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Crab Culture in Brunei Darussalam

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CRAB CULTURE IN

BRUNERI DARRUSSARIANI



Prunei Darussalam is situated on the north-west coast of the Island of Borneo with an estimated population of 414, 400 in 2010. Further blessed with an abundance of natural resources such as oil and gas, the citizens of Brunei Darussalam have enjoyed comfortable, lifestyle, well-structured development and a stable economy.

To reduce its dependence on oil and gas industry as the nation's main source of income, the Government of His Majesty The Sultan and Yang Di-Pertuan of Brunei Darussalam has given strong emphasis on the need to diversify its economy. Thus various sectors have been identified to achieve this desire such as through small-and-medium enterprises (SMEs), agriculture, info-communications technology and many more.

One of the industries that have been identified with huge potential economic contribution is fisheries.

Fisheries industry in Brunei Darussalam comprises of three sectors that are Capture Fisheries Sector, Aquaculture Sector and Seafood Processing Sector.

According to Brunei Darussalam Statistical Yearbook 2009, the overall fisheries production in 2009 increased by 6.9 per cent to 17,257 metric tonnes (mt) valued at \$91 million. This comprised of 16,797mt from capture and 460,4mt from aquaculture industry. Aware of the global downward trend in fisheries resources, the Department of Fisheries has undertaken several initiatives to ensure resource sustainability and effective









resource management practices are in place. Such initiatives include the implementation of stock assessment projects, protection and enhancement of breeding grounds, enforcement of moratoria on trawl fishery in Zone 2 and small fishing activities in Zone 1.

The Department of Fisheries has also intensified its efforts towards improving the productivity of aquaculture industry such as carrying out research and development projects to produce specific-pathogen-free tiger shrimp. The main objectives are to reduce the risk of disease occurrence and prevention of mass mortality, and improving export market acceptability of the products.

With the need to support its development, about 12 per cent that is \$116 million from the National Development Plan's (NDP 2007-2012) total budget has been allocated for fisheries sector.

The fisheries programmes will be focused on four main programmes; Development of Capture Industry; Development of Aquaculture Industry; Support Services for Fisheries Industry; and Laboratory Services.

Among the objectives of the sector include enhancing production through capture and aquaculture industries; to ensure permanent fisheries resources, using new technology and enhancement of promoting and marketing for fisheries products.

At the end of NDP 2007- 2012 period, the production from fisheries sectors are expected to produce about 30,745mt; that are 21,330mt from capture; 6,612mt from aquaculture and 2,803mt from seafood processing.

Currently the fisheries sectors of this country are estimated to be sustainably worth at least \$200 million per year.

From the \$200 million per year, aquaculture itself is expected to contribute around \$71 million to the nation's Gross Domestic Product (GDP).

Background of crab culture industry

rab culture was first introduced in Brunei Darussalam in 2002; where two companies were offered license to implement and operate the project at

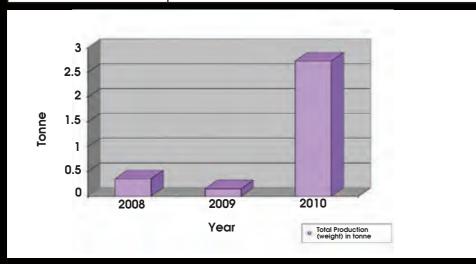
Sungai Belukut in the Brunei-Muara District. Unfortunately, due to the unsustainable supply of seeds, and unsuitable crabs supplied from the locals for soft shell produce, the project was discontinued.

Today there are two new companies involve in the crab culture producing soft shell crabs. Both companies in 2010 had produced 2.7mt worth of soft shell crabs which was worth around \$41,000.

As part of its initiative to encourage the breeding of soft shell crab, the government has provided a number of incentives for entrepreneurs involved. Some of the initiatives are by providing the companies with training whereby the Department of Fisheries invites experts from abroad; inspection and certification of the produce for export market hence issuance of Health Certificate of the animals: recommendation for labour auota; technical advice through mobile technical unit visitations import permit for crab juveniles; recommendation for finance scheme facility applications and many more.

Total Production of Crab Culture in Brunei Darussalam 2008 -2010

Year	Total Production by weight
2008	0.35 TONNE
2009	0.15 TONNE
2010	2.73 TONNE









For a better insight on the local crab culture, this edition of Brunei Today brings you to an interview with one of the local companies involved in the crab culture industry which is Golden Crab Sdn. Bhd.

Established on July 1, 2009, Golden Crab Sdn. Bhd. which was formally known as Golden Crab Enterprise is based at Serambangun Industrial Complex in Tutong District. It is the only company that implements its farming through a closed circulatory system where the company has 13 local employees known as 'Crab Technician'.





The close circulatory system used to farm soft shell crab.







This company was formerly based in Lambak of Brunei-Muara District. However, due to the expansion in the size of its business, the company received assistance from the government particularly through the Department of Fisheries and Brunei Industrial Development Authority (BINA) of Ministry of Industry and Primary Resources (MIPR) which is by providing an alternative site convenient and conducive to carry out its business matters.

Q: Where did you get the idea to start this business?

A: The idea to start up this business arose after one of the company member visited Malaysia where soft shell crab is a new industry which practise hygienic rearing concept and has high demand in international market.

Q: How about the market for the soft shell crab, domestically and international?

A: The demand for soft shell crab in this country is increasing from time to time, and at the moment the company receives cooperation in its marketing with various business establishments such as supermarkets and restaurants.

There is also a potential in international market in countries like Singapore, Chinese-Taipei (Taiwan), Macau and China where they have shown an interest to purchase our crab but unfortunately we could not deliver as the quantity of our production is still not sufficient to cater their needs.

Q: How much is the production by month?

A: At the moment, we are capable of producing about 300 – 500 kilograms per month and it is expected to increase by 30 to 40 per cent in the next two or three months.

Q: Can you explain the overall rearing process?

A: There are few steps in rearing process;

- Seedling: The seedlings used are usually small size crab weighing around 80 - 100 grams where the seedlings will be kept in rearing set tank.
- Feeding: The crabs are feed twice a day with sinking pellet by rate of 5 to 10 per cent. The chosen pellet must have 30 per cent protein and long lasting for four hours in order to get Food Conversion Ratio of 2.

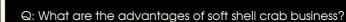








- Quality of Water: The quality of water is monitored daily. The success factor of this business depends on the water management which includes the continuous monitoring of water quantity, the pH, ammonia, salinity and alkalinity. The recycle water management is also being used in this business and it is cost saving. The salt water used is being recycled. The water will only be replaced according to the water management result. Usually only 30 per cent of the water will be replaced and each cycle can be used up to three to four months.
- Hygiene: Hygiene is also heavily practised through cleaning of filter for better result.
- Q: How about the supplies of feed and medicine?
- A: Both feed and medicine are imported.



A: Being involved in food industry is one of the best business investments although it is competitive. For soft shell crab, one of the advantages is because it is new innovative project and using high technology.

The products (soft shell crab) are also highly demanded by foreign market and the profit rate of return is also quite high (about 45 per cent).

Indoor rearing also has its advantages over traditional rearing (outdoor) as we do not have to worry about the weather and the crabs can be easily monitored. As the monitoring of the crabs is easily done, it is thus easy for the management to arrange marketing strategy. Infection of diseases can also be prevented.



Q: What are the challenges in implementing this business?

A: The challenge is to find suitable location for expanding the business especially for building the crab seed breeding centre. This is the main priority for our business to ensure the crab seeds are continuously available and not only dependent on wild catch.



Q: What are the advantages Brunei Darussalam has compare to other countries in implementing this industry?

A: Some of the advantages Brunei Darussalam has among others are its good infrastructures, abundant crab seeds from wild source and stable politic.

Q: Do you think that the crab culture industry is able to provide business opportunities to other small-and-medium enterprises (SMEs)?

A: Crab culture industry does provide business opportunities to other SMEs; for example - the supplies of crab seeds, medicine and equipments. Others opportunities include marketing of the soft shell crab, and import and export documentations.

Q: What is your future planning for this business?

A: In the future, we are likely to carry out the following programmes:

- To increase our (rearing) sets from 100 to 200 sets in three years time.
- Setting up the Seed Hatchery Centre, Crab Processing factory and Crab Feeds factory, and
- To hold cooperation in research and development (R&D) with Universiti Brunei Darussalam (UBD).
- Assisting the unfortunate people the company is still in

discussion with the Department of Community Development on the programme that will provide training, employment and business opportunities (related to soft shell crabs industry) to those in need for helping them increase their income.

Q: Your view on the crab culture industry in Brunei Darussalam?

A: This industry has a great potential to be further developed in large scale as the demand for soft shell crabs in the international market are increasing annually; and government's support for the SMEs related projects are also excellent.

Q: In your opinion, does this industry contribute to the development of various economic resources for the nation?

A: This industry among others contributes in terms of; reduce the flow of money to outside the country as we are able to produce the product locally; and provides employment in various areas, such as technical, management and finance. It also contributes to the country's revenue. For example, Golden Crab Sdn. Bhd. has been offering members of the public for collaboration in rearing the soft shell crabs whether on their own or through us. In the end, Golden Crab Sdn. Bhd. will assist them in marketing their product that is the crab.

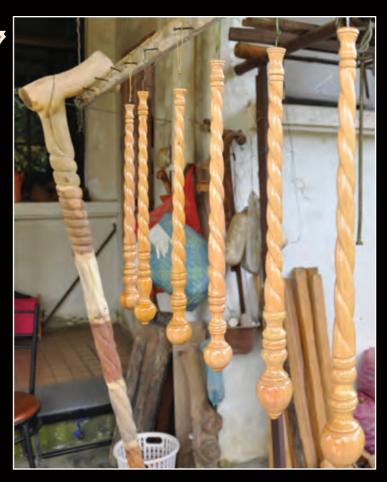
This collaboration has been introduced since early last year and has been highly received by public.

If exporting activity can be carried out, Brunei surely has a potential to be a global major producer of soft shell crab.

TOMEST

Brunei Darussalam, one of the oldest Malay kingdoms with one of the longest reigning monarch in today's world has been widely known for its unique traditional arts and handicrafts. Known to be skilful, its cottage industry which once strived at the famous water village or commonly known as 'Kampung Ayer', its residents had produced beautiful weaved cloths, mesmerising brass and silverwares. However, these skills were not only common for those living at the water village but also those inland where colourful weaved products such as baskets became a popular commodity making those products marketable and become as an alternative source of income for the producers.

With the challenges laid by modernity and globalisation, preserving these traditional arts and handicrafts has indeed become a daunting task. Thus, the Government of His Majesty The Sultan and Yang Di-Pertuan of Brunei Darussalam has established the Brunei Arts and Handicrafts Training Centre based at Jalan Subok in the capital where various courses are offered to ensure that these precious arts and handicrafts are well preserved for the future generations. Apart from this training centre, the art of passing the knowledge from one to another, from father to son, or mother to daughter is also another means that indirectly contributed to sustaining the arts.











Compact discs (CD), plastic cards and different types of woods are among the materials used to make tongkat.

Therefore for this particular edition of Brunei Today, another local handicraft which is the making of a *tongkat* (walking stick) will be featured.

Thinking of tongkat, most will imagine it as another walking stick made from a piece of wood. But here in Brunei Darussalam, tongkat is not limited to merely as a walking stick; but some are used as cokmar (mace) with a height that is normally slightly taller than a man; some will use it for home decoration; while some collect it as a favourite past time.

Brunei Today met with one of the producers of *tongkat* from Kampung Sungai Tampoi, Sengkurong. The skilful and talented Awang Abu Samah bin Haji Damit of Syarikat Al-Nurliyana has been making *tongkat* for two years which has become his source of income as a breadwinner for his family.

"I learned the basics of making tongkat from my uncle for about two months, and I further developed it with my creativity," he added.

He remembered his first tongkat where he crafted it with twirling design and this attracted attention as most of the tongkat available in the market were plain and simple. He made the tongkat from various types of woods from trees like kulimpapa tanduk, sakang kuning, limpanas and madang sisik available in the local forests.

Over the years, he has expanded his skills where he does not limit the material to such types of inland forest trees where he blended it with creativity and started to use easily found trees such as tapioca, mango, tamarind and other local fruits. Besides being easily found, it can also save time from finding the woods. Sometimes his customers also brought they own woods, he said.

According to Awang Abu Samah, he usually makes the tongkat according to customer's request; and it consisted of the types of material used, the design and length. Among the basic materials he uses in process of making tongkat are the woods, alue, stainless steel and clear liquor.

Firstly, he will check on the woods used and if required, he will cut and craft it accordingly, and then prepare a length of stainless steel. If the *tongkat* is using many types of woods, he will align it neatly and needs to number the woods as some look similar to one another.







The woods will then be inserted to the steel. The steel is used as a core or inner part to avoid the stick from easily broken. After the woods had been inserted, he will craft the stick depending on the design requested by his customer. Finally he will spray it the clear liquor.

He is also grateful to new and modern technologies which have helped him save time and provide better quality tongkat. Moving along with time and always looking for new and creative ideas, Awang Abu Samah started to use new materials to produce better tongkat such as oil and water gallons, and recycle items such as compact discs (CD), plastic cards to replace woods. Furthermore, he does not limit himself by using only one type of wood but have used to as many as 10 different types of woods for one tongkat.

With his great talent and skill, he can produce a *tongkat* (less than one metre made from wood) in one day. However, if he uses other materials such as the above mentioned recycle items, it will consume more time. Based on his experience when making a *tongkat* using CDs, it took him one week to complete.

Pricing wise, it highly depends on the design and materials used since it requires him to purchase additional items such as stainless steel, glue and clear liquor (spray).

"Alhamdulillah, the demands are there throughout the year. I have regular customers that come to my house to send and collect their orders," he said. Besides that, he also joined local

Besides that, he also joined local products showcases and exposition to promote his products.

"My customers are not only limited to Malay people but also Chinese and Indian. I also had a customer who came from Acheh, Indonesia to purchase my cokmar," added Awang Abu Samah.











PROCESS OF MAKING TONGKAT























Brunei Today's feature on *tongkat* also brought us to Awang Haji Mohd. Hussin bin Haji Abdul Rahman, 55 years old businessmán living in Kampung Pintu Malim.

Awang Haji Hussin is one of the avid collectors of *tongkat* who has been collecting since the past 10 years and currently has about 35 pieces of *tongkat* from abroad.

"At first, my intention is just to make it as memento from abroad but later it grew and become a hobby," he said.

The first one was bought in Dubai, and followed from other countries like Thailand, China and Australia. Some of my collection also came from my friends. My family also fully supports my hobby," he said.

According to him, when purchasing the tongkat, he usually looked on the material used. The most-expensive tongkat in his collection cost about \$200 where his collections are kept in a special made glass cabinet.

Since all of his tongkat are from abroad, now he wants to start collecting locally-made tongkat.









Some of the *Tongkat* collection owned by Haji Mohd. Hussin.



Haji Mohd. Hussin's hobby fully supported by his family.

