesalers working in Hue city handle even smaller quantities and take commission from first level wholesalers (5% commission on the sale price).

Second level wholesalers charge an average of 3,000 VND/kg for fish sold. They start working at 02:00 hours when retailers go to buy the fish they will sell later on that day.

Their activities are based on the central market of Hue (Bai Dau) and their operating costs, excluding labour, are nearly 30 million VND a year, being, 1 million VND a year for their business permit, 900,000 VND a month for income taxes, 50,000 VND a day for market stall rental and 200,000 VND a month for water and electricity. In addition, they pay women 50,000 VND a day for sorting, grading, packing, loading and tracking product.

Retailers and distributors buy an average of 50-100 kg of fish daily (per agent) from the second level wholesalers. Distributors who transport the fish to distant places in the province near the border with Laos buy larger quantities (from 100 to 300 kg of fish).

Most of the clients and the suppliers of second level wholesalers are regular and they have a business relationship based on mutual trust. They pay cash for the sales, but sometimes this may be one or two days later. Second level wholesalers do not necessarily pay their suppliers at the moment of exchange, but up to as long as five days later.

Second level wholesalers do not transport fish. First level wholesalers transport the fish by truck to market, and retailers and distributors transport to their place of business by themselves by motorbikes, tricycles, etc.

3.1.2.4. Fish processing characteristics

In Thua Thien Hue Province, almost all Scad transferred to the processing industry is destined for fish sauce. There are large companies dedicated to drying and freezing of fish products, but their relationship with small-scale fishers is limited to periods of high demand for dried Scad for export.

For Scad captured by small-scale fishers, small processors play a major role in the value chain as they are closer to the coastal communities engaged in the preparation of fish sauce and traditional fish processing. Large industries usually buy fish from first level wholesalers while small ones buy it from fishers and collectors directly.

The largest processing companies are export orientated. They work to fill specific orders, and fix maximum prices for fresh fish purchased. They may sign supply contracts with fishers and wholesalers to achieve fill a particular order which has a fixed quantity and price for a product, but these contracts are seldom longer than two months.



Picture 11: Fish sauce processing industry in Phong Hai

Small-scale processors usually source product from local markets or fishers depending on the local market price. The quantities purchased depend on their processing capacities and their cash flow situation. An average fish sauce factory in a coastal community in Thua Thien Hue Province can buy up to 160 tons of Scad per year. They have no signed supply agreements with fishers, collectors or wholesalers.

Fish freshness is of key importance for the production of good quality fish sauce, so companies only buy fish landed fresh that day. The fresher the fish is, the clearer the fish sauce produced, which is preferred by the end consumers.

Small-scale processors sell fish sauce directly to retailers at an average of 25,000 VND per litre. This sauce is sold to the end consumers at 60,000 VND/litre.

3.1.2.5. Distributors' characteristics

Distributors are agents who buy fresh fish from second level wholesalers at Bai Dau Market in Hue and transport it to distant inland municipalities (inner regions, and upland mountainous areas near the Laos border) where they sell it to retailers.

They buy fish daily and transport it on by small vehicles such as motorbikes. They have no link with wholesalers and may buy fish from the best price seller, but they tend to work with the same wholesalers because of trust-based business relationships previously described.

They delay repayment to the suppliers by one or two days to allow them to recover cash after selling the fish.

There are no fixed selling prices from distributors to retailers. It depends on the central market price on a particular day, the available offer, size, freshness, time of the year, municipality the fish is meant for and/or the transportation means used. Average selling price is between 25,000 and 35,000 VND / kg for Scad.

Distributors only transport fish to supply retailers in inland towns of Hue province. They do not sort, grade, store, preserve or process fish in any way. Fish are usually transported by inappropriate means which do little to maintain fish freshness.

3.1.2.6. Retailers' characteristics

Retailers sell fish to final consumers. They are usually based at town markets where they sell several types of aquatic product, often more than five different species.

They buy fish daily in Hue's central market or from distributors. Retailers in coastal communities are usually the wives of fishers who sell their husband's daily catch, early the following morning for catch landed the previous evening. Fisher' wives normally only sell one or two species.

The average quantity of fish bought and sold by retailers in Cho Ben Ngu market oscillates between 80 and 120 kg / day (8-12 10 kg boxes). The major species are Scad, pomfret (cá chim), and tuna species.

Retailers buy Scad whole and fresh with or without ice and they sell it on fresh often without ice, whole or headless. Scad heads can be sold separately. Prices depend on the time of the year, fish freshness, appearance and negotiation by the end consumer. In Cho Ben Ngu market, whole Scad are sold at 28,000 – 35,000 VND / kg, while headless Scad are sold by retailers at 50,000 VND / kg and Scad' heads at 2,000 – 8,000 VND / kg.

It is estimated that two thirds of retailer income from fish sales is used to pay operating costs, namely business taxes, water and electricity supply and transport (retailer's motorbike).

Retailers have no storage capacity and cannot keep fish for more than a day, thus their activity fluctuates and is unstable. Despite paying suppliers a day later, retailers often have cash flow problems and have to borrow money to buy fish for their business.

Retail at town markets is not mandatory, but this where consumers usually go to buy food. As result almost 100% of fish retailers are located in urban markets. Retailers sell fish to households, although some restaurants and roadside rice selling stalls (Com Bui – dusty rice) buy fish from retailers too.

3.1.2.7. Artisanal fish processing

Artisanal fish processors have been included as traders too. Among small coastal communities it is a common practice when catches are not quickly sold to process the fish at the fisher's home to preserve it. This artisanal processing is mainly the production of fish sauce, but it can also be cooking (mainly fried) or salt dried (boiling in salt water and then sun drying).



Picture 12: Artisanal processing of fish sauce in Phong Hai

Most families in fishing communities produce traditional fish sauce using artisanal methods. This is highly relevant for Scad as up to 20% of Scad caught by small-scale fishers is home processed.

Artisanal processors sell part of their production at the local market, so are not considered as final consumers for the purposes of this study.

3.1.3. Consumers

This study considers consumers to be households buying Scad for home consumption as well as hotel and restaurant services which include Scad on their menus. For Scad consumption in Cafes, Hotels and Restaurants (CHR) in Thua Thien Hue Province, a distinction between hotels-restaurants and street/roadside rice vending stalls (Com Bui) has been made. Street/roadside rice vendors sell significantly larger quantities of Scad as a fresh season product than hotels and restaurants.

3.1.3.1. Home fish consumption characteristics

Households buy only from retailers at town markets, and they usually go to a selected group of retailers that they know and with whom they have established a certain trust-based retailer-customer relationship. They usually ask for fish to be gutted by retailers and buy less than a kg.

Consumers prefer fresh fish, so they only buy Scad in their peak fishing season, when supply is abundant and they can choose the freshest fish. Their knowledge of fish freshness is sound, and this, along with the retail price influences their decision to buy Scad.

3.1.3.2. CHR consumption characteristics

Cafes, hotels and restaurants (CHR) usually buy Scad from specific retailers in town markets, although they might buy fish directly from second level wholesalers in Bai Dau market. Scad are not a very popular species in hotels and restaurants, where other species are preferred, so this is usually only bought fresh during the peak Scad fishing season.

3.1.3.3. Com Bui (street/roadside rice vendors) fish consumption characteristics

Street/roadside food vendors (Com Bui) are good clients of retailers in local markets. These offer limited menus, but change their menus seasonally and buy Scad and other fish species depending on the peak fishing seasons.

They care about fish freshness and prefer fish that does not fall apart when it is cooked, and prefer sea fish to freshwater fish because it responds better to cooking and reheating.

Roadside food vendors (Com Bui) purchase approximately 20% of the Scad sold by retailers in Thua Thien province.

3.1.3.4. Com Bui (street/roadside rice vendors) fish customer characteristics

Customers who eat at roadside food stalls are normally primarily working class people, often with limited budgets, who are seeking nutritious and tasty but reasonably cheap food. Many will be staff of nearby office and factories.

3.1.4. Analysis of the Scad value chain

The value chain for Scad caught by small-scale fishers in Thua Thien Hue Province is described from fish capture to the end consumer. It should be noted that the value chain described is the most relevant market chain for Scad caught by small-scale fishers and was validated with stakeholders during a meeting held in Hue City on 22 January 2011.

The relevance of each agent has been shown by the proportion of product s/he receives from the previous agent or producer. These percentages are not fixed figures for each and every agent; they can change depending on the specific situation, location, demand, supply, etc. The information presented is based on information collected during survey interviews and where there were doubts or contradictory data, the data was cross-checked. Corrections were made by taking feedback at the aforesaid validation meeting.

For Scad in Thua Thien Hue Province, an important proportion of the catch goes for processing. The consultant team has assumed that, once Scad has been processed into fish sauce, it becomes a different commodity. Determining the final destination of fish sauce made from Scad has not been prioritized in this value chain study.

Likewise, part of the Scad caught is sold to wholesalers from neighbouring provinces. Because of the limited time period for the value chain study, distribution to only the most common destinations has been investigated.

The agents operating along the value chain for Scad in Thua Thien Hue Province include:

- Producers:
 - Coastal small-scale fishers
 - Offshore small-scale fishers
 - Collectors (intermediate step between producers and traders)
- Traders:
 - Local traders
 - First level wholesalers
 - Second level Wholesalers
 - Fish processors
 - Distributors
 - Retailers
 - Artisanal processors

- Consumers:
 - Households consumers
 - CHR consumers
 - Roadside Rice Stall vendors
 - Roadside rice stall customers

Offshore small-scale fishers and wholesalers from neighbouring provinces also take part in this market chain.

According to information from local fisheries authorities, offshore small-scale fishing takes place mostly in Phu Loc

and Phu Vang districts. In the studied communes (Loc Tri and Phu Thuan), the quantity of captured fish reached almost 7,500 tons/year of fish, 70% of which was Scad species (around 5,250 tons). Coastal small-scale fishing, on the other hand, takes place mostly in Phong Hai commune (Phong Dien district) and Phu Thuan commune (Phu Vang district) with an annual catch of 1,880 tons of fish, 50% of which is Scad (around 940 tons).

Therefore, from an annual average of 6,190 tons of Scads from small-scale fishing in the studied communes, 5,250 come from offshore fishing and 940 from coastal. It means that Scads from offshore fishers represents nearly 85% of the total catch (84.8%), while Scads from coastal fishers represent only 15.2%.

Scad from inshore **fisheries** go to four main agents, all close to the landing sites (beaches):

- 30% to local fish processing plants (fish sauce).
- 20% to local traders.
- 30% to local retailers (including the wives of the fishers selling fish in local markets).
- 20% to artisanal fish processors.

Trade takes place quickly. Fish is captured in the morning, and by the evening of the same day or by the next morning fish has reached the next agent. This quickness is due to the fact that most Scad from coastal waters is sold without processing. Considering the role the fishers' families play in the first trade and the lack of appropriate means of transportation, this is largely limited to the local market and traders established in the commune (e.g. Phong Hai or Phu Thuan).

This first step adds little value to the catch. Sorting and grading is minimal by species and size only and it is done immediately the fish is captured. Thereafter Scad is only handled when it is necessary to add ice. Hygiene and sanitary conditions for handling and preserving catch are basic at best.



Picture 13: Ice and Fuel supplier in Thuan An



Picture 14: Bai Dau Market, Hue

Local traders act as wholesaler agents in the region. Their activity is restrained to a few landing sites. They do not handle catches; they just notify wholesalers who come and collect. This is a fast process, so no ice is added. The importance of the traders is that they are usually local people and advance cash to fishers to cover fishing operating costs.

Scad from **small-scale offshore fishers** go to two agents:

- 95% is sold to collectors when or shortly after it is captured.
- 5% is landed when the boat finishes the trip and is sold to local processing industries.

Trade between fishers and collectors is almost immediate and the collector may even be with the fishers during capture, and using fishing lamps on the collector boat to help concentrate shoals. This happens with collectors in Loc Tri commune, but not in Phu Thuan. Normally the time between capture and transshipment to a collector boat is less than a few hours.

During this time, fishers only handle the catch to separate out the higher priced tuna, cuttlefish, mackerel, etc. They ice the more valuable species and the last caught Scad before landing, which keeps the catch fresh for 24 hours.

Collectors sell their fish to the following agents:

- 70% to first level wholesalers.
- 20% to wholesalers from neighbouring provinces.
- 10% to local processing plants.



Picture 15: Collector vessel in Loc Tri commune

Negotiations are conducted offshore (by radio or phone) and collectors land at the most convenient place for the clients with whom they have closed deals. The major proportion of the Scad caught goes to first level wholesalers from the same province (Thuan An), lesser quantities are also sold to wholesalers from neighbouring Da Nang, Quang Binh provinces. Approximately 10% of the Scad caught is sold to local fish sauce processing facilities. Through wholesalers from neighbouring provinces, Scads may end up in processing plants that produce shrimp feed and canned fish. No such industry as this was found in Thua Thien Hue Province.

Collectors operating offshore often buy fish from local fishers, but they may also buy fish from fishers from neighbouring provinces. There is no previously agreed business relationship, and collectors' supplies depend on the closeness, capture volumes, quality and agreed price.

Collectors sort fish into bulk lots. Scad is sorted into 20 kg boxes depending on the species and size (number of fish per kg because of different sale prices. Loc Tri collectors sort by species and size as follows:

Table 15. Scad selling prices by species and size (Loc tri collectors)

Species	Size	Individuals / kg	Average buying price to fishers (VND / kg)	Average selling price (VND / kg)	Most frequent destinations
Round Scads (Japanese Scads - Cá Nục sò)	Small	17-20	4,000	7,000	Wholesalers and local processing industry
	Large	12-16	8,000	12,000	Local wholesalers and neighbouring provinces
Layang Scads (Short-fin Scads) - Cá Nục thôn	Small	17-20	8-9,000	16,000	Local wholesalers and neighbouring provinces
	Large	10	18,000	28,000	Neighbouring provinces wholesalers (for canning)

The proportion of each species in catches varies from one net haul to another, but it was reported that Scads catches are declining, which could be a sign of over-fishing.

Collectors deliver Scad to their clients 1 or 2 days after capture. They preserve it using crushed block ice. They have no cool storage facilities available on board, and fish handling, hygiene and sanitary conditions are basic, although collectors make more effort than fishers.

Collectors add value to fish through the species sorting and size grading into 20 kg lots and by icing the catch between buying from the fishers to landing (1-2 days).

First level wholesalers operating at the provincial landing sites (Thuan An) buy Scad from collectors from Thua Thien Hue Province. Some may also have intermediate agents who buy fish from small-scale coastal fishers on beaches. Sometimes, during the peak Scad season,

collectors from neighbouring provinces may also land Scad at Thuan An, but this has little impact on Scad in the local market.

First level wholesalers sell their products to:

- 30% to second level wholesalers (in Bai Dau Market, Hue City).
- 7% to local processing plants (for fish sauce production, mainly).
- 3% to retailers.
- 60% to wholesalers from neighbouring provinces.

This sale take place the same day fish is bought from collectors. Scads are only stored when market prices are too low, but this rarely happens. First level wholesalers pack Scad into 10 kg plastic boxes and add ice. They usually own trucks or rent them for transportation if additional transport is needed.

Hygiene and sanitary conditions vary among first level wholesalers. They often use ammonium for cooling and the quality of ice is usually uncontrolled. Fish handling and cleanliness are basic and fish is transported without proper use of insulated boxes dedicated for fish. However Scads move on quickly from first level wholesalers, so their impact on fish quality is not significant either positively or negatively.

Second level wholesalers are based on Bai Dau (Hue central market) and take fish from the first level wholesalers in trucks. Second level wholesalers may also sell to wholesalers in neighbouring provinces when there is an over-supply in Thua Thien Hue Province and the market price declines.

Second level wholesalers are merely intermediate agents delivering large quantities of fish to distributors and retailers (occasionally they sell fish to restaurants) in central urban markets. The sale is completed within a day and is sent to:

- 60% to distributors.
- 38% to retailers.
- 2% to CHR (Cafés, Hotels and Restaurants)

Unfortunately the study team was unable to assess the importance of wholesalers from neighbouring provinces as a target for Scad caught from Thua Thien Hue Province. Most wholesalers from neighbouring provinces supply Scad to established fish processing plants for fish sauce, canned and dried fish production for export markets and aquaculture feed production.

Paradoxically some fish sauce and dried fish processing plants in Thua Thien Hue Province sometimes buy product to process from wholesalers in neighbouring provinces. This happens when fish processing plants take large orders which the local aquatic product supply cannot fill. Conversely if local processing plants have only small orders, local collectors and wholesalers are more likely to sell their fish to neighbouring provinces where there is more demand.

Local fish processing plants (mainly fish sauce facilities) supply through local fishers, while large fish drying factories for export buy fish from neighbouring province wholesalers when local supply is insufficient for their needs.

Fish sauce facilities are closely linked to producers, especially coastal fishers. They usually only buy Scads the day it is landed and seldom take Scad more than two days old. Their procedures are artisanal

but they control raw materials quality and they have a degree of control over the processing. Quality management and waste control systems are basic. Some waste material is recycled as pig feed or plant fertilizer.



Picture 16: Local market in Thuan An

Fish sauce is sold in supermarkets within the province and in neighbouring provinces.

Distributors act as intermediate trade agents who buy fish in Hue central market and sell it daily to distant retailers in inland towns within the province. They buy fish very early in the morning (by 2:00 AM) and sell it later in the morning.

Retailers usually work in town markets. In coastal municipalities, markets are supplied by local fishers (and it is often the wives of such fishermen who sell the fish in the town market). In distant communes, retailers get supplies through distributors who buy fish in Hue. Retailers in Hue get supplies directly from second level wholesalers in Bai Dau (central market). Finally, retailers sell their goods to final **consumers** following the pattern below:

- 75% to housewives.
- 20% to roadside rice/food stalls.
- 5% to CHR.

These proportions coincide mainly with retailers in Hue. There was insufficient time to contact retailers in inland communes to confirm this pattern, but it is assumed that they sell most of their Scad to the end consumers.

A diagrammatic representation of the Scad value chain is given overleaf.

If day 0 is the time Scad is captured, the trading is rapid, as shown below:

- Scad from small-scale inshore fishers reaches local retail markets or local processing plants on the afternoon of day 0.

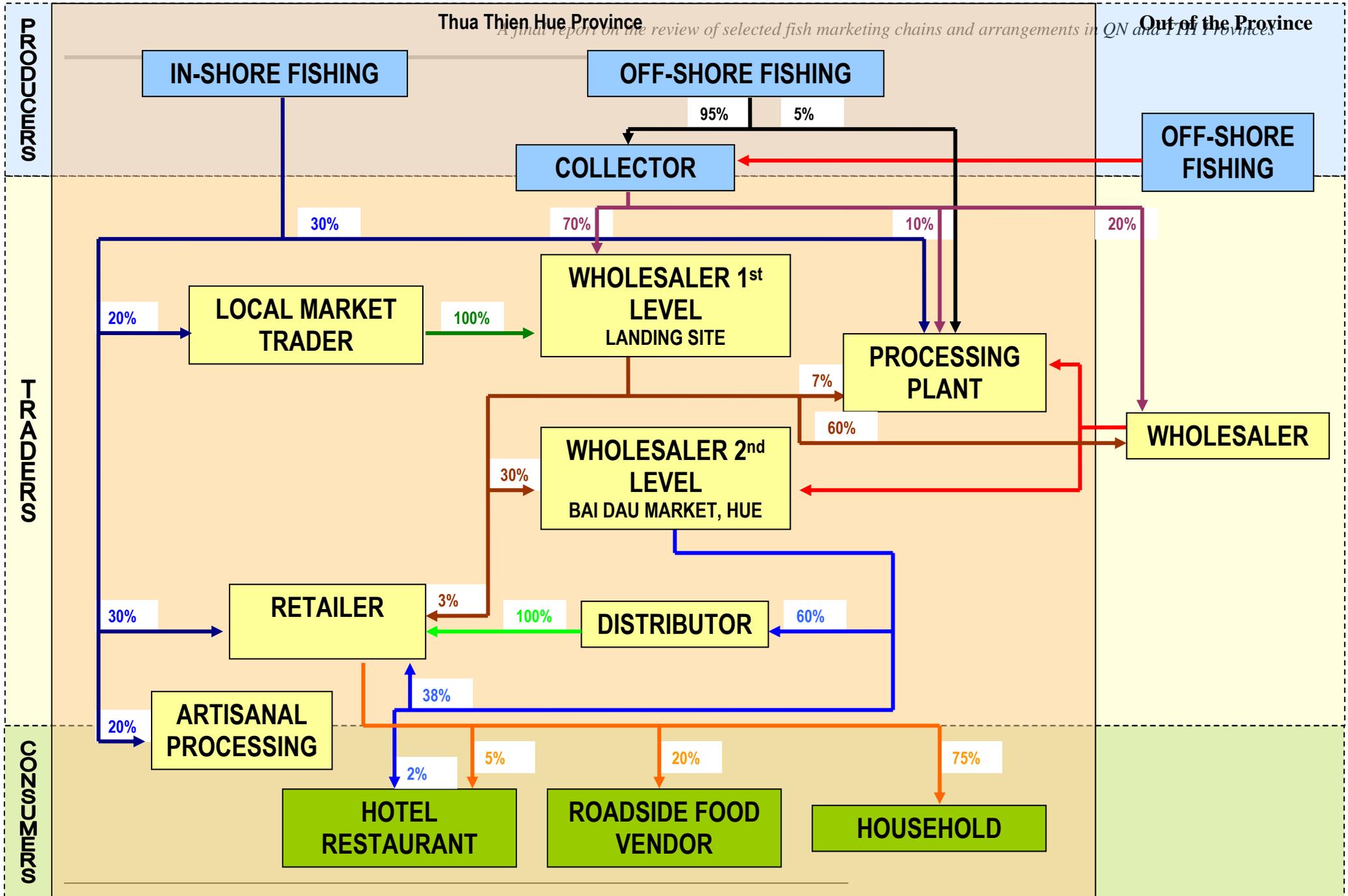
- Scad from offshore small-scale fishers is also bought by collectors and is travelling to landing sites on day 0.
- On day 1, fish is landed by collectors and reaches first level wholesalers or fish processing plants.
- Later on day 1 Scad is transported to second level wholesalers.
- Early in the morning of day 2, distributors and retailers buy the Scad.
- Later on day 2, fish is available for the final consumers.

Collectors in Phu Vang districts stay at sea longer, so landed fish can include day 0, day 1 and day 2 Scad. Scad more than 3-4 days old rarely goes for direct human consumption even if it has been iced. Older Scad is processed. Other species caught by offshore small-scale fishers like mackerel or cuttlefish, are taken directly to port by fishers and are preserved for longer periods by icing on board.

Intermediate agents in the Scad value chain are few, and most of them are geographically linked to a particular beach, commune or district. This applies to coastal fishers, local market traders and second level wholesalers.



Picture 17:Dried Scad



3.2. Market Chain in Quang Nam Province.

The value chain for Anchovy (*Encrasicholina spp*) in Quang Nam Province has been fully analysed. The study focused on the Anchovy caught by small-scale fishers. Anchovies caught by semi-industrial or industrial fleets were excluded from this study.

The majority of small-scale Anchovy fishers in Quang Nam Province are based on Duy Xuyen district and Thang Binh district.

Most Anchovy captured by small scale fishers is dry processed locally. As this was noted early during the field mission, the survey team decided to investigate further the dried Anchovy value chain within Quang Nam Province as well as the fresh anchovy market chain, even though they can be considered different commodities.

As in value chain study for Scad this study was divided into three basic phases namely Producers, Traders and Consumers. The characteristics of identified agents are described below and thereafter the value chains within Quang Nam Province for fresh and dried Anchovy are presented diagrammatically.

3.2.1. Producers

Producers include small-scale fishers and collectors. Collectors can be considered as being intermediate agents between producers and traders but they are included here because they use the same vessels that fishers do (but without any gear on board) and because they support fishers in their activity. Collector vessels have a typical storage capacity of 1 ton which is slightly more than 0.7 tons of a typical fisher. Fishers usually sell half of their daily catch to a collector, continue fishing and then return to shore.

Table 16. Main Anchovy species in Viet Nam

<p><i>Encrasicholina devisi</i> (FAO: Devis' Anchovy) Cá Cơm (Picture by Hermosa, Jr, G.V. Fishbase.org) 4 – 7 cm length</p>	
<p><i>Encrasicholina punctifer</i> (FAO: Buccaneer Anchovy) Cá Cơm dỏ (Picture by Hermosa, Jr, G.V. Fishbase.org) 7 – 10 cm length</p>	
<p><i>Encrasicholina heteroloba</i> (FAO: Shorthead Anchovy) Cá Cơm mồm nhọn (Picture by Hermosa, Jr, G.V. Fishbase.org) 5 – 8 cm length</p>	

Fishers based on Duy Hai commune (Duy Xuyen district) use collectors more than fishers based from Binh Minh commune (Thang Binh district).

Several Anchovy species (*Encrasicholina* spp.) are caught, but local fishers and traders don't distinguish between them other than by size.

3.2.1.1. Small-scale Anchovy fishery characteristics

Small-scale fishers involved in Anchovy capture use wooden fishing vessels with engine sizes ranging from 30 to 125 HP, though 45 HP engines are the most common, 10-12 m long, 3.5-4 m breadth and with a crew of 9 to 12, including the owner. The retail price for a brand new vessel is estimated at 300-450 million VND. Vessels are equipped with short range radio and sonar but no other navigation, safety or catch preservation facilities.

Anchovy vessels fish inshore daily coastal using purse seine nets. Fishers leave the port at 15.00 hours and return at 07.00 hours. Sometimes fishing trips are longer when they go to other fishing areas, but trips are normally no longer than 3-4 days.



Picture 18: Small-scale Anchovy fishing vessel in Hoi An

Weather allowing Anchovy fishers will fish 20 - 25 days per month, from March to September, the peak season.

The average daily catch is estimated at 700 kg.

Generally, fishing is the only livelihood of the fisher families. Wives help to sell the fish and if there is excess will make home-made Anchovy fish sauce for sale in local markets.

The main species caught are Anchovy (Cá Com, *Encrasicholina* spp), Scad (Cá Nục, *Decapterus* spp),

cuttlefish (Mực Nang, *Sepia* spp), mackerel and tunas. Anchovy is around 70% of the catch.

Out of the peak fishing season or on rainy days, fishers often go to fish on the lagoon using coracle boats. Their wives also sell the lagoon catch.

Small scale fishers use ice to preserve Anchovy in chilled seawater. On each trip they use an average of 400 – 500 kg of block ice (10 blocks of ice, weighing 40-45 Kg at 10-12,000 VND / block). They buy ice daily before leaving the port. The ice is crushed and mixed with sea water.

When Anchovy is sold to collectors no ice is used because it happens immediately after the capture and the Anchovy is still alive. The fishers ice any cuttlefish and any large and higher valued species like Mackerel or Tunas. Fishers based on Duy Hai commune (Duy Xuyen district) sell around 60% of the Captured Anchovy to collectors. Fishers based on Binh Minh commune (Thang Binh district) sell less than 30% to collectors.



Picture 19: Small-scale fishing boats in Binh Minh

the same morning the vessels land.

This fishery generates an average yearly income of 40 - 50 million VND (around 2 - 2,500 US\$). The average daily costs for fuel, ice and food to go fishing are estimated at 1-1.5 million VND. The crew is paid in cash from the fish sales once operating costs have been deducted.

A vessel is usually jointly owned by five or more associates. They work free of any preference for a particular collector or processor. Vessel owners usually take loans from banks or neighbours to cover their investment costs.

Anchovy sell at 4,000 – 6,000 VND/kg. Smaller anchovy sell for higher prices. Fishers contact collectors and processing plants by radio while at sea and agree the sale price.

3.2.1.2. Collectors' characteristics

Collectors tend to use wooden boats with a 15 HP engine, 10 m long and 4 m breadth. They do not carry fishing gear but outside the fishing season they may fish for crabs or shrimp with traps. Vessels are partially equipped with short range radio, but no other navigation, safety or catch preservation facilities.

Catch is always landed at the commune where the fishers live.

Fishers are involved in the first sale of any Anchovy that is not sold to collectors. They negotiate the selling with local processors directly, without any intermediate agents. Wives often participate in negotiations and control the cash side of the activity.

When Anchovy is sold fresh for direct consumption, wives sell the catch at local markets,

Their trip duration is 1 day. They leave the shore by 20.00 hours and return by 07.00 hours the next morning or even earlier if they fill boat hold before. They make 15-20 trips per month. The average collection per trip is 0.7 to 1 ton of which 80% is Anchovy.



Picture 20: Collector vessels and small-scale fishing vessels in Duy Hai

The main fishing area is around 10 – 12 miles from the coast and most fishers operating there belong to the province. Collectors and fishers operate in the same fishing area, but there is no previously agreed contract or obligation between them.

Collectors use block ice to preserve Anchovy. They use an average of 500 – 600 kg of ice per trip (15 ice blocks, weighing 40-45 Kg at 10-12,000 VND / block). They buy ice daily before leaving the port. The ice is crushed and mixed with sea water in 20 kg capacity plastic drums.

Collector vessels are manned only by two people, usually the owner and his wife. Sometimes they may employ a third person, but this is unusual. Collector vessels are normally owned by one owner.

All the anchovy collected is sold to local processing facilities. They negotiate the selling price directly on arrival at the port. The price depends largely on size, but also on supply and season. The average sale price for mixed Anchovy is 5,000 – 7,000 VND/kg. Following size grading, the prices are higher:

- Very small Anchovy (1-2 cm length) 10,000 – 15,000 VND/kg
- Small Anchovy (2-3 cm length) 7,000 – 10,000 VND/kg
- Anchovy (4-6 cm length) 5,000 – 7,000 VND/kg.

There are big differences in the sale prices of fresh, best quality, Anchovy destined for drying and stale Anchovy which is destined for fish sauce, with fresh Anchovy being almost double the price. The aforementioned average selling price considers an intermediate state between fresh and stale.

Stock assessment is outside the remit of this study's scope but the consultant team wishes to highlight concern over fishing and marketing of immature Anchovy (4 cm - *E. devisi*; 5-7 cm - *E. heteroloba*; 7 cm - *E. punctifer*).



Picture 21:Dried Anchovy

3.2.2. Traders



Picture 22:Landing site and market place in Duy Hai (plastic drums are used by collectors).

analyzed the marketing of dried Anchovy.

The agents involved in the value chain have been included within the traders group. The trading part of the value chain starts when the Anchovy is landed and ends at the final consumer.

In Quang Nam Province the value chain for fresh Anchovy is very short (Fishers → Collectors → Processors) and it ends at the local processing facilities where anchovy is transformed into dry salted Anchovy. To give a broader coverage, the consultants have also

Therefore, in this section, trading agents include:

- Fish Processors.
- Wholesalers.
- Distributors (middlemen distributing to upland regions).
- Retailers.

3.2.2.1. Fish Processing Industries' characteristics.

Salt dried Anchovy is the major processed Anchovy product in Quang Nam Province. Anchovy is boiled in salted water and then sun dried. Local artisanal processors are reliant on the weather. They have no industrial drying plants and only use open spaces where fish is sun dried. Fish is placed on wooden frames covered with nylon netting for boiling and drying. They cannot process fish when it is raining or cloudy.

Duy Hai and Binh Minh communes have 7 and 9 processing facilities respectively, which can each process 1-6 tons of Anchovy daily.

Salt drying Anchovy is the fastest way to preserve the Anchovy catch of small-scale fishers of Quang Nam Province. It is also the only possible way to preserve Anchovy with the existing equipment, facilities and infrastructure in most communes.



Picture 23: Artisanal processing facilities for boiling and drying anchovy in Binh Minh

Local processors buy Anchovy directly from fishers and collectors at the landing sites. Stale anchovy is processed into fish sauce or aquaculture feed, but dried Anchovy processors usually buy only fresh anchovy a few hours after capture.

Payment for raw material is not immediate. Processors usually buy the fish in the morning and pay the collectors or fishers in the afternoon of the same day. Payments are in cash. Small processors normally take loans from neighbours during the peak season.

There are not contracts or agreements between processors and fishers or collectors. Fish is immediately processed on arrival at the processing facility. Anchovy processing facilities have no raw material storage facilities. When there is abundant supply of Anchovy, processors preserve the excess Anchovy chilled sea water until they can boil and dry it. This allows them to keep the Anchovy for one day only.



Pictures 24 & 25: Processing facilities for boiling and drying Anchovy in Hoi An town.

in Quang Nam Province. They dry fish and squid for export. They process 1-3 cm and 3-6 cm Anchovy for the Japanese and Chinese markets respectively. They adapt their production lines to the specifications of foreign markets. They buy fresh Anchovy and produce superior quality dry salted Anchovy which is re-boiled in spiced water and is given a second drying in controlled temperature rooms.

Dry salted Anchovy is sold in 30 kg sacks at 30,000 – 40,000 VND/kg. Processors transport the dry salted Anchovy to their clients and the transport costs are included in the sale price.

Most employees working at processing plants are women. The total number of employees varies from 20 to 50 depending on the season, weather and catch. This is seasonal employment.

To process 1 kg of dry salted Anchovy, local artisanal processors spend 3-4,000 VND on wood, salt and ice.

Most of dry salted Anchovy produced by local artisanal processors is sold to wholesalers from outside the province. Dry salted Anchovy is also exported to neighbouring China, Korea and Japan. However these artisanal processors do not export directly as they are unable to meet the 20 plus tons daily demanded by importers. Artisanal dry salted Anchovy processors sell to wholesalers in Quang Ngai, Nha Trang, Nghe An or Thanh Hoa provinces and these wholesalers bulk the product and export.

Dry salted Anchovy for consumption in the province is sold to wholesalers and also to retailers in big cities' markets like Tam Ky, Ha Lam, and Hoi An towns. Sometimes they need to store the dry salted Anchovy in cold stores belonging to large freezing companies like Viet Quang in Nam Phuoc.

There are also commercial aquatic processing companies

3.2.2.2. Wholesalers' characteristics.

Wholesalers operate in the value chain for dry salted Anchovy, but not the fresh Anchovy value chain.

These wholesalers are located around markets in big towns like Tam Ky and Ha Lam in Quang Nam Province. They sell several dried aquatic species including cuttlefish, Scad, herring, etc. and other fish products like fish sauce, canned fish, etc.

Wholesalers in Quang Nam Province buy dry salted Anchovy from processors in Duy Hai and Binh Minh communes. When the supply increases during the peak season they may also buy dry salted Anchovy from other provinces.

The processors contact wholesalers by phone and inform them about the quality and price they can supply. Wholesalers decide the quantity they are going to buy. The quality of the dry salted Anchovy is checked during sale by smell, taste and visual observation of size, colour and humidity. Thereafter an appropriate price is agreed.

A normal wholesaler in the province can sell an average of 20 tons of dry salted Anchovy annually.



Picture 26: Dry salted Anchovy bought from Tam Ky market.

Wholesalers sell dry salted Anchovy to retailers in the province, to distributors in inland upland areas and to distributors in other upland provinces like Kontum, and Gia Lai. Wholesalers also sell to final consumers, acting as retailers in big cities markets.

The final sale price to the consumer in the province is 30,000 to 32,000 VND/kg depending on freshness, size, season and supply. Prices increase during the winter, when no anchovy is caught.

Wholesalers increase the price 1-2,000 VND/kg.

Dry salted Anchovy for export through wholesalers outside Quang Nam Province, is sold at higher prices:

- Very small Anchovy (1-2 cm length) 45,000 – 50,000 VND/kg
- Small Anchovy (3-4 cm length) 37,000 – 40,000 VND/kg
- Anchovy (5-6 cm length) 35,000 – 40,000 VND/kg

3.2.2.3. Distributors' characteristics.

Distributors are middle traders who buy dry salted Anchovy from wholesalers in Quang Nam Province and sell it into upland areas of the province or upland areas of neighbouring provinces. Distributors normally come from those regions and go the big cities to buy fish.

They buy small quantities every month (70 – 200 kg/month) and transport it themselves using their own small vehicles or by public bus transport.

Sometimes, distributors pay wholesalers at the end of the year.

3.2.2.4. Retailers' characteristics.

In Quang Nam we can find retailers selling fresh anchovy during the peak fishing season (March to September) but this is unusual. Most are fishers' wives selling small quantities of Anchovy in coastal markets.

Most Anchovy is retailed as dry salted Anchovy. Retailers are normally based in city markets like Hoi An, and Tam Ky, where they rent market stalls from the municipality.

Dry salted Anchovy is bought from wholesalers and distributors and it is sold mainly to end consumers.

Typically retailers can sell 50 to 70 kg of dry salted Anchovy daily from March to September. Outside the fishing

season, the supply of dry salted Anchovy in markets drops drastically, prices are quite high and sales decline.

The retail sale price oscillates from 35,000 to 50,000 VND/kg. Out of season dry salted Anchovy can reach 100,000 VND/kg.



Picture 27: Dried fish retailer in Hoi An market (Anchovy and cuttlefish).

3.2.3. Consumers

This study considers consumers to be both households buying Anchovy for home consumption as well as roadside rice/food vendors (Com Bui – dusty rice). Anchovy is was not been found to be significant to CHR (Cafes, Hotels and Restaurants) in Quang Nam Province.

3.2.3.1. Home fish consumption characteristics

Households only buy anchovy (dry salted and fresh) in markets. They prefer to buy from a known retailer. They buy dry salted or fresh Anchovy depending on availability and family composition. Children and elderly household members they prefer to eat fresh Anchovy.



Picture 28: Dry anchovy fried in a restaurant (Tam Ky)

Dry salted Anchovy is preferred during the monsoon season (July – August and February – March). It is also preferred by lower income households because dry salted Anchovy can be kept for longer periods, is cheaper and easier to prepare than fresh Anchovy.

During the peak Anchovy fishing season, consumers prefer to buy fresh Anchovy for soups.

In upland regions, “artisanal” commune processed dry salted Anchovy is popular. They are more accustomed to eating it and its taste is more familiar to them than the taste of dry salted Anchovy from commercial drying plants.

3.2.3.2. Roadside rice/food vendors (Com Bui) fish consumption characteristics

Roadside rice/food vendors buy dry salted Anchovy occasionally to vary their menu. They buy an average of 0.5 kg per day and use it the same day. This is not a large market for dry salted Anchovy.

3.2.4. Analysis of the Anchovy value chain.

The market channels for both fresh and dry salted Anchovy caught by small-scale fishers in Quang Nam Province is described below from capture at sea, to the end consumer. The

characteristics and value chain flow were validated during a stakeholder meeting held in Duy Hai on January the 28th 2011.

The relevance of each agent has been indicated by the proportion of product s/he receives from the previous agent or producer. These percentages are not fixed figures for each and every agent but change depending on specific cases, location, demand, supply, etc. The information presented is based on information collected during survey interviews and where there were doubts or contradictory data, the data was cross-checked. Corrections were made by taking feedback at the aforesaid validation meeting.

Almost the entire catch of Anchovy from small-scale fishers in Quang Nam Province goes to local processing facilities. The survey was widened to also cover the value chain for dry salted Anchovy within the province, as well as the fresh anchovy value chain, even though it could be considered a different commodity.

Likewise, most of the dry salted Anchovy is sold to wholesalers from neighbouring provinces and exported which was beyond the scope of this study to analyze. Nonetheless, the most frequent destinations were identified.

The agents operating along the Anchovy value chain in Quang Nam Province are:

- Producers:
 - Small-scale fishers
 - Collectors
(intermediate step between producers and traders)
- Traders:
 - Fish processor
(artisanal and industrial)
 - Wholesalers
 - Distributors
 - Retailers
- Consumers:
 - Home fish consumption
 - Roadside rice/food vendors



Pictures 29 & 30: Processing facilities for drying Anchovy in Hoi An (industrial drying room).

Wholesalers and distributors from neighbouring provinces also take part in this market chain. Dry salted Anchovy from Quang Nam Province are also exported.

Available information on Anchovy catches indicates that most **small-scale fishers** operate from Binh Minh commune (Thang Binh district) and Duy Hai commune (Duy Xuyen district). There are a total of approximately 140 Anchovy fishing vessels which catch a total of about 5,000 tons of Anchovy annually.

97% of **fresh Anchovy** goes to local artisanal **processors** and 3% to retailers within the province. 51% of the Anchovy catch (51%) passes through **collectors** and the whole quantity managed by collectors goes for processing.

Retailers sell 90% of fresh Anchovy to **households** and only 10% to **roadside rice/food vendors**.

The market chain for fresh Anchovy is simple and trade is very fast. A few hours after Anchovies have been captured from the sea, they are being processed.

Anchovies are very delicate fish and spoil very fast. For this reason all the involved agents in the fresh Anchovy value chain use chilled sea water or salted water, even if they are going to sell or process in less than four hours.

Fishers and collectors sort Anchovy by size when packing it into chilled sea water in plastic drums of 20-25 kg capacity. Hygiene and sanitary conditions for preserving and handling fresh anchovy could be improved but this is not a priority for the Anchovy value chain, as there is no loss of fish quality or value because of handling. Trade is rapid and Anchovy is processed or sold to final consumers on the day it is caught. The lack of cold storage facilities forces fishers to trade quickly. Fishers lose negotiation capacity, but not quality.



Picture 31: Ice producer facilities in Binh Minh

Dry salted anchovy

produced in Quang Nam Province can be stored for short periods at ambient temperatures. For longer storage (several weeks) cold storage is needed to avoid unwanted organoleptic changes, which causes product deterioration.

Artisanal processors do not use temperature controlled drying rooms, so the quality of their production is variable. The weather, temperature, and air humidity and other

factors that are beyond the processor's control all affect the final product quality. Lack of standardisation and low production capacity are their main constraints to exporting and selling dry salted Anchovy to other markets at higher prices.

Artisanal processors salt, boil and dry Anchovy for 1-2 days. The product is sold almost daily to:

- 70% to wholesalers in outside neighbouring provinces,
- 20% to wholesalers within the province, and
- 5% to retailers.

Export is the final destination for a significant proportion of the dry salted Anchovy produced in Quang Nam Province, but this is exported by wholesalers from neighbouring provinces and not directly by the Quang Nam Province agents.

The value chain for Anchovy is illustrated overleaf.

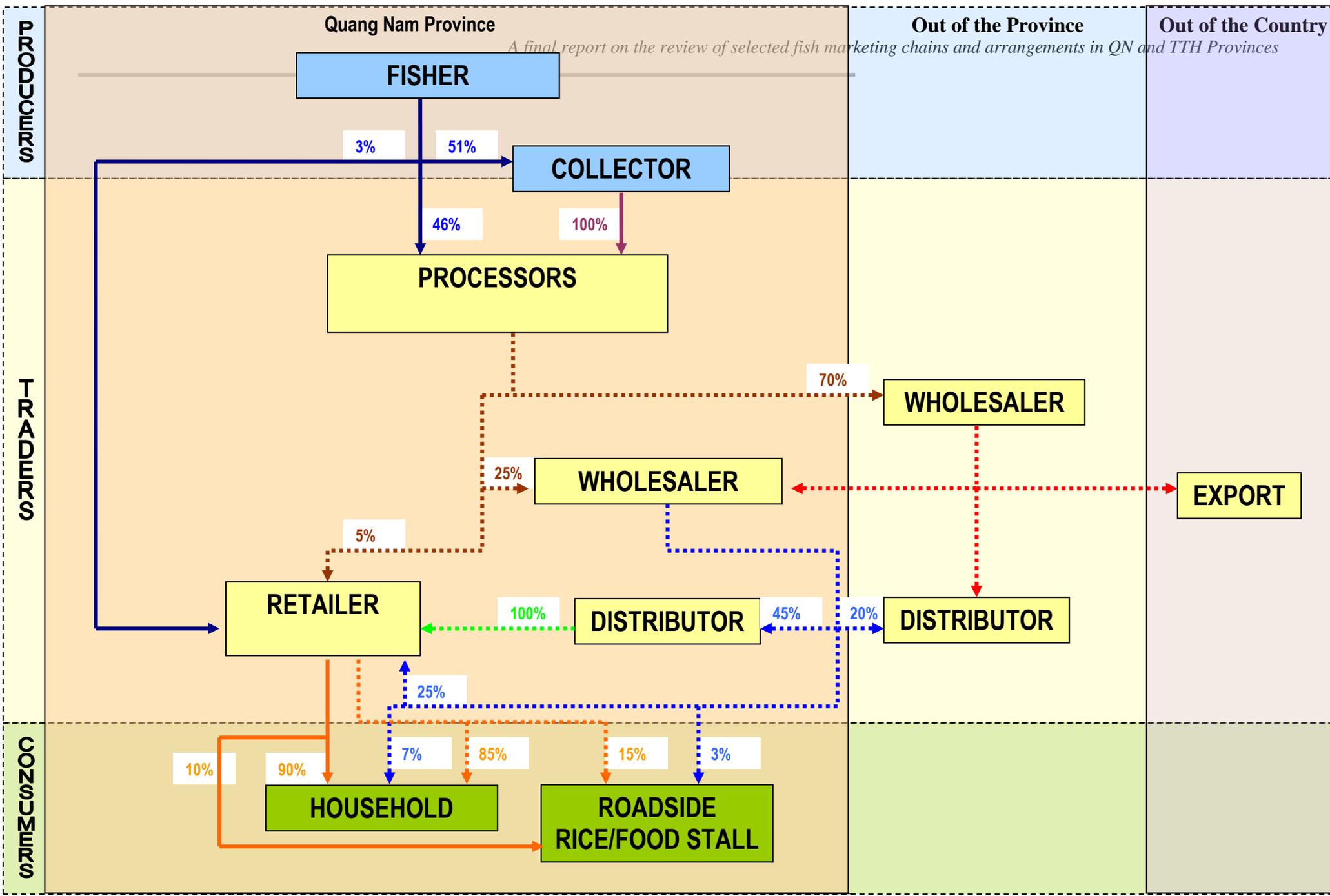
The value chain for Anchovy is both short and fast. Assuming Anchovy is caught on day 0:

- Early in the morning of day 0 the Anchovy can be in a local market or local processing industry.
- On day 0, or on day 1 at latest, the Anchovy is being processed.

The timing is more variable for the dry salted Anchovy value chain. Most processors sell daily to wholesalers and wholesalers usually sell monthly to distributors. Wholesalers who hold and bulk dry salted Anchovy have a dominant market position when production declines during the off-peak season.



Picture 32: Dry salted Anchovy made in Viet Nam (HCM city).



SOLID LINE: FRESH ANCHOVY

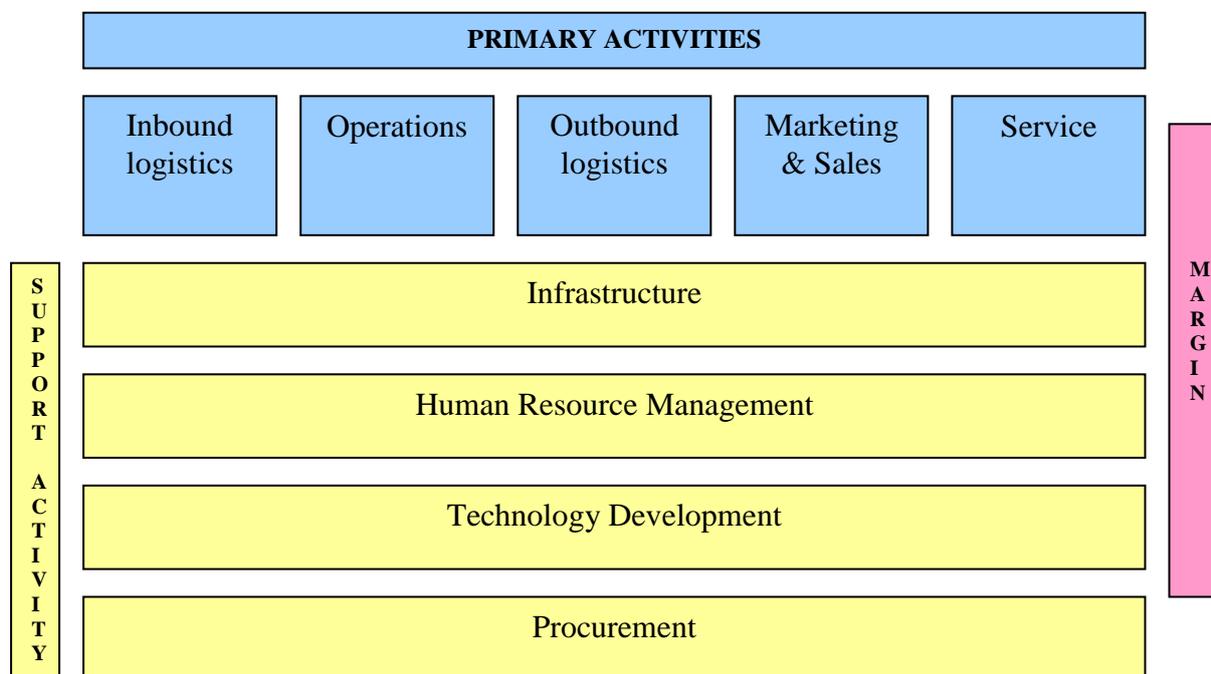
..... BROKEN LINE: DRY ANCHOVY

4. Description and analysis of existing value chain

In order to facilitate the comprehension of the sector and to analyze gaps and intervention points, the analysis of the value chain was not been applied to a firm or agent in the marketing chain but to the whole chain. Nevertheless, it must be pointed out that, in this case, primary activities and support activities are not under the control of one manager but many independent agents. This means that successful interventions must be taken into a common position or supported by legal decisions from the competent authorities.

The structure followed on this chapter is adapted to the Michael Porter's³ generic value chain diagram.

Figure 13. Michael Porter's generic value chain diagram



Margin depends on the effectiveness in performing all the activities efficiently. The price that the customers are willing to pay must exceed the cost of the activities in the value chain

4.1. Primary Value Chain Activities:

4.1.1. Inbound logistics:

Activities included on this point are reception and storage of raw materials and their distribution to manufacturing when needed.

Within the market chain in both targeted provinces, the main inbound logistics are:

- Petrol or fuel supply for fishers.

³ Porter, M. E. (1985). Competitive Advantage: Creating and Sustaining Superior Performance

- Ice supply for fishers, collectors, wholesalers, distributors and retailers.
- Net and gears supply.
- Shipyards and repairing facilities for vessels and engines.
- Plastic drums, boxes and other container supply for producers, processors and traders.
- Salt, spices and other ingredients supply for processing industry.

These activities are conducted by agents without any specific links to the stakeholders described in the Scad or Anchovy market chains. All the market chain agents act individually. There are no producer cooperatives or organisations. There are not even trade agreements or contracts between producers and processors.

The main improvement found has been some wholesale ice manufacturing. These wholesalers have been able to add value to their product by their investment in ice. Some interviewed wholesalers now supply ice to both fishers and collectors which generates additional income.

Quality control of ice production is minimal. Water used to make ice is usually from commune the public water supply and also from tube-wells but there is no microbial testing of the water. Using inappropriate quality ice leads to faster contamination and fish spoilage.



Picture 33: Handling fish in processing industry (Hoi An)

Ice is always supplied in blocks. Fishers, collectors and wholesaler must crush it. Crushing tools can also be a contamination source. If ice is not crushed, the fish flesh can be damaged (burn) by direct contact with the ice. Use of flake ice would be preferable but it is unavailable.

The major costs of small-scale fishing are operating costs for fuel and ice purchase, boat maintenance and gear renewal (net replacement). Fishers must also recover their investment cost for their boat, which can range from 30 million VND for a small coastal fishing boat to 1,000 million VND for a medium offshore small-scale fishing boat.

4.1.2. Operations:

Operations are processes of transforming inputs into finished products. In the analysed market chains in Thua Thien Hue and Quang Nam Provinces, the following elements can be considered as operations:

- Fishing activity.
- Local manufacturing of fish sauce.
- Local manufacturing of dry salted fish.

Current fishing activity could be improved through the strengthening (or setting up) of local associations, organisation, cooperatives or clusters for specific geographic locations with representatives of the different value chain agents including fishers, collectors, ice producers, net manufacturers, processors, etc., and creating links between them. Individual agents cannot afford the investment needed to create cold storage facilities, or to buy flake ice machines or buying more hygienic containers, but together as a group it might be possible to do so.

This is clear case for the artisanal processing industry plants of Quang Nam to form a producer group. None of the artisanal dry salted Anchovy plants can export to China, Korea or Japan because of non-standardized production and, above all, due to their limited production capacity of between 2 and 5 tons per day. If a producer group was formed, they could export together, rather than the current situation where wholesalers from other provinces export. The only value of these wholesalers is to concentrate or to bulk the quantity of product needed to meet large export orders.

4.1.3. Outbound logistics:

Activities included on this point are the storage and distribution of finished goods.

For the Scad and Anchovy market chains in the targeted provinces, the following are the main outbound logistical activities:

- Transport by wholesalers and distributors.
- Storage of Scad and dry salted Anchovy by wholesalers.

No dedicated vehicles are used for transporting Scad or Anchovy in targeted provinces. Very few wholesalers use insulated vehicles which may add some product value during long transportation, by reducing spoilage.

It is highly recommended to use small insulated boxes with lids, crushed ice and insulated and/or refrigerated to transport fresh fish. Nowadays, agents are forced to find fast transports or to cover short distances due to the lack of such facilities.

Cool storage facilities belong to wholesalers and big processing companies. No cold storages were found being operated by any other agents in studied market chains. Nevertheless some agents, occasionally have to hire cool storing places and pay other wholesalers for storing fresh fish and dry salted anchovy) for different time periods.

Lack of storage capacity obliges chain actors to sell fish at the price of the day, even if this is inconvenient for them, in prevent fish spoilage or extra expenses to buy ice.

4.1.4. Marketing and Sales:

This point includes identifying customer needs and sales generation. No marketing, sales or promotional activities were been found in either market chain of Scad or Anchovy for any value chain actor.

The only marketing support found comes from the Trade Promotion Information Centre of Tam Ky. This centre has previously supported fisheries sector firms to attend and present in trade fairs and provides advice on export possibilities.

4.1.5. Service:

Service includes the customer support once the products are sold to them. This service is currently non-existent. The value chain agents operate as individuals and have minimal linkages between different value chain and knowledge of the importance of the different chain agents. As a result, consumers' needs are largely ignored.

Only larger dry salted Anchovy export processing firms worry about feedback from their clients. No promotional activities are conducted.

4.2. Support Value Chain Activities:

4.2.1. Infrastructure:

Primary activities are supported by the chain infrastructure. It includes organisational structure, control system, company culture, etc.

Neither the Scad nor the Anchovy value chains have any important organisational structures. Very few local associations, organisations, cooperatives or clusters are in evidence. Agents are individualistic and have no notion of being included in a chain. Their interest in and knowledge of pre- and post- links along the value chain is very poor.

Special training is needed for agents to become aware of their role and importance in the product value chain.

4.2.2. Human resource management:

This point covers such activities as employee recruitment and training.

There are no special training programmes for fishers. Fishers report that they learn from other fishers. They receive no specific training on nautical, safety or marine resources management issues.

Crews are usually recruited from family members and neighbours. Other fishers and the vessel owners train them on the job. They teach other new members what to do, but this does not include marine safety instructions.

Some fishers and other agents along the fish market chain have received had handling training from the local authorities, but these courses are infrequently organised. There are no specific training centres for small-scale fishers.

Large processing companies train their own staff. Casual/season employment is common and means that a large proportion of the processing work forces to have inappropriate knowledge of good fish handling and hygiene practices.

All existing training is provided by the local authorities, but their budget for training is limited.

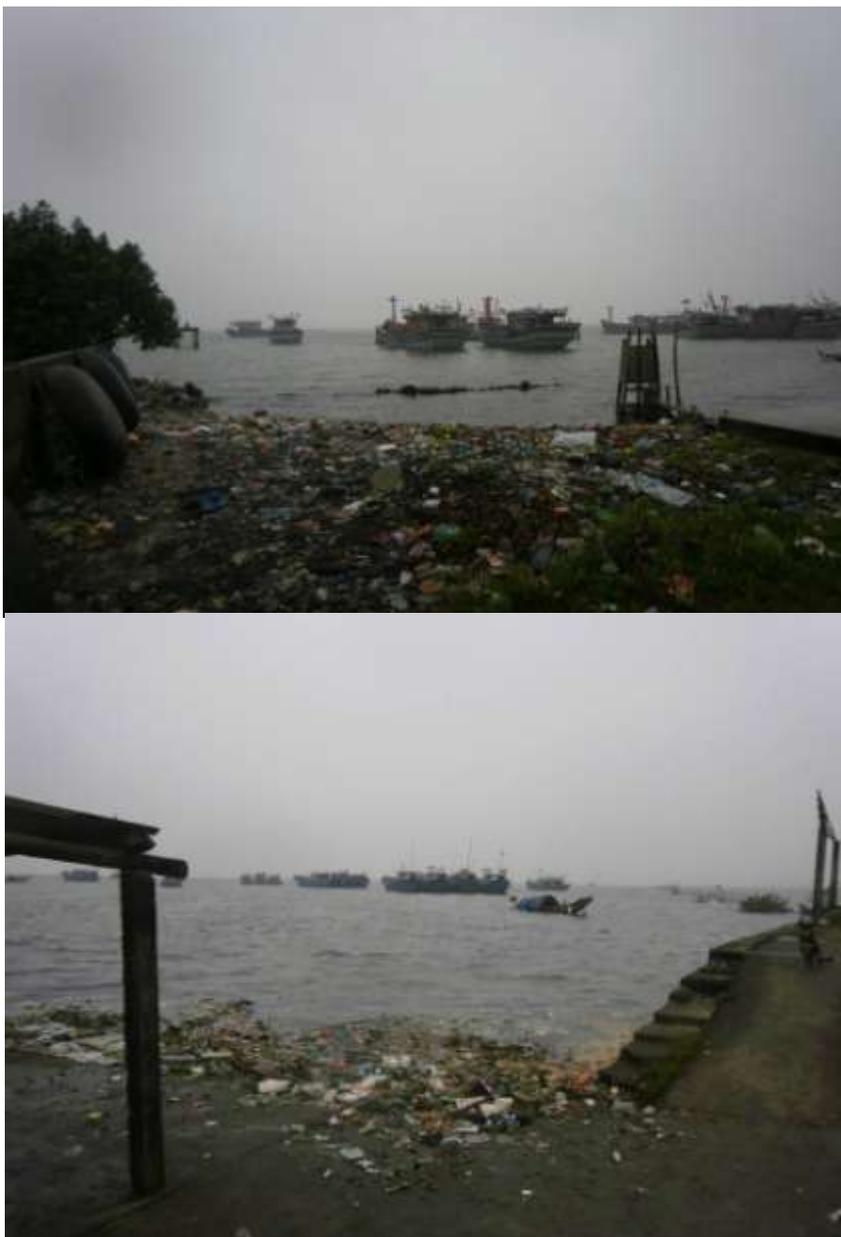
4.2.3. Technology development:

The use of technologies to support creation, and addition of value in both fish market chains is an important gap in this sector.

Fishers and artisanal aquatic processors are using technology that has been in use for decades.

The use of radio, sonar and/or GPS are the main technology innovations on board vessels, though not all vessels have all three. Radios are important because fishers and collectors use them to arranging meetings and to agree sales and price. Nevertheless the use of radios is limited by the distance from shore.

Vessels' designs and materials are traditional and can be significantly improved from hygiene, safety and environmental points of view.



Pictures 34 & 35: Poor hygiene conditions at landing sites

Fish sauce and dry salted anchovy are produced using very traditional methods. The use of screened drying rooms and cold storage facilities would significantly improve the quality of both final Scad and Anchovy products.

4.2.4. Procurement:

Activities such as the purchase of materials, supplies and equipment are vital to the value chain. Nevertheless no supply agreements were found during the field work. The general image for all the agents is a certain grade of improvisation. They sell and buy on an ad hoc basis without any long term planning.

4.3. Role of different actors in value chain

The following tables summarise the activities linked with economic gains sharing and added value developed by each agent in studied market chains:

Table 17. Scad: Summary of agent's activities related to add value

Actor	Activity that adds value	Average Buying price	Average Selling price	Comments
SCAD in THUA THIEN HUE				
Coastal Small-scale Fisher	<ul style="list-style-type: none"> • Producer 	-	7-10,000 VND/kg	Small profit margin considering the activity costs.
Offshore Small-scale Fisher	<ul style="list-style-type: none"> • Producer • Use of ice 	-	10,000 VND/kg	Highly seasonal activity. Profit margin must cover the off-peak season
Collector	<ul style="list-style-type: none"> • Use of ice • Sorting by size into 20-30 kg batches • Transport • Supply ice and petrol to fishers 	10,000 VND/kg	12-15,000 VND/kg	Allows offshore fishers to stay and fish longer at sea
Local trader	-	7-10,000 VND/kg	8-11,000 VND/kg	Important for financing fishers' operational costs
First level wholesaler	<ul style="list-style-type: none"> • Use of ice • Sorting by size and species into 10 kg boxes • Transport • Storage • Ice supply 	12-15,000 VND/kg	14-17,000 VND/kg	Average increase of price 1,000 VND/kg. Margin comes from economy of scale.
Second level wholesaler	<ul style="list-style-type: none"> • Use of ice 	17-20,000 VND/kg	20-23,000 VND/kg	Average increase of price 3,000 VND/kg. Market taxes are a

				significant cost
Fish processing industry (fish sauce)	<ul style="list-style-type: none"> • Transform fish • Use of ice • Transport 	10-12,000 VND/kg	25,000 VND/litre	One firm can buy up to 160 tons of Scad per year. Near 5-6 kg of fish are needed to produce 1 litre of pure fish sauce (100%)
Distributor	<ul style="list-style-type: none"> • Transport 	20-22,000 VND/kg	25-35,000 VND/kg	Carry fish to inland places
Retailers	<ul style="list-style-type: none"> • Use of ice • Transport • Advice to consumers 	17-23,000 VND/kg	28-35,000 VND/kg	Market taxes are a significant cost

Table 18. Anchovy: Summary of agent's activities related to add value

Actor	Activity that adds value	Average Buying price	Average Selling price	Comments
FRESH ANCHOVY in QUANG NAM				
Small-scale Fisher	<ul style="list-style-type: none"> • Producer 	-	4-6,000 VND/kg	Slim profit margin compared to operating costs.
Collector	<ul style="list-style-type: none"> • Use of ice • Classification (20-30 kg lot) • Transport 	4-6,000 VND/kg	5-7,000 VND/kg	Allows fishers to stay at sea fishing for longer
Fish processing industry (dry salted anchovy)	<ul style="list-style-type: none"> • Preserve / transform fish • Use of ice • Transport 	5-7,000 VND/kg	25-40,000 VND/kg	1 kg of anchovy, needs to spend 3-4,000 VND buying other materials
Retailers	<ul style="list-style-type: none"> • Transport • Advice to consumers 	-	8-10,000 VND/kg	Fishers' wives sell fresh fish at local markets only during the peak season
DRY SALTED ANCHOVY in QUANG NAM				
Wholesaler	<ul style="list-style-type: none"> • Transport • Storage (hire cold room out of the province) • Concentrate and Export (out of the province) 	25-30,000 VND/kg	30-32,000 VND/kg	Average increase of price 1-2,000 VND/kg. Margin comes from economy of scale.
Distributor	<ul style="list-style-type: none"> • Transport 	30-32,000 VND/kg	35-45,000 VND/kg	Transport fish to inland areas
Retailers	<ul style="list-style-type: none"> • Advise consumers 	30-45 VND/kg	35-50,000 VND/kg	Market taxes are significant costs

5. Analysis of intervention points in the existing value chains/market chains

5.1. SWOT analysis.

<p>Strengths:</p> <ul style="list-style-type: none"> • Fishers have good knowledge of their activity and extensive experience. • Important as a traditional and cultural livelihood activity in coastal communities. • Employment creation in coastal rural areas where few other opportunities exist or can be developed. • Landing activities are concentrated in a small number of places. • High consumption/demand for aquatic products. 	<p>Weaknesses:</p> <ul style="list-style-type: none"> • Limited financing capacity (limited cash flow). • Low first sale price. • High dependency on a few species. • Unselective gears. • No structural organisation / relations among chain agents. High individualism. • Large numbers of small agents (scattered) • No training / formation plans. • Inappropriate facilities: landing, storage, handling, transportation, etc. • High costs of fishing activity (high dependency on the price of fuel). • Non-existence of traceability information for aquatic products. • Low hygiene and sanitary quality (self) control. • Ignorance of others agents' activities in the same market chain. • Low competitiveness of small fishers and processing industries.
<p>Opportunities:</p> <ul style="list-style-type: none"> • Good price of dry salted Anchovy Chinese, Korean, and Japanese markets. • Well known products in markets (local and other countries markets). • Artisanal processed fish is appreciated by inland populations. • Existence of affordable processing technology (drying rooms, cool storage) affordable. • Economies of scale are easy to implement through cooperatives or associations. • Governmental support to sector initiatives. • Importance of women working in fisheries products marketing and processing. 	<p>Threats:</p> <ul style="list-style-type: none"> • Uncertain stock situation / Possibility of management measures including catches reduction. • Catching of immature Anchovy is likely to impact on recruitment and stocks. • Uncertainty toward future roads planning and communes resettlement in Quang Nam. • Coastal fishing activity depends on weather conditions. • High seasonality of fishing and processing activity • Lack of young human resource in the future.

5.2. Proposed intervention points.

According to the previous SWOT analysis and description of the market chains, the most appropriate interventions should be focused on:

1. Developing a Training Plan for all participating actors in the market chains. This should include training on improving hygiene and food safety conditions, food/fish handling, better practices and innovative techniques for preserving, processing and value addition, business management, cooperatives development and marketing.
2. Facilitating access to formal credit thereby improving the financial capacity (cash flow) of fishers, processors and traders.
3. Development of facilities: landing facilities, insulation/refrigeration of vehicles, cold stores, commune warehouses, modernisation of vessels (safety and hygienic conditions, insulated boxes on board), flake ice machines and modernisation of processing industries (screened drying rooms).
4. Reinforcing hygiene and sanitary quality self control: better practice manuals, implantation of HACCP systems and strengthening of laboratories and inspection capacity.
5. Strengthening (or setting up) local associations, organisation, cooperatives or clusters where several agents from a location can be included (fishers, collectors, ice producers, net manufacturers, processors, etc.).
6. Boosting economy of scale by the creation of common facilities such as landing ports or commune cold stores or warehouses.
7. Agents' training to become aware of their role along the whole chain.
8. Increased promotion of activities by both the private and public sectors.
9. Improve communication flow and the creation of a fisheries IT system network.
10. Diversification of targeted species caught and products used as raw material.

6. Identify information channels that need to be supported.

Current information channels are very limited. Information on market price is transmitted by onboard radio between fishers, their wives, collectors and wholesalers. Mobile phones are also used to close deals between producers and traders. All this information is bilateral and there is no transparency and/or control.

There are no available data on market prices or marketing statistics like quantities sold by species, season or geographical distribution.

The general availability of information on the small-scale fisheries sector could be improved by the implementation of an Information Technology system with the participation of communes with the main landing sites.

The individuality of small-scale fishers makes the creation of a catch record system and landing quantities or characteristics necessary.

An IT system should be developed including;

- computerisation of main landing sites communes,
- design of appropriate software,
- training for involved commune staff and,
- creation of a network connecting all landing sites.

An IT system would require both political will and Vietnamese Government legislation in order to ensure that such a system would operate sustainably.

Data included on this IT system should cover identification of the product (species, size or category, local name and international code identification), quantity, price, fisher's identification (boat, used gear...) and buyer's identification.

The creation of this IT system would provide greater transparency to the market. All interviewed fishers and collectors call their wives (by radio or phone) to get information on market prices. This information is place or locality specific. An information network that was easy to consult and open to all stakeholders would give a better and clearer picture of real market price and would help agents to make better more informed decisions.

7. Conclusions

The main conclusions that can be drawn from the Scad and Anchovy value chain studies are:

1. Small pelagics fishes are of vital importance in the fishing activities of small-scale fishers in Quang Nam and Thua Thie Hue provinces. Local processing industries play a very important role as final users of the Scad and Anchovy catches and the final products (fish sauce and dry salted Anchovy) go for human consumption, rather than to the animal and aquaculture feed industries.
2. The number of agents participating in market chain is limited. Fish can go from small-scale fishers to final consumers directly in coastal small communes (fishermen's wives sell their husbands' catch), to the processors through only collectors or can arrive with retailers through wholesalers and distributors. Most intermediate agents are geographically linked to a particular beach, commune or district. Such is the case for coastal fishers, local market traders, second level wholesalers or distributors.
3. Middlemen do not add value to the product. They mostly preserve fish with ice and transport it. Sometimes they also provide credit to fishers. There are no special treatment processes like filleting, sorting and grading or packing that would add extra value to the product. The major value added is provided by processors.
4. Marketing of Scad and Anchovy is quite fast. Scad enters processing industry plants 1-3 days after being caught. Anchovy enters processing industry plants within hours of being caught. Speed is necessary because of basic preservation facilities and fragility of the small pelagic fish. Lack of storage capacity forces chain actors to sell fish at the price of the day, even if this is inconvenient for them, in order to avoid fish spoilage or incurring additional expenses like buying ice.
5. Hygiene and sanitary conditions of the marketed fish can be improved by providing more training to involved agents, development of cold storage facilities, and better sharing of information.
6. Lack of structural organisation within the sector and scattered local processors in both targeted provinces constrains export capacity and makes improving market position difficult. The current situation should be improved by the strengthening (or setting up) of local associations, organisation, cooperatives or clusters where several agents from one locality are included, e.g. fishers, collectors, ice producers, net manufacturers, processors, etc.
7. Involved agents and stakeholders are unaware of their importance in the market chains. They also have limited interest in or knowledge of pre- and post- links along the value chain.
8. Promotional activities and marketing research or statistics are almost non-existent.
9. Small-scale fishers have very weak financial capacity and frequently suffer cash flow problems. They must borrow money from relatives, neighbours or other agents to cover the operating costs like fuel, needed for fishing. The situation applies to several

other agents along the value chains. Payment in cash limits the activity of collectors, processors and wholesalers. The capacity for investment of individual agents along the value chain is also limited.

10. No training plan exists for fishers or other market chain agents. The only training provided is that from the local authorities on food handling.

8. Recommendations

1. Develop a Training Plan for all participating actors in the market chains.
2. Facilitate access to formal credits to improve financial capacity (cash flow) of fishers, processors and traders.
3. Develop facilities.
4. Reinforce hygiene and sanitary quality self control.
5. Strengthen or form local associations, organisation, cooperatives or clusters.
6. Boost economies of scale by establishing central facilities.
7. Train all value chain agents so that they are more aware of their role and that of others in the whole value chain.
8. Increase promotional activities by both the private and public sectors.
9. Improve communication flows and create a fisheries IT system network.
10. Diversify targeted species caught and products used as raw material.

9. References

- Development Economics Research Group of University of Copenhagen, Central Institute for Economic Management of Ministry of Planning and Investment of Viet Nam (2010). The fisheries Sector in Viet nam: A strategic Economic Analysis. Royal Embassy of Denmark in Viet Nam. Fisheries Sector Programme Support (FSPS) II.
- Dr.U.Tietze.(2003). Fisheries marketing and credit in Viet Nam (Report on financing of production and marketing of fish and fishery products in Viet Nam). Hanoi, Viet Nam: FAO.
- European Union Economic and Commercial Counsellors. (2006/2010). Commercial Counsellor- Report on VN. Hanoi, Viet Nam.
- Ministry of Fisheries. (2005). Viet Nam fisheries sector programme support, phase II. Hanoi, Viet Nam.
- Ngo The Hien, Tran Hue Chi, Tran Thi Thu Huong. (2010). Report of Viet Nam fisheries sector. Hanoi, Viet Nam: ABS company.
- Nguyen Duy Chinh. (2008). Overview of fisheries resource, development strategy and policy for fisheries factor in Viet Nam. Hanoi, Viet Nam: Central institute for economic management.
- Post-harvest and Marketing Component, FSPS (2009). Briefing document on the current status of Viet Nam’s fisheries sector, prepared for the Fisheries Sector Programme Support Phase II, FSPS, Project Steering Committee meeting, June 2009. Hanoi, Viet Nam: Danida.
- Raymon van Anrooy.(2001). Fingerlings and fish marketing mission report. Hanoi, Viet Nam: FAO.
- Robert Pomeroy, Kim Anh Thi Nguyen, & Ha Xuan Thong (2009). Small-scale marine fisheries policy in Viet Nam. Marine Policy, 33, 419-428.
- Ronald D.Zweig, Ha Xuan Thong, Le Thanh Luu, Jonathan R. Cook, Michael Phillips.(2005). Study of Viet Nam’s fisheries sector. Hanoi, Viet Nam: EASRD
- Thua Thien Hue DARD (2010). Support the Hue Sour Shrimp Association to register its collective brand name. Hanoi, Viet nam: Danida.
- VASEP (2010). Thua Thien Hue: The promotion of potential and strength of fisheries sector [WWW page]. URL [http: ://www.vasep.com.vn/vasep/DailyNews.nsf](http://www.vasep.com.vn/vasep/DailyNews.nsf).
- World Bank (2011). Viet Nam Development Report 2011: Natural Resources Management. Hanoi, Viet Nam: Joint Development Partner Report to the Viet Nam Consultative Group Meeting.

Table 19. List of collected previous Studies

Studies, project	Objective	Covered region	Content of study	Beneficiaries
ABS, 2010. Report of Viet Nam fisheries sector	Information channel of fisheries exports	Whole country	Fisheries exportation sector	Fisheries exporters
Central institute for economic management, 2008. Overview of fisheries resource, development strategy and policy for fisheries factor in Viet Nam	Give the general picture about fisheries sector in time Estimate the influence of some policies for the development of fisheries sector.	Whole country	Situation of fisheries production including catch and aquaculture	All the actors in fisheries sector

Studies, project	Objective	Covered region	Content of study	Beneficiaries
Danida project, 2005. Viet Nam fisheries sector programme support, phase II	The less privileged parts of the rural population engaged in fisheries benefit from sustainable and economic development of the fisheries sector.	Son La Quang Ninh Nghe An Thua Thien Hue Binh Dinh Daklak Ben Tra An Giang Ca Mau	1.Strengthening of the Fisheries Administration 2.Strengthening of Capture Fisheries Management 3.Sustainable Development of Aquaculture 4.Strengthening Capacities of Post-harvest and Marketing	Fisheries communities
Robert Pomeroy, Kim Anh Thi Nguyen, & Ha Xuan Thong (2009). Small-scale marine fisheries policy in Viet Nam	This paper reviews and analyzes changes in policy towards small-scale fisheries in Viet Nam over the last two decades	Whole country	A brief overview of the small-scale fisheries sector Analysis fisheries management policies 1945–2003 Analysis the fisheries law of 2003 and other current policy Discussion and recommendations	Small-scales marine fisheries sector
World Bank (2011). Viet Nam Development Report 2011: Natural Resources Management.	It aims to inform the reform agenda of the government of Viet Nam and to harmonize development partner support for this framework.	Whole country	The report is organized to address the lead themes of efficiency, environmental sustainability, and equity in sectoral chapters on, marine resources	All the actors in fisheries sector
EASRD, 2005. Study of Viet Nam's fisheries sector	Identify the way of intervention for the fisheries sector in order to enhance the management and optimize the benefit through the stable usage of the fisheries resources for the production and development of aquaculture sector.	Whole country	Whole field in fisheries sector (production, processing, management, marketing, support service...)	All the actors in fisheries sector
European Union Economic and Commercial Counsellors, 2006-2010. Commercial Counsellor- Report on VN	Provide the private sector as well as European institutions and governments with an analysis of the recent economic performance of Viet Nam as well as an overview of the development in certain sectors of the Vietnamese economy	Whole country	The recent performance of Viet Nam as well as the development of some sectors of the Vietnamese economy	Private sector, European institutions and governments

Studies, project	Objective	Covered region	Content of study	Beneficiaries
FAO, 2006. Fisheries marketing and credit in Viet Nam - Report on financing of production and marketing of fish and fishery products in Viet Nam	Identify the credit needed to the actors of fisheries sectors	Whole country	Financing of production and marketing of fish and fishery products in Viet Nam	Whole fishery actors in Viet Nam
Hue DARD, 2009. Registration of collective brand name Hue Sour Shrimp	Support the Hue Sour Shrimp Association to register the collective brand name	Hue province	Registration of collective brand name Hue Sour Shrimp Building the regulation of management and of usage	Sour shrimp processor in Hue province
UNDP and FAO, 2001. Fingerlings and fish marketing mission report	Aim at capacity development of the poor and remotely located ethnic communities and organizations involved in their welfare so that they are able to plan and undertake livelihood activities at individual farming household as well as community levels with aquaculture as an entry point	Hoa Binh Son La Lai Chau	Fish marketing chain	The ethnic communities at Hoa Binh, Son La, and Lai Chau

Table 20. List of secondary data collected in both targeted provinces

N^o	Name of document	Year	Original
1	Hue statistical yearbook	2009	Hue Statistic department
2	Report of Hue fisheries sector	2005	Hue DARD
3	Report of Hue fisheries sector	2006	Hue DARD
4	Report of Hue fisheries sector	2007	Hue DARD
5	Report of Hue agriculture production	2008	Hue DARD
6	Report of fisheries catch	2009	Hue DARD
7	Report of exploitation and protection of fisheries resource	2010	Department of exploitation and protection fisheries resource of Hue province
8	Report of estimation of fisheries processing situation in Hue province	2010	Department of exploitation and protection fisheries resource of Hue province
9	Report of fisheries production	2009	Popular Committee of Phong Hai commune
10	Report of economic and social in 2010	2010	Popular Committee of Phong Hai commune
11	Report of economic and social in 2010	2010	Popular Committee of Loc Tri commune
12	Quang Nam statistical yearbook	2009	Quang Nam Statistic department
13	Report of Quang Nam fisheries sector	2005	Quang Nam DARD
14	Report of Quang Nam fisheries sector	2006	Quang Nam DARD
15	Report of Quang Nam fisheries sector	2007	Quang Nam DARD
16	Report of Quang Nam agriculture production	2008	Quang Nam DARD
17	Report of Quang Nam agriculture production	2009	Quang Nam DARD
18	Report of Quang Nam agriculture production	2010	Quang Nam DARD
19	List of agriculture policy	2010	Quang Nam DARD
20	Project of support for building and transforming offshore fishing vessel in Quang Nam Province	2009	Popular Committee of Quang Nam Province
21	Report of license of fishery capture for October 2010	2010	Depart. of Exploitation and protection of fisheries resource
22	Synthesis of fishing way in Quang Nam	2010	Depart. of Exploitation and protection of fisheries resource
23	Report of fishing capture in Quang Nam	2009	Depart. of Exploitation and protection of fisheries resource
24	Report of fishing capture in Quang Nam	2010	Depart. of Exploitation and protection of fisheries resource
25	Report of agriculture production	2010	Popular Committee of Duy Hai commune
26	Report of economic and social	2010	Popular Committee of Duy Hai commune
27	Report of economic and social	2010	Popular Committee of Binh Minh commune

Annexes

Annex I: Terms of Reference of the mission



Regional Fisheries Livelihoods Programme for South and Southeast Asia (GCP/RAS/237/SPA)

TERMS OF AGREEMENT

1. Background

The Regional Fisheries Livelihoods Programme (RFLP) - GCP/RAS/237/SPA is a regional programme supported by the Spanish Government with a total amount of US\$ 19.54 million for four years in six countries (Cambodia, Indonesia, the Philippines, Sri Lanka, Timor-Leste, and Viet Nam). With the in-kind contribution from the Government of Viet Nam, RFLP Viet Nam Component will be implemented by the Ministry of Agriculture and Rural Development (MARD) and the Research Institute for Aquaculture No.1 (RIA1) in collaboration with the Provincial People Committees of Thua Thien - Hue, Quang Tri, and Quang Nam.

The RFLP' overall objective is to achieve *“Strengthened capacity among participating small-scale fishing communities and their supporting institutions towards improved livelihoods and sustainable fisheries resources management.”*

Under the above overall objective, five main national outputs of the projects are:

1. Co-management mechanisms for sustainable utilization of fishery resources;
2. Improved safety and reduced vulnerability for fisher communities;
3. Improved quality of fishery products and market chains;
4. Strengthened and diversified income opportunities for fisher families; and
5. Facilitated access to microfinance services for fishers, processors and vendors.

The RFLP annual activity work plan 2010 for Viet Nam was approved by the National Coordination Committee in June 2010. In this context, RFLP Viet Nam and provincial Project Management Units (PMUs) have agreed on the project activity implementation in order to achieve the project outputs.

2. Terms of Reference

2.1 Description of Activities/Services

The services provided by the AIDA, Ayuda, Intercambio y Desarrollo (hereafter referred to as Recipient Organization) under this Letter of Agreement are for the achievement of Activity 3.4.1 “Review of selected (fish) marketing chains and arrangements” under the Sub-Output 3.4 of the annual activity work plan 2010 in Quang Nam and Thua Thien Hue Provinces.

The following activities will be implemented by the Recipient Organization:

Activity 3.4.1 “Review of selected (fish) marketing chains and arrangements”

A) Data Collection

12. Collect existing studies on value chain/market chain of fisheries products in Viet Nam.
13. Briefly review past and on-going initiatives and assistance by different groups (including public and private, government of Viet Nam and donor agencies) to improve marketing of capture fisheries products by local small-scale fishers in the two target provinces.
14. Collect and review secondary data available at different levels (national to commune).
15. Select the most important commodity for the analysis for each target province through PRA sessions including capturing season, productivity, and usages of products.
16. Interviews with authorities (minimum 3 interviews per province).
17. Collect market/value chain data/information, where possible disaggregated by sex, from different stakeholders through:
 - Individual interviews with stakeholders (minimum 12 interviews per province); and,
 - In-depth interviews with different actors in market chain (minimum 12 interviews per province).

B) Hypothesis Sharing/Validation

18. Re-discuss and verify the data through debriefing workshops with different stakeholders (one workshop per province).

C) Recommendation Preparation

19. Describe and analyze existing marketing chains for the most important fishery commodities captured by small-scale fishers in each province (i.e., two commodities in total) including the identification of key actors in and the value change along in these chains, identifying where they exist, price differentials between male and female actors in the value chain.
20. Analyze the intervention points in the existing value chains/market chains to improve the livelihoods of local small-scale fishers in the target provinces, and of women in particular.
21. Identify information channels that need to be supported to improve fish marketing by the local fishers based on the analysis of current information gaps.
22. Recommend potential ways to improve fish marketing by local small-scale fishers in target provinces with full consideration of existing financial, and technical capacities and the differing roles of male and female actors along the value chain.

2.2 Definition of Outputs

The Recipient Organization will produce the following outputs under this Letter of Agreement:

A draft report including:

- Overview of the seafood market chain within Viet Nam for a key product identified for each of the two target provinces, namely Quang Nam and Thua Thien Hue;
- Summary of findings from field data collection and verification with key stakeholders;
- Description and analysis of existing marketing chains for the most important fishery commodities captured by small-scale fishers in each province (i.e., two commodities in total) including the identification of key actors and value change along these chains and if they exist value chain differentials for male and female actors in the value chain;
- Identification of information channels that need to be supported to improve fish marketing by the local fishers based on the analysis of current information gaps; and
- Recommendations for potential ways to improve fish marketing by local small-scale fishers in target provinces with full consideration of existing financial and technical capacities and differencing roles of male and female actors along the value chain.

A final report including:

- All items included in the draft report fully updated and revised based on the inputs provided by the RFLP.

All reports and documents will be produced both in English and Vietnamese languages. Text documents will be produced in MS Word according to the reporting guidelines, which are provided in Annexes 2 and 3, in both soft and hard copies. In addition, hard copies of all collected documents, and softcopies of all collected and/or analyzed data will be supplied by the Recipient Organization to RFLP National Coordination Office in Hue City.

2.3 Duration and Timing

Date	Activity description
By 10 Jan 2011	Collect and review existing studies, reports, and secondary data at both national and local levels
By 10 Jan 2011	Prepare research and field work plan (design, methodologies, target commodity, other study specification, and field work plan)
By 15 Jan 2011	Conduct field work for data collection in Thua Thien Hue
By 21 Jan 2011	Conduct field work for data collection in Quang Nam
By 15 Jan 2011	Organize a debriefing/verification session in Thua Thien Hue
By 21 Jan 2011	Organize a debriefing/verification session in Quang Nam
By 30 Jan 2011	Write and submit a draft report
By 28 Feb 2011	Revise and submit a final report

2.4 Monitoring and Progress Reporting

As mentioned in the Section 4 (Reporting) of the LOA, the recipient organization will submit a draft report no later than **30 January 2011** and a final report no later than **28 February 2011**. The final report should be accompanied by a final unaudited statement of accounts.

Mr. Vu Ngoc Tien, Assistant FAO Representative, will monitor the activities progress and proper implementation of the activities identified under this Terms of Agreement.

3. Inputs to be Provided Free of Charge by the Recipient Organization

3.1 List of Inputs

The following inputs will be provided free of charge by the Recipient Organization:

- a) Copy of key documents by other parties related to fish marketing chains and arrangements in Viet Nam to be collected under and/or relevant to this LOA.

3.2 Timing of Inputs

The inputs will be provided in the whole progress of the activities performance.

4. Inputs to be Provided in Kind by FAO

Not applicable.

5. Monitoring/Certifying Officer

Mr. Vu Ngoc Tien, Assistant FAO Representative, will monitor the proper implementation of the Agreement and will certify to the disbursing officer that the Terms of the Agreement have been satisfactorily met and that appropriate payments can be made.

Annex 2

REPORTING GUIDELINES

The technical reports due by the Recipient Organization to FAO should be prepared following the instructions herewith attached:

Format:

- A4, single-spaced
- Standardized cover page (see attached)
- Margin (top, bottom, left and right): 25.4 mm / 1 inch
- Heading font: Arial, 12-14 pt, bold, left-aligned
- Body font: Times New Roman, 12 pt, justified
- Page number: bottom-center
- Allow one empty line before and after the section titles/headings

Items in the report should include:

- Cover page (format provided on the following page)
- Table of contents
- List of acronyms
- Executive summary
- Tables and figures, numbered progressively and systematically captioned
- Report main text
- References (reference list should follow a consistent style, e.g. APA style)

Please check the English grammar and typos very carefully before the submission of the report to the RFLP. We suggest authors to run spell check on Microsoft Word also.

Copyrights should be respected and citation should be done in a professional way using the proper citation style such as APA.



**REGIONAL FISHERIES LIVELIHOODS PROGRAMME
FOR SOUTH AND SOUTHEAST ASIA (RFLP)**

REPORT TITLE
(Activity Code: Activity Name)

**For the Regional Fisheries Livelihoods Programme for the South and Southeast Asia
Viet Nam Component**

Reporter name
(Name of Reporter's Organization)

Thua Thien Hue, date.....

Annex 3

VISIBILITY OF ACTIVITIES AND ACTIONS FUNDED BY AECID

It is compulsory that the following logos and the following sentences are included in any publication, brochure, printed material, etc., produced using the RFLP funds from the Spanish Government.



"This publication has been made with the financial support of the Spanish Agency of International Cooperation for Development (AECID) through an FAO trust-fund project, the Regional Fisheries Livelihoods Programme (RFLP) for South and Southeast Asia. The content of this publication does not necessarily reflect the opinion of AECID, RFLP, or MARD."

NOTE: As in clause 3 (c) of the LOA, the use of the FAO logo as included in the above for publications other than the mid-term and final report as required under this LOA requires advance notification to and written permission from FAO.

Annex II: List of interviewed people

1. THUA TIEN HUE PROVINCE

1. List of participant in PRA session in Thua Thien Hue

N ^o	Name	Sex	Profession	Address
1	Tran Dung	Male	Fishermen at Lagoon	Loc Tri
2	Le Minh Thinh	Male	Fishermen at Lagoon	Loc Tri
3	Ngo Thuan	Male	Fishermen at Lagoon	Loc Tri
4	Huynh Dieu	Male	Fishermen at Lagoon	Loc Tri
5	Huynh Da	Male	Fishermen at Lagoon	Loc Tri
6	Nguyen Dien	Male	Collector	Loc Tri
7	Nguyen Hien	Male	Collector	Loc Tri
8	Tran Thoan	Male	Collector on the sea	Loc Tri
9	Tran Van Hung	Male	Fishermen	Loc Tri
10	Tran Long	Male	Collector on the sea	Loc Tri
11	Mai Luat	Male	Fishermen	Phu Loc
12	Tran Xe	Male	Collector and fishermen	Phu Loc
13	Tran Dinh Ngot	Male	Fishermen on the sea	Phu Loc
14	Le Minh Thuyen	Male	Fishermen on the sea	Phu Loc
15	Tran Thi Lanh	Female	Collector	Phu Loc

2. List of interviewed local authorities in Thua Thien Hue

N ^o	Name	Sex	Profession	Address
1	Phan Ton Bao Duy	Male	PMU's person	Hue DARD
2	Nguyen Van Bon	Male	Department of management of fisheries resource	Department of Exploitation and protection fisheries resource
3	Ho Van Xe	Male	Fisheries extension of Phu Thuan commune	Popular Committee of Phu Thuan commune
4	Nguyen Viet Tu	Male	Director of Popular Committee	Popular Committee of Phong Hai commune
5	Ho Khanh	Male	Fisheries extension of Phong Hai commune	Popular Committee of Phong Hai commune
6	Tran Thanh Tan	Male	Vice director of popular Committee	Popular Committee of Loc Tri commune

3. List of interviewed actors in Thua Thien Hue Province

No	Name	Sex	Position
Phong Hai Commune			
1	Hoang Thi Danh	Female	Processor
2	Ho Duyet	Male	Owner-ship
3	Hoang Loc	Male	Collector
4	Tran Su	Male	Fishermen
5	Nguyen Xuan Thanh	Male	Owner-ship
Phu Thuan Commune			
6	Pham Ngach	Male	Owner-ship
7	Ngo Duc Anh	Male	Owner-ship
8	Ho Van Khang	Male	Fishermen
9	Nguyen Thi Van	Female	Processor
10	Nguyen Xuan Chien	Male	Owner-ship
11	Ngo Trong Tai	Male	Fishermen
Thuan An town			
12	Nguyen Cong Hoan	Male	Wholesaler
13	Nguyen Huu Quang	Male	Ice, fuel producer
14	Tran Van Hai	Male	Collector
15	Tran Van Chau	Male	Wholesaler
16	Nguyen Thi Suong	Female	Labour of collector
17	Nguyen Luong Thuy	Male	Processor
Loc Tri Commune			
18	Tran Long	Male	Collector
19	Tran Thoan	Male	Collector
Hue City			
20	Le Van Anh	Male	Wholesaler
21	Nguyen Thi Loi	Female	Retailer
22	Nguyen Thi Kim Chung	Female	Restaurant
23	Ha Thi Nhu Quynh	Female	Consumer
24	Ton Nu Thi Hue	Female	Distributor
25	Tran Van Thanh	Male	Retailer

4. List of people in the debriefing session in Hue province

N°	Name and surname	Sex	Occupation	Address
1	Tran Su	Male	Fishermen	Phong Hai commune
2	Ho Duyet	Male	Fishermen	Phong Hai commune
3	Ho Khanh	Male	Fishery extention	Phong Hai commune
4	Nguyen Xuan Thanh	Male	Fishermen	Phong Hai commune
5	Hoang Loc	Male	Collector	Phong Hai commune
6	Hoang Thi Danh	Female	Processing	Phong Hai commune
7	Ho Van Khang	Male	Fishermen	Phu Thuan commune
8	Nguyen Thanh Tuan	Male	Fishermen	Phu Thuan commune
9	Ngo Duc Anh	Male	Fishermen	Phu Thuan commune
10	Ngo Trong Tai	Male	Fishermen	Phu Thuan commune
11	Nguyen Thanh Son	Male	Fishery extention	Phu Thuan commune
12	Le Van Anh	Male	Collector	Phu Thuan commune
13	Nguyen Luong Thuy	Male	Processing	Thuan An town
14	Nguyen Thi Suong	Female	Labour of wholesaler	Thuan An town
15	Tran Van Chau	Male	Wholesaler	Thuan An town
16	Tran Van Thanh	Male	Distributor	Hue city
17	Hoang Ngoc Viet	Male	Vice director of Hue DARD	Hue city
18	Phan Ton Bao Duy	Male	PMUs person	Hue city
19	Tran Thanh Tan	Male	Vice director of popular committee	Loc Tri commune

2. QUANG NAM PROVINCE

1. List of PRA participant in Quang Nam Province

N ^o	Name	Sex	Profession	Address
1	Le Văn Loc	Male	Collector	Duy Hai
2	Nguyen Tan Hai	Male	Collector	Duy Hai
3	Pham Hung	Male	Fishermen	Duy Hai
4	Nguyen Tan Trung	Male	Fishermen	Duy Hai
5	Nguyen Minh Cu	Male	Fishermen	Duy Hai
6	Tran Van A	Male	Fishermen	Duy Hai
7	Nguyen Thi Do	Female	Collector	Duy Hai
8	Tran Thi Tam	Female	Collector	Duy Hai
9	Pham Duy Trinh	Male	Fish-sauce processor	Duy Hai
10	Nguyen Hue	Male	Collector and processor	Binh Minh
11	Do Van Man	Male	Collector and processor	Binh Minh
12	Truong Tam	Male	Fishermen	Binh Minh
13	Nguyễn Văn Lâm	Male	Fishermen	Binh Minh
14	Truong Cong Ba	Male	Fishermen	Binh Minh

2. List of interviewed local authorities in Quang Nam Province

No	Name	Sex	Profession	Address
1	Tran Bon	Male	Agro-Forestry-Fisheries quality assurance Department	Quang Nam DARD
2	Nguyen Dinh Toan	Male	Department of management of fisheries resource	Department of Exploitation and protection fisheries resource
3	Truong Cong Bay	Male	Vice director of Popular Committee	Popular Committee of Binh Minh commune
4	Nguyen Van Thong	Male	Vice director of Popular Committee	Popular Committee of Duy Hai commune
5	Vo Quoc Hai	Male	Fishery extension of Duy Hai commune	Popular Committee of Duy Hai commune

3. List of interviewed actors in Quang Nam Province

No	Name	Sex	Position
Duy Hai Commune			
1	Nguyen Cuong	Male	ship-owner
2	Pham Duy Trinh	Male	Processing of fish-sauce
3	Tran Van Tu	Male	Fishermen
4	Nguyen Thi Dao	Female	Processing of dry fish
5	Le Van Loc	Male	Collector
6	Nguyen Tuan Hai	Male	Collector
7	Nguyen Thi Phuong	Female	ship-owner + distributor + collector
8	Pham Van Hung	Male	ship-owner
Binh Minh Commune			
9	Nguyen Duc Thanh	Male	ship-owner
10	Tran Thi Hong	Female	Processing of dry fish
11	Đang Van Su	Male	Fishermen
12	Tran Tinh	Male	ship-owner
13	Dang Loi	Male	ship-owner
14	Do Van Man	Male	Processing of fish-sauce
15	Ho Van Lam	Male	Ice producer
Hoi An Town			
16	Nguyen Xuan	Male	Collector
17	Hoi An market	Female	Retailer
18	Tran Minh Trinh	Male	Processing of dry fish
Tam Ky City			
19	Doan Ngoc Dung	Male	Wholesaler
20	Nguyen Thi Nguyet	Female	Wholesaler
21	Nguyen Thi Hong Suong	Female	Retailer
22	Duong Thi Duy Ly	Female	Consumer
23	Truong Thi Long	Female	Wholesaler
24	Thieu Viet Dung	Male	Trade promotion information centre
25	Rice spots	Female	

4. List of people in the debriefing session in Quang Nam Province

N°	Name and surname	Sex	Occupation	Address
1	Nguyen Tan Hai	Male	Collector	Duy Hai commune
2	Le Van Loc	Male	Collector	Duy Hai commune
3	Pham Hung	Male	Fishermen	Duy Hai commune
4	Tran Van Tu	Male	Fishermen	Duy Hai commune
5	Le Van Muoi	Male	Fishermen + Collector	Duy Hai commune
6	Vo Quoc Hai	Male	Fishery extension	Duy Hai commune
7	Nguyen Thi Dao	Female	Processing	Duy Hai commune
8	Nguyen Cuong	Male	Fishermen	Duy Hai commune
9	Nguyen Van Thong	Male	Vice director of popular committee	Duy Hai commune
10	Tran Tinh	Male	Fishermen	Binh Minh commune
11	Dang Van Su	Male	Fishermen	Binh Minh commune
12	Nguyen Duc Thanh	Male	Fishermen	Binh Minh commune
13	Do Van Man	Male	Processing	Binh Minh commune
14	Tran Cong Dao	Male	Fishery extension	Binh Minh commune
15	Truong Cong Bay	Male	Vice director of popular committee	Binh Minh commune

Annex III: Questionnaires



QUESTIONNAIRE FOR SHIP-OWNERS

Date of interview :/...../ 2011
 Name of interviewer:
 Name of interviewee:
 Address:
 Tel:
 Age:..... Sex:
 Number of year in fishing :

1. Family members

Content	Sex	
	Male	Female
1. Number of members in your family		
2. Relationship		

2. Main activities of household

Nº	Activities	Income/year	Rate (%)
1	Cultivation		
2	Breeding		
3	Fishing		
4	Aquaculture		
5	Others		

3. Fisheries Activities

3.1. Family capacity for fishing

Content	Unit	Quantity	Total time in use (for the depreciation)
Total number of boats	Boat		
Capacity of each	CV		
Value of each	Million VND		

3.2. Employ (fishing activity)

Fishing way	Number of employees	Payment way	Cost

3.3. What kind of capital sources do you use for production ?

Initial investment:

Floating capital (for fuel, ice, wages):

.....

.....

.....

4. Business Activities

a. Business activities

Product	Business activities (data collected for one year)											
	Collector			Wholesaler			Firm			Others		
	Location	Quantity	Delivery	Location	Quantity	Delivery	Location	Quantity	Delivery	Location	Quantity	Delivery

b. Classification way of product?

Product	Buyer	Criteria (describe for each level of product)	Price

c. What kind of relationship exists between you and your client? Who are they?

.....
.....
.....

d. How do you discuss about the business information with your client? (price, quantity, quality of product)

.....
.....
.....

e. How does your client pay to you?

.....
.....
.....

f. In this region, how many people who have same activity like you? What about their scale?

.....
.....
.....

5. What difficulties are you facing in fisheries?

.....
.....
.....

6. Do you have any advantages in fisheries?

.....
.....
.....

7. What are your desires for your work?

.....
.....
.....

THANKS FOR YOUR COOPERATION!



QUESTIONNAIRE FOR ICE PRODUCER

Date of interview:/...../ 2011

Name of interviewer:

Name of interviewee:

Address :

Tel:

Age:..... Sex:

Number of year in work:.....

8. Family members

Content	Sex	
	Male	Female
1. Number of members in your family		
2. Relationship		

9. Main activities of household

STT	Activities	Income/year	Rate (%)
1	Ice production		
2	Others		

10. Production activity

How many kg of ice do you produce per day ?

How many day per year do you produce ice ?

Cost per kg ?

Where does water come from?.

Whom do you sell your ice to?

What kind of relationship between you and your client?

.....

How do you discuss about the business information with your client? (price, quantity, quality of product)

.....

How does your client pay to you?

.....

In this region, how many people who have same activity like you? What about their scale ?

.....

Work Expenses (*for one year*)

Content	Quantity	Value	Time in use
Machine			
Fuel			
Electricity			
Labour			

11. What kind of capital sources do you use for production?

Initial investment:

Floating capital (for fuel, electricity,...):

.....

12. What difficulties are you facing in work?

.....

13. Do you have any advantages in work?

.....

14. What are your desires for your work?

.....

THANKS FOR YOUR COOPERATION!



QUESTIONNAIRE FOR FISHERMEN

Date of interview:/...../ 2011
 Name of interviewer:
 Name of interviewee:
 Address:
 Tel:
 Age:..... Sex:
 Number of year in work :.....

15. Family member

Content	Sex	
	Male	Female
1. Number of person in your family		
2. Relationship		

16. Main activities of household

STT	Activities	Income/year	Rate (%)
1	Fisher		
2	Others		

17. Fishery activity

How many day do you work per year?
 Have you the contract with your employer?
 How much do you get?
 How do you get the salary?

What kind of relationship between you and your employer? (labour contract, partner,...)

.....

In this region, how many people who have same activity like you? What about their scale?

.....

.....

Besides fishing, do you and your family have other jobs?

.....

.....

How many people in your family involve in that (those) job(s)?

.....

18. What difficulties are you facing in work?

.....

.....

.....

19. Do you have any advantages in work?

.....

.....

.....

20. What are your desires for your work?

.....

.....

.....

THANKS FOR YOUR COOPERATION!



QUESTIONNAIRE FOR LABOUR OF COLLECTOR/WHOLESALE

Date of interview:/...../ 2011
 Name of interviewer:
 Name of interviewee:
 Address:
 Tel:
 Age:..... Sex:
 Number of year in work :

21. Family member

Content	Sex	
	Male	Fermelle
1. Number of person in your family		
2. Relationship		

22. Main activities of household

STT	Activities	Income/year	Rate (%)
1	Labour		
2	Others		

23. Job's activity

What job do you have to do?

.....

How many day do you work per year?

Do you have a contract with your employer?

How much do you get?

How do you get the salary?

What kind of relationship between you and your employer? (contract labour, partner,...)

.....
.....

In this region, how many people who have same activity like you? What about their scale?

.....
.....

Besides this job, do you and your family have other jobs?

.....
.....

How many people in your family involve in that (those) job(s)?

.....
.....

24. What difficulties are you facing in work?

.....
.....

25. Do you have any advantages in work?

.....
.....

26. What are your desires for your work?

.....
.....

THANKS FOR YOUR COOPERATION!



QUESTIONNAIRE FOR COLLECTOR OR WHOLESALER

Date of interview:/...../ 2011
 Nam of interviewer:
 Name of interviewee:
 Address:
 Tel:
 Age:..... Sex:
 Number of year in work :.....

27. General information

1.1 Kind of activity

Kind of activity	Note (x)	Main activity	Note (x)
- Firm		- Exportation	
- Wholesaler		- Processing, preliminary	
- Processing, preliminary		- Collection	
- Collector		- Wholesale	
- Retailer		- Retail	
- Other		- Other	

1.2 Scale of activity

Criteria	Quantity
Income/year (million VND)	
Income from the fishery business (million VND)	
+ <i>Fresh product</i>	
+ <i>Product of processing</i>	
Income from the others activities (million VND)	

1.3. Rate of product in business:

	Quantity (ton)	Rate (%)
Total/year		
Fresh product		
Processed product		

28. Purchasing activity

2.1 Quantity of purchasing product/year

Time	Quantity /year (ton)	Main product	Origin *, rate in which
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
Total			

(*) Origin of product: from whom, in which region?

2.2. You purchase product from whom?

From	Which region?	Kind of product	Quantity/year	Quantity of client/year	
				Frequently	Non frequently
Fisher					
Collector					
Wholesaler					
Firm					
Other					

2.3 Estimation of quality product during the business (who will do the classification?)

Product	Criterion (describe for each level of product)	From whom	Price (VND/kg)

2.4. Way of trade (description of chain)

Actor (input)	Way of trade	Payment (direct/owe)

How is the way of delivery?.....

.....

How do you discuss about the business information with your supplier? (price, quantity, quality of product)

.....

.....

What are the expenses in purchasing activity?

.....

.....

29. Selling activity

Whom do you sell your product?

Actor	Which region?	Kind of product	Quantity/year	Quantity of client/year	
				Frequently	Non frequently
Retailer					
Wholesaler					

Consumer					
Firm					
Other					

How is the way of delivery?.....

.....

How do you discuss about the business information with your client? (price, quantity, quality of product)

.....

.....

How do you do to maintain the relationship with your client? (quality, way of payment, priority,...)

.....

.....

Estimation of quality product during the business (who will do the classification?)

Product	Criterion (describe for each level of product)	From whom	Price (VND/kg)

What are the expenses in selling activity?

.....

.....

.....

30. In this region, how many people who have same activity like you? What about their scale?

.....

.....

31. What difficulties are you facing in this job?

.....

.....

32. Do you have any advantages in this job?

.....

.....

33. What are your desires for your work?

.....

THANKS FOR YOUR COOPERATION!



QUESTIONNAIRE FOR RETAILER

Date of interview:/...../ 2011
 Name of interviewer:
 Name of interviewee:
 Address:
 Tel:
 Age:..... Sex:
 Number of year in work :.....

1. General information

1.1. Income of household

Nº	Activities	Income/year	Rate (%)
1	Fishery business		
2	Others		

1.2. Fishery business

Content	Quantity
Total fund for activity/day (million)	
Labour (person)	
Quantity in business/day (kg)	
Kind of product	
Number of month/year	
Time of activity/day	
Quantity of input actor (person)	
Kind of supplier (fisher, wholesaler, firm,....)	
Number of output actor (person)	
Kind of actor (consumer, restaurant, hotel,...)	

2. Purchasing activity

2.1 Quantity of product/day

Kind of product	Quantity of product /day(kg)	Origin of product*	Time of activity in year (month)

(*)Origin: kind of actor and their region

2.2 Estimation of quality product during the business (who will do the classification?)

Product	Criteria (describe for each level of product)	From whom	Price (VND/kg)

2.4. Way of trade

Actor (input)	Way of trade	Payment (direct/owe)

What kind of relationship do you have with your supplier?

.....

.....

How is the way of delivery?.....

.....

How do you discuss about the business information with your supplier? (price, quantity, quality of product)

.....

.....

.....

What are the expenses in buying activity?

.....

.....

3. Selling activity

How many frequent clients do you have?

.....

Estimation of quality product during the business (who will do the classification?)

Product	Criteria (describe for each level of product)	From whom	Price (VND/kg)

What are the expenses in selling activity? (ticket, tax, transport, loss,...)

.....

.....

4. In this region, how many people who have same activity like you? What about their scale?

.....

.....

.....

5. What difficulties are you facing in this job?

.....

.....

.....

6. Do you have any advantages in this job?

.....

7. What are your desires for your work?

.....

.....

.....

THANKS FOR YOUR COOPERATION!



QUESTIONNAIRE FOR PROCESSING FIRM

Name of firm:.....

Address:

Field of action:

Year of establishment.....

Name of interviewee.....

Position

Tel

1. Scale of fishery processing

Number of employees (person)	Total fund for activity (million)	Turnover of fishery processing

2. Kind of processing product

Name	Yield/year (kg,lit)	Main time in year

3. Purchasing activity

Kind of material for processing	Input source	Quantity/year (kg)	Kind of input actor	Time in year

- How is the system of input supplier of your firm?

.....

- Estimation of quality of input material (who will do the classification?)

Input material	Criterion (describe for each level of product)	From whom	Price (VND/kg)

- Do your firm have private source of material? Where? How do you do to ensure your raw material source?

.....

.....

Relationship with supplier

a. Relationship with supplier is frequency (long-time supplier) or not (short time supplier)?

.....

.....

b. With the frequency supplier:

How long do you purchase product from these suppliers?

.....

.....

What is difference between the long-time supplier and the others?

.....

.....

Do you make the contract with theses suppliers?

If yes, describe the contract

Clause	Content
Kind of product	

Quantity of product	Quantity During.....
Way of delivery	
Price	Price:During:
Quality criteria	
Way of quality examination	
Others	
Duration of contract	

In case that you have not the contract, which way of business applied? Way of payment?

.....

What is the way of delivery?

.....

4. Norm (technical criteria) of input product

a. Sensory

N ^o	Kind of product	Describe
----------------	-----------------	----------

b. Norm of food safety

What are the applied criteria of food safety?

.....

What are the justifications for food safety?

.....

Who examine the food safety of input product in your firm?

.....

How does he/she examine?

.....

If the quality product is not conformed to norm, what will you do?

.....

5. Selling activity

Kind of product	Market		Consumer actor	
	Region's market	Density	Kind of actor	Density

- How the way of selling run?

Kind of product	Kind of contract	Which actor?	Content of contract	Rate of product

6. The price of processing product?

Output product	Criterion (describe for each level of product)	To whom	Price (VND/kg,lit)

7. Can you describe the processing technology? (describe waste treatments, if any)

.....

8. What are the expenses in your activity?

.....

.....
9. What kind of system of quality management do you have?
.....
.....
.....

10. What are the supports of government for your activity? (processing and marketing)
.....
.....

11. In this region, how many people who have same activity like you? What about their scale?
.....
.....

12. What difficulties are you facing in this job?
.....
.....
.....

13. Do you have any advantages in this job?
.....
.....
.....

14. What are your desires for your work?
.....
.....
.....

THANKS FOR YOUR COOPERATION!



QUESTIONNAIRE FOR HOTEL AND RESTAURANT

Date of interview:/...../ 2011
 Name of interviewer:
 Name of interviewee:
 Address:
 Tel:
 Number of year in work :

1. Kind of fishery product what the hotel/restaurant use

Kind of fishery product	Purchasing quantity/day (kg)	Rate (%)	Time in use	Way of conservation

2. How many fishery supplier do you have? Who are they?

.....

3. Relationship with supplier

a. Relationship with supplier is frequent (long-time supplier) or not (short time supplier)?

.....

b. With the frequent supplier:

How long do you purchase product from these suppliers?

.....

What is difference between the long-time supplier and the others?

Do you make the contract with those suppliers?

If yes, describe the contract

Clause	Content
Kind of product	
Quantity of product	Quantity During.....
Way of delivery	
Price	Price:During:
Quality criteria	
Way of quality examination	
Others	
Duration of contract	

In case that you have not the contract, which way of business applied? Way of payment?

.....

.....

What is the way of delivery?

.....

.....

4. Norm of input product

a. Sensory

N°	Kind of product	Describe

b. Norm of food safety

What are the applied criteria of food safety?

.....
.....
What are the justifications for food safety?

.....
.....
Who examine the food safety of input product in your firm?

How does he/she examine?

.....
.....
If the quality product is not conformed to norm, what will you do?

.....
.....
What are the expenses in your activity?

.....
.....
In this region, how many people who have same activity like you? What about their scale?

.....
.....
What difficulties are you facing in this job?

.....
.....
Do you have any advantages in this job?

.....
.....
What are your desires for your work?

.....
.....
THANKS FOR YOUR COOPERATION!

Annex IV: Agenda of the field mission

Date	Time	Activity	Personal	Location
09-01-2011	Morning	Travel: Hanoi - Hue	NC	Hue city
	Afternoon	Meet Mr Ny for preparing of fieldwork	NC	Hue city
10-01-2011	Morning	Take interview Mr Nguyen Van Bon	NC	Hue city
	Afternoon	Take interview Mr Nguyen Chanh Vu (Vice director of Import-Export office, DOIT)	NC	Hue city
11-01-2011	Morning	PRA session	NC and Mr Ny	Phu Loc commune
	Afternoon	Travel: Hue-Quang Nam	NC	Duy Hai Commune
		Take interview Mr Vo Quoc Hai		Duy Hai Commune
12-01-2011	Morning	PRA session	NC	Duy Hai Commune
	Afternoon	Take interview Mr Tran Bon (PMU's personal)	NC	Tam Ky city
		Take interview Mr Nguyen Dinh Toan (Dept. of Exploit.& Protect. of fisheries resources)	NC	Tam Ky city
		Travel: TamKy-Binh Minh commune	NC	Binh Minh commune
13-01-2011	Morning	Take interview Mr Truong Cong Bay	NC	Binh Minh commune
	Afternoon	Travel: Binh Minh commune-HoiAn	NC	Hoi An port
		Find the collector of anchovy to take interview but It's not success	NC	Hoi An port
		Travel: Hoi An - Danang	NC	Da nang
14-01-2011	Morning	Travel: Danang-PhuThuan commune	NC	Phu Thuan commune
		Take interview Mr Ho Van Xe	NC	
	Afternoon	Travel: Phu Thuan-commune to Thuan An port	NC	Thuan An town
		Identification the wholesalers of scad and take the appointment for interview	NC	
15-01-2011	Morning	Travel: Thuan An town-Phong Hai commune	NC	Phong Hai commune
		Take interview Mr Nguyen Viet Tu	NC	
	Afternoon	Travel Phong Hai-Hue city	NC	

Date	Time	Activity	Personal	Location
16-01-2011	Morning	Synthesis the data collected	NC	Hue city
	Afternoon	Meet Mr Adolfo (IC) -	NC and IC	
17-01-2011	Morning	Meeting with RFLP Hue	NC and IC	Hue city
	Afternoon	Travel to Phong Hai commune		
		Take interview the actors of value chain	NC and IC	Phong Hai commune
18-01-2011	Morning	Take interview the actors of value chain	NC and IC	Phu Thuan commune
	Afternoon	Take interview the actors of value chain	NC and IC	Phu Thuan commune
19-01-2011	Morning	Take interview the actors of value chain	NC and IC	Thuan An town
	Afternoon	Take interview the actors of value chain	NC and IC	Loc Tri commune
20-01-2011	Morning	Take interview the actors of value chain	NC and IC	Hue city
	Afternoon	Take interview the actors of value chain	NC	Hue city
		Take interview the actors of value chain	IC	Thuan An town
21-01-2011	Morning	Preparing for debriefing session	NC and IC	Hue city
	Afternoon	Preparing for debriefing session	NC and IC	Hue city
22-01-2011	Morning	Debriefing session	NC and IC	Hue city
	Afternoon	Synthesis the data collected, get the invoice	NC	Hue city
23-01-2011	Morning	Travel: Hue-Quang Nam	NC and IC	
	Afternoon	Preparing for field work	NC	Tam Ky city
24-01-2011	Morning	Take interview the actors of value chain	NC and IC	Duy Hai Commune
	Afternoon	Take interview the actors of value chain	NC and IC	Binh Minh commune
25-01-2011	Morning	Take interview the actors of value chain	NC and IC	Tam Ky city
	Afternoon	Take interview the actors of value chain	NC and IC	Hoi An
26-01-2011	Morning	Take interview Mr Thieu Ngoc Dung	NC and IC	Tam Ky city
	Afternoon	Take interview the actors of value chain	NC and IC	Binh Minh commune

Date	Time	Activity	Personal	Location
27-01-2011	Morning	Take interview the actors of value chain	NC and IC	Hoi An
	Afternoon	Take interview the actors of value chain	NC	Tam Ky city
		Take interview the actors of value chain	IC	Hoi An
28-01-2011	Morning	Preparing for debriefing session	NC and IC	Duy Hai Commune
	Afternoon	Synthesis the data collected.	NC and IC	Hoi An

Annex V: Material for debriefing sessions

Debriefing session in Quang Nam

Slide 1,2



DEBRIEFING WORKSHOP OF VALIDATION

Activity 3.4.1: Review of anchovy marketing chains and arrangements

Quang Nam, 28/01/2011

1. **Location of Survey**
 - Duy Hai commune
 - Binh Minh commune
 - Tam Ky city
 - Hoi An city
2. **Time of survey:** From 24/01 to 28/01/2011
3. **Interviewee:**
 - Ship-owner
 - Fishermen
 - Collector
 - Wholesaler
 - Retailer
 - Processing actor
 - Consumers

Slide 3,4

Fishermen

- Small wooden boats with engine power around 30 CV-125CV, almost 45CV
- Fishing trip: 1 day (15h-7h)
- Fishing 20-25 days per month (South season, 6-7 months, from April to October)
- Average catches per day: 700 kg/boat
- Gears: surrounding nets
- Some fishing instruments (sonar, radio)

Fishermen

- 9-12 fishermen on board
- Crew is paid with money
- Selling activity
 - To the collectors on board
 - To the retailers in local market
 - To the processing firm in local
 - Average: 4.000VND/kg (fish-sauce)-6.000 VND/kg (dry fish)
- Capital
 - Independent
 - Loan from the bank
 - 4-5 persons are the partners
 - Borrow the money for floating capital

Slide 5,6

Collector

- Small wooden boats with engine power from 10 to 20 CV (almost 15 CV)
- Fishing trip: 1 day (15-20 trips/month) (from 20h-7h)
- Average collection per trip: 700kg-1ton/boat
- 2 people on board
- Equipped: radio (short range)

Collector

- Way of preservation: Ice (500-550kg/trip/boat)
- Classification with fishermen by the size of fish
- Keep the fish in the plastique tray (20kg/tray) with the ice and sea water
- Bought price: Average 4000-6000VND/kg
- Selling price: Increase 1000VND/kg
- Selling activity:
 - To dry fish processing or to fish-sauce processing
 - Fresh fish is bought to retailer in local market
- Capital: Independent, loan from the bank

Slide 7,8

Processing firm

- Processing firm locate in the local
- Dry fish processing and fish-sauce processing
- Fish material is bought from the collector and the fishermen
- Relation-ship base on the ancient acquaintance
- Selling activity:
 - Dry fish processing:
 - To wholesalers of others provinces for export (can not cover all the orders)
 - To retailers in the Tamky market and the wholesalers at the city and the town of province
 - Selling price (high season): 30.000-35.000VND/kg
 - Selling price (not season): 40.000-50.000VND/kg
 - Fish-sauce processing: Selle to the consumers and the wholesalers in province

Processing firm

	Dry fish processing	Fish sauce processing
Material	Fresh fish	No fresh fish maybe used
Kind of fish	Red anchovy, black anchovy, mom anchovy	Red anchovy, black anchovy
Size of fish	Size is as small as expensive	Size is as big as expensive
Product	Dry anchovy	Fish sauce
Market	Size 1-2, 2-3, intact: Japan market, Taiwan market Size 4-6, 5-7, 7-9, permit a little no intact: China market Size 4-6, 5-7, 7-9, no intact in high rate: domestic	Consumer in province. Level of income dicide the usage of kind fish-sauce (follow the rate of N)

Slide 9,10

Dry fish wholesalers

- They locate arround the big market in the city, or in the town of province
- They buy the dry fish from processing firm and the wholesalers of others provinces like như Quảng Bình, Đà Nẵng, Nha Trang,...
- No transport vehicle
- They get informations from suppliers about the qualify (size, humidity), price
- They dicide the quantity needed

Dry fish wholesalers

- Selling activity:
 - Average selling: 15-20 tons/year
 - They increase the price 1000-2000VND/kg
 - They sell the fish to retailers, distributors of mountain region
 - Consumer
- Capital:
 - Independent but normally must ask for money to a neighbour

Slide 11,12

Distributor of dry fish

- They are come from mountain region and moutain neighbour province
- They buy in the province to wholesalers
- Quantity: 100-200kg/month (1 time/month)
- They transport to remote places far from the coast by themselves

Retailers

- They locate in the market
- They buy the dry fish from fishermen, processing firm, wholesalers, distributors
- They selle to the final consumers or to rice-pots
- Average selling: 50-70kg/day (Retailer in Tamky market)

Slide 13

Consumers, rice-pots

- Use the fresh fish in the summer (choose fish by the freshness)
- Use the dry fish in the rainy season
- The consumer of low income prefer use the dry fish
 - Long time of preservation
 - Easy to prepare
 - Low price

Debriefing session in Hue

Slide 1,2



DEBRIEFING WORKSHOP OF VALIDATION

Activity 3.4.1: Review of scad marketing chains and arrangements

HUE, 22/01/2011

1. **Location of survey:**
 - Phong Hai commune
 - Phu Thuan commune
 - Loc Tri commune
 - Thu?n An town
 - Hue city
2. **Time of survey:** From 17/01 to 21/01/2011
3. **Interviewee:**
 - Ship owner
 - Fishermen
 - Local market trader
 - Collector
 - Wholesaler
 - Retailer
 - Processing actors
 - Rice pots
 - Consumers

Slide 3,4

In shore Fishermen

- Small wooden boats with engine power around 15 CV
- Close dependant of sea conditions
- Fishing trip: 1 day (from 5 am to 3 pm)
- Fishing 20 days per month
- Fishing 100 days from April to August (high season)
- Gears: surrounding nets and gillnets
- No fishing instruments (sonar, GPS)

In shore Fishermen

- Number of person: 4-7 fishermen/boat
- Crew is paid with fish
- No ice is used
- Selling activity
 - Sale to local trader
 - Sale at local market (normally wives)
 - Sale to local processing
- Capital
 - Independent but normally must ask for money to a local trader
 - Loan from the bank

Slide 5,6

Off shore Fishermen

- Wooden vessels with the engine power from 90 to 350 CV
- Fishing trip in high season 20-22 days (April to September)
- Average catches per day: 1,5- 2 tons
- Gears: surrounding nets and gillnets
- Some fishing instruments (sonar, radio)
- Ice is used for preservation
- 10-12 fishermen on board

Off shore Fishermen

- Crew is paid with money
- Fish is trans-boarded to collector ships
- Cooperation with collector ships which provide light for concentrate fish during the night
- First sale of the fish is directly in high season (on board)
- Wives inform about the market prices by radio
- Capital:
 - Independent
 - Loan from the bank
 - Collector or wholesaler is a partner owner ship

Slide 7,8

Collector

- Wooden vessels with engine power from 90 to 250 CV (most of them 130CV)
- Activity trip: 3-5 days (5-10 trips/month)
- Average collection per trip: 10-15 ton/month
- No gears
- Full equipped: lights, sonar, radio (short range)

Collector

- Ice is used and provide to fishermen (also provide fuel)
- 7 people on board
- Crew is paid with money
- Classification with fishermen by the size of fish
- Collectors usually go to the sea together with local fishermen but they can buy fish to any fish boat. Neither obligations nor contracts

Slide 9,10

Collector

- Selling activity:
 - Sale to wholesaler in Thuan An port
 - Sale to wholesaler of others provinces (Danang,...)
 - Sale to processing actors
- Capital:
 - Independent
 - Loan from the bank
 - Vessel normally belongs to more than one owner (3 partners)

Local market trader

- They buy fish on land (beaches) from different local in-shore fishermen
- Fishing activity (in-shore) is sometimes financed by trader with money coming from wholesaler. Trader pay in advance for buying fuel
- They concentrate the fish on a place and wholesalers pick it up (no transport from local trader)
- Classification of product follow the size
- It is linked with a wholesaler and it creates dependence links with ownership

Slide 11,12

Wholesaler 1st level (at landing site)

- Normally, they located close by important fishing port
- They buy fish from collectors and local traders
- Storage facilities: Refrigerator room
- They can provide transport (and include it on selling price)
- Negotiate the buying price with collectors by radio
- Negotiate the selling price by phone or with the visit of clients
- Classify all the fish (by specie, size, freshness and appearance) in small box (10kg) and use ice

Wholesaler 1st level (at landing site)

- Mostly women are employed by wholesalers (80%) for classification and charging the fish and for account and control activities
- Some wholesalers are ownership's partners but it does not exist any obligation to supply him
- Selling activity
 - They sell the fish to wholesaler of others provinces
 - The sell the fish to wholesaler 2nd and the retailer in province
 - The sell the fish to processing firm
- Capital
 - Loan from the bank
 - Independent

Slide 13,14

Wholesaler 2nd level (Hue city, Bai Dau market)

- They buy the fish from wholesalers at landing sites and also from the wholesalers in other provinces (mainly from October to March)
- They buy very early in the morning everyday (2am)
- No storage facilities. Only a small room for keeping the fish one day with ice
- No transport is provided
- An important number of suppliers and clients are fixed based on confidence, not in contracts

Wholesaler 2nd level (Hue city, Bai Dau market)

- Some 2nd stage wholesaler act as agents of 1st level wholesaler and get a commission average of 5%.
- Selling activity
 - They sell to retailers and other traders that distribute it inside the province

Slide 15,16

Processing actors

- Processing Industry, normally concentrate near the important fishing port
- Processing semi-industry, normally locate in the local where have the fishing activity
- Processing household, normally is the fishermen

Processing actors

	Processing Industry	Processing semi-industry	Processing household
Output	Frozen fish	Fish sauce	Neat fish-sauce
Supplier	Wholesaler	Wholesaler and local fishermen	Local fishermen or own fish
Client	Export	Inside province	Processing semi-industry
Raw material (fish) Control	Sensory and chemical testing	Sensory testing	Small fish or less fresh fish is used

Slide 17,18

Distributor

- They locate in other districts
- They buy the fish from the Wholesaler 2nd level (Hue city, Bai Dau market)
- They sell the fish to the local retailer in region inside the province (far from the sea and the city)
- Normally, the motorbike is used for transport
- No relationship with other agents

Retailers

- They buy from the Wholesaler 2nd level (Hue city, Bai Dau market) and distributors
- They buy (and sell) everyday around 80-120kg of fisheries products
- They sell in local market
- No relationship with other agents

Slide 19

Rice pots/Consumer

- They use season fish
- They use the fish follow the weather (river fish when it suns, marine fish when it rains)
- They appreciate the freshness

Annex VI: Summary of Interviews

This annex does not include a detailed break down of the obtained information in order to preserve privacy of interviewed agents.

I. Hue province:

1. Phong Hai commune :

1.1. Ship-owners:

a. General information:

Origin of incomes: 100% from fishing

Total income from fishing: 30 – 50,000,000 VND/year

Income from Scad capture: 35 - 50% of total income

b. Fishing information:

Number of boats per family: 1

Engine Power: 15-20 CV

Used gear:

Surrounding net: Capture of scad, Peak season (from April to August), total time of activity 100 - 120 days, quantity of scad 10-20 tons/day

Spreading net to capture herring

Bottom spreading net to capture tiny shrimp

Number of person on the boat: 4-7

Quantity of caught fish is divided in equal parts for ship-owner and crew.

No fishing instrument like sonar

More than one owner for a small boat

Capital for renewal of the gears (nets): Loan from bank

Capital for daily activity: payment by themselves

Expenses of fishing activity:

N ^o	Content	Quantity	Unit Cost VND	Total
1	Boat 15-20 CV	1	15 – 30,000,000 (30 Million for a new boat)	15 – 30,000,000
2	Boat maintenance expenses /year	1	2 – 2,5 Million per year	2 – 2,5 Million per year
3	Engine	1	5,000,000	5,000,000
4	Buy a new Surrounding net	1 (length 25m, depth 20m)	7,000,000	7,000,000
5	Expense to repair the net/year	1	850,000	850,000
6	Average yearly expenditure on gears (renewal and repairing)	1	20,000,000	20,000,000
7	Fuel/ year	15 tank (20l/tank)	300,000	4,500,000
8	Engine oil	6 l	20,000	120,000
9	Average	1	3 – 400,000	3 – 400,000

	expenditure per fishing day (fuel, ice and food)			
--	--	--	--	--

c. Trading information:

Sell to market: 100% of captures

Some fishermen sell 40% to market (in which 10% baked scad, 30% fresh scad), 30% to artisanal homemade processors and 30% to own homemade processing

Selling price: 5,000-10,000 VND/kg (Scad). (Cuttlefish 50 – 60,000 VND/kg)

Homemade processing: 5kg fish + 1 kg salt → 2,4 l pure fish sauce

Pure fish sauce price: 20,000/l

Sometimes, the wholesalers (come from the Dong Ba market-Hue city) buy scad and the price of scad is informed by them.

Wives go to the nearest market to sell the daily captures.

No contract with their clients, the relationship is based on mutual knowledge.

d. Difficulties and desires:

Quantity of captured fish is so uncertain, high risk.

They can fish only when weather is good.

No processing firm buys all of captured fish and market can be difficult.

Pollution from the waste water of shrimp pond

They need soft-rate credits to repair their boats and renew the net and fishing gears

1.2. Fishers:

a. General information:

Origen of income:

- Total income from fishing: 12,000,000 VND/year
 - Scad capture: 5,000,000 VND/year
 - Tiny shrimp: 4,000,000 VND/year
 - Cuttlefish: 3,000,000 VND/year
- Income from machine repairing: 3,000,000 VND/year
- Income from cooking for wedding (wife): 7,000,000 - 8,000,000 VND/year

b. Fishing information:

Used gear:

Surrounding net: Capture of scad, High season (from April to August), total time of activity: 50 days,

Spreading net to capture herring

Bottom spreading net to capture tiny shrimp

Quantity of capture fish is divided by 8 parts, ship-owner: 2 parts, 6 fishermen: 1 part for each person

c. Trading information:

Sell to market: 100% of total quantity

- Tiny scad (2 cm of length) → home made processing (fish sauce)
- Big scad: length from 10 to 12 cm (total 20 fishes/kg): 15,000-20,000 VND/kg
- Small scad: total 30 fishes/kg: 5,000-6,000 VND/kg

No contract with their clients, the relationship is based on the ancient trading relation

d. Difficulties and desires:

Quantity of captured fish is so uncertain, high risk

They want to change their works: inshore → offshore to increase the income

1.3. Local traders:

a. General information:

- Total income from trading: 35,000,000-40,000,000 VND/year
 In which, scad trading: 10,000,000 VND/year
- Cooking for wedding: 48,000,000 VND/year

b. Trading information:

Total quantity of collected fish: 15 tons/year (in which: 50% herring, 30% scad, the others: 20%)

Time of scad trading: from April to August

Collect scad from people in same commune: 50%

Collect scad from people in others communes: 50%

Number of supplier: 20 to 30 peoples

The wholesaler inform the price and the quantity to local trader

- Gai scad (nuc gai): flat body, length: from 10 to 15 cm, price: 8,000-10,000 VND/kg
- Chuoi scad (nuc chuối-suông, bông): plump body, length: 10-15 cm, price: 12,000-15,000 VND/kg
- Lo scad (nuc thường): flat body, length: 15-20 cm, price 30,000-35,000 VND/kg

Local trader pay directly to the fishermen using the money of wholesalers

Expenses:

- Cargo loading: 200,000 VND/tons (4 people)
- Canvas: 200,000-300,000 VND/12m², 1 ton of fish
- Balance: 800,000 VND/balance (time of use: 2 months)

The local trader increases the selling price 1,000 VND/kg

The local trader buys the fish on the beach, and the wholesalers come to bring the fish with the truck. The wholesalers come with the box, balance, ice and they weigh the fish one more time.

The local trader sell the fish to wholesaler in Hue (50-60% of total fish), Đông Ha-Quang Tri province and Da Nang (40-50% of total fish)

c. Difficulties and desires:

During raining days fish become stale very fast

They want diversify their activity (open a processing plant of fish-sauce)

1.4. Processing plant:

a. General information:

Year of establishment: 2007

Field of action: Fish sauce processing

Total yearly investment: 600 millions VND

Processing capacity: 160 tons of fish /year in which 45% scad, 55% anchovy

Production capacity: 10,200 l of fish sauce/year

b. Main activity information:

Total scad in use: 75 tons/year

They buy scad directly from fishermen

They rent the truck to transport the fish from buying region come home

The plant owner classifies the scad input

- Giong scad (nuc giong): plump body, length: 10-15 cm
- Gai scad (nuc gai): flat body, length: 10-15 cm

The plant owner examines directly the fish while they buy it. They examine the fish by their experience, sensory method. No criteria of food safety are used.

- Scad is not too soft
- Scad's eyes are not red
- Scad's body is intact

Price of scad come from the fishermen: 6 – 9,000 VND/kg
 They have not the contract with their suppliers
 Way of payment: immediate and cash payment
 They sell their products: 80% in Hue city, 20% to the region.
 They sell their products to:

- Supermarkets: 70%
- Final consumer: 30%

c. Difficulties and desires:

Processing methods are very artisanal. They would like to buy machines (bottle or label machines) but no big financial capacity.

No vehicle for transport. They must rent them

There are government supports mainly for training and credits.

2. Phu Thuan commune:

2.1. Ship-owners:

a. General information:

Origen of incomes: 100% from fishing

Total income from fishing: 500 million VND/year (as a maximum)

Sometimes are incomes from other activities:

- Fishing income: 50.000.000 – 60.000.000 VND/year
 In which: Scad capture: 70% total income
- Salary of vice president of women association (wife): 4.200.000/year
- Cooking for wedding, birthday (wife): 15.000.000/year

b. Fishing information:

Number of boat: 1 (can have several partners)

Engine power: 92 - 135 CV

Fishing way: Surrounding net with the light

The sonar and GPS are available

Number of people: 8 - 10 fishers on board

Time of trip: 20 - 25 days / trip (plus 1 week at home)

Season of scad capture: from March to October (normally: there are total 6 months of scad capture per year and 1 trip /month)

Total scad: 60 – 150 tons/year

Expenses for scad fishing:

N ^o	Content	Quantity	Unit Cost VND	Total
1	Boat 92 CV	1	700,000,000	700,000,000
	Boat 135 CV	1	900 – 1,000 mill	900 – 1,000 mill
2	Expense to repair the boat/year	1	15 – 50 million	15 – 50 million
3	Engine	1	100,000,000	100,000,000
4	Surrounding net	1 (length 350m, depth 100m)	145,000,000	145,000,000
		Unit 35x15m (20kg)	2,000,000	
5	Leaden fiber of net (15 years in use)	1	20,000,000	20,000,000
6	Expense to repair the net/year	1	20,000,000	20,000,000
7	Fuel/ year	1	250 million	250 million
	Fuel per fishing trip	3,000 l	14.700 VND/l	44 million

8	Ice /year	7,5 ton	2,400,000	18,000,000
	Ice per fishing trip	1-3 Tm	12.000 VND / 42 kg (bar)	290 – 860,000
9	Light bulb, booster, dynamo	1 collection	70,000,000	70,000,000
10	Repairing of electric collection/year	1	7,000,000	7,000,000
11	Coracle (3 years in use)	1	1,000,000	1,000,000

c. Trading information:

They sell the fish in the sea, to the collectors

They contact to their wives in land to know the price of fish (the wife go to Thuan An port to survey the price at several wholesalers). If the wholesalers buy the fish at price of 10,000 VND/kg, so the fisher men will sell their fish to collector with the price of 7,000 VND/kg

The profit of each trip will be divided by 3 parts, 2 of which belong to owner-ship, and the last belongs to the workers (including the owner-ship)

They collaborate with the collector (who has the light, but not the net) to capture the scad, and the value of this fish is divided by 3 parts, 2 of which belong to owner-ship, and the last belong to the collector.

Normally, there are two kind of scad:

- Giong scad (nuc giong):
 - o 20 fish /kg, price: 8.000-9.000 VND/kg → tinned fish
 - o 10 fish /kg, price: 15.000-20.000 VND/kg → export to feed the tuna (sometimes, the quantity is so much, so the price is 600-700 VND/kg)
 - o 30-40 fish / kg, price: 6.000-7.000 VND/kg → sell to the local market
- Gai scad (nuc gai):
 - o 20-40 fish / kg, price: 6.000 – 7.000 VND/kg → to processing of fish sauce
 - o 17 – 20 fish /kg, price: 9.000 VND/kg → tinned fish

The relationship with the collectors is based on previous knowledge, sometimes they give the priority to collector who has the bigger boat and the lighter bulb

The collectors normally pay directly in the sea but sometimes they can also pay at home at the end of the month

d. Difficulties and desires:

Some boats use dynamite to send away the dolphin to capture the cuttlefish, so the yield of scad is reduced.

The price of fuel is too high

The price of fish is reduced so much when the quantity of fish is high

They need the loan with low interest to renew the fishing gears.

2.2.Fishermen

a. General information:

Income from scad fishing: 10,000,000 VND/year (around 1.5 million VND per fishing month)

Income from the winter fishing: 3,000,000 – 4,000,000 VND/year

Income from the livestock (pig): 20,000,000 VND/year

b. Fishing activity:

High season: from March to September (total time of activity: 6 months), total : 22 days / trip, 1 trip/month

Low season: From October to February (total time of activity: 2 months), 4-5 days / trip, 2 trip/month

Number people: 10 – 11 person /boat/trip

Quantity of scad: 70% total caught fish in summer

Get the salary at the end of the month, the interest will be divided by 3 parties, 2 of which are belong to the ship-owner, and the last is belong to the workers

2.3. Processing plant:

a. General information:

Year of establishment: 2003

Field of action: Fish sauce processing

Total initial investment: 410.000.000 VND, in which:

- Individual capital: 270.000.000 VND
- Loan from bank: 140.000.000 VND

Turnover of fishery processing: 30 tons of fish /year in which 50% scad, 50% anchovy

Kind of products:

- Scad, anchovy fish-sauce: 5000 l/year (20% volume: anchovy fish sauce; 30% volume: scad fish sauce and 50% volume: mixte fish-sauce)
- Tiny shrimp (ruoc) fish-sauce: 2000 l/year
- Tiny shrimp (ruoc): 2 tons / year

b. Main activity information:

Total mass of scad in use: 15 tons/year

They buy scad from fishermen (20%) and from the wholesaler in Thuan An fish port (80%)

They rent the truck to transport the fish from buying region come home

The processing owner classifies directly the scad input

- Giong scad (nuc giong): plump body, length: 10-15 cm
- Gai scad (nuc gai): flat body, length: 10-15 cm

The processing owner examines directly the fish while they buy it. They examine the fish by their experience, sensory method. No criteria of food safety are used.

- Scad is not too soft
- Scad's eyes are not red
- Scad's body is intact

Price of scad coming from the fishermen: 9.000 VND/kg

Price of scad coming from the wholesaler: 6.000 VND/kg

This firm has private source of material, there are small fishermen in local, relation ship base on the ancient acquaintanceship and sometimes they buy the fish with higher price (1 unit/kg) than the wholesaler

Relation ship with the wholesaler in Thuan An port base on the ancient acquaintanceship, when they were also the local trader.

They have not the contract with their suppliers

Way of payment:

- They have to pay directly to the wholesalers
- They can defer payment to fishermen

They sell their products: 80% in Hue city, 20% to the mountain region.

They sell their products to:

- Supermarket: 50% (defer payment)
- Final consumer: 50% (direct payment)

c. Difficulties and desires:

Market is so small

Publicity channel is not large (only in the fair in the end of the year)

Short capital for activity

No vehicle of transport

Material source is available

There are some government supports:

- Tax free
- Free rent the kiosk in the fair
- Loan without interest in 3 years to construct the infrastructure
- Free register the brand name

They need the loan with the prime interest to maintain the business activity

3. Loc Tri commune:

3.1. Collectors

a. General information:

Total fishing income: 120,000,000 – 150,000,000 VND/year, in which

- 80% total income from the collection
- 20% total income from the fishing

70% total mass of fish is scad

30% total mass of fish is mackerel and tuna

Income from the others activities: Business of his wife

- Fish business from March to September (7 months): 16,800,000 VND/year
- Trading in local market from October to February (5 months): 4,500,000 VND/year

b. Fishing activity:

Time of activity: 20 days/trip and 10 trips/year (high season: from March to October)

He has 1 boat of 120 CV

The total mass of scad: 50 tons/month, in which

- 12 tons from the collaboration of capture with the fishermen
- 38 tons from the collection

They buy the scad: 50% from Hue fishermen and 50% from the fishermen of other provinces

They classify the fish with the fishermen:

- Gai scad (nuc gai):
 - o 12-13 fish/kg, price: 8,000 VND/kg → tinned fish
 - o 17-20 fish/kg, price: 3,000-4,000 VND/kg → animal feed or fish-sauce processing
- Giong scad (nuc giong):
 - o 10 fish/kg, price: 18,000 VND/kg → tinned fish
 - o 17-20 fish/kg, price: 8,000-9,000 VND/kg → domestic market

The relation ship base with the suppliers base on the ancient acquaintanceship, and the payment is direct. They contact to the market in land to know the price

Expenses for collecting

N ^o	Content	Quantity	Unit Cost VND	Total
1	Boat 120 CV (30 years in use)	1	350,000,000	350,000,000
2	Expense to repair the boat/year	1	10,000,000	10,000,000
3	Engine	1	120,000,000	120,000,000
4	Repair the engine/year	1	5,000,000	5,000,000
5	Booster	20	800,000	16,000,000
6	Repair the booster	1	5,000,000	5,000,000
7	Light bulb	20	500,000	10,000,000
8	Repair the light bulb/year	5	500,000	2,500,000

9	Fuel/ year	6.000 l	16,000	96,000,000
10	Ice /year	9000 kg	12,000	18,000,000
11	Dynamo	1	25,000,000	25,000,000
12	Repair of dynamo/year	1	3,000,000	3,000,000
13	2 nd dynamo	1	50,000,000	50,000,000
14	Repair 2 nd dynamo	1	20,000,000	20,000,000
15	Lubricant / year	1	6,000,000	6,000,000
16	Daily activities	7	6,000,000	6,000,000
17	Sonar	1	16,000,000	16,000,000

Number on board: 7 persons

Way of payment: The interest will be divided by 17 parties, 11 of which are belong to ship-owner, the 6 parties are belong to workers

The collectors weigh and classify the fish

- Gai scad (nuc gai):
 - o 12-13 fish/kg, price: 12.000 VND/kg
 - o 17-20 fish/kg, price: 7.000 VND/kg
- Dong scad (nuc giong):
 - o 11-12 fish/kg, price: 24.000 VND/kg → enterprise of export
 - o 17-18 fish/kg, price: 16.000-17.000 VND/kg → domestic market

Their wives go to the Thuan An port and survey the price

The relationship base on the ancient acquaintance

They sell their products to the wholesaler in Thuan An port and also to the Danang

c. Difficulties and desires:

Initial investment: 50% individual capital, 50% loan from the bank

Activity capital: loan 100% at the supplier of fuel and ice

The interest of loan from bank is too high

They need the prime interest for the activity capital

4. Thuan An town:

4.1. Collectors:

a. General information:

There is an Association based in Thuan An, which includes 30 collector vessels. Each vessel is around 15 - 20 m length and capacity 30 Tm. They are distributed in four groups. Every group covers a different fishing area.

A big collector boat spend 4,000 million VND/year buying fish on the sea

70% total mass of fish is scad

Income from the others activities: Business of his wife (buying – selling fish)

b. Fishing activity:

Time of activity: 4-5 days/trip, 5 trips/month, 7 months/year (high season: from March to October)

A boat belongs to one family.

The total amount of scad: 60 tons/month

They buy the scad: 50% from Hue fishermen and 50% from the fishermen of other provinces

They classify the fish with the fishermen:

- Gai scad (nuc gai):
 - o 12-13 fish/kg, price: 8.000 VND/kg → tinned fish
 - o 17-20 fish/kg, price: 3.000-4.000 VND/kg → animal feed or fish-sauce processing

- Giong scad (nuc giong):
 - o 10 fish/kg, price: 18.000 VND/kg → tinned fish
 - o 17-20 fish/kg, price: 8.000-9.000 VND/kg → domestic market

Their relationship with suppliers is based on knowledge, and payment is direct. They contact to the market in land to know the price

Expenses for collecting: 10 Million VND per trip in food, ice and fuel

People on board: 7 people

Way of payment: The profit is divided in 17 parts, 11 of which are belong to ship-owner, the 6 parties are belong to workers

The collectors weigh and classify the fish

- Gai scad (nuc gai):
 - o 12-13 fish/kg, price: 12.000 VND/kg
 - o 17-20 fish/kg, price: 7.000 VND/kg
- Dong scad (nuc giong):
 - o 11-12 fish/kg, price: 24.000 VND/kg → enterprise of export
 - o 17-18 fish/kg, price: 16.000-17.000 VND/kg → domestic market

Their wives go to the Thuan An port and survey the price

They sell their products to wholesalers in Thuan An port and also to the Da Nang

c. Difficulties and desires:

Activity limited by the huge amount of cash needed to direct payment to fishers

The interest of loan from bank is too high

4.2. Wholesalers (first level):

a. General information:

Total income/year: 50,000,000 VND in which: scad: 10,000,000

Bigger ones: 100 – 200 million VND/year (80% come from selling buying fish and 20% comes from selling ice)

b. Business activity

Quantity of fish /year: 25 tons in which: 25% of scad the main month is May

Bigger wholesalers buy 50 Tm per day during the high season (all from collectors)

They buy the scad 30% from fisher (5-7 fisher), 70% from collector (10 collectors)

They classify the scad follow the mass:

- 5 fish/kg: 30,000VND/kg
- 10-12 fish/kg: 20,000-22,000 VND/kg

They rent the cars to transport:

- From commune to Thuan An: 500,000 VND/time (2-3 tons of scad)
- From commune to Da Nang: 1,200,000 VND/time (2-3 tons of scad)

They sell the scad:

- 60% to wholesaler of others province (Khanh Hoa, Quang Ngai, Da Nang)
- 10% to wholesaler of Laos
- 30% to distributors in Bai Dau market

The relationship:

- With the collector and fishermen: Give money for trip of fishermen
- With the buyer (wholesalers in others province, distributors in Bai Dau market, wholesaler in Laos): base on the ancient acquaintance

But he priority the wholesalers in Laos and others provinces

Biggest wholesalers employ 25-30 people (mostly women).

The difference between the bought price and the selling price:

- The transport of buyer: 500 VND/kg

- His transport: 500 VND/kg + transport expenses

Payment period:

- He give the money to collector and to fishermen for the trip expenses
- He pay the money directly to fishermen and the collectors in each time of buying
- The wholesalers of others provinces pay to him directly
- The wholesalers in Laos:
 - o When the amount > 20,000,000 VND, they transfer the money to him after 3-5 days
 - o When the amount < 20,000,000 VND, they defer the payment

c. Difficulties and desires:

Low capital to maintain the relationship with the collectors and the fishermen

It's difficult to be active in his work without a vehicle

4.3. Ice and Fuel suppliers:

a. General information:

Total income/year: 315 Million VND ice and 4,400 Million VND fuel

b. Business activity

Quantity of ice /year: 26,400 ice bars of 42 kg each (1,100 Tm) mainly from April to September

Price of ice: 12,000 VND /42 kg This price is fixed by local ice producers

Price of fuel: 14,700 VND/l This price is fixed by authorities.

No control of water used for ice. It comes from public water supply.

No relationships with clients. Direct payment in cash

c. Difficulties and desires:

Ice production is highly seasonal.

5. Hue city:

5.1. Wholesalers (second level):

a. General information:

Total income/year: 100,000,000 VND (100% of the family income comes from this activity)

They buy to wholesalers in Thuan An and sell in Bai Dau market. There are around 8 wholesalers second level in Bai Dau with similar activity (5 Tm of fish per day)

b. Business activity

Quantity of fish /day: 5 tons (40% is scad during high season and 60% other spp)

Bigger wholesalers buy 50 Tm per day during the high season (all from collectors)

They buy the scad 30% from wholesalers (7-8). Normally always the same wholesalers.

Wholesalers bring the fish to their place on Bai Dau market.

Selling prices change daily.

Supply of fish is also daily.

They sell the scad 100% in the province: retailers and distributors to mountain region and Laos' border

No relationship (contract) with clients and suppliers but they normally work with the same agents

Gross margin can be around 3,000 VND/kg

c. Difficulties and desires:

No cold facilities for storage of fish

Sometimes demand for fresh fish in Bai Dau is higher than offer

Taxes are quite important for their activity

5.2. Distributors:

a. General information:

Total fresh fish: 1 tons/day (from April to July)

Total number days/year: 100 days

Total scad of trading: 30%

b. Trading information:

They buy scad from wholesalers in Thuan An fish port

The wholesalers transport the scad to Bai Dau market

They decide the quantity of scad

The wholesalers decide the price of scad (average 6.000-7.000 VND/kg) and the commission (3% of total value)

They sell scad according to the price that wholesalers appointed (the wholesalers learn about the price in the markets) and get the commission

They must pay directly by cash to the wholesalers

Their clients delay the payment about 1-2 months

They sell scad:

- 30% to retailers of market in Hue city (Dong Ba market, An Cuu market, Ben Ngu market,.....)
- 70% to distributors in the mountain regions (A luoi,...)

The expenses of distributor:

- Salary to workers: 7 persons (900.000 VND/month)
- PIT (personal income tax): flat rate: 10% of income – 4.000.000 VND/month
- Business rates: 1.000.000 VND/year
- The amount of renting kiosk, security in market, hygiene tax, electric expenses, water expenses: 2.000.000 VND/month
- The expenses of square tray to contain the scad: 2.000.000 VND/year (the loss of tray)

c. Difficulties and desires:

Irrecoverable debt

The tax rate is fixed but the volume of trading is unstable

They want the PIT linked to the real trading value for each month

5.3. Retailers:

a. General information:

Total income from selling fish: 10,000,000 – 15,000,000 VND/year, in which 20% of scad

Building worker (her husband): 30.000.000 VND/year

b. Activity information:

Quantity of Scad/day: 20 kg

Total time: 3 months/year

Total time/day: 12 hours (from 6am to 6 pm)

They buy the scad: 100% from the Wholesalers in Bai Dau market

Kind of product:

- Gai scad (nuc gai)
 - o Input price: 25,000 VND/kg (7-8 fish/kg)
 - o Input price: 20,000 VND/kg (15 fish/kg)
- Chuoi scad (nuc chuoi)
 - o Input price: 35,000 VND/kg (4 fish/kg)
 - o Input price: 30,000 VND/kg (6-7 fish/kg)
- Ma scad (nuc ma)
- Bong scad (bong scad)

60-70% total scad is gai scad and chuoi scad

They chose the fresh scad to buy (clear eyes, clear skin)

They must go to Bai Dau market to buy the scad. The relationship with suppliers is based on mutual knowledge and they can delay the payment 1 or 2 days

Difference between buying price and selling price is 1,000 VND/kg

Trading expenses:

- The money for transport (by moto): 15.000 VND/day
- The ticket of entry the market: 2.000 VND/time
- Balance of 2 kg: 150.000 VND/8 months
- Knives : 250.000 VND/ year
- Chopping-board: 30.000 VND
- Bamboo basket: 50.000 VND/ 2 months
- Market tax (location): 60.000 VND/month
- Scissors: 10.000 VND
- Electric: 20.000 VND/month
- Water and ice: 60.000/month

c. Difficulties and desires:

Instability of the market. No idea of the quantity is going to be sold per day and no facilities for storage the fish more than one day.

Selling in municipality market is expensive and forced to move a minimum quantity. Almost 2/3 of selling price goes to cover taxes and activity costs.

5.4. Rice pots in Hue city:

- Small gai scad (ca nuc gai) is cooked with brine
- Big chuoi scad (ca nuc chuoi) is cooked with normal water
- The average quantity of scad is 3 kg/day in the summer when sunny weather. In the winter, the fishing trip is long, so the fish is freezed for a long time, fish is not fresh and is broken while the cooking
- The scad is bought 100% from the retailer in the market (An cuu market, Ben Ngu market,...)
- They come to city market for buying scad and pay it directly
- They use the fish according with season (fresh water fish (fish from rivers) in March)
- They choose fish following its freshness (clear eyes, clear skin,...), They don't know other information about the hygiene of fish
- They prefer use sea fish because, they can cook it many times without changing the quality

5.5. Consumers in Hue city

- They eat fish 4-5 times/week: 2 times river fish and 3 times sea fish.
- They prepare scad 1 time/week (gai scad and chuoi scad)
- They buy usually 0.3 kg/ each time for a 7 member family
- They prefer chuoi scad than others scad, because the chuoi scad is fatter and more simple to prepare
- They choose scad and test its freshness (clear eyes, clear skin, red gills, inflexible body, not broken body)
- They buy scad in local market in the acquainted retailer (prepare the fish carefully, clean)
- During rainy season, they prefer buy river fish (fresher, fatter)
- They prefer small scad, because the small scad is captured from the inshore, so the fishing trip is shorter and scad is fresher

Quang Nam Province

1. Duy Hai Commune

1.1. Ship-owners

a. General information:

Total income of fishing: 40,000,000-50,000,000 VND/month

Cost of fishing activity (net, light bulb,...): 7,000,000-8,000,000 VND/month (1 – 1.5 Million VND per fishing trip)

b. Fishing activity information:

1 boat of 45 - 125 Hp (several partners)

Fishing gear: Surrounding net with light

Number of fishermen on board: 10-12

Initial investment:

- 80% private investment
- 20% credit from banks

Season of fishing:

- From May to September: anchovy
- From February to May: Scad

Time of anchovy capture: 25 days/month

Time of trip: 1-3 days/trip

Quantity of anchovy captured: 1.1 – 1.2 tons/night:

- Red anchovy (3-4 cm of length): 25% total anchovy → for fish sauce processing or dry fish processing
- Black anchovy: 60% → for fish sauce processing or dry fish processing
- Agent anchovy: 15% → for fresh fish consumption

The profit is divided in 2 parts, 1 for ship-owner and 1 for fishermen (including ship-owner)

The costs for fishing activity include:

- Ice: 300-400 kg/night (price: 13.000 VND/15 kg)
- Fuel: 100-110 l/night (price: 290.000 VND/20 l)
- Net and leaden: (depth: 55m, length: 250m), repairing amount:15.000.000-20.000.000 VND/year
- Light bulb: 20 bulb-1000w, price: 420.000 VND/bulb (loss 1 bulb/month)
- Booster: 20 boosters, price: 200.000 VND/booster, (buy 1 new booster/2 months)
- Principal engine 125 CV: 120.000.000 VND, repairing amount: 4.000.000-5.000.000 VND/month
- Lubricant: 450.000/month
- Dynamo of 45CV: 60.000.000 VND/dynamo, repairing amount: 4.000.000-5.000.000 VND/month
- Sonar: 20.000.000 VND
- Telephone call: 1 short wave (price: 4.000.000) and 1 long wave (7.000.000), time in use: 5 years
- Balance of 30 kg: 420.000 VND/balance, time in use: 1 year

c. Trading information:

They sell around a 30% of the total caught anchovy to collectors on the sea (20% to collectors of Quang Nam and 80% to the collectors in others provinces). Remainder 70% is sold directly to fish processing plants.

The average price for fresh red anchovy and fresh black anchovy is: 6.000-7.000 VND/kg (when they sell to dry fish processing plant)

When they sell the anchovy to the fish-sauce processing plan, the average price is lower: 4.000 VND/kg (when the fish is too much, collectors can not buy all the fish)

The relationship with the clients is based on previous knowledge from long time ago:

- Fish processing plants: They call to the fish-sauce processor to ask the price and they sell the fish to the processor who pays more (after calculating of the moving distance). Processors can delay the payment from 5-7 days, but normally they pay on the same day.
- Collectors on board: they ask the market price to other fishermen and sell fish less 500-1,000 VND/kg. The payment is direct

d. Difficulties and desires:

Number of vessels duplicated during the last five years, so the caught quantity reduced

The age of fishers is increasing, because young people don't like this work

Even the price of fish increase 10-15% but the quantity of fish reduces 50%

The yield of fish is so unstable

They desire to change the way of fishing to drag-net for tuna and mackerel capture

They want to invest in a frozen machine on board to preserve the anchovy, so they can buy it with higher price

1.2. Fishermen

a. General information:

Income for fishing activity: 10.000.000 VND/year

Income from other activities (drag-net to capture herring): 2.000.000 VND/year (total time is 30 days, from September to January)

Management of rice pots (wife): 15.000.000 VND/year

Others works (building worker): 4.000.000/year (total time is 70 days, from September to May)

b. Fishing activity information:

Total time of work:

- Surrounding net: 20-21 days/month (from May to September)
- Drag-net: 15 days/month (from September to January)

The day in trip: 1-2 days

The income is divided by 2 parties, 1 for ship-owner and 1 for fishermen (including the ship-owner)

There is not work contract with ship-owner

1.3. Collectors

a. General information:

Collect fish and artisanal fishing during the winter are the only income sources.

Small boats (10-15 Hp) without fishing gears

There are around 24 collectors in the commune.

b. Collecting activity information:

Normal daily trip from 6 PM to 7 AM inside 10-12 miles from coast.

Total time of work: 18 – 20 days/month during 7 months (from February to September)

They collect 1-1.5 Tm of anchovy per day.

Average cost of one trip is near 500,000 VND

Wives usually go on board too and no more crew.

c. Trading activity information:

They sell anchovy to local processing industries

Difference between buying and selling price is 500 VND/kg of anchovy.

1.4. Local Fish processing industry:

a. General information:

Number of employee: from 8 to 50 (most of them temporary employees)

Final product (average production per plant):

- Fish-sauce with also the fish body, yield: 150 tons/year
- Fish-sauce (liquid), 5N, 10N, 15N, 24N, 32N, yield: 550 tons/year
- Tiny shrimp sauce (mam ruoc), yield: 2-3 tons/year
- Dry anchovy: 5-6 Tm/day

b. Processing information:

Total mass of fishing material: 700 tons/year (in which: 80% anchovy, 20% scad)

The anchovy is majority black anchovy. They buy anchovy:

- 40% total mass come from the collectors in others provinces (Quang Tri, Quang Ngai)
- 60% total mass come from fishermen in Duy Hai commune

The price of fish:

- Anchovy, size 5-7 cm
 - o Fresh: 6,000VND/kg
 - o Not fresh: 5,000 VND/kg
- Anchovy, size 2-3 cm: 4,000 VND/kg

They control the fish quality by visual examination. They can not verify the safety hygiene of raw material

Normally, fishers' wives are responsible of selling fish

They pay directly to the fishermen when they buy the fish

The relationship with the suppliers is base on the ancient acquaintance

They sell their product to the wholesalers: 98-99%, and the rest (1-2%) to the final consumers

The rate and price of product:

- The fish-sauce within the fish (mam cai) : 7.000 VND/kg
- Fish-sauce (liquid) 32N (1% total volume): 30.000 VND/l
- Fish-sauce (liquid) 24N (10% total volume): 20.000 VND/l
- Fish-sauce (liquid) 15N (60% total volume): 5.000 VND/l
- Fish-sauce (liquid) 10N (20% total volume): 2.500 VND/l
- Fish-sauce (liquid) 5N (9% total volume): 1.500 VND/l
- Dry anchovy: 7-15 VND/kg

c. Difficulties and desires:

Dry activity is artisanal and weather dependant (no dry rooms or other facilities)

Some industries would like to create facilities but they are scared of resettlement plan affecting the commune.

Capital of processing is too high but the time of capital turnover is long, also the price final product is low, so the processing activity meets many difficulties when the prices inflate increasingly.

They need the loan with the prime interest for the floating capital

2. Binh Minh commune

2.1. Ship-owners:

a. General information:

Fishing income: 45.000.000-50.000.000 VND/year, in which: 60% anchovy

Families normally have other income sources like Fish-sauce processing (10.000.000-15.000.000 VND/year) or wives buying and selling fish out of the high fishing season.

b. Fishing information:

1 boat (several partners) of 45 – 105 HP

Number of fishermen (including the ship-owners): 9 persons

Payment way: The 40% of profit belongs to the ship-owners, and 60% of profit belongs to fishers (including the ship-owners)

Initial investment: 100% private

Floating capital: 100% private

Fishing gear: Surrounding net

- Season of anchovy fishing: from March to August, 25 days/month
 - o Time of work: 18h to 7h
 - o Quantity of anchovy capture: 8 - 20 tons/month
- Season of scad fishing: from April to July, 25 days/month
 - o Time of work: 18h to 7h
 - o Quantity of scad capture: 2 - 8 tons/month
- Season of cuttlefish fishing: from February to May, 25 days/month
 - o Time of work: 18h to 7h
 - o Quantity of cuttlefish capture: 0.3 - 1 Tm/month

When they find and capture the fish early (0h), they can not keep the fresh fish, so they have to sell it to collectors or to fish-sauce processing plants when the freshness decreases

The fresh anchovy is placed in the screech and is covered by the ice to keep freeze, and the stale anchovy is placed in the bag

The fishing costs:

Ice: 400 kg /night (12.000 VND/kg)

Fuel: 80-100 l/night (14.500 VND/l)

Net (length 270m, depth 46m), price: 100.000.000 VND, repairing amount: 15.000.000 VND/year

Leaden series, price: 17.000.000 VND, they have to pay 4.000.000 VND to renew it each 4 years

Main engine of 45CV, price: 45.000.000 VND, repairing amount: 7.000.000 VND/year

Second engine of 33 CV, price: 27.000.000 VND, repairing amount: 5.000.000 VND/year

Sonar: 14.000.000 VND

Telephone call: 4.000.000 VND

GPS: 6.000.000 VND

c. Trading informations:

They sell the whole caught anchovy to agents in the same commune:

- 25% to dry anchovy processing industry
- 15% to the retailer in the local market
- 60% to fish-sauce processing

Classification and the price of anchovy:

- The red anchovy:
 - o Fresh: size 8 cm (6.000 VND/kg), size 5 cm (5.000 VND/kg)
 - o Stale: 3.000-3.500 VND/kg
- The black anchovy:
 - o Fresh: size 8cm (7.000 VND/kg), size 5cm (6.000-7.000 VND/kg), size 3cm (9.000VND/kg)
 - o Stale: 4.500 – 5.000 VND/kg
- The agent anchovy: fresh, price 8.000-9.000VND/kg

There is not the contract with their clients

Normally, when the anchovy captured is so much, the buyer reduce the price 500-1.000 VND/kg

But when the anchovy is not enough, fishermen increase the price 500-1.000 VND/kg

The dry anchovy processors pay directly, but the fish-sauce processors delay payment 5-7 days

d. Difficulties and desires:

The caught anchovy is reduced and fishermen have to go farther and they have to spend more fuel

The price of anchovy is reduced when the quantity is high

They want to have more processing plants to take all the anchovy captured

They want to have the refrigerator to store the fish and other products

2.2. Local fish processing industry

a. General information:

Kind of raw material they use:

- Anchovy
- Scad
- Herring

Processing capacity: 3 tons dry anchovy/day

b. Processing information:

They buy 2 tons of fresh anchovy per day (maximum 15 Tm), 60% from Duy Hai commune and 40% from Binh Minh commune

In Duy Hai, they have relationship with collectors and in Binh Minh they buy the fish directly from the fishermen on the beach

They have not contracts with suppliers

The price of fresh black anchovy:

- Size 1-2cm, price: 10.000-15.000 VND/kg
- Size 2-3cm, price: 7.000-10.000 VND/kg
- Size 4-6, 5-7cm, price: 5.000-7.000 VND/kg

The criteria of fresh fish for the market: The anchovy has to be fresh and conform to the size

- For Japan market: red gills, clear skin, the body of fish is not broken, the size is 1-2 cm
- For Japan and Taiwan market: red gills, clear skin, the body of fish is not broken, the size is 2-3 cm
- For China market: red gills, lose skin's colour, 30% of the fish is broken, size 4-6cm, 5-7cm, 7-9cm
- For internal market: red gills, lose skin's colour, 70% of the fish is broken, size 4-6cm, 5-7cm, 7-9cm

Normally, the anchovy of Duy Hai fishermen is collected by collectors on board so the anchovy is fresher than anchovy in Binh Minh commune

- Anchovy in Duy Hai commune:
 - o 50% of total fish according to Japan market's standard
 - o 40% of total fish according to China market's standard
 - o 10% of total fish according to domestic market's standard
- Anchovy in Binh Minh commune:
 - o 30% of total fish according to Japan market's standard
 - o 60% of total fish according to China market's standard
 - o 10% of total fish according to domestic market's standard

c. Selling activity:

- They can not export directly because they can not cover all the demanded quantity, so they have to sell to wholesalers in Khanh Hoa, Quang Ngai, Nghe An, Thanh Hoa
- The 40% of total fish according to the Japan and Taiwan market
- The 60% of total fish according to the China and domestic market

The wholesalers in Khanh Hoa and Quang Ngai province have the good relationship with local firms so they can delay 50% of the payment

The wholesalers in Thanh Hoa, Nghe An come to the local industries to check the product and pay directly

The profit of dry fish:

- For Japan market: 5.000 – 6.000 VND/kg
- For China market: 2.000-3.000 VND/kg
- For domestic market: 1.000-1.500 VND/kg

d. Difficulties and desires:

Fishermen don't preserve well the fish

Fish is not enough for Japan market

The short capital don't permit cover all the orders of export market so they can not export directly

They have not the cold storage facilities to preserve the dry fish, so the dry fish change the colour (from blue to yellow), so they have to export to China or for domestic consumption

They need credits with low interest to build cold storages and buy refrigerated vehicles

2.3. Fishermen:

Total time for fishing: 7-8months/year

Income of fishing: 5,000,000 VND/month

Families normally have other income sources: Garment worker (wife): 2.000.000 VND/month (12months/year)

No contract with employer

The quantity of fish captured is unstable so the income is unstable also

They want to be a partner of ship-owners to increase the income

They want to diversify the job for their free time

3. Tam Ky city

3.1. Wholesalers in Tam Ky market

Quantity of dry anchovy for business: 15-17 tons/year

They sell also other fishery products like dry cuttlefish, dry scad, fish-sauce, hot-dogs and other food products

The main season of anchovy is from April to September

They buy dry anchovy from the wholesalers of other provinces (Tinh Ky-Quang Ngai province and Song Cau-Danang city, Nhat Le, Vung Tau province,...) 70-80% of total and 20-30 % from the processing firms in Binh Minh commune and Tan Ky commune

They bought black anchovy:

- In the main season, size 5-7 cm: 30,000 VND/kg
- In the main season, size 4-5 cm: 28,000 VND/kg
- In the winter, the price is 40,000-45,000 VND/kg (dry fish is stored in a refrigerator)

They examine the quality of dry fish by hands to verify the humidity and they accept 20% of total which is not dry (the dry fish is sticky and softer)

The relationship base on the ancient acquaintance, and they can pay after 1 month of delivery

The wholesalers call to let know the kind, the quality and the price of product. When they decide the quantity, they will transport the dry fish to their location.

They sell dry fish to consumers in Tam Ky (10% of total) and to distributors in the mountain regions (90% of total). Clients come to their location to take the product away.

The clients can delay payment to the end of the year.

The selling price is increased from 1,000 to 2,000 VND/kg

4. Tam Ky and Hoi An cities

4.1. Retailers

Quantity of dry anchovy: 40-50 kg/day

Total time of selling dry anchovy: 7 months/year

They sell also other fishery product like dry cuttlefish, dry scad, fish-sauce and other food products

They buy dry anchovy to processing firms of Quang Nam Province (Binh Minh, Tan Thanh, Tan Tien) (70% of total dry anchovy) and from the wholesalers in Quang Ngai province (30%) when the dry anchovy in Quang Nam is not enough

The kind and the price of bought dry anchovy:

- Dry anchovy in Quang Nam, size 5-7cm, price 40,000-45,000 VND/kg
- Dry anchovy in Quang Nam, size 4-5cm, price 35,000-37,000 VND/kg
- Dry anchovy in Quang Ngai, size 5-7 cm, price 35,000-37,000 VND/kg, because dry anchovy is more salty (they add the salt while processing)

The suppliers call to know the price, the kind and the quality of product. When they decide the quantity, suppliers transport the dry anchovy to the retailer location and payment is immediate.

They sell dry anchovy to the final consumers with the price increased 2,000-3,000 VND/kg

4.2. Consumers

They prefer use dry anchovy in the rainy season because the dry anchovy is cheaper than other products; they can store for long time, easier to prepare and to buy

Consumers choose fresh anchovy depending on the freshness (clear skin, hard body). They don't consider hygiene or security parameters when they buy fresh anchovy.