

# FISHERIES COOPERATIVES: A COMPARATIVE STUDY OF SABAH FISHERY AND FISHERMEN COOPERATIVES AND HOKKAIDO FEDERATION OF FISHERIES COOPERATIVES

Faridah Hj Hassan  
Fatin Amanina Zaid  
Fatin Nur Rosli  
Ili Nabihah Ahmad  
Wan Nurul Amirah Wan Abd Aziz  
Umami Kalthum Ab Mujib

*Arshad Ayub Graduate Business School,  
Universiti Teknologi MARA, Shah Alam*

## ABSTRACT

*Co-operative Commission of Malaysia has identified Agriculture as a potential sector to further develop. The objective is to contribute 6% of the GDP in 2014 and 10% in 2020. In Malaysia, 6.78 million people or 27% of the total population are members of co-operatives. Fisheries Co-operative society is formed for the promotion of thrift, self help and mutual assistance of the members. Therefore, this paper aims to highlight on the fishery subsectors under co-operative in Sabah to drive its growth especially in Ko-Nelayan Sabah. A comparative study was done based on literature review, descriptive study on a successful Hokkaido Fisheries of Cooperatives to emulate some factors to be recommended in Malaysia.*

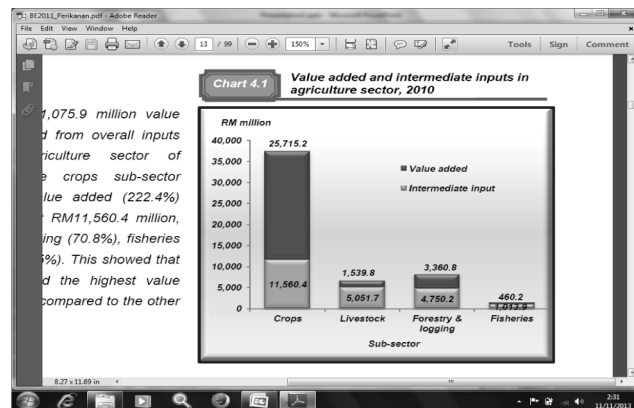
**Keywords:** fisheries, cooperatives

## INTRODUCTION

Our country, Malaysia recorded a steady agriculture growth at an average annual rate of 6%. This sustained growth performance comes from important structural shifts in the economy, translating Malaysian economy in the competitive market. In 2012, the agriculture sector grew moderately to 1.0 per cent. The positive growth came from the development in other agriculture at 6.9 percent which is vegetables, fruits and food crops. The steady performance of fishing at 1.8 per cent also contributed to the growth of this sector.

However, the agriculture sector grew strongly by 6% in the first quarter of 2013 (Q4 2012: 5.6%), that was supported by further development in the palm oil, fishing and other agriculture subsectors while fishing subsector increased by 6.9% (Q4 2012: 5.8%) on account of higher marine and aquaculture produce.

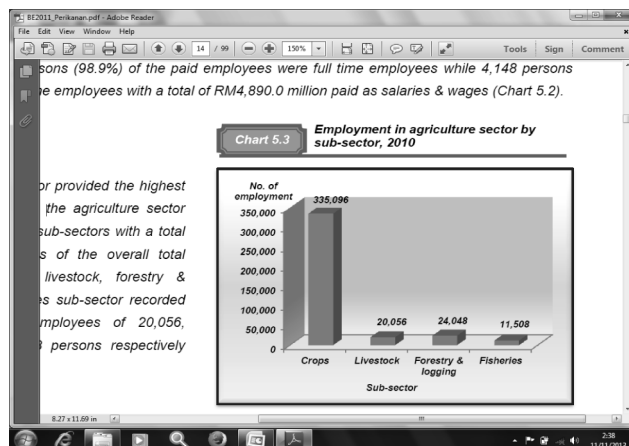
Looking at the detailed performance from agricultural sector, according to economic census - fisheries 2011, fisheries sub-sector produced the lowest value added as compared to the other sub-sectors. This is due to the fact that not many fisheries transformed into value added product in Malaysia. Almost all fisheries are consumed raw and fresh. Refer Chart 1.



**Chart 1** : Value Added and Intermediate Input in 2010

*Source: Economic Census – Fisheries, 2011*

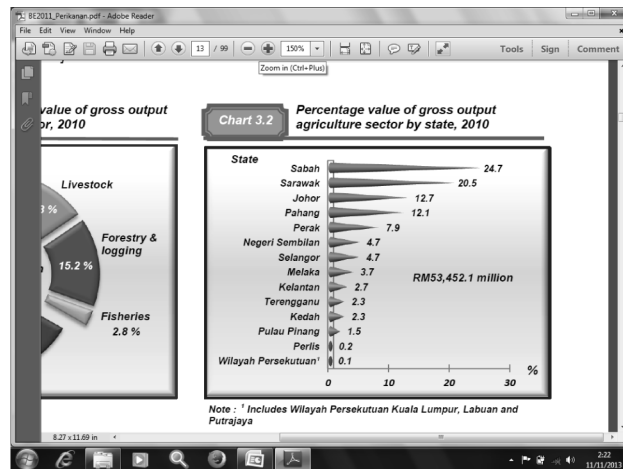
In terms of employment level, the fisheries sub-sector provided the lowest job opportunities in the agriculture sector. Refer chart 2.



**Chart 2** : Employment in Agricultural Sector by sub-sector in 2010

*Source: Economic Census – Fisheries, 2011*

Next performance is percentage value of gross output agriculture sector by state in 2010. As we can refer in chart 3, Sabah recorded the highest gross output of total agriculture gross output.



**Chart 3** : Percentage Value of Gross Output Agriculture Sector by State in 2010

*Source: Economic Census – Fisheries, 2011*

## OVERVIEW OF COOPERATIVE MOVEMENT IN MALAYSIA

In urban areas, low wage workers, including civil servants, hardly get approval from money lenders. Therefore, in 1922 the Co-operative Societies was enacted to supervise cooperatives. Co-operative is defined in the Malaysia Co-operative Societies Act 1993 (Act 502), as an organization formed and owned by a group of individuals for the purpose of improving their participation in economic and social activities of its members based on the co-operative principles.

Co-operatives are known by government as a means for the country economic development especially in helping to eliminate rural poverty, enhance rural and urban development, solves the unequal income distribution and thus bridging the income disparity between rural and urban. The movement has been considered as the third growth driver after public and private sector.

## OVERVIEW OF AGRICULTURAL COOPERATIVE

Co-operative Commission of Malaysia has identified Agriculture as a potential sector to further develop. The objective is to contribute 6% of the GDP in 2014 and 10% in 2020. In Malaysia, 6.78 million people or 27% of the total population are members of co-operatives. Fisheries Co-operative society is formed for the promotion of

thrift, self help and mutual assistance of the members. At present, currently there are 55 number of fishery cooperation in Malaysia and only one that is *Koperasi Sungai Udang* falls under 100 successful co-operative in Malaysia. Co-operatives among the poor fishermen are no longer a new development. Furthermore, fishermen co-operatives growth is fairly slower compared to other agriculture sector. Therefore, government wants more co-operatives to function in the fishing community and help support the fishing industry. (Othman and Kari, 2008).

Sabah have the potential in fishery sector as marine fish landings and values by state in 2011 recorded that Sabah received 176,945 metric ton of fish landing with the value of RM753 million after Perak at 301,545 metric ton and RM1.3b in Perak. Out of licensed fishing vessels, 53,002 units of fishing vessels were licensed in Malaysia and Sabah recording the highest number with 15,217 units of licensed fishing vessels while Perak owned only 5,550 units. Moreover, the number of licensed fishing gears by state, Sabah owned the highest units at 15,217 followed by Perak at 5,020. Sabah seems to effectively use their resources of fishes and facilities but did not fully utilize their co-operative fishery in Sabah to grab the opportunity in making maximum profit from their natural resources. As recorded by Co-operative Society Commission in 2012, no co-operative in Sabah fall under 100 successful Co-operative in Malaysia. Therefore, this paper aims to highlight on the fishery subsectors under co-operative in Sabah to drive its growth especially in Ko-Nelayan Sabah. Further subtopic will be elaborate more on it.

## BACKGROUND OF THE COOPERATIVES

### KO-NELAYAN

Sabah Fishery and Fisherman Development Cooperative (Ko-Nelayan), was established on 20 April 1981 by the State Legislative Assembly. State Legislative Assembly takes over the Cooperative from the State Cooperative Societies Ordinance. Previously, in 1978 Ko-Nelayan known as Sabah Fisherman Multipurpose Cooperative Berhad was managed under the State Cooperative Societies Ordinance. Currently, Datuk Abd Mijul Unaini, is the chairman of Ko-Nelayan. He was appointed in the middle of 2013. He was replacing the former Chairman of Ko-Nelayan which is Datuk Haji Yahya bin Samsudin (Borneo Inside, 2013).

Ko-Nelayan has four department which are commercial operation department, development department, finance department and corporate services department. These four departments are responsible to manage the daily activities of Ko-Nelayan. In addition, Ko-Nelayan has a subsidiary which is Konel Venture Sdn. Bhd. This company is appointed to retail Ko-Nelayan existing fishery products and other products in the future.

Ko-Nelayan plays an important role as an agency for socio-economy. The main role of Ko-Nelayan is to develop the fishing communities. Ko-Nelayan is responsible to improve the economic and social position of the fishing community in Sabah, especially the poor. At the same time, the cooperative also try to grow the production of the fishing industry by establishing the fishermen co-operative societies. In enabling this, Ko-Nelayan is placed under the duty of the Ministry of Agriculture. To be competitive in fishing industry, Ko-Nelayan has a strong vision:

- To innovate and transform this sector in Malaysia.
- Uplifting the socio-economic of fishermen through innovative programs.
- Providing the fishing industry with the modern infrastructure and integrated fisheries activity.
- Improving the delivery system by producing skilled, knowledgeable and professional fishermen.

The vision and mission of Ko-Nelayan can be achieved as this cooperative get full support from the government. This cooperative received allocation from the state government worth RM 2.8 million and at the same time it also received RM 5.77 million from the federal government (New Sabah Times, 2012).

### **Products:**

As stated earlier, Konel Venture Sdn Bhd is a subsidiary of Ko-Nelayan and responsible to distribute Ko-Nelayan existing fishery products and other products in the future. Ko-Nelayan has produced a wide range of marine products. With the freshness and well-preserved of the seafood, the customers will be able to taste the real flavors from the sea. Through the products, Sabah can share their authentic flavors of seafood with local and international customers. The products comprise of Keropok Amplang (Amplang Crackers), Sabah Dried Anchovies & Dried Shrimp, Sabah Dried Sea Cucumber, Sabah Dried Salted Fish and Keropok Ikan (Fish Crackers).

Amplang Crackers is a traditional food of Sabahan. Usually the cracker is popular at the area of Tawau and Sandakan. The cracker is processed from Spanish mackerel, tapioca flour and another ingredient that portrays the taste of the fresh fish meat.

The second product is Sabah Dried Anchovies & Dried Shrimp. The anchovies and shrimp are sweet and have natural taste. This product is popular in South East Asian cuisine such as Nasi Lemak. In addition, Sabah's dried shrimp is processed from freshly caught shrimps.

Another specialty product from Ko-Nelayan is Dried Sea Cucumber. This snack is oblong shape and it produces black gelatinous. It is soft when cooked in soups and it also taste delicious in steamboat. Sea cucumber has been used in traditional

Chinese medicine to treat many illnesses and high blood pressure. This product has high demand from Chinese.

Lastly is Sabah Dried Salted Fish. It is a fresh fish that has been salt-cured and dried to absorb all its moisture. This product commonly is used in many Chinese dishes and stews for texturing taste. Other than that, Fish Crackers product is naturally rich in flavors and made from real fish meat. It is crunchy and tasty. There is no artificial coloring in this snack.

### Services

- Konel Venture Sdn. Bhd has set up the convenience store in some places in Sabah such as Wisma Pertanian, Kota Kinabalu. Several branches will be opened soon in other areas in Sabah.
- Ko-Nelayan has provided mobile fish store to supply direct seafood products reaching the local community. This store is available on every Tuesday to Friday, 7am until noon. Currently it only available in several areas in Sabah but Ko-Nelayan will add more stores in the future. The mobile fish store will help the fishermen to generate more income. This is because when using this mobile fish store approach, the sales had increase.
- Ko-Nelayan is a sole distributor of subsidized fuel for fishermen in the Sabah since 2001. According to Salleh (2013), 70 percent of the corporation's income is derived from selling of subsidized fuel. Ko-Nelayan distributes 15 million liters of diesel via jetties across the state each month. However, the cooperative does not have any control in the sale of subsidized diesel at the jetties. Currently, Ko-Nelayan supplies subsidized fuel to 1600 eligible e-Diesel Card holder's state wide. An issue has occurred as Ko-Nelayan was accused to abuse the diesel subsidy. However, Ko-Nelayan has denied it (NST, 2013)

### HOKKAIDO FEDERATION OF FISHERIES COOPERATIVES

Hokkaido has the longest shoreline in Japan, and one-fourth of the domestic seafood catch is landed in the ocean around Hokkaido, which serves the important function as the fishery resource supply base. Hokkaido Federation of Fisheries Cooperative Associations was established in 1949. On the 1st April 2011, the Associations had 90 members and 330 staffs. The head office of the associations is located at Sapporo, Japan. The area covered by each branch of the associations is in Central Hokkaido, Sendai, Tokyo, Osaka and Fukuoka.

The Hokkaido Federation of Fisheries has used the cooperative model to maximize its potential. This economic federation now comprises for about a quarter of Japan's

total fishing production, and has made inroads to market beyond Japan (Hitachi Europe, 2008).

The capital of the associations is worth ¥5 billion which is RM1.6 billion. The major activities of the associations include sales and marketing of fishery products, sourcing fuels and materials for members to reduce their operating costs, advising members on conservation and management of fishery resources and conducting education activities for members in the associations.

Similar to Ko-nelayan, these associations also have subsidiary which is Gyoren Hokko Company. This company is responsible to distribute the product from the associations. In addition, all the products from the associations are using Hokkaido brand.

### Products

Hokkaido Gyoren the subsidiary of the organization sells scallops, dried sea kelp, salmon, and other seafood products caught in the oceans around Hokkaido, Japan, and in international waters in the effort to advance the fishing industry in Hokkaido. The products from the associations firstly are dried sea kelp. It is usually used in soup stock and as the foundation of all Japanese food. Dried sea kelp is a popular ingredient for the soup stock but also popular to be used in all the Japanese dishes. The scallops in Hokkaido have a large meat that is sweet and firm. These scallops are distributed in a variety of forms such as raw, boiled, frozen, and dried. They are popular around the world not only in Japanese cuisine but also Chinese and Western cuisine. The scallop will be processed in luxury marine products which are historically traded from China.

In Japan, Salmon return to the rivers in autumn. All the beaches of Hokkaido are popular with salmon fishing activities. Historically, the meat and eggs of this salmon have been processed into a variety of food products. Recently large quantities are being frozen and exported overseas.

In addition, Gyoren Hokko also offers seafood products and processed food such as snacks from Hokkaido. The process products from the associations will be commercialized for consumers nationwide through supermarkets, co-op stores, department stores, and restaurants.

### Services

- To help the members, the associations have continuously conduct nationwide personal relation and sales promotion activities. The promotions involve promoting the marine products on television, in newspapers, through website

and also through local events. The associations will invest more in this to make sure the members are productive.

- The company came up with an effective idea which is to deliver marine products of Hokkaido all over Japan. It can be made through internet mail order. The Internet mail order such as “net direct marketing Ren Gyo” was launched by the company. Problems will not occur as it provides a stable supply of Hokkaido’s marine products from nine branch offices in Hokkaido. The sales offices are in Tokyo, Osaka, Fukuoka and Sendai covering all the big cities in Japan.
- One of the way to popularize the seafood products from Hokkaido, the associations had open the cooking class. The cooking classes is opened for all people around Hokkaido and outside Hokkaido. Through this it can be used to promote the freshness of the seafood from Hokkaido. The people involved in the class will taste the food and tell others about the quality of seafood from Hokkaido.

## INTERNATIONALIZATION

### KO-NELAYAN

This part explain what are the events or programmes that Ko-Nelayan have participated in order to make their agency competitive in the international market. They are as follows:

- i) Kelantan firm team up with Ko-Nelayan for venture

Triple Millenium Sdn Bhd is a Kelantan-based company, signed agreement with the Sabah Fisheries and Fishermen’s Development Cooperative (Ko-Nelayan) on 24 September 2013 (Borneoinside, 2013). According to the CEO, this company has 12 years experiences in deep sea fishing and expressed confidence that the company would do well in Sabah waters. By signing this agreement, Triple Millenium Sdn Bhd hopes to share their expertise by helping and guiding fisherman in Sabah to tap on the potentials in the fisheries industry.

Basically, Sabah has a lot of potential when it comes to deep sea fishing. According to statistics, in 2007, the quantity of fish landed in Sabah is 184.2 metrics tonne, of which 62.56 metrics tonne was exported. Realising the potential in tapping the fisheries industry in Sabah, they signed the agreement to work closely and this collaboration will create synergy between a private company and government agency. They also hope that through the collaboration, they would be able to secure good market to export the fishes abroad.



- ii) Ko-Nelayan participates in International Seminar on Marine Science and Aquaculture

This seminar is jointly organized by Borneo Marine Research Institute (BMRI), Kinki University of Japan, World Wildlife Fund (WWF), Sabah Parks, Department of Fisheries Sabah, National Oceanography Directorate Malaysia, Jabatan Taman Laut Malaysia and Ko-Nelayan Sabah. This seminar was held on 19-21 March 2013.

The seminar has gathered over 100 scientist participations from various universities and institutions within Malaysia as well as from Japan, Korea, Iran, Canada, Australia, Netherland, Taiwan, Hong Kong and the Philippines to share and discuss their latest research findings on marine aquatic resources and aquaculture (Universiti Malaysia Sabah, 2013).

## **HOKKAIDO FEDERATION OF FISHERIES COOPERATIVES**

This part will explain on what are the events or programmes that Hokkaido Federation of Fisheries Cooperative Associations participated in order to make their agency competitive in the international market. They are as follows:

- i) Japanese scallop fishery gains sustainability certification.

The Hokkaido Federation of Fisheries Cooperative Association's scallop fishery achieved certification to the Marine Stewardship Council's (MSC) global standard for sustainable and well-managed fisheries on 13 March 2013 (Hospitality magazine, 2013). Basically, Hokaido is the world's largest scallop harvest. The scallop has not only been marketed in the domestic market but it has been exported to Southeast Asia, as well as to Europe and the US where demand for MSC-labelled seafood is high.

Their scallops have become internationally-known as one third of the whole catch in Hokaido export. This was the context for their ambition of achieving the internationally recognized MSC accreditation for sustainable fishing.

- ii) International Forum on Food and Environment 2013

This international forum was organized by Japan International Cooperation Agency (JICA) on 25 and 26 September 2013 in Tokaichi to serve two purposes. They were to promote the standard of food produced in Hokkaido/Tokachi as the global standard for exporting ingredients and products to Eastern Asia markets, and to provide opportunities for Hokkaido/Tokachi to contribute as Japan's breadbasket. The invited countries are Indonesia, Malaysia, Philippines, Thailand and Vietnam to discuss on their strategies for accelerating overseas exports of agricultural products (Japan International Cooperation Agency, 2013).

### iii) Japanese Marine Products “target” China’s Consumer Market

The Hokkaido Federation of Fisheries Cooperative Associations (“Hokkaido Federation of Fisheries” for short) held a Hokkaido fishery product consumption and promotion symposium themed “Safety and Security” in Dalian, Northeast China’s Liaoning province on 9 March 2012 (Chinadaily, 2012).

The meeting aims to show local customers their sincerity and determination in entering the Chinese market. Products that came to Dalian included trout, saury, scallop, and fish roe from Hokkaido. These products both had a “Radioactive Substance Inspection Certificate” and a “Certificate of Origin”, with more than 420 test indicators.

China’s consumer spending is growing; therefore China has turned from a marine product exporter to a big importer. Due to this trend, many international fishery companies are grabbing at China’s consumer market. The favoring of Hokkaido Federation of Fisheries for Dalian is just one sign that shows the whole international fishery is optimistic about the Chinese market.

## ACHIEVEMENTS

### KO-NELAYAN

Ko-Nelayan has exceeded its Key Performance Indicator (KPI) target by 20 percent. Its KPI was determined by its efforts to increase the income of poor fishermen. The positive KPI has reflected Ko-Nelayan’s commitment towards the development of fishermen in Sabah. Ko-Nelayan had also exceeded its other KPI target such as average increase of fishing entrepreneurs and fishermen to 30%, loan assistance collection at 75% maintaining clean audit report for two consecutive years (2010 and 2011). Ko-Nelayan has also received ISO Quality Management, MS ISO 9001: 2008 from Lloyds for the audit report. Overall, Ko-Nelayan’s has scored an excellent 81 percent in financial performance and 85 percent in physical performance respectively.

Under the Rolling Plan 2 of 10th Malaysia Plan, the State Government has provided Ko-Nelayan an allocation totalling to RM30 million for implementation of development projects. Of that allocation, 95 percent have been spent; which has been translated to the 85 percent of the cooperative’s physical development. These allocations have been funnelled through Fishermen Assistance Scheme, Small Fishery Industrial Loan and Aquaculture Entrepreneur Assistance Scheme. Under the 9th Malaysia and 10th Malaysia Plan, the cooperative have targeted 3,717 groups to be assisted. The Federal Government has provided a total of RM 10 million under the 10th Malaysia Plan which was channelled through the Phase Two of the 1Azam

Programme. Since RMK-9 up to now, a total of 3,455 fishermen had gotten help from the Co-fishing at a cost of RM30.6 million.

Ko-Nelayan has also provided loans to 1,820 fishermen in the state from 2006 to 2009 as an effort to increase their income. Fisheries and Fishermen Development Cooperative (Co-Fisherman) continued to increase earnings through several commercial projects. Among the commercial projects that contributed to the earnings and profits are Lahad Datu Fisheries Complex and Aquatics Eco-Tourism Project Weston while Tambisan Fishermen Complex and Kota Marudu earn profits from the rental premises.

## **HOKKAIDO FEDERATION OF FISHERIES COOPERATIVES**

The Hokkaido Federation of Fisheries has used the cooperative model to maximum potential. This economic federation of 90 members now accounts for about a quarter of Japan's total fishing production, and has made inroads to markets beyond Japan. The Hokkaido Federation of Fisheries Cooperative Association's scallop fishery today achieved certification to the Marine Stewardship Council's (MSC) global standard for sustainable and well-managed fisheries MSC certification rewards the Hokkaido scallop fishery for its leadership and commitment to sustainable fishing. There is high demand in global markets for MSC certified scallops, especially in northern Europe and in France, one of the largest scallop markets in the world. With experts, the MSC has developed standards for sustainable fishing and seafood traceability.

### **Three core principles of the MSC fisheries standard:**

#### **Principle 1: Sustainable fish stocks**

The fishing activity must be at a level which is sustainable for the fish population. Any certified fishery must operate so that fishing can continue indefinitely and is not overexploiting the resources.

#### **Principle 2: Minimising environmental impact**

Fishing operations should be managed to maintain the structure, productivity, function and diversity of the ecosystem on which the fishery depends.

#### **Principle 3: Effective management**

The fishery must meet all local, national and international laws and must have a management system in place to respond to changing circumstances and maintain sustainability.

Today their annual harvest remains stable at 400,000 metric tons. The fishery decided to enter assessment in April 2010 in order to demonstrate their commitment

to best practice in sustainable resource management to their customers worldwide. Total catch in the fishing area covered by the certification in 2012 reached 410,000 metric tonnes, making it the world's largest scallop harvest. The scallop is supplied not only to domestic markets but also to Southeast Asia, as well as to Europe and the US where demand for MSC-labelled seafood is high. These delicious Hokkaido scallops are now eligible to bear the blue MSC eco label which assures shoppers and seafood buyers that they are traceable to an MSC certified fishery.

## CONCLUSION

As known, Malaysia is a rich country in terms of natural resources including in its fisheries industry. Sabah is one of the states that have this advantage as this state provide variety of seafood and aquacultures. Ko-Nelayan has played a major role towards this industry in Sabah and accomodate a lot to help this industry to grow. Sabah has its own strengths and weaknesses but all these factors will help Sabah to improve. Ko-Nelayan is the first statutory body to sign the Corporate Integrity pledge in Sabah. This is done to ensure that they are transparent and the entire job will be done without fraud. This helps to build Ko-Nelayan reputation and credibility and also Sabah's fisheries sector. Sabah also produces large-scale of high-value species of aquacultures. These aquacultures are very high in value and there is a very high demand for the products especially from outside of Malaysia. Other than that, there is an established technology for seed production in Sabah. The seed are rear in a very systematic way to ensure the quality of the products is well taken. Despite the advantages, Sabah fisheries sector also has its negative side. In Sabah, the existing fishing vessels are technologically backward in terms of cost-effectiveness and operational efficiency. It caused them high cost but very low quantity. In addition, the workers are lacking in knowledge in the more technical jobs on board their vessel. It may be because most of them are traditional fishermen and they are not familiar with the current technology.

Because of its potential, Sabah also has its own opportunities and threats from the external environment. Other organizations have interest in this sector in Sabah and this will help to develop and also provide some knowledge to them. For example, Triple Millenium Sdn Bhd, a Kelantan-based company, signed an agreement to work closely with Ko-Nelayan. This partnership will help both parties to have more strength and stability especially in this industry. Moreover, because of the high-value products, the demand for it especially for shrimp and fish in Sabah has increase from the local and international markets. The Sabah Government's also play a major role towards this industry and they give their commitment in ensuring and managing the development of the local fisheries and aquaculture. Apart from the opportunities that can help this sector to grow, Sabah fisheries industry also face some threats. This industry commonly seen as a traditional industry may have been perceived that

this industry is low in cost. Because of that, the domestic market prices for fisheries products are generally low. This affects the income of the fishermen because the cost for vessel especially in maintenance cost is high. Other than that, because of current environmental issue such as pollution, the marine resources are depleting and this may affect the production of this sector.

## RECOMMENDATION

The attractiveness of this industry in Sabah is a partnership agreement that has been done. To learn from the partner, Sabah will be able to share the expertise and secure a good market to export the fishes abroad. The partner too has experiences in this industry and also has put themselves in the international markets. This opportunity will help Sabah or Ko-Nelayan to learn from the partner in terms of new technology and skills and can also help them to be competitive in the market.

Ko-Nelayan has the technology in seed rearing and the government is really committed to help them. Ko-Nelayan can use these factors to encourage production, regulating enforcement laws and to maintain and sustain fisheries resources through research and development by collaborating with Hokkaido Federation of Fisheries. When the government is ready to help, they can help in terms of financial aid. The money provided by the government can be used to train the fishermen and provide them with extra knowledge especially in technology and technical skills. This will allow them to be able to manage the facilities that have been provided more effectively to encourage more production.

The government can also help the fishermen by enforcing the laws in order to protect the industry and also the fishermen. Sabah is situated near the neighboring countries and may face the risk of getting hijacked and kidnapped by the pirates. So, the law is important to set the limit for the countries. Furthermore, the support from the government can help Ko-Nelayan to do the research and development in order to maintain and sustain the fisheries resources. The government can help them by providing consultation and experts.

Due to their traditional application towards this industry, the fishermen is lacking in skills and knowledge specifically in deep sea fishing. Ko-Nelayan can conduct courses especially designed to train such as fishermen for deep sea fishing work. This cooperative can also implement a number of training programs designed to train fish farmers in the latest aquaculture practices. This will help the farmers to be more efficient and these practices may be effective for them. To avoid from being affected by the current issue of depleting marine resources, Ko-Nelayan can use their ability to expand the types of seed production of high-value species so that local aqua culturists has more choices as to what to rear and grow.

This will help them to have less dependence towards the fishing activities as they already rear them. Fishermen in Sabah are still using the wooden vessels in their daily job. It is very dangerous towards them especially when they go for deep sea fishing. It also high in cost because they need to go back and forth to make sure the products is still fresh. They need to be provided the steel-hulled vessels with fish hold capacities up to 600 cubic meters and installed with high-performance refrigeration systems. This vessels is more cost effective as it is large in term of size that can accommodate large quantity of products and also has the refrigeration system that allow them to keep the fishes in low temperature to maintain the freshness and be competitive alike Hokkaido Federation of Fisheries in the international arena.

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