

## OPTIMIZATION OF SMALL FISHERIES ENTERPRISE WITH FISHERY PERFORMANCE INDICATORS THROUGH TRIPLE BOTTOM LINE

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**Abstract:** The development of micro, small and medium enterprises (MSMEs) in Indonesia underwent an increasing trend from 2013 to the end of 2014. This was evidenced by self-reliant SMEs whose main economic activities were in the macro sector. Inversely, MSMEs' fisheries sector only contributed 3.25% to GDP in 2014. The assessment of macro fishery performance system can be measured through Fishery Performance Indicators method as introduced by James L. Anderson and Christopher M. Their export assessment method is based on input and output factors reflecting success in achieving sustainability. By knowing the size of the export, Small Fisheries Enterprise can maximize the aspects needed in optimizing the process from upstream to downstream using Triple Bottom Line method. This method is implemented based on three measures of economic, social, and environmental performance. They measure business success not only in terms of financial perspective but also economic perspective by optimizing the National Fish Logistics System broadly and involving communities and environments.

**Keywords:** *UMKM, fisheries performance indicators, triple bottom line, national fish logistics system*

By the end of 2013, the number of micro, small and medium enterprises (MSMEs) in Indonesia reached 57,895,721 or increased by 2.41% from 56,534,592 in 2012. This was in line with Gross Domestic Product (GDP) at prevailing prices MSME sector received. The prices rose 11.71% in 2013 which exceeded the target of the Ministry of Cooperatives and SMEs (Saksono, 2014). At the end of 2014, the Ministry of Industry noted the economic growth tended to stabilize at 6%. Meanwhile, last year the Central Bureau of Statistics (BPS) noted there were 55.2 million small and medium enterprises. All these businesses contributed 57.9% of GDP and 97.2% contribution to employment of UMKM to expand business in global market (Ministry of Industry, 2014).

In general, SMEs have experienced a trend that tends to increase. This was be proven by self-reliant in economic activities. When studied further, the proportion of the fisheries sector (fisheries, crabs, and shrimps) was inversed. The contribution of the marine and fishery sector in 2014 to the National GDP was 3.25%. According to 2015 Exporters Directory data the numbers of exporters based on harmonized systems reached only 627 out of 12,628 exporters across Indonesia. Obtaining 4.97 % (Central Bureau of Statistics, 2015), this fact indicates that the fishing industry is less desirable.

To build a sustainable fisheries industry, Small Fisheries Enterprise (SFE) needs to consider this prospect. The central government allocated Rp 13.8 trillion in the 2016 State Budget for the Ministry of Marine Affairs and Fisheries. This number rose by 31.4 percent from the allocation in the 2015 State Budget for

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fishermen and the fishery industry (Ministry of Marine Affairs and Fisheries, 2016).

The main problems and challenges faced in the field of international trade from the fisheries sector were the increasing non-tariff barriers that had been initially characterized by environmental issues such as eco-labeling and protection of certain animal species (Ministry of Commerce, 2014). This leads to strengthening SFE strategies through Fishery Performance Indicators (FPIs) using triple bottom line (ecological, social, and economic) reviews using technology in the digital age.

By knowing some of the problems and challenges faced by SMEs in fisheries sector, scientific writing is expected to offer solutions both for short-term and long-term in order to improve the quality of fishery products, implement quality process and development, and run a sustainable business. In a macro scale, this research is also expected to be a reference for stakeholders as well as policy makers in determining strategies for MSME industry in fisheries sector.

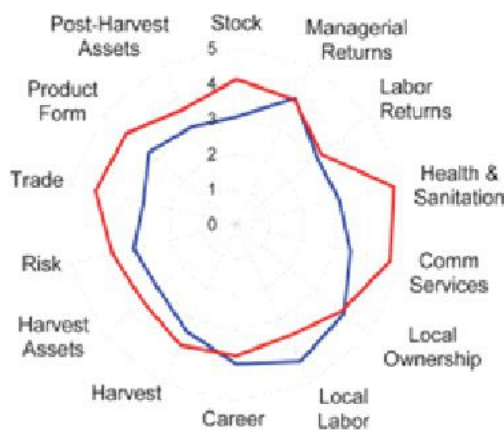
More than 80% of Indonesia's marine potentials have not been properly explored and managed yet. The marine fishery potentials in Indonesia spread in almost all parts of Indonesia's seas. The width of Indonesian seas is estimated to reach 5.8 million km<sup>2</sup> consisting of 0.8 million km<sup>2</sup> of territorial sea, 2.3 million km<sup>2</sup> of archipelago sea, and 2.7 million km<sup>2</sup> Indonesia Exclusive Economic Zone. With the world's longest coastline of 81,000 km and a cluster of islands as many as 17,508, Indonesia has fish potentials. They are estimated to have reached 6.26 million tons per year. When sustainably managed, the numbers reach 4.4 million tons (Adin, 2012).

This potential places Indonesia are endowed with vast marine resources including the greatest marine biodiversity and non-biological wealth. There are some potential developments such as (1) Fishery capture in public waters covers 54 million hectares whose production potentials reach 0.9 million tons/year, (2) Marine aquaculture consists of fish farming (among others snapper, grouper, and gobia), cultivation of mollusks (battles, pearls, and sea cucumber) and seaweed cultivation, (3) Brackish water cultivation (pond) has development potential lands that cover about 913,000 ha, (4) Freshwater aquaculture consists of common waters (lakes, reservoirs, rivers, and swamps), freshwater ponds, and rice mina in rice fields, (5) Marine biotechnology for the development of marine biotechnology industries such as foodstuffs industry, natural feedstuff, fish and shrimp and foodstuff industries.

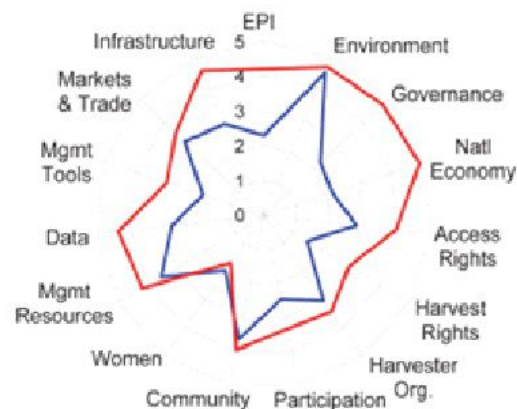
The situation should put the fishery sector into one of the real potential sectors in Indonesia. The economic potentials in fishery sector are estimated at US \$ 82 billion per year. The potentials include capture fisheries of US \$ 15.1 billion per year, marine cultivation of US \$ 46.7 billion per year, the general gateway of US \$ 1.1 billion per year, aquaculture of US \$ 10 billion per year, freshwater aquaculture of US \$ 5.2 billion per year, and marine biotechnology of US \$ 4 billion per year. Other potentials can also be managed such as non-renewable resources as to make a real contribution to Indonesia's development.

However, the potential utilization of Indonesian marine fishery has not been able to give strong power and role to the economic growth and the increase of income of Indonesian fishermen community.

### Output Indicator Dimensions



### Input Indicator Dimensions



The lack of marine resource potential development makes Indonesia less competitive than neighboring countries such as Malaysia, Thailand, Philippines and even Vietnam. For that reason, the concept of integrated and integrated fisheries industry becomes one of the solutions to the direction of coastal development in Indonesia (Adin, 2012).

According to (James L. Anderson C. M., 2015: 15) several indicators are needed that can measure the success of the fisheries management system in achieving the triple bottom line of economic, social and environmental sustainability. Fishery Performance Indicators (FPIs) aim to measure, evaluate and compare world fisheries management systems in order to become sustainable and producing quality resources (Chu, 2012).

FPIs measurements are divided into two categories. The first category is an output indicator that identifies and measures key factors that reflect success or failure in achieving sustainability of the fishing industry. The second category consists of input factors that have a probability of contributing to the sustainable fisheries development process. This assessment

approach can provide a clear picture of the ecological, social, and economic conditions associated with fisheries management systems and the shape of quality building. It is intended to compete in national markets and global markets (James L. Anderson C. M., 2015: 5–6)

Both categories of FPIs have different dimensions and ratings if applied in different countries. Figure 1 describes the average ratings and dimensions affecting outputs and inputs on FPIs in developed and developing countries

— = Developing countries  
— = Developed countries

Figure 1 Rating that affects output and input on FPIs

Source: Adapted from James L. Anderson C.M. (2015:5–6).

Based on research by Anderson (2015), FPIs has the following objectives: (1) Comparing output to the fishing industry, This can be used to improve fishery products, in the context of export products so that quality development can be reached, (2) Evaluating the limitations and strengths of the fishing industry based

on the factors affecting the market and consumer perceptions of the quality of fishery products, (3) Providing an explicit revision of recommendations for the fishing industry in order to expand business based on the principle of triple bottom line.

By comparing the products, evaluating and recommending the fishery industry are expected to experience quality development and improving satisfaction to the customer. They later give

positive impacts on the main trading activities for exports.

METHOD

The research method used was qualitative correlational method, comparing the descriptive measurements of Fisheries Performance Indicators with Triple Bottom Line Concepts. Figure 2 is a Flow Chart Fisheries Performance Indicators.

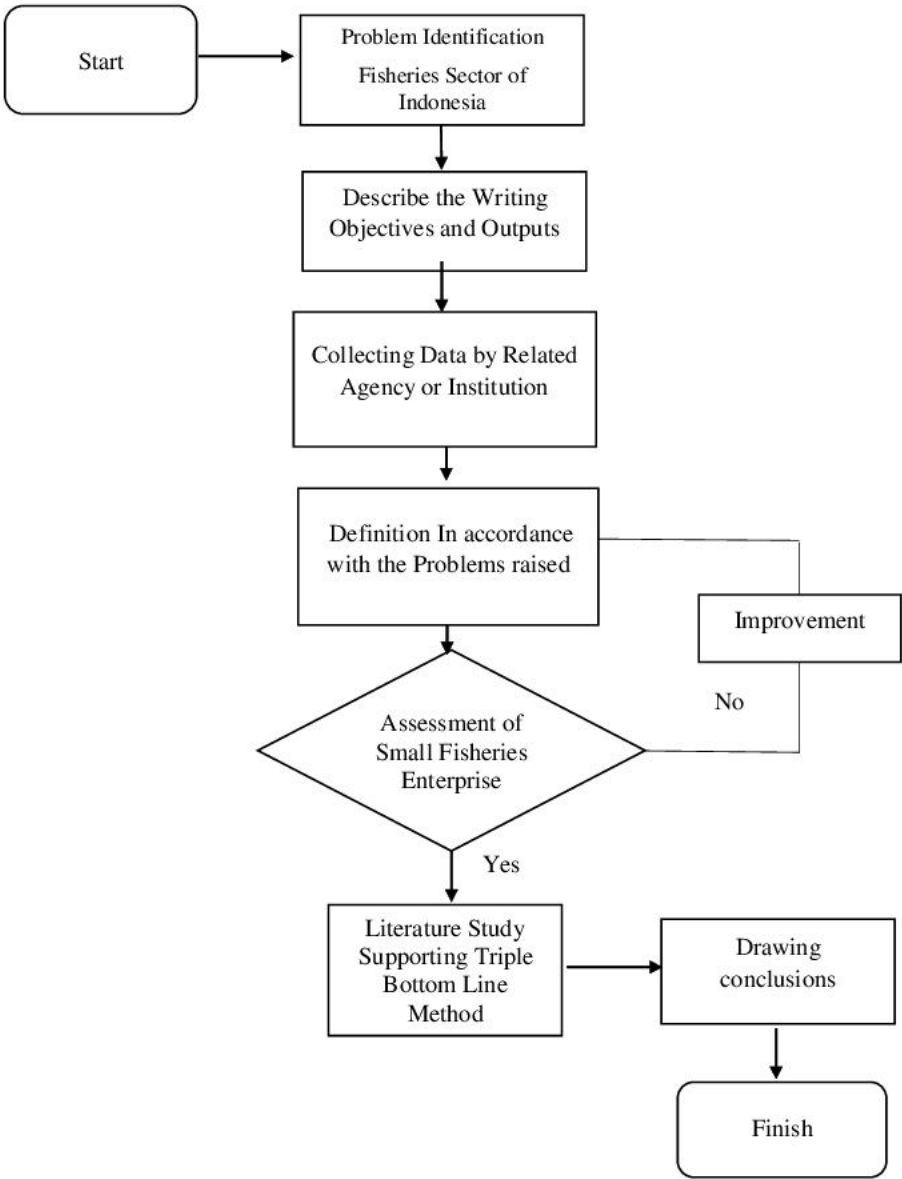


Figure 2 Flow Chart Fisheries Performance Indicators with Triple Bottom Line Concepts



Writing begins with identifying the issues discussed in the paper, then determines the objectives and outputs produced in the paper, then the data collection is done based on the relevant agency or institution that is validated, after that find the approach appropriate to the issues discussed, the improvement is done in consultation in supervising lecturers and continued on the process of appraisal approach using a literature study supporting methods or approaches in the issues discussed in the paper, the final stage in the form of conclusions on literature studies that have been done.

This method is done because it is considered relevant to the research that has been done previously. More data collection was conducted on literature study and concept development from previous research. Therefore, the author uses the basic theory method because it refers to basic research and hypothesis that serves to strengthen theories - the theory of empirical.

## RESULTS AND DISCUSSION

### Implementation of Triple Bottom Line in the Era of Digital Economy

After the fishery industries have conducted assessments based on Fishery Performance Indicators (FPIs), a review of environmental, social and economic sustainability, or so-called triple bottom line is required. This concept has been introduced by John Elkington (1998) in his book *Cannibals with Forks: The Triple Bottom Line in 21st Century Business*. Elkington (1998) mentions that measures the success of business is not only in terms of financial performance but also in terms of economy, environment and communities. This concept is called triple because it incorporates three measures:

Economical, Social, Environmental or general term 3P: "Profit-Planet-People" (M. Saufi Ginting 2013. [http://www.kompasiana.com/~sufi~ginting/me-recharge-triple-bottom-line-to-improve-sustainable-development\\_551ff43c81331189709de321](http://www.kompasiana.com/~sufi~ginting/me-recharge-triple-bottom-line-to-improve-sustainable-development_551ff43c81331189709de321), October 20, 2016).

In today's digital economy era, the first review about fishing industry is economic reviews that function as a strengthening base in business practice. With the current era of digital economy, technology is needed to support the acceleration of moving goods integrated with the global market. The current fish supply chain management system in Indonesia refers to Ministry of Marine and Fisheries Regulation no. 5 / PERMEN-KP / 2014 on National Fish Logistics System. National Fish Logistics System (SLIN) is a system of supply chain management of fish and fishery products, materials and production tools, as well as information ranging from procurement to distribution, as a unity of policy to increase capacity and stabilization of upstream to downstream fishery production systems, prices, as well as to meet the needs of domestic consumption. The Portfolio of National Fish Logistics Systems (SLIN) is illustrated by conventional methods of shifting fishery products from upstream to downstream sectors without any clear information about the estimated time when the product reaches the customer's hands.

The portfolio of National Fish Logistics System (SLIN) of the conventional model can be developed with an integrated technology system. This system allows figure out the estimated time when the fishery product is located at last customers. This system serves to reduce logistics costs while ensuring availability and price stabilization, as well as the quality of fishery products.

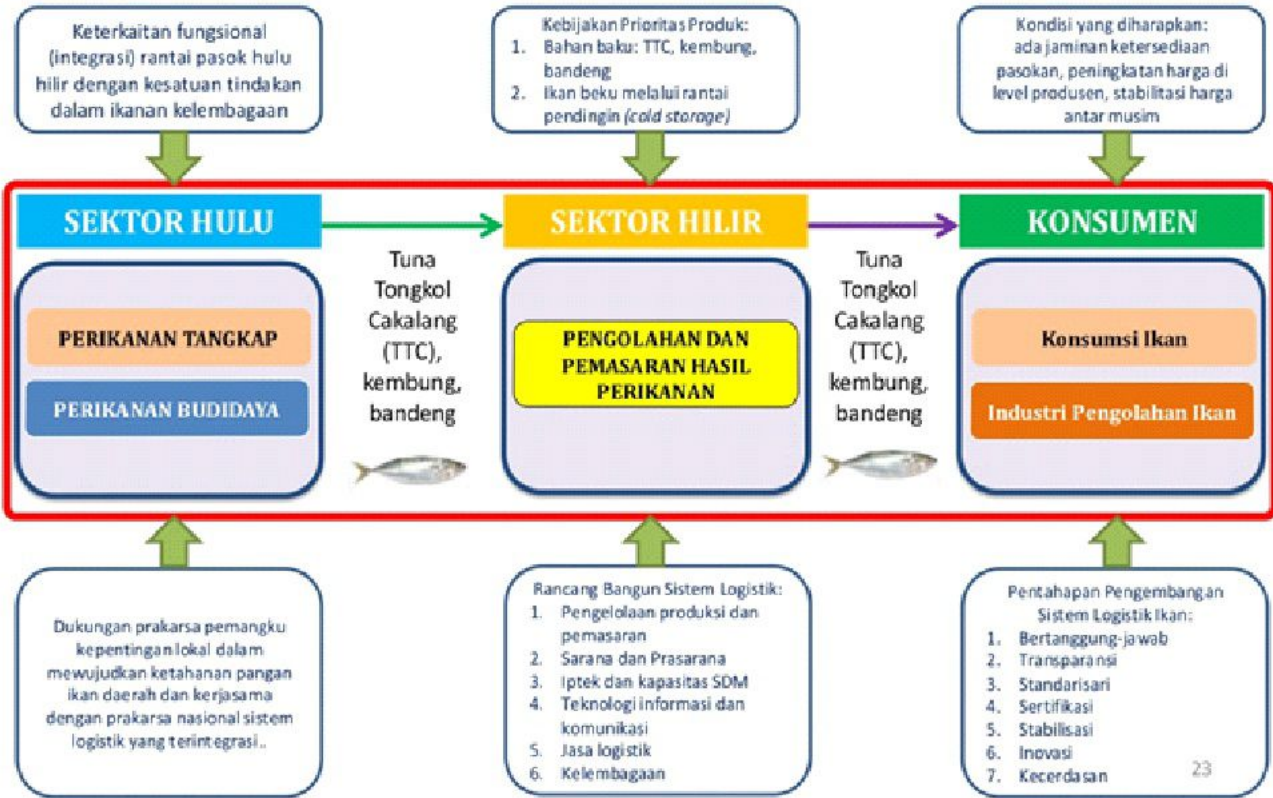


Figure 3 Portfolio of National Fish Logistics System  
Source: Togar Simatupang (2016)

The next concentration is on the social aspects that the SFE brings. In practice SFE should have a positive impact on the conditions surrounding the industry operating the production and operation processes. It can be implemented through value chain analysis in Competitive Advantage: Creating and Sustaining Superior Performance by empowering communities around the industry to run support activities and engage other corporations in procurement, firm infrastructure and outbound logistics that directly make each element a corporate stakeholder. Figure 4 describes the value chain that can be applied by the company as a form of delivery process.

The last review is on the environmental sector. Small Fisheries Enterprise the aquatic environments are very important places for product quality. What a company can do is to integrate environmentally friendly fishing technology with the utilization of wasted energy on fishing vessels. The wasted energy is evidenced by the ship's momentum propeller theory. This theory considers the reaction of the acceleration of backward water generating a thrust force. Water will experience a regular deceleration due to the forces of the water viscosity after going through the propeller, causing the energy in the propeller to be wasted (Carlton, 2007). The step of integrating the technology



Figure 4 Value Chain

Source: Global Accreditation Body for Sales and Marketing Certifications (2015)

helps SFE to pass energy efficiency and support sustainable marine sustainability in implementing quality development.

## Conclusions and Suggestions

### Conclusions

Reaching the global market through Fisheries Small Enterprise (SFE) can be realized by improving the quality of fishery products using methods Fishery Performance Indicators (FPIs). In so doing, people have to compare products, evaluate and make recommendations for the development of fishing industries. The next strategy is to implement a technology-based triple bottom line by reviewing problems and challenges faced in the global trade in the fisheries sector in the digital age.

### Suggestions

The Government, Community and Industry need to corporate. They have to work on policy development that integrates technology and economy for SMEs. In so doing, fishing sector can be improved by gaining economic value. In other words, we need a win-win solution for the condition of fisheries in Indonesia at this time so that it can be sustainable and generate quality resources.

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