



FISH
FOREVER



Value Chain Analysis

Focusing on Linkages Between Fishers and Traders

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FishForever

Fish Forever is Rare's community-led solution to revitalize coastal marine habitats, such as coral reefs, mangroves and seagrasses, protect biodiversity, and secure the livelihoods of fisher households and their communities. It uses an innovative approach to address coastal overfishing—by empowering communities through clear rights, strong governance, local leadership, and participatory management—that protects essential fish habitat and regulates fishing activities.

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INTRODUCTION

The purpose of this toolkit is to provide an easy to follow and practical explanation for conducting a specific value chain analysis. This toolkit has been developed with an entry point and orientation of understanding the relationship between the fisher and the trader or business people they interact with. An examination of the linkages between the small-scale fisher and the trader (primary buyer, processor, and wholesaler) or business people (boat and gear owners, money lenders) can help to identify and understand many of the constraints facing the actors in the value chain and can lead to improvements or upgrading within the value chain.

It is designed to be used in the field by practitioners. As much as the toolkit is developed for field-based practitioners it is also useful for local decision makers to better understand how the fish marketing system is organized and operates and where upgrades can be made to improve the position of fishers. Rare’s perspective on value chain analysis differs from the general value chain analysis approach in that it focuses in on a specific aspect of the value chain – the linkage between the fish-

er and trader or businessperson who fishers first interact with for buying fish or access to credit and other services. This perspective will seek to better understand the strengths and weaknesses and benefits or constraints of that relationship and identify ways to upgrade the relationship to enhance the value and wealth obtained from the fishery for all actors. It builds from the Rare Fish Forever work with its focus on fishers and approaches to sustainably manage coastal fisheries by better understanding the next level in the seafood value chain, which is often overlooked and is a key factor for the wealth and well-being of fishers and their communities. The toolkit will be organized into several sections. First, a brief overview of value chain analysis. Second, a brief discussion of fisher – trader/business people relationships. Third, three practical tools that can be used to analyze relationships within the value chain (Table 1). Fourth, guide questions to develop a questionnaire for a survey to collect information for the value chain analysis.

Table 1. Purpose and Outputs of Each Tool for the Value Chain Analysis.

	Tool	Purpose	Output
Tool 1	Mapping the value chain	To identify the range of characteristics and activities to bring seafood products from fisher to consumer presented as maps of processes, actors, product flow and volume, and flow of information	An understanding of how the products of fishers reach the final consumer; the structure (economic relationships) between actors in the chain; how this structure is likely to change over time; and the key threats and opportunities to the entire value chain.
Tool 2	Relationships and linkages	To understanding the relationship between fishers and traders or	An understanding of the nature of the relationship

	Relationships and linkages	businesspeople that they interact with in order to understand constraints and opportunities and bring more value to all actors	between actors, what is going on between the actors, what keeps the actors together, what power relationships exist, and the benefits/constraints of the relationship.
Tool 3	Upgrading value	To identify opportunities to improve the performance of the value chain and relationships between fishers and traders or business people in order to enhance value to all actors	Specific actions and activities that can be undertaken to enhance relationships between actors and improve value to all actors

VALUE CHAIN ANALYSIS

Small-scale fisheries feed into diverse and spatially extensive networks of supply and trade chains that connect production with consumers, adding significant value and generating important levels of employment. To some extent, this system can be used to provide an important mediation and buffering function to increasing variability in supply and source location. This system can also be used to reduce vulnerability and increase adaptive capacities of fishers and fishing households.

The value chain describes the full range of activities required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), to delivery to final consumers and final disposal after use (Kaplinsky and Morris, 2001). The value chain approach is mainly a descriptive tool to look at the interactions or linkages between different economic actors. The concept of value chain encompasses the issues of governance and coordination and the strategies and the power relationships of the different actors in the chain. A value chain analysis involves an investigation of what is going on between the actors in the

chain, the linkage or business relationship between the actors in a chain, what power is shared, and how the relationship between actors is evolving. Value chain analysis is reasonably flexible, and the value chain can be analyzed from the point of view of any of the large number of actors in the chain. There can be many entry points or objectives for a value chain analysis and that will define the depth and complexity of the research.

A value chain analysis (VCA) is an approach to understand the range of activities performed within a firm or firms to produce a certain output. A broad approach to value chain analysis starts from the production system of the raw materials and moves along the linkages with other actors and enterprises engaged in trading, processing, assembling, transporting, etc. This broad approach examines all of the activities of a product, such as fish, as well as all of the backward



and forward linkages from the raw materials to final consumer. The idea of a value chain is associated with the concept of governance, which is of key importance for fisheries because fisheries value chains crucially depend on the utilization of natural and environmental resources. The value chain framework can also be used to understand social ties and traditional norms, which can be used to draw conclusions on the participation of the poor and the potential impact of value chain development on poverty reduction, food security and fisheries management. Value chain analysis includes issues of governance (rules operating in a value chain) and coordination (formal and informal relationships between actors) and the strategies for linkages and trust between actors in the chain. Conducting a value chain analysis involves an examination of how the individual actors operate, what is going on between the actors in the chain, what keeps the actors together, what information is shared, what power relationships exist, and how the relationships evolve.

The value chain approach is flexible and mainly a descriptive tool to look at the interactions between different economic agents. Value chain analysis allows for different entry points depending upon the objective of the analysis. As a descriptive tool it has various advantages in so far as it forces the analyst to consider both the micro and macro aspects involved in the production and exchange activities. Commodity-based analysis can provide better insights into the organizational structures and strategies of different actors and an understanding of economic processes often studied only at the global level (often ignoring local differentiation of processes) or at the national/local level (often downplaying the larger forces that shape socio-economic change and policy making).



At the heart of the analysis is the mapping of actors and key linkages, specifically for this toolkit, the linkages between fishers and primary buyers and/or business people. The value added of the value chain approach, however, comes from assessing these intra-and inter-actor linkages through the lens of issues of governance and distributional considerations. By systematically understanding these linkages within a network, one can better prescribe policy recommendations or interventions and, moreover, further understand their reverberations throughout the chain. The methodology should address the following issues, and begin with an understanding of the nature of final markets, which are increasingly the driver in many value chains:

- the point of entry for value chain analysis;
- mapping value chains (actors, product flow, volume, geographic flow, knowledge and information);
- product segments;
- how producers access final markets;
- governance (coordination, regulation, control);
- relationships, linkages and trust;
- upgrading in value chains;
- costs and margins; and
- distributional (income and employment).

At its most basic level, a value-chain analysis systematically maps the economic agents participating in the production, distribution, marketing and sales of a particular product (or products). This mapping assesses the characteristics of economic agents, profit and cost structures, flows of goods throughout the chain, employment characteristics and the destination and volumes of domestic and foreign sales. Such details can be gathered from a combination of primary survey work, focus groups, participatory rural assessments (PRAs), informal interviews and secondary data. Value chain analysis can be used to examine the role of upgrading within the chain. Upgrading can involve improvements in quality and product design that enable producers to gain enhanced value or through diversification in the product lines served or through improved linkages between actors. An analysis of the upgrading process includes an assessment of the profitability of actors within the chain, as well as information on constraints currently present.

Value chain analysis can highlight the role of governance in the value chain. Governance in a value chain refers to the structure of relationships and coordination mechanisms that exist between economic agents in that value chain. Governance issues play a key role in defining how such upgrading occurs. In addition, the structure of regulations, entry barriers, trade restrictions and standards can further shape and influence the environment in which upgrading can take place. Governance is important from a policy perspective through identification of the institutional arrangements that may need to be targeted to improve capabilities in the value chain, remedy distributional distortions and increase value added in the sector.

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THE FISHER/TRADER RELATIONSHIP

As discussed above, the entry point and orientation of this value chain analysis is understanding the relationship between the fisher and the trader or business people they interact with. The relationships fishers have with other actors in the value chain differ from location to location. In some cases, the fisher may only interact with a fish buyer at a landing site or auction to sell their fish. There is a negotiation between the fisher and buyer for the amount and price of the fish and the fisher is paid.

In other cases, the relationship may be more complex, where the fisher is in what is called a patron-client relationship (PC) which represents largely informal institutions, often central to the organization of market interactions and are pervasive in rural economies worldwide. The patron may be a primary fish buyer and/or a business person who owns the boat and/or gear or lends money.

The PC relation is usually voluntary and mutually beneficial in that both parties receive benefits of some sort and are typically marked by an affinity between the patron and client through ethnicity or religion or some type of shared experience like a history. In fisheries, patrons typically provides fishers with a range of services and support for fishing and family life and in return the client reciprocates with fish supply, loyalty, connections, and other benefits.

The informal institution that PC relations represent has evolved to be adjustable and flexible and buffers short-term income loss in fishing and trading households resulting from catch or price fluctuations, while also aiding investment in technological change e.g. gear investments. This generally leaves fishers indebted and has been seen to impact on decision- making and induce a cycle of fisheries overexploitation and increased long-term economic vulnerability. The *suki* relationship in the Philippines is an example of a patron-client relationship.



In its simplest form, it provides the fisher with a guaranteed outlet for his fish and access to capital, while providing the trader with a steady supply of fish. When a fisher enters into a *suki* relationship, he must sell his fish exclusively to that trader, the purchase price being established by the trader. The trader provides the fisher with a wide range of services and the majority of the fishers are in debt to the trader. It has been argued by some that the *suki* relationship is exploitive of fishers. In cases where credit is extended and a lower ex-vessel price is given, it is felt that oligopolistic control (an imperfect competitive market situation where relatively few buyers handle a large percentage of the fish landed by and purchased from fishers and thus can influence the price paid to fishers) over the fisher exists. Others feel, however, that the potentially large number of traders with whom a fisher could establish a *suki* relationship and social and kinship ties within the community exert a modifying influence over oligopolistic tendencies.

In one study in the Philippines, it was found that traders did not exploit *suki* fishers, and that the lower price paid to the *suki* fishers reflected a competitive charge for the services provided. Factors that were found to inhibit or reduce the level of fisher exploitation included social and kinship ties, the beneficial nature of the relationship to both parties, fear of entry of new traders and the existence of a relatively large number of non-*suki* fishers in the area.

The first buyer is traditionally the only link fishers have with the market. How well this relationship works, in terms of providing market access and information and an equitable price, is an important determinant of the fisher's economic well-being.

Too often, however, fishers take whatever price is given and fail to examine alternative marketing strategies. One of the binding constraints for small-scale fisher engagement in markets is the fragmentation of the sector - they largely operate individually in both production and marketing of fishery products. Being fragmented, fishers are often vulnerable to exploitation.

Fish traders (market intermediaries, middlemen) are important actors in any market system. They provide small-scale producers with incentives and access to markets, but they also provide a variety of services to the producers. Frequently, they provide a social insurance mechanism to individual fishers through credit arrangements. The productive role of the trader in providing services advantageous to the fisher and in reducing the fisher's market risks is often overlooked. The relationship between fisher and trader is often assumed to be exploitive as the weak bargaining power of the fisher allows for non-competitive conditions to exist and lower prices to be paid. Relations and potential inequalities between fishers and traders point to the need to find ways to address these issues in order to increase the return received by fishers and to better sustain fisheries resources. This requires a better understanding of fisher-trader relations and how these relations affect decisions about resource use and ecological outcomes.

The relationship between fisher and buyer is highly dependent upon the situation. Before generalized assumptions are made concerning the relationship or existence of trader exploitation, which may result in actions involving intervention in the market, an analysis should be conducted to evaluate the situation. It is recommended not to break the fisher/buyer relationship unless absolutely necessary.

In most cases, the activities and services provided in the value chain have been developed over many years and are complex. Breaking or changing the activities and services can potentially result in serious disruption of people's lives especially the poor with limited resources. If a change in relationship is recommended, it will require a detailed understanding of the existing relationship, the potential costs and benefits to the fishers and buyers, and the needs and procedures in replacing services.

A similar type of relationship may exist between a fisher (single fisher, boat captain, crew) and a business person who may own the boat and/or gear or provide credit or other services. The relationship will be dependent upon the situation. This relationship can impact upon the decision-making of the fisher in terms of how, when and where they fish; the selling of the fish; shares of revenue; and other factors.

VALUE CHAIN ANALYSIS

There are several types of tools that can be used to conduct a value chain analysis (VCA) depending upon the entry point or objective. This includes general tools to prioritize value chains for analysis and to map the value chain.

Qualitative tools to analyze governance, coordination and regulation; relationships, linkages and trust; and upgrading. Quantitative tools for analyzing costs and margins and analyzing income distribution. For this toolkit with an entry point of understanding the relationship between the fisher and the trader or business people, two tools will be used - (1) mapping the value chain and (2) linkages and trust. Other tools can be used for further analysis but only these two tools will be described here.

DATA COLLECTION

The collection of data for the value chain analysis is undertaken through several methods including secondary data analysis, observation, key informant interviews, focus group interviews and surveys. Secondary data are those that have already been collected, analyzed and published such as, for example, a value chain analysis of fish in your country that can provide a general description of core processes that operate for different species in the country. Observations are a qualitative description of what a person sees by watching and recording the surroundings such as, for example, the fish as it moves from the boat to different actors to the consumer.

Key informant interviews involve people who, because of their position, experience, and knowledge, such as fishers, primary buyers and retailers, can provide extensive insights about the value chain. Focus group interviews involve a selected group of informants (usually 4 to 10) who share common background or knowledge. Both key informant interviews and focus group interviews use semi-structured or open-end question and discussion to obtain data. Surveys use questionnaires with highly structured, close ended questions of a sample of stakeholders.

It is recommended that semi-structured interviews such as key informant interviews and focus group interviews be used before surveys as they can generate specific, in-depth and explanatory qualitative information in a less expensive and is less time consuming. If quantitative information is needed, a survey is a preferred method. Guidance on these methods can be found at the website: www.socmon.org. A primary reference available at the website is: Bunce, Townsley, Pomeroy and Pollnac. 2000. So-



socioeconomic manual for coral reef management. IUCN/AIMS/NOAA.

In most cases, the data being collected for the value chain analysis will be collected independent of other data collection activities, such as socioeconomic surveys. This is due to the difference in context and type of data of the value chain analysis. However, some questions being collected in socioeconomic or other surveys may concern markets and market actors and may be useful for the value chain analysis. All surveys should be coordinated. In all cases of primary data collection, coordination is important to respect the time of the respondents. Rare's OurFish app can also be used to collect data that may be useful for the value chain analysis. OurFish records the transaction when the fisher sells the catch to a primary buyer, capturing data on quantity, type, weight, price and location. This can provide data for understanding how monetary value of the catch changes throughout the chain.

TOOL 1 - MAPPING THE VALUE CHAIN

The first analysis is to map the value chain. It is a way to visually understand the structure, conduct and operation of the fish marketing system.

Mapping allows for a general overview of the value chain and to visualize the connections between processes and actors. The following questions can guide what dimensions to map:

- What are the different core processes in the value chain?
- Who are the actors involved in these processes and what do they actually do?
- What are the flows of product, information and knowledge in the value chain?
- What is the volume of products, the number of actors, jobs?
- Where does the product (or service) originate from and where does it go?
- How does the value change throughout the chain?

The following steps are followed in mapping the value chain. A separate map should be prepared for each step. A narrative is written to accompany the map explaining the activity at each step in the value chain analysis. Once this is completed, the output from each step can be merged into one or more composite maps and a matrix which summarizes the key information from the maps in one table.

Mapping the core processes in the value chain

What processes occur from the catching of fish through to the final consumption of end products? A core process can be considered to be a step or stage in the value chain. In general, there should be five to seven general processes that the fish goes through before it reaches the final consumer, including the provision of inputs to catch the fish, such as boats, gear and fuel. This is a simple linear value chain.

It may be developed for one species of fish or for a multispecies fishery, the core process may be more complex such as input provision, fishing, primary buying, assembly/wholesaling, processing, storage, retail and export.

The collection of data to map the core processes is done through secondary data analysis, observation and key informant interviews. In many countries, a value chain analysis of fish may have been conducted and reported and can provide a general description of core processes that operate for different species in the country.

The researcher can observe the fish as it moves from the boat to different actors to the consumer. Key informant interviews with selected actors in the value chain, such as fishers, primary buyers and retailers, can serve to identify the core processes. The core processes are positioned at the top of the map linearly from input to consumer.

Figure 1 provides an example showing that there are seven core processes for the selected species.

Figure 1. Map of core processes, key actors and product flow

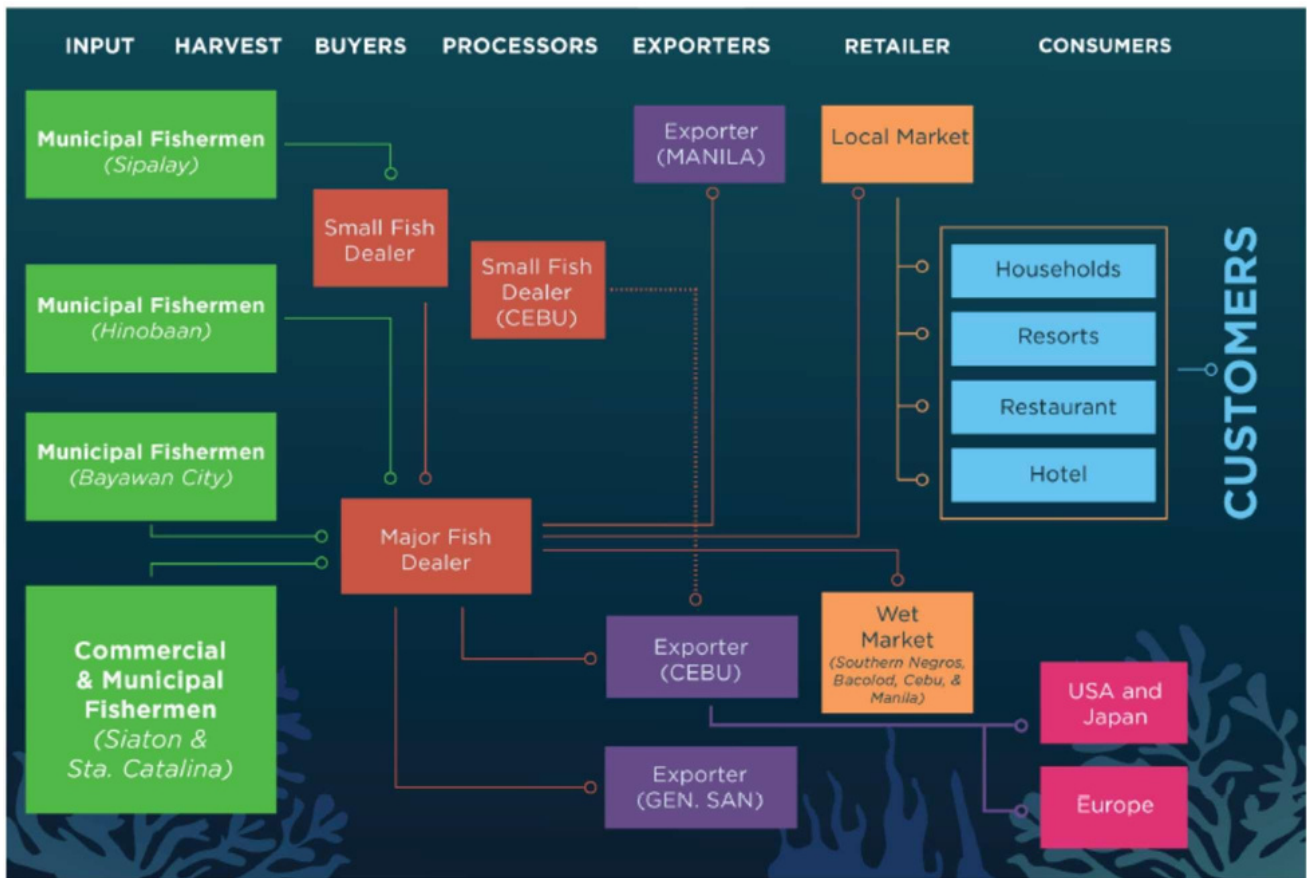
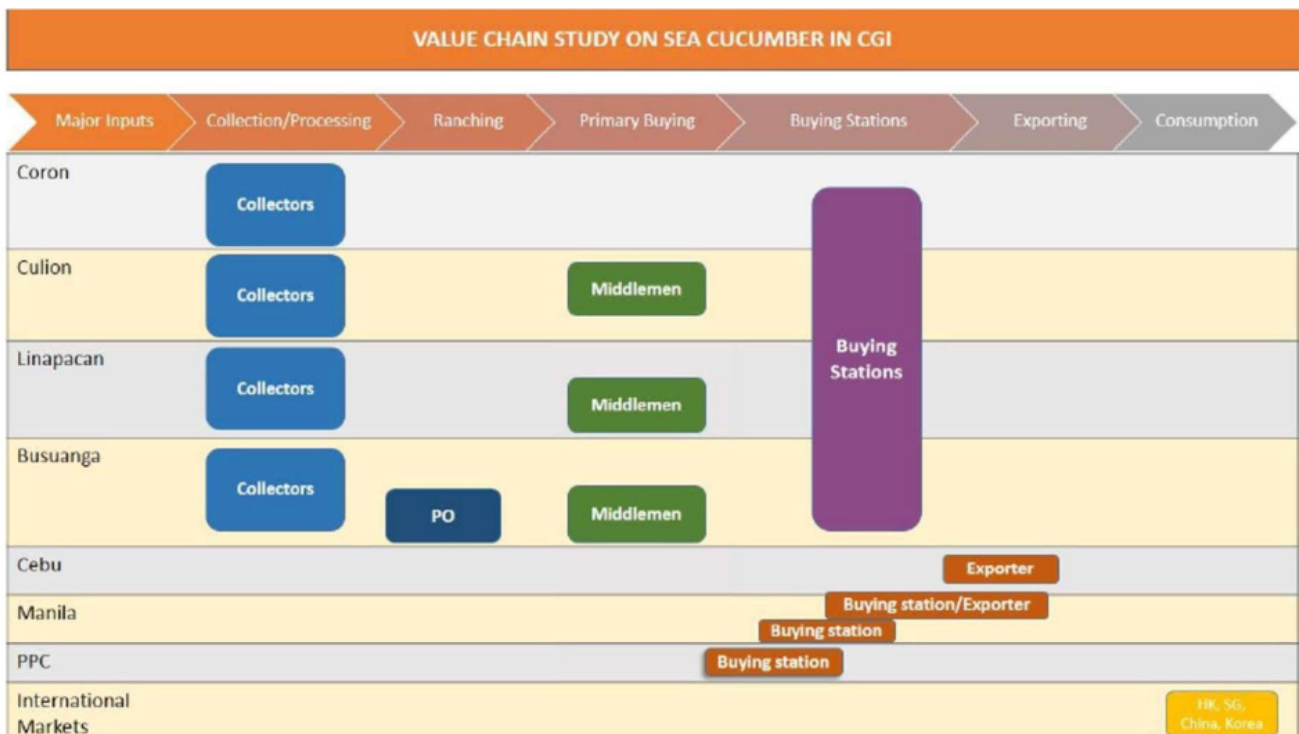


Figure x. Map of core processes and actors



Identifying and mapping the main actors and activities involved in the processes

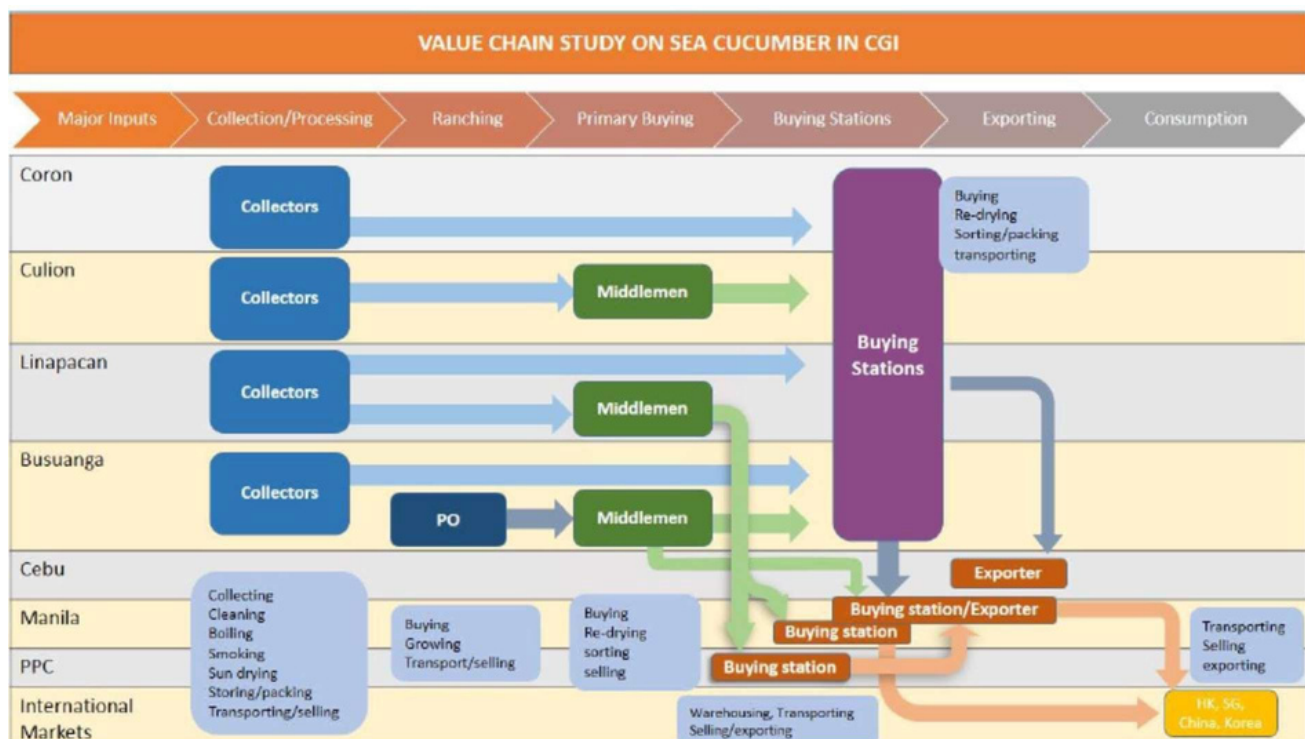
The actors are the people who are involved in the value chain. The easiest distinction is to categorize the actors according to their main occupation and activities that they undertake in the value chain. In fishing, the main categories include, but are not limited to:

- Fisher
- Business person (boat and/or gear owner, money lender)
- Primary buyer
- Assembler
- Wholesaler
- Transporter
- Processor
- Retailer
- Exporter

It is important to note that in many value chains, especially in rural areas, there is no pure specialization. One actor may take on several different roles or be involved in different activities. It is important to identify the main occupation of the actor. The result is a map of actors associated with each core process in the value chain.

This can be further developed by breaking down the core processes into specific activities that are undertaken by each actor, such as a retailer may process fish as well as sell it to consumers or a primary buyer may also serve as a wholesaler purchasing fish from other primary buyers and transporting it to market. The extent to which the specific activities are broken down will depend upon the researcher's judgement. With the core processes mapped, the actors involved in each core process are identified (Figure 1). This is done through observation and key informant interview. As with the core processes, the researcher can observe the fish as it moves from the boat to different actors to the consumer and identify the different actors and what they do at each stage. For each actor at each core process, they are asked: Who are the actors involved in this process and what do they actually do? Or the specific question: who do you sell the fish to and what does that person do with it?

Figure x. Map of activities of actors and product flow



Mapping the flow of product

This step involves identifying the product(s) at each stage of the process as they are transformed from inputs to raw materials to intermediate products and to final products. Mapping these flows creates a clear picture of what forms of products are handled, transformed and transported at each stage of the value chain.

With the core processes and actors mapped, flow of product from one actor to the next is identified. This is done through observation and key informant interviews. The question can be asked: To whom does the fish go to when you sell it? Mapping the product flows can be quite straightforward when it comes to products: you simply follow the stages that the tangible product goes through, from raw material to final product. On the map of actors, lines are drawn showing the actual flow or movement of the fish from one actor to the next (Figure 1). For example, fish landed at one site may be purchased by two different buyers where one buyer sells to retailers in the local market and another buyer sells to a wholesaler/ assembler who transports the fish to a larger market.

Mapping the knowledge and flow of information

It can be more difficult to collect intangible information such as knowledge and flow of information. However, understanding of the sharing and flow of knowledge and information about the value chain are critical to the behavior and relationship between the fisher and buyer. The flow of information often goes in both directions. For this analysis, the critical information is on price, type and amount of fish (data that may be available through the OurFish app), location of markets, regulations and permits, and fish quality and safety standards.

For example, a buyer can share knowledge of prices in end markets or a buyer can tell a fisher about product requirements and fisher can tell the buyer about the availability of fish. How much the fisher participates in the exchange of knowledge is important to the relationship with the buyer. Mapping information involves showing the flow of information between actors at each process in the value chain. It will be important to both observe the knowledge and flow of information and to ask specific questions. The type of questions will need to be adapted to the local context. The type of questions may include: From who do you obtain information of the price of fish? From who do you obtain information on the amount and type of fish to catch?

Mapping the volume of products and numbers of actors

Mapping the volume of products and number of actors in the value chain can be important for understanding the market concentration of actors and is felt to play a large part in determining market behavior over such activities as pricing. The greater the degree of concentration, the greater the possibility of non-competitive behavior, such as collusion, existing in the market. Finding out the volume of products also makes it possible to have an overview of the size of the different channels within the value chain. Volume passing through different parts of the value chain can be reported as a weight (kilogram) or percentage of weight of amount of fish from the point of landing as it passes through each actor to get an overview of the size of different parts of the chain (Figure 2). A decision will need to be made on the time frame to be used, for example, annual, seasonally, weekly and/or per trip. Once a time frame is decided upon, the question is: On average, how much fish do you buy per (time period)?

The amounts from all actors at that process stage can be added together to obtain an estimate of the value of product for that time period.

The number of each type of actor at different steps in the value chain are identified either through observation or key informant interviews. This may seem easy but decisions will need to be made concerning, for example, full- and part-time fishers or retailers.

Figure 2. Map of volume of product and geographical flow

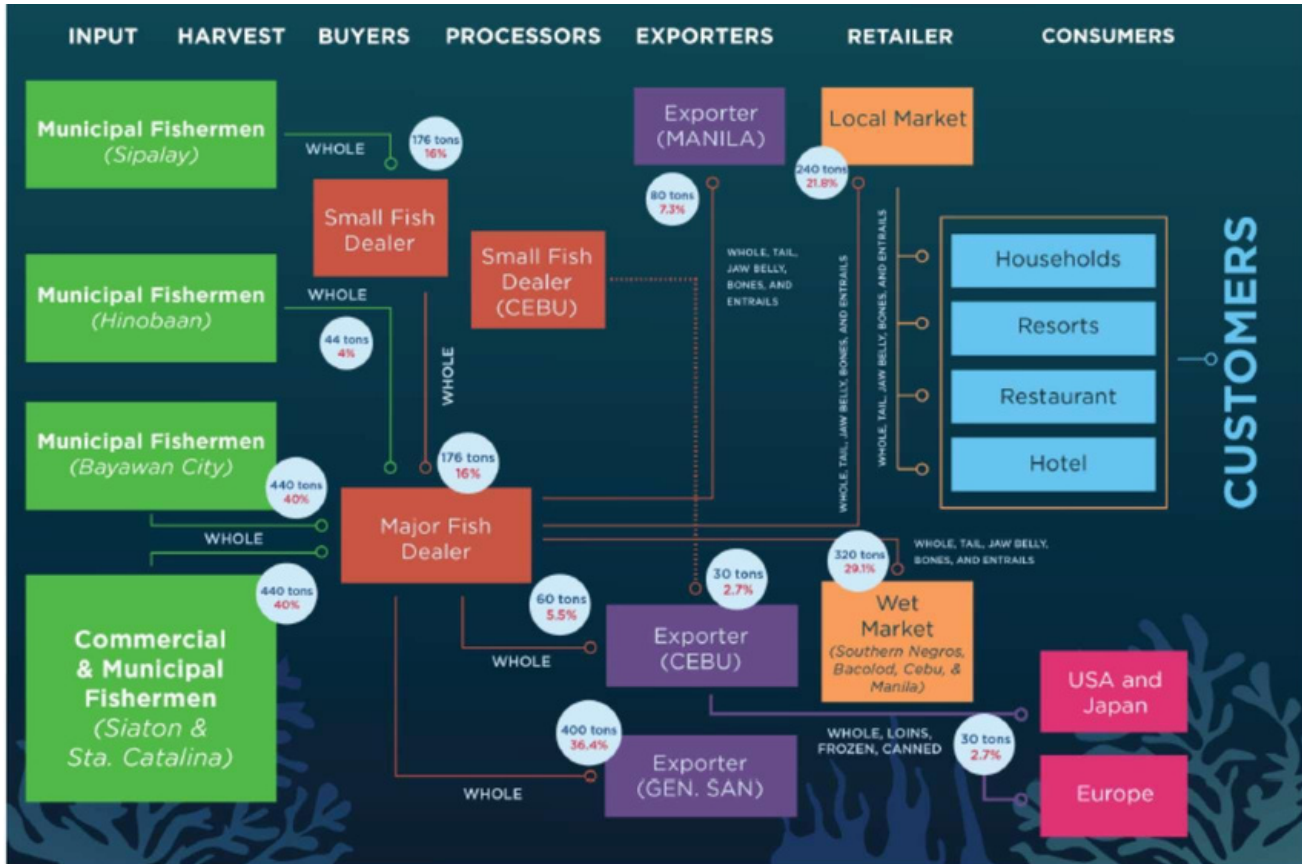
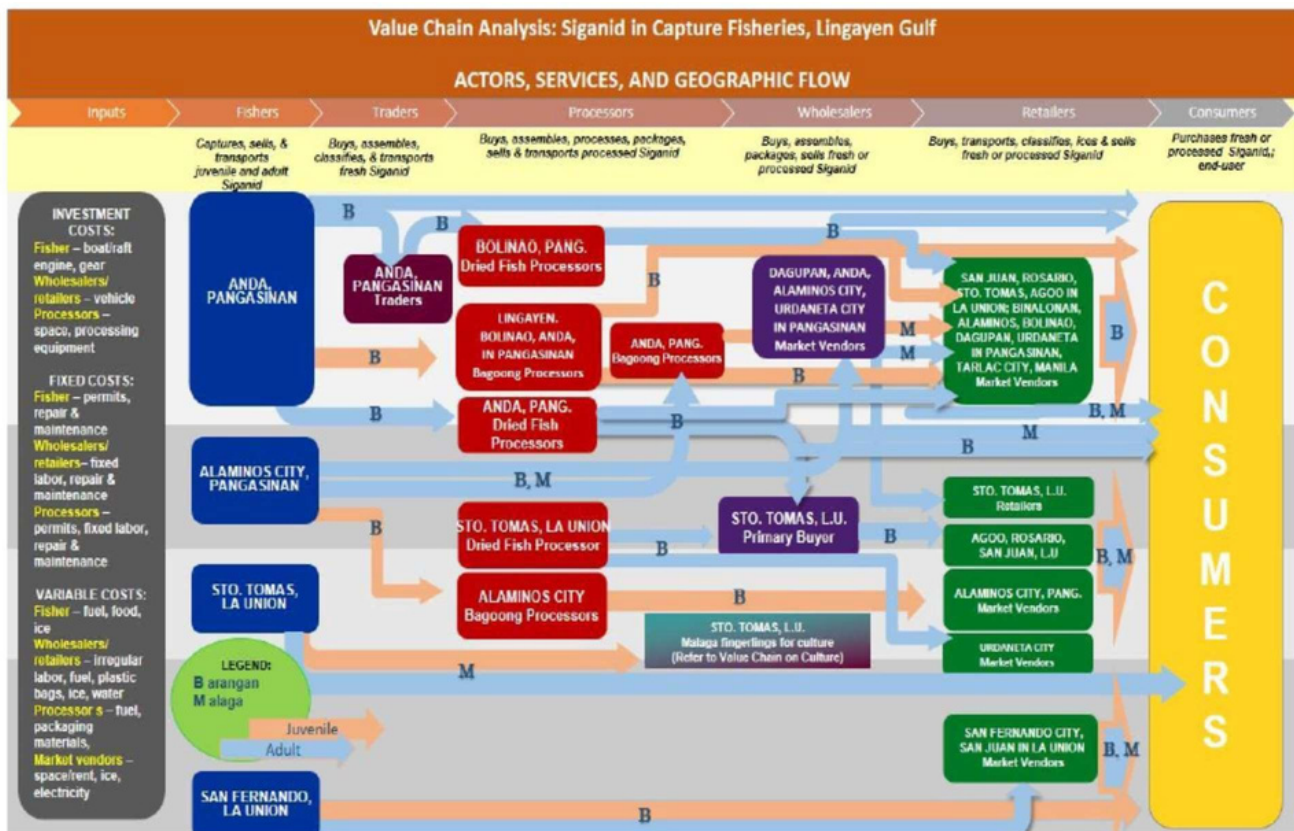


Figure x. Map of actors, services and geographic flow



Mapping the geographical flow of the product

A geographical flow of product or service involves an identification of where each process in the value chain is physically located. Begin at the fish landing site and follow the product as it moves between each actor to different locations until it reaches the final consumer. Since individual actors may not be aware of where the product goes after it leaves them, this will require interviewing all of the actors in the value chain and enough of the actors that different locations are identified. A map of the area can be used to capture a dimension of the product flow (volume, number of actors) and show locational or regional differences. This map can help facilitate the conduct of the VCA.

The geographical flow of the product as it moves from one stage in the process to the next is identified (Figure 2). The question which is asked is: Where does the fish go to when you sell it? Using the product flow map, the different locations at each stage is identified. Mapping the geographical product flows can be quite straightforward when it comes to products: you simply follow the stages that the tangible product goes through, from raw material to final product.

Mapping the value at different levels of the value chain

A core element of value chain mapping is to map the monetary value of the fish throughout the value chain. There are many ways to measure value. The easiest illustration of a monetary flow is to look at the value that is added at each step throughout the value chain, providing a general overview of the earnings at the different stages. The value used is the selling price for the fish, for example, the price received per kilogram by the fisher to the primary buyer or that received by the retailer from the consumer. There may be several prices received by different actors at each stage depending upon different factors such as volume being sold.

Price information should be collected from several actors at each stage of the value chain and averaged. The selling price may not be completely accurate but can provide general information at each stage. Information on prices can be obtained through key informants or a survey of actors at each stage in the process. The OurFish app can also be used to collect price data at the first point of sale.

Figure 3. Map of value at different levels of the value chain

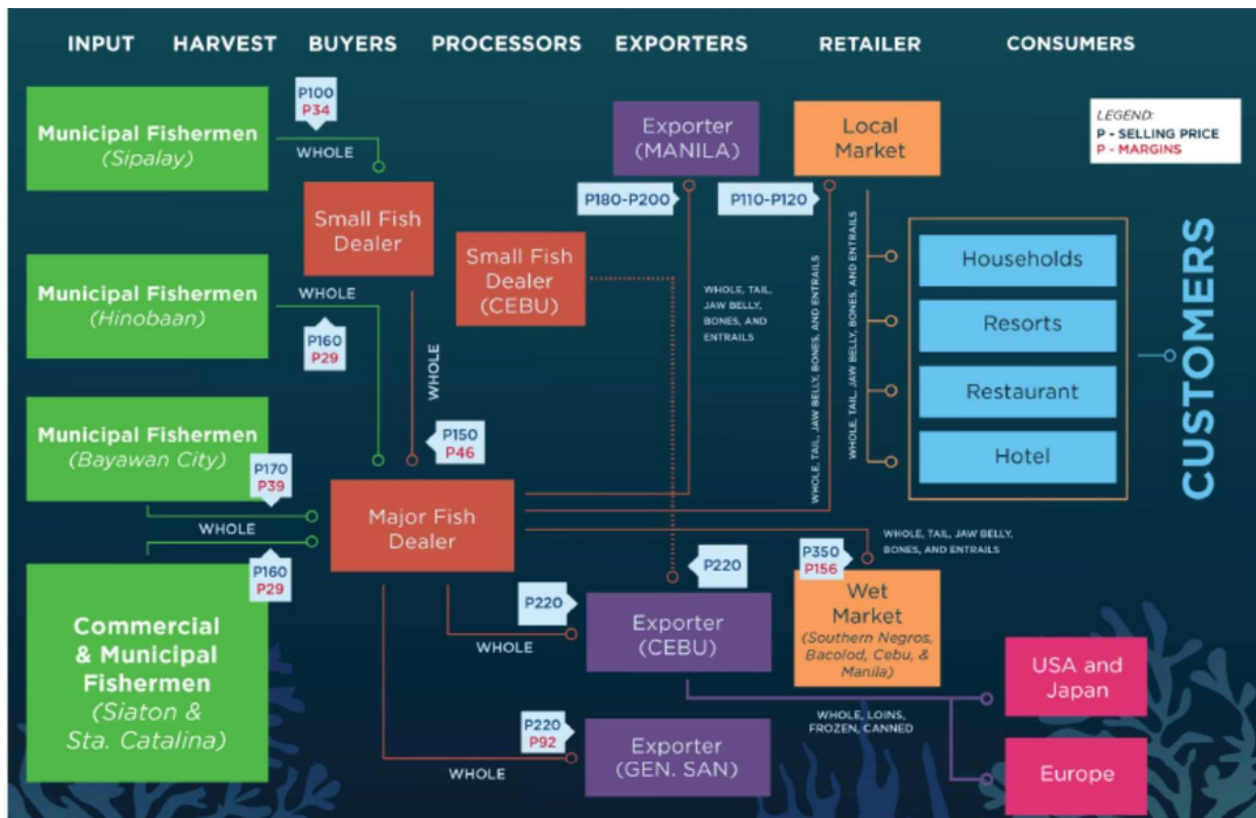
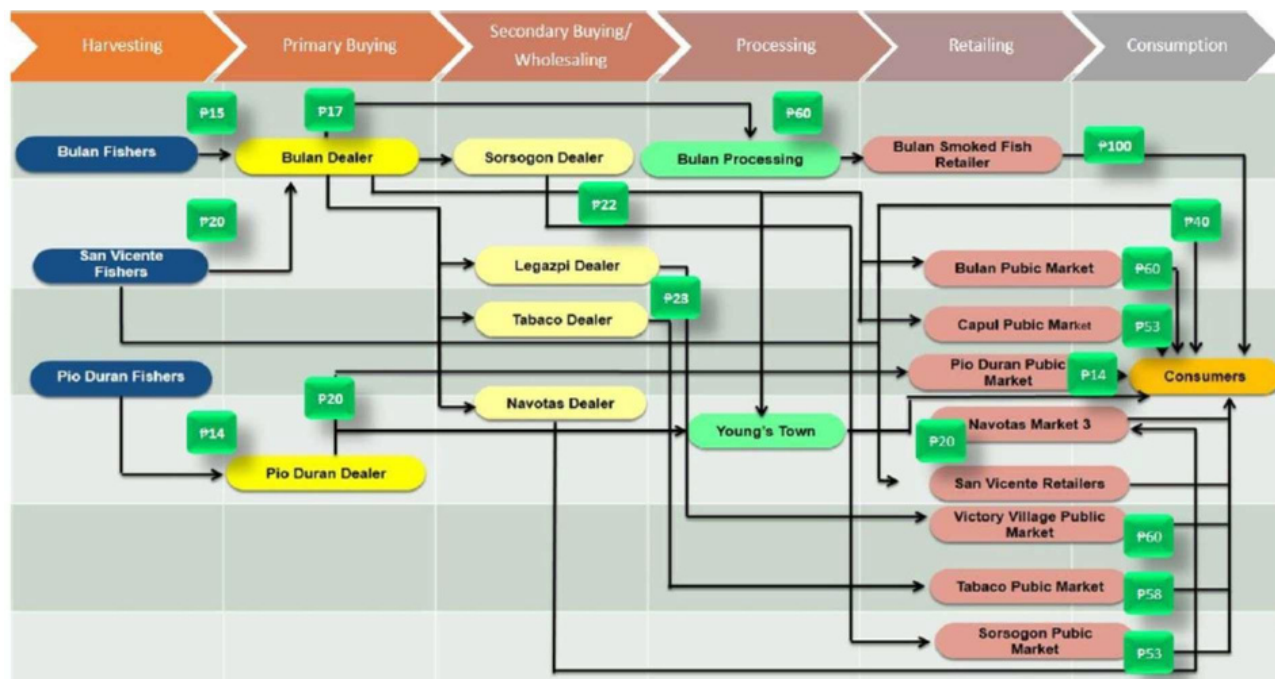


Figure x. Map of value at different levels of the value chain



Value chain map matrix

Once mapping is complete, a value chain map matrix can be prepared which summarizes the key information from the maps in one table. The matrix can be used for designing questionnaires, determining which actor groups to interview and which geographical locations to concentrate field work in. The matrix can also serve as an easy to interpret sector summary from a value chain perspective.

Table 1. Example of a value chain map matrix

	Inputs	Harvest	Buyers	Processors	Exporters	Retailers	Consumers
Inputs							
Activities							
Outputs							
Actors							
Number of actors							
Location							
Product Flow							
Product volume							
Flow of Information							

Table x. Example of a value chain map matrix for teain Vietnam

	Inputs	Production	Collection	Pre-processing	Factory processing
Inputs		Seed, fertiliser, plant protection drug Technique, soil, labour source Capital	Fresh leaves and buds	Fresh leaves and buds	Fresh leaves and buds Dried leaves and buds
Activities		Producing fresh leaves and buds	Collecting fresh leaves and buds Selling to factory	Drying Preservation	Buying fresh leaves and buds Pre-processing buds

					Selling finished products
Outputs	Seed, fertiliser, plant protection drugs Technique, soil, labour source Capital	Fresh leaves and buds	Fresh leaves and buds	Dried leaves and buds	
Actors	Seed company Fertiliser agency Plant protection agent Extension centre Bank	Farmer	Collectors	Local level small scale (household)	
Location and participation of the poor	Not much	Planting Management Protection Harvesting	Not much	Some involvement	Limited (some workers)
Challenges		Plant protection Difficulties in getting good quality varieties Lack of technical knowledge	Difficult to transport	Preservation difficult Lack of funds for effective kilns	
Possible solutions		Periodical spraying Changing planting mechanism Setting up convention Technical training (plant production)	Upgrading roads	Investment in kilns	
Location		Thach An, Hoa An	Thach An, Hoa An	Thach An, Hoa An, Cao Bang town	Cao Bang town

Validation

After all the maps and the narrative have been prepared, they should be validated with the key informants to ensure that all of the information is accurate.

TOOL 2: RELATIONSHIPS AND LINKAGES

Relationship is defined as a social connection between two parties. However, in value chains, linkages, defined as a business relationship between two parties, are more common. Analysis of linkages involves not only identifying which actors are linked with one another, but also identifying the reason and nature of the linkage and whether the linkages are beneficial or not. Actors in the value chain link with one another because they purportedly obtain benefit from the linkage. Identification of the benefits can assist in identifying the constraints to the linkages and trust among the value chain actors. The linkages can be formal or informal. The informal linkages are often based on trust. The linkages can be vertical, such as a patron-client relationship, or horizontal, such as fishers working together.

The following key questions can guide the analysis:

- Do linkages exist? (yes/no)
- How important are linkages?
- How many different actors are involved?
- What is the frequency of contact? (how often do they meet)
- What is the level of formality? (informal/verbal agreement/written contract)
- What are the reasons for linkages, reasons for no linkages?
- What types of services does the linkage provide?

- What are the relative benefit/costs of linkage?
- What is the level of trust?
- How long have these linkages existed?
- How has the formality of the linkages changed or evolved?
- What is the rate of expansion of linkages over time?
- Which are the formal and informal rules that regulate the actions of value chain participants?

Identify the actors

For this analysis, the focus is on the linkages between the fishers and the primary buyers and/or business people in the value chain. Other linkages between actors at other stages of the value chain may be analyzed later depending upon what is found from the analysis at this first level of linkages. Using the value chain map, prepare a list of the actors and their location.

Survey actors

Conduct survey interviews with the relevant actors to identify their linkages with other actors in the chain. Prepare a questionnaire based on the three sets of guide questions (fisher, primary buyer, business person) provided below.

Analyze the results of the survey

The results of the survey can be analyzed in narrative, table format or graphically

Figure x. Map of linkages between actors

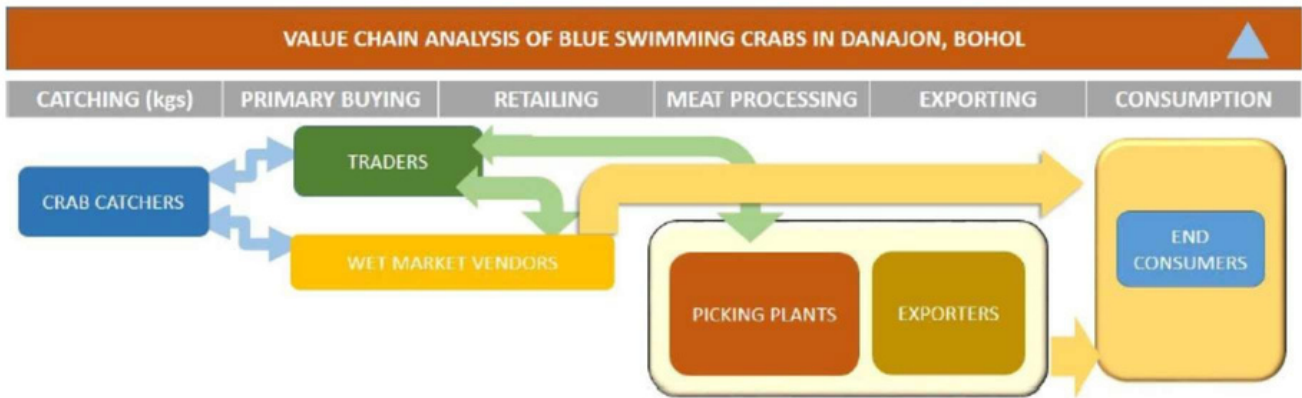
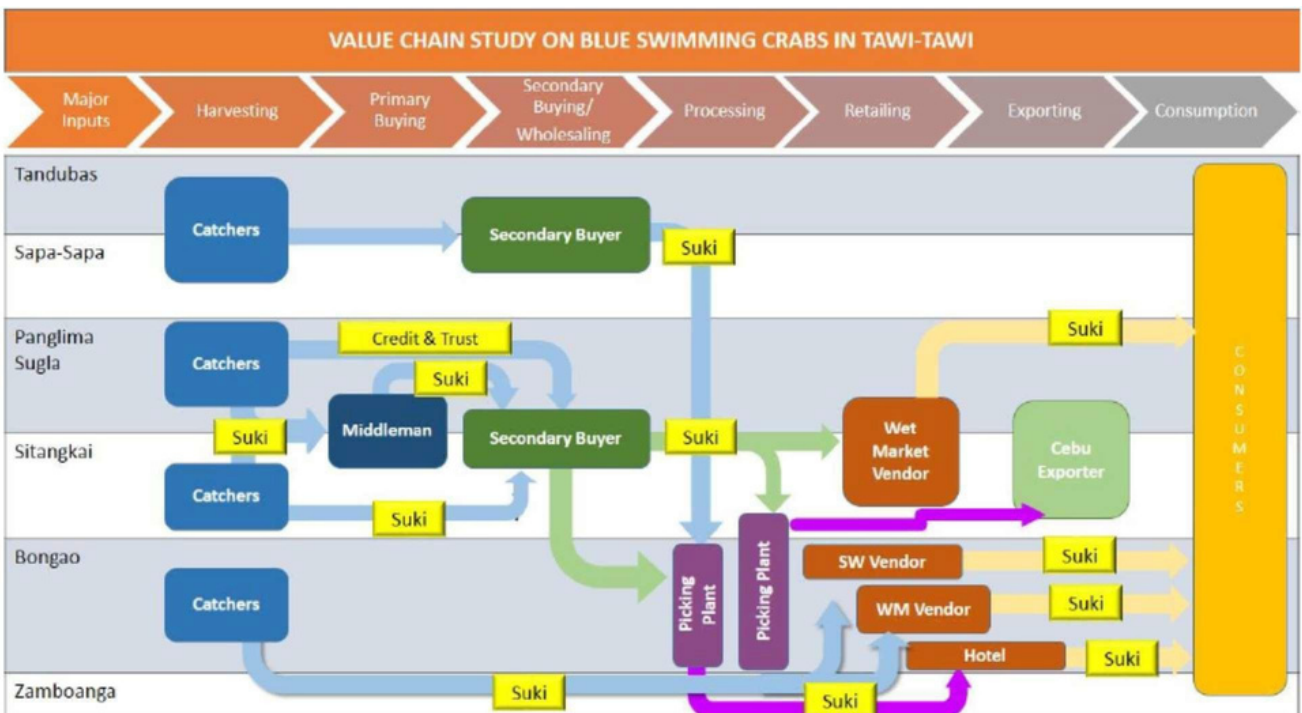


Figure x. Map of linkages between actors



Identification of power distribution

The issue of power is complex. For practical purposes, power is defined as directly related to the level of concentration and access to key assets in the hands of a limited number of actors. Key assets can be both physical resources (e.g. capital, credit) and intangible resources (market information, knowledge, personal relationships). Actors who have exclusive access to key assets and resources are more powerful and have the capacity to influence others in the chain. Some key indicators of concentration include share of sales, share of value added, share of buying power, and control over a key asset. For example, a fishing community with 100 fishers and two buyers can be considered to have a high concentration of buyers.

Market concentration is defined as the number and size distribution of sellers and buyers in the market. Concentration is felt to play a large part in the determination of market behavior within an industry because it affects the interdependence of action among firms. The greater the degree of concentration, the greater the possibility of non-competitive behavior, such as collusion, existing in the market.

There is often an association between concentration and profitability. These relationships between concentration and market behavior and performance must not, however, be interpreted in isolation. Other factors, such as the firm's objectives, barriers to entry, economies of scale, and assumptions about rival firms' behavior, will all be relevant in determining the degree of concentration and the relationship between concentration and behavior and performance. A simple measure of concentration is market shares. Market share is estimated based on the amount of fish handled by each buyer as a percentage of the total volume handled.

Analyze trust

Trust between actors can be simply characterized as low or high levels of trust. The analysis of trust can be based on key questions such as:

- How long has the relationship lasted?
- When and how are prices set?
- Is there a contract or verbal agreement?
- Is there a high degree of dependency and high level of information sharing?

An index of can be developed by scoring and weighting these characteristics. The fisher can be asked the level of trust with regard to the buyer according to a scale of: -1 distrust, 0 no trust, 1 little trust, 2 some trust and 3 complete trust. The buyers can also be asked about the level of trust with the fishers. This can allow for a check if trust is reciprocal.

TOOL 3: UPGRADING THE VALUE CHAIN

Upgrading the value chain can involve improvements in quality and efficiency that enable fishers to gain enhanced value or through diversification in the product lines served. An analysis of the upgrading process includes an assessment of the information on constraints currently present.

There are many different types of upgrading, including, but not limited to: Process upgrading the efficiency of production or marketing. Can costs be reduced? Can speed of delivery be increased?

- Product upgrading to the introduction of new products or improving old products. Can a processor use a better drying method to produce higher quality dried fish?
- Functional upgrading of the activities of the actors. Should a fisher be a producer, processor and transporter or can concentration on one or two steps add more value?
- Linkage upgrading of the relationship between actors. Changes to the relationships between actors such as new buyers, direct sales to actors higher in the value chain, cooperatives, contracts, group bargaining, or auction.
- Information upgrading on prices and demand. Provision of information on prices, demand, regulations, buyer requirements, new markets.
- Structural upgrading on the organization of the market. Provision of processing and storage facilities and financial services.

Identifying constraints and potential solutions

Constraints exist at almost all process levels of any value chain. These could be constraints to greater efficiency, such as improved post-harvest handling of fish, or constraints to greater prices for fishers, such as access to price information.

During the survey, questions are asked concerning identification of constraints at the fisher-primary buyer and other process levels and identification of potential solutions. This is asked of both the fisher and the buyer.

Identify opportunities for upgrading the value chain

In order to improve the performance of the value chain it is important to determine the most effective level in the value chain to upgrade. If upgrading should occur at more than one place in the value chain and where it can have the most impact. For the fisher-primary buyer level in the value chain, identify all four types of upgrading strategy or leave blank if none exists.

For example, if the fisher-primary buyer linkage is problematic and cannot be fixed, it may be useful to upgrade the value chain through an alternative marketing strategy. A number of alternative marketing strategies exist to help fishers earn an increased profit. A marketing alternative is defined as a procedure, mechanism and/or system through which fishers may sell, or influence the terms of sale, of their products.

Through market alternatives, the fisher is not only trying to obtain the highest price for the product, but the best range of services for the enterprise. However, alternative marketing strategies may mean more work for the fisher because they must develop improved business skills, work with other fishers, and manage the finances and paperwork. Alternative marketing strategies may include a restructured relationship with the buyer, direct sale, cooperatives, contracts, auctions, branding and labelling, and provision of market information, financial services, and processing and storage facilities.

In the search for upgrading possibilities it is important to look not only at one actor but also at the effect of the upgrading in the whole chain.

The introduction of a new fish species for the producer can mean that the processor also has to change technology or that different requirements have to be placed on transport. In order to improve the performance of the whole value chain, it is important to determine the most effective level in the value chain to upgrade. If upgrading should take place at more than one place in the value chain, it is important to look where this will have the most impact. Construct a matrix (Table x). For each level of the value chain, identify potential product, process, functional, linkage, information and structural upgrading possibilities. It may not be possible to identify all six types of upgrading for each level of the chain. If no possibility can be identified, leave that cell blank. The choice of upgrading possibilities can also be influenced by external factors such as availability of labor or capital.



Table x. Example – Upgrading possibilities matrix

	Fisher	Buyer	Processor	Transporter	Wholesaler	Retailer
Product				New transportation route		
Process	Ice and cooler		Improved drying method			
Functional	Integrate drying					
Linkage		Group bargaining				
Information	Market price					
Structural			Cold storage			

Analyze the upgrading options which are within the resources (investment, technology, knowledge, skills) available. For each option assess the advantages and disadvantages and opportunities and constraints (Table x).

Table x. Analysis of upgrading option

Upgrading option	Ice and cooler for fishers
Description of upgrading option	Ice maker to provide ice and insulated box coolers to store fish at sea
Advantage	Better quality fish
Disadvantage	Cost of ice maker and coolers
Opportunity	Higher price
Constraint	Investment capital to purchase and maintain ice making equipment

QUESTIONS FOR DEVELOPING A QUESTIONNAIRE FOR A VALUE CHAIN ANALYSIS FOCUSING ON LINKAGES BETWEEN FISHERS AND TRADERS

The following questions can be utilized to develop a questionnaire for conducting a value chain analysis focusing on linkage between fishers and traders and/or business people. A questionnaire was not developed for this toolkit as the situation in each location is usually very different and the questionnaire will need to be adapted to meet the local context. These questions can be used as is or revised/reworded as necessary. The wording of a question can be very critical to how it is interpreted and answered by the respondent. Additional questions can be added as needed for the situation.

TIPS ON DESIGNING QUESTIONNAIRES

- Use close-ended questions only, including true/false answers, range of answers, multiple choice answers
- Use unambiguous wording; use clear and simple syntax
- Avoid leading questions 'Not very many women fish in this area, do they?' (e.g. How many women fish in the community?) Arrange questions in a logical order (e.g. by subject, chronological)
- Place those questions that will influence other questions last
- Put sensitive questions last (e.g. how much money do you make in a week?)
- Use local vocabulary, including local taxonomies and nomenclature
- Be realistic about what informants know
- If working in two or more languages or dialects, translate and back-translate from one to the other until all differences are resolved

Below are three sets of questions for fishers, fish buyers and business people.

Fisher

Demographic

What is your primary occupation?
What is the primary source of income for your household?
How many years have you been a fisher?
What is the location of your home port?
What is the area where you generally fish?
Do you fish alone or do you have a crew?
How many? Hired? Family? How many other fishers are there located in your home port?

Boat and Gear

What type of boat do you use? Motorized or non-motorized?
Who owns the boat?

If you do not own the boat, what is the arrangement that you have with the owner?

How long have you had this arrangement?

What types of fishing gear do you use?

Who owns the gear?

If you do not own the gear, what is the arrangement that you have with the owner? How long have you had this arrangement?

What other services do you obtain from the owner of the boat and/or gear?

Fishing

On average, how often do you fish in a week? Peak and lean season How do you decide what and when to fish?

What are the primary species you catch in peak and lean season?

On average, how much fish do you catch (kg) in the peak and lean seasons?

On average, do you sell all of the fish that you catch or do you keep a certain amount for yourself?

Price

On average, what is the selling price for your catch in the peak and lean seasons?

On average, what price does the buyer receive for the fish when it is sold in peak and lean season?

How is the price for your fish catch determined?

Are fish prices influenced by the fish buyers? Yes/no

How are you paid for the fish? Immediate cash? Credit/consignment?

Value Chain Actors

What are the different steps that the fish follow as it moves from harvest to consumer? Do you know what happens with your fish after it is purchased by the buyer?

How many different types of fishing related business people do you regularly interact with?

How many types of buyers (primary buyer, wholesaler) operate in your area? How many of each type of buyer regularly operate in your area?

Selling and Linkages

How do you decide where and to who to sell your fish? To who do you sell your fish?

Who makes the decision to who you sell your fish?

Why do you sell to this person?

Do you regularly or always sell to this person?

Why?

Who determines the price of the fish?

What does this person do with the fish?

What fishing and fish marketing activities and services does this person do? Do you regularly sell your fish to this person?

Why do you regularly sell your fish to this person?

How did you start the relationship?

Can you stop this relationship if you want to?

Does the relationship change during the peak and lean fishing seasons? What are the good and bad things about regularly selling to this person? Do you feel that the price you receive from this person is fair?

Do you receive any services from this person?

How long have you had this relationship?

Is the agreement formal or informal? Verbal or written?

Has there been any changes in this relationship in the past year? If this relationship was stopped, how would it affect you?

If there is no person to who you regularly sell your fish, why? What happens to the fish when it moves from this person?

Information

Where do you obtain information on prices?

Where do you obtain information on the type and amount of fish in demand?

Where do you get information on available markets for your fish?

Where do you get information on regulations or permits?

Where do you get information on fish quality and safety standards?

Linkages with Others

Is there an organization of fishers to which you are a member?

Do you have any understanding with other fishers about where you fish, how you fish or working together while fishing?

Do you have any understandings or relationship with anyone related to fishing NOT a trader or fisher? Money lender? Business person? Someone fixes your nets? Someone prepares your vessel and gear to go fishing?

What is the nature of this relationship?

Credit

Who would you ask for help in you had a fishing-related difficulty or needed something that is related to your fishing activity?

Who would you ask for help in you had a non-fishing-related difficulty or needed something not related to fishing? e.g. in the home, with family, medical etc.

If you need money for a new boat or fishing gear, where do you get it? If you need money for operating your boat to fish, where do you get it?

If you need money for a household need or emergency, where do you get it? How do you pay back credit? What is the arrangement?

Problems and Solutions

What are the problems or constraints with the fisher-buyer relationship?

What the problems or constraints with the fisher-business person relationship?

What are the major threats to fishing?

What are the problems you face fishing?

What are the problems you face in marketing the fish?

What are your recommendations to address problems or constraints in the fisher-buyer relationship?

What are your recommendations to address problems or constraints in the fisher-business person relationship?

What are solutions to problems in fishing?

What are the solutions to problems in fish marketing?

Primary Buyer

Demographic

What is your primary occupation?

What is the primary source of income for your household?

How many years have you been a buyer?

What is the location of your home port for business?

What is the area where you generally buy fish?

Do you work alone or do you have a partner?

How many other primary buyers are there located in your home port?

Do you transport?

Assemble from other buyers? Wholesale? Process? Retail?

Fish Buying

What are the primary species that you buy?

On average, how often do you buy fish in a week? Peak and lean season On average, how much fish do you buy in a week? Peak and lean season How do you decide what and when to buy fish?

What are the primary species you buy in peak and lean season?

On average, how much fish do you buy (kg) in a week during the peak and lean seasons?

On average, do you sell all of the fish that you buy or do you keep a certain amount for yourself? How do you usually buy fish? Direct from fisher? Auction? Other?

How do you decide where and from who to buy fish?

From who do you buy your fish?

Why do you buy from this person(s)?

Do you regularly or always buy from this person(s)?

Why?

Who determines the price of the fish? What fishing and fish marketing activities and services do you provide to this person(s)?

How did you start the relationship?

How long have you had this relationship?

Can you stop this relationship if you want to?

Does the relationship change during the peak and lean fishing seasons?

What are the good and bad things about regularly buying from this person(s)?

Do you feel that the price you pay this person(s) is fair?

Do you receive any services from this person(s)? Is the agreement formal or informal? Verbal or written?

Has there been any changes in this relationship in the past year?

If this relationship was stopped, how would it affect you? If there is no person to who you regularly buy your fish, why?

Price

On average, what is the buying price for the fish in the peak and lean seasons? On average, what is the selling price for the fish in the peak and lean seasons? How do you determine the buying price for your fish?

How do you determine the selling price for your fish?

Is the selling price influenced by the buyer of the fish? Yes/no

How do you pay for the fish that you buy? Immediate cash? Credit/consignment? How are you paid for the fish that you sell? Immediate cash? Credit/consignment?

Value Chain Actors

What are the different steps that the fish follow as it moves from harvest to consumer?

Do you know what happens with your fish after it is purchased from you?
How many different types of fishing related business people do you regularly interact with?
How many types of buyers (primary buyer, wholesaler) operate in your area?
How many of each type of buyer regularly operate in your area?

Selling

How do you decide where and to who to sell your fish? To who do you sell your fish?
Who makes the decision to who you sell your fish?
Why do you sell to this person? Do you regularly or always sell to this person? Why?
Who determines the price of the fish?
What does this person do with the fish?
What fishing and fish marketing activities and services does this person provide?
What is the nature of the arrangement? Do you regularly sell your fish to this person?
Why do you regularly sell your fish to this person?
How did you start the relationship? Can you stop this relationship if you want to?
What are the good and bad things about regularly selling to this person? Do you feel that the price you receive from this person is fair? Do you receive any services from this person?
How long have you had this relationship? Is the agreement formal or informal? Verbal or written?
Has there been any changes in this relationship in the past year?
If this relationship was stopped, how would it affect you?
If there is no person to who you regularly sell your fish, why?
What happens to the fish when it moves from this person?

Information

Where do you obtain information on prices?

Where do you obtain information on the type and amount of fish in demand?
Where do you get information on available markets for your fish?
Where do you get information on regulations or permits?
Where do you get information on fish quality and safety standards

Linkages with Others

Is there an organization of buyers to which you are a member?
Do you have any understanding with other buyers about working together while buying fish?
Do you have any understandings or relationship with anyone else related to fishing? Money lender? Business person?
What is the nature of this relationship?

Credit

Who would you ask for help in you had a business-related difficulty or needed something that is related to your business activity?
Who would you ask for help in you had a non-business-related difficulty or needed something not related to your business? e.g. in the home, with family, medical etc.
If you need money for new equipment, where do you get it?
If you need money for operating your business, where do you get it?
If you need money for a household need or emergency, where do you get it?

Problems and Solutions

What are the problems or constraints with the fisher-buyer relationship?
What are the major threats to fish buying/your business?
What are the problems you face in fish buying/your business?
What are the problems you face in marketing the fish?
What are you recommendations to address problems or constraints in the fisher-buyer relationship?

What are solution to problems in fish buying/your business?

What are the solutions to problems in fish marketing?

Business People

Demographic

What is your primary occupation?

What is the primary source of income for your household?

How many years have you been in this occupation?

What is the location of your business?

What is the area where you generally do business?

Are there other business people like you operating in this location?

How many other business people like you are there located in this location?

Fishing Services

Do you provide services to fishers?

What services do you provide to fishers? Credit? Boat ownership? Gear ownership? Other? How do you decide to provide services to a fisher?

Who makes the decision about obtaining the service?

Do you regularly or always provide a service to this person? Why?

What is the nature of the arrangement that you have with the fisher?

How did you start the relationship?

How long have you had this relationship?

Can you stop this relationship if you want to?

Does the relationship change during the peak and lean fishing seasons?

What are the good and bad things about this arrangement to you?

Do you receive any services from this person?

Is the agreement formal or informal? Verbal or written?

Has there been any changes in this relationship in the past year? If this relationship was stopped, how would it affect you?

Does this arrangement affect the price that fishers receive for their fish?

Does this arrangement affect the way (when to fish, where to fish, how much to fish) that fishers fish?

Fish Buyer Linkages

Do you have any arrangement with fish buyers?

What is the arrangement? Do you provide services to fish buyers?

What services do you provide to buyers? Credit? Access to markets? Other? How do you decide to provide services to a buyer?

Who makes the decision about obtaining the service? Do you regularly or always provide a service to this person? Why?

What is the nature of the arrangement that you have with the buyer?

How did you start the relationship?

How long have you had this relationship?

Can you stop this relationship if you want to?

Does the relationship change during the peak and lean fishing seasons?

What are the good and bad things about this arrangement to you?

Do you receive any services from this person? Is the agreement formal or informal? Verbal or written?

Has there been any changes in this relationship in the past year?

If this relationship was stopped, how would it affect you?

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Do you have any arrangement with fish buyers?

What is the arrangement?

Do you provide services to fish buyers?

What services do you provide to buyers? Credit? Access to markets? Other? How do you decide to provide services to a buyer?

Who makes the decision about obtaining the service?

Do you regularly or always provide a service to this person? Why?

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Where do you obtain information on the type and amount of fish in demand?

Where do you get information on available markets for fish?

Where do you get information on regulations or permits?

Where do you get information on fish quality and safety standards?

Problems and Solutions

What are the problems or constraints with your relationship with fishers?

What are the problems or constraints with your relationship with fish buyers?

What are the major threats to your business?

What are the problems you face in your business?

What are your recommendations to address problems or constraints with the fishers?

What are solutions to problems in our business?



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